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A SOCIAL SCIENCES

AA	PHILOSOPHY AND RELIGION
AB	HISTORY
AC	ARCHAEOLOGY, ANTHROPOLOGY, ETHNOLOGY
AD	POLITICAL SCIENCES
AE	MANAGEMENT, ADMINISTRATION AND CLERICAL WORK
AF	DOCUMENTATION, LIBRARIANSHIP, WORK WITH INFORMATION
AG	LEGAL SCIENCES
AH	ECONOMICS
AI	LINGUISTICS
AJ	LITERATURE, MASS MEDIA, AUDIO-VISUAL ACTIVITIES
AK	SPORT AND LEISURE TIME ACTIVITIES
AL	ART, ARCHITECTURE, CULTURAL HERITAGE
AM	PEDAGOGY AND EDUCATION
AN	PSYCHOLOGY
AO	SOCIOLOGY, DEMOGRAPHY
AP	MUNICIPAL, REGIONAL AND TRANSPORTATION PLANNING
AQ	SAFETY AND HEALTH PROTECTION, SAFETY IN OPERATING MACHINERY

PERCEPTION OF ONLINE LEARNING BY STUDENTS OF UNIVERSITY PEDAGOGICAL STUDY PROGRAMS DURING COVID-19 PANDEMIC

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Abstract: The text focuses on the issue of online learning during the COVID-19 pandemic. Specifically, the authors focus on capturing, describing and interpreting the perception of online learning through the online tools MS Teams and LMS Moodle. The paper is based on data obtained from a research survey based on a quantitative approach. A self-designed questionnaire was chosen as the data collection tool. The questionnaire survey was conducted electronically among university students in pedagogical fields in the period from November 2020 to March 2021. In total, the authors analysed data from 462 questionnaires received. Not only the basic descriptive results but also the statistical significance of the relationships between the selected variables were evaluated, using adequate parametric and non-parametric tests.

Keywords: students; perception; vocational education; pedagogical disciplines; questionnaire; COVID-19.

1 Introduction

For almost two years now, daily life in many areas of human society has been accompanied by the need to comply with a number of measures to combat the spread of COVID-19. Education and training in this regard is no exception. According to Pokhrel and Chhetri (2021), the spread of the disease is considered the largest disruption of education systems in human history, affecting nearly 1.6 billion primary, secondary and tertiary students in more than 200 countries. In other words, as both authors add, more than 94% of all pupils and students around the world have been affected by the closure of schools and other educational institutions. In this respect, this new situation can be compared to the great crises of the 20th century, such as the Second World War, the Great Depression or the Spanish flu of 1918-1920 (see, for example, Vargo et al., 2021).

The Czech Republic was one of the countries significantly affected by the COVID-19 pandemic. As in other countries, the government of the Czech Republic was faced with a demanding challenge. As early as March 2020, the government began to take a number of measures, which also affected the field of education and training (see, for example, Komenda et al., 2020). The individual measures taken in this area have thrown both pupils and students of schools and their teachers into a completely new situation. As pointed out, for example, by Pozo et al. (2021), pupils, students and teachers had no choice but to adapt to the situation and to complete and implement the current form of learning by distance learning methods. In particular, teachers essentially were faced from day to day with the task of requiring a quick solution, i.e. to quickly convert their full-time learning into a distance form. And this, as Gillis and Krull (2020) state, often with little or no knowledge and experience of how to actually do so.

2 Starting points

In general, the transition to distance learning has posed a number of obstacles for pupils, students and their teachers as a result of the spread of COVID-19. In this connection, we can mention, for example, problems with the availability of study materials, problems with the Internet connection, problems with the acquisition of hardware in the form of PCs, laptops, etc., with which it is possible to connect to the Internet, etc. However, the actors of education also had to solve other problems, such as an understandable preference for caring for a sick person at the expense of implementation or completion of learning, possible health problems, etc. A completely unique aspect of the whole situation was the appeal to pupils COVID-19 to reduce and keep their personal contacts to a minimum. As a result of decisions taken against the spread of COVID-19 by the government of the Czech Republic, often without a clear indication of the end of the restrictions adopted. This interrupted personal contacts both between pupils and students and between pupils, students and their teachers. The closure of educational institutions and self-isolation deprived them of the opportunity to learn together in the classroom, to work together and to participate in the learning that was natural to them until then. At the same time, it led to the creation of an alternative learning environment based mainly on distance learning methods and forms using modern digital technologies (for more see Driessen et al., 2020; Bergdahl & Nouri, 2021; Pokhrel & Chhetri, 2021).

Iglesias-Pradas et al. (2021) point out in this connection that, as a result of the pandemic, educational institutions have generally adapted their educational activities in three ways. Namely, by maintaining full-time learning, however, with limited personal contact with both classmates and the teacher. Furthermore, by the creation of a hybrid learning model, i.e. the use of blended learning, which is partly full-time learning in compliance with current anti-epidemiological measures (see note 1) and partly distance learning conducted online (for more see also Colpitts, Usick, & Eaton, 2020; Patricia, 2020; Hrastinski, 2019; Philipsen et al., 2019, etc.). The last way in which educational institutions, not only in the Czech Republic, tried to cope with the limitations of their pedagogical activities, was to transfer learning to a completely online form. However, Iglesias-Pradas et al. (2021), does not mention the fact that, as a result of the measures taken as part of the adaptation characteristics of learning by educational institutions during the COVID-19 pandemic, these institutions used al the methods described above. For example, in the first days of the COVID-19 pandemic in the Czech Republic (Spring 2020), emphasis was put on the social distance of individuals within society, the wearing of respirators, etc. was emphasized (see Komenda et al., 2020). Of course, this was also true in the field of learning, where the hybrid form of education in particular was supported. Another situation prevailed during the closure of educational institutions and during the so-called lockdown, i.e. during the effort to prevent the nationwide movement of persons in order to reduce the possibilities of COVID-19 disease transmission. During the lockdown, of course, educational institutions had to completely switch to online learning. It is necessary to add that even during the period when the schools were open, it was necessary to observe a number of partial measures concerning, for example, the number of pupils or students in the group, wearing respirators, etc. In other words, many schools had to adapt their learning to at least the hybrid form.

It can thus be reasonably assumed that the measures taken by the Czech government to manage schools and other educational institutions required in a relatively short time to equip (or re-equip) teachers and classes with adequate technology and decide on the selection of adequate software for online or hybrid education. In other words, to recommend (or order) teachers of schools and other educational institutions to use such software that would facilitate the implementation of education in the new conditions as much as possible. At the same time, the same approached was applied in communication between teachers and their pupils or students, or communication with the parents of these pupils. In this regard, it would be interesting to see which of the various web-based tools and applications supporting online learning pupils, students and teachers preferred in this regard during the COVID-19 pandemic.

Although there has been no such study so far (during the writing of this article, its authors did not encounter any such study) that would shed light on this issue, in this context, the study of Vargo et al. (2021), which focuses on a meta-analysis of professional articles related to the use of digital technologies in education during the COVID-19 pandemic (Spring 2020) can be of some help. The authors claim that teachers and students during the COVID-19 pandemic period (Spring 2020) mainly used video-based devices and platforms (such as Zoom, WebEx, Google hangouts, GitHub, etc.), especially with the aim to replace face-to-face online learning, for mutual communication and for

communicating instructions for continuous tasks, for communicating instructions for successful completion of a subject in general, etc. It may be surprising in this respect that these are mainly tools supporting synchronous online learning, and we will not find any mention of the use of tools or applications that would support self-study or asynchronous learning (e.g. LMS Moodle, Schoology, partly also MS Teams). It can be assumed that the selection of adequate software or web tools and applications should, as far as possible, eliminate a number of negative consequences of the transition from full-time to distance learning through digital technologies, such as limited access to educational resources such as textbooks, scripts and other miscellaneous study materials. After all, the closure of schools was accompanied, at least in the Czech Republic, by the closure of public and university libraries.

In this regard, the selection of a suitable software for the successful implementation of online learning, moreover, in a situation where a decision had to be made in a very short time, proves to be very critical. This is in view of the unexpected consequences and impacts in many areas of education implementation. And it is precisely some of the consequences and impacts of learning through online tools that our study focuses on. Specifically, on the perception of online learning, its consequences and impacts among university students in pedagogically oriented study programs during the COVID-19 pandemic in the Czech Republic.

We perceive the benefit of our study mainly in capturing the partial situation of the researched issue in the Czech Republic. However, the results of our research can also contribute to a broader professional discussion on this or a similar topic. Our findings follow, for example, other professional quantitative texts, such as the study of Polish authors Bączek et al. (2021), who deal with the same issue, however, focusing on medical students. But also a study by Gillis and Krull (2020) can be mentioned, in which they found out students' attitudes to distance learning during the first wave of COVID-19 (Spring 2020) in the USA. It is also the text of the authors Pal and Vanijja (2020), who conducted research on a similar topic in India and many others that can serve as a good example.

3 Methodology

The specific goal of our study was to determine the manner and degree of perception of the course of online learning among university students of pedagogically oriented study programs during the COVID-19 pandemic. Therefore, the main research question for us was the question of how and to what extent university students of pedagogically oriented study programs perceived the course of online learning during the COVID-19 pandemic? We focused on issues related to student activities during online learning, evaluation of the pros and cons of e-online learning compared to "traditional" learning, but also, for example, student satisfaction with the use of various online learning tools, such as MS Teams, or LMS Moodle etc.

The research investigation of this topic is based on a quantitative approach. The data collection tool was a questionnaire. This was constructed by the authors on the basis of a study of professional sources (partly mentioned in this study, eg Bączek et al., 2021) and with regard to our main research question. The questionnaire contained a total of 22 questions. The items of the questionnaire focused on several main areas of perception of the course of online learning by university students. In this study, however, due to the scope of the research survey and the possibilities of the scope of this text, we present only a partial part of the results. The mentioned scope of partial use of the results was also chosen with regard to the relevance and consistency of the content and topic of the whole paper. For simplicity, the selected indicators can be divided into the three areas below according to their common denominator. These areas were then operationalized into the following question areas (marked as Q).

Q-1) The level of skills and technical equipment of students for online education:

a) *How would you describe your level of IT skills?*
b) *Do you always have the necessary technology available to be able to study online?*
c) *Do you always have the suitable Internet connection available to be able to study?*
d) *Did you have to buy any IT equipment to be able to participate in online learning?*
e) *In case you had to buy some IT equipment, what was the cost in CZK?*

Q-2) Advantages and disadvantages of online education in connection with student´s own activity:

a) *To what extent do you perceive the advantages of online education?*
b) *To what extent do you perceive the disadvantages of online education?*
c) *To what extend are you active in online learning and in the traditional form of learning?*

Q-3) Satisfaction with selected LMS and the degree of their usage by students:

a) *To what extent do you use LMS Moodle in your study activities?*
b) *What importance do you attach to support study materials in LMS Moodle?*
c) *To what extend are you satisfied with LMS Moodle?*
d) *To what extend are you satisfied with MS Teams?*

The questionnaire survey was conducted electronically during November 2020 to March 2021. It was a period when all universities in the Czech Republic were closed due to the COVID-19 pandemic and the implementation of education had to go online or hybrid. We conducted research among students of all years of full-time and combined forms of bachelor's degree programs focused on learning, which are implemented at the Institute of Lifelong Learning at Mendel University in Brno (ILL) and bachelor's and master's degree programs at the Faculty of Education, Palacky University in Olomouc (UPOL). During the lockdown, students of these study programs used Microsoft Teams (MS Teams) for synchronous learning and the Moodle learning management system (LMS Moodle) for asynchronous learning, which complemented synchronous learning through MS Teams by offering electronic structured support study materials with basic and advanced study programs. materials, interactive links, videos or spoken word and feedback in the form of questions and tests.

In total, we analyzed data from 462 questionnaires received. After evaluating the basic descriptive results based on absolute and relative frequencies or measures of the central tendency, the statistical significance of the relationships between the variables was determined, using adequate parametric and non-parametric tests. In particular, Pearson's chi-square test, Fisher's exact test or t-test for two independent selections were used. The basic statistical features with which the results were measured for individual questions (dependent variables) were gender and form of study (independent variables).

The detailed structure of the respondents is given in the table below. It shows the standard majority of women in the sample, which also corresponds to the reality in the environment of primary and secondary schools. The youngest respondent was 19 years old and the oldest 56 years old.

Tab. 1: The respondents´ structure

Respondents´ structure		Absolute frequency	Relative frequency
Study form	full-time	184	39,8%
	combined	278	60,2%
Gender	male	93	20,1%
	female	369	79,9%
Age	up to 25	265	57,4%
	26 to 30	64	13,9%
	31 to 35	38	8,2%
	36 to 45	72	15,6%
	46 and more	23	5,0%
Study year	Bachelor degree	399	86,4%
	Master degree	63	13,6%
Total		462	100%

Source: Authors´ own work.

4 Main results of the research survey

The results are divided according to the thematic areas as described in the methodology. The answers to individual questions are processed in the form of absolute and relative frequencies in the form of tables, where they are also sorted by gender and by form of study. Possible statistically significant relationships between dependent and independent variables are marked with gray colour in the tables and described in the text.

4.1 The level of skills and technical equipment of students for online education

Tab. 2: How would you describe your level of IT skills? (Q-1a)

		full-time		combined		total	
male	basic	1	3,8%	6	9,0%	7	7,5%
	intermediate	17	65,4%	36	53,7%	53	57,0%
	advanced	8	30,8%	25	37,3%	33	35,5%
	total	26	100,0%	67	100,0%	93	100,0%
female	basic	18	11,4%	21	10,0%	39	10,6%
	intermediate	122	77,2%	148	70,1%	270	73,2%
	advanced	18	11,4%	42	19,9%	60	16,3%
	total	158	100%	211	100,0%	369	100,0%
total	basic	19	10,3%	27	9,7%	46	10,0%
	intermediate	139	75,5 %	184	66,2%	323	69,9%
	advanced	26	14,1%	67	24,1%	93	20,1%
	total	184	100,0%	278	100,0%	462	100,0%

Source: Authors´ own work.

Overall, 70% of respondents rate the level of their IT skills as intermediate. Only a fifth describe it as advanced. It has been shown that the "level of IT skills" differs statistically significantly at the 5% level of significance (F = 7,019; p = 0,030) in terms of form of study and even at the 1% level of significance (F = 15,465; p = 0.000). Full-time male and students describe their digital skills level as more advanced.

Tab. 3: Do you always have the necessary technology available to be able to study online? (Q-1b)

		full-time		combined		total	
male	yes	25	96,2%	58	86,6%	83	89,2%
	no	1	3,8%	9	13,4%	10	10,8%
	total	26	100,0%	67	100,0%	93	100,0%
female	yes	144	91,1%	185	87,7%	329	89,2%
	no	14	8,9%	26	12,3%	40	10,8%
	total	158	100,0%	211	100,0%	369	100,0%
total	yes	169	91,8%	243	87,4%	412	89,2%
	no	15	8,2%	35	12,6%	50	10,8%
	total	184	100,0%	278	100,0%	462	100,0%

Source: Authors´ own work.

In general, 9 out of 10 students of learning fields always have the necessary technology available for online education. No statistically significant relationship was found between the variables.

Tab. 4: Do you always have the suitable Internet connection available to be able to study? (Q-1c)

		full-time		combined		total	
male	yes	21	80,8%	56	83,6%	77	82,8%
	no	5	19,2%	11	16,4%	16	17,2%
	total	26	100,0%	67	100,0%	93	100,0%
female	yes	97	61,4%	161	76,3%	258	69,9%
	no	61	38,6%	50	23,7%	111	30,1%
	total	158	100,0%	211	100,0%	369	100,0%
total	yes	118	64,1%	217	78,1%	335	72,5%
	no	66	35,9%	61	21,9%	127	27,5%
	total	184	100,0%	278	100,0%	462	100,0%

Source: Authors´ own work.

From the above overall results, it can be stated that almost ¾ respondents have "sufficient internet connection available at all times". It has been proven that the constant possibility of connecting to the Internet differs statistically significantly in terms of gender (p = 0.013) and in terms of form of study (p = 0.001). Male and male students in the combined form always have sufficient internet connection more than women and students in the full-time form.

Tab. 5: Did you have to buy any IT equipment to be able to participate in online learning? (Q-1d)

		full-time		combined		total	
male	yes	10	38,5%	13	19,4%	23	24,7%
	no	16	61,5%	54	80,6%	70	75,3%
	total	26	100,0%	67	100,0%	93	100,0%
female	yes	34	21,5%	39	18,5%	73	19,8%
	no	124	78,5%	172	81,5%	296	80,2%
	total	158	100,0%	211	100,0%	369	100,0%
total	yes	44	23,9%	52	18,7%	96	20,8%
	no	140	76,1%	226	81,3%	366	79,2%
	total	184	100,0%	278	100,0%	462	100,0%

Source: Authors´ own work.

Almost 4/5 of students did not have to purchase any IT equipment due to the introduction of online learning. No statistically significant relationship was found between the variables.

Tab. 6: In case you had to buy some IT equipment, what was the cost in CZK? (Q-1e)

		full-time		combined		total	
male	up to 5 000 CZK	12	46,2%	40	59,7%	52	55,9%
	5 001 – 10 000 CZK	1	3,8%	9	13,4%	10	10,8%
	more than 10 000 CZK	13	50,0%	18	26,9%	31	33,3%
	total	26	100,0%	67	100,0%	93	100,0%
female	up to 5 000 CZK	95	60,1%	136	64,5%	231	62,6%
	5 001 – 10 000 CZK	22	13,9%	30	14,2%	52	14,1%
	more than 10 000 CZK	41	25,9%	45	21,3%	86	23,3%
	total	158	100,0%	211	100,0%	369	100,0%
total	up to 5 000 CZK	107	58,2%	176	63,3%	283	61,3%
	5 001 – 10 000 CZK	23	12,5%	39	14,0%	62	13,4%
	more than 10 000 CZK	54	29,3%	63	22,7%	117	25,3%
	total	184	100,0%	278	100,0%	462	100,0%

Source: Authors´ own work.

One quarter of students had to spend more than CZK 10,000 (approximately EUR 400) to purchase equipment in connection with the transition to online education. However, about three-fifths of them incurred costs not exceeding CZK 5,000 (approximately EUR 200). No statistically significant relationship was found between the monitored variables.

4.2 Advantages and disadvantages of online education in connection with student´s own activity

Students see the possibility of staying at home (72%) and access to online materials (73%) as the biggest "advantage of online education". Other attributes are no longer so strongly perceived. It has been shown that students perceive some attributes of the benefits of online education statistically significantly differently, especially in terms of the form of study. These differences were found for the items online access (P / F = 0.000), class interactivity (p = 0.011) and comfortable environment (p = 0.028).

Tab. 7: The advantages of online education (Q-2a)

	total		full-time		combined		male		female	
	N	%	N	%	N	%	N	%	N	%
access to online materials	336	72,7	117	63,6	219	78,8	68	73,1	268	72,6
possibility to learn when I want	270	58,4	106	57,6	164	59,0	59	63,4	211	57,2
possibility of staying at home	331	71,6	124	67,4	207	74,5	60	64,5	271	73,4
class interactivity	31	6,7	6	3,3	25	9,0	6	6,5	25	6,8
possibility to record lectures	212	45,9	84	45,7	128	46,0	42	45,2	170	46,1
comfortable environment	278	60,2	121	65,8	157	56,5	51	54,8	227	61,5

Source: Authors´ own work.

Respondents identified reduced interaction with a teacher and technical problems as the biggest "disadvantages of online learning". Respondents also saw social isolation and the associated lack of interaction with classmates as a significant disadvantage. The following statistically significant relationships were found between the groups.

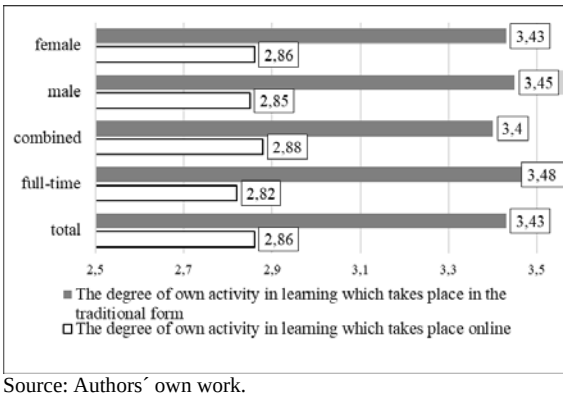
Tab. 8: The disadvantages of online education (Q-2b)

	total		full-time		combined		male		female	
	N	%	N	%	N	%	N	%	N	%
reduced interaction with a teacher	340	73,6	138	75,0	202	72,7	72	77,4	268	72,6
technical problems	316	68,4	146	79,3	170	61,2	53	57,0	263	71,3
lack of interaction with classmates	285	61,7	118	64,1	167	60,1	52	55,9	233	63,1
worse conditions for learn. at home	116	25,1	60	32,6	56	20,1	20	21,5	96	26,0
lack of self-discipline	239	51,7	120	65,2	119	42,8	41	44,1	198	53,7
social isolation	299	64,7	124	67,4	175	62,9	52	55,9	247	66,9

Source: Authors´ own work.

It has been shown that the significance of some of these disadvantages varies statistically significant with regard to gender and form of study. The female students perceived technical problems (p = 0.006) more significantly then male students and social isolation was perceived in the same way (p = 0.043). Technical problems were also statistically significantly more negatively perceived by full-time students (p = 0.000) as well as worse conditions for learning at home (p = 0.004) and lack of self-discipline (p = 0.000).

Chart 1: To what extend are you active in online learning and in the traditional form of learning? (Q-2c)



Source: Authors´ own work.

In the last question in this question range, the respondents expressed the extent to which they are active in learning that takes place online and in learning that takes place in the traditional way. They answered the question on a scale from 1 to 5, when the higher the number, the greater the satisfaction. The above chart shows both, the overall average values of responses and the average responses of individual groups. Respondents described themselves as more active in learning, which takes place in the traditional form (m = 3.43) as opposed to the form, which takes place online (m = 2.86). No statistically significant relationship was found between the level of activity in the various forms of education and the independent variables in this case. Even the graph itself indicates that the average values of the answers are balanced.

4.3 Satisfaction with selected LMS and the degree of their usage by students

Tab. 9: To what extent do you use LMS Moodle in your study activities? (Q-3a)

		full-time		combined		total	
male	not at all	10	38,5%	6	9,0%	16	17,2%
	rarely	5	19,2%	26	38,8%	31	33,3%
	occasionally	8	30,8%	16	23,9%	24	25,8%
	very often	3	11,5%	19	28,4%	22	23,7%
	total	26	100,0%	67	100,0%	93	100,0%
female	not at all	31	19,6%	28	13,3%	59	16,0%
	rarely	62	39,2%	39	18,5%	101	27,4%
	occasionally	50	31,6%	78	37,0%	128	34,7%
	very often	15	9,5%	66	31,3%	81	22,0%
	total	158	100,0%	211	100,0%	369	100,0%
total	not at all	41	22,3%	34	12,2%	75	16,2%
	rarely	67	36,4%	65	23,4%	132	28,6%
	occasionally	58	31,5%	94	33,8%	152	32,9%
	very often	18	9,8%	85	30,6%	103	22,3%
	total	184	100,0%	278	100,0%	462	100,0%

Source: Authors´ own work.

Less than a quarter of students use LMS "very often," which is not a completely positive finding, but about 1/3 use it "occasionally." Only 16% of students do not use LMS at all. It was proved that there is a statistically very significant relationship between the rate of use of LMS Moodle in terms of form of study (F = 36.946; p = 0.000), where students of combined form use LMS Moodle statistically significantly more often than full-time students. In terms of gender, no significant relationship was found with the use of LMS Moodle.

Tab. 10: What importance do you attach to support study materials in LMS Moodle? (Q-3b)

		full-time		combined		total	
male	unnecessary	5	19,2%	4	6,0%	9	9,7%
	occasionally useful	16	61,5%	33	49,3%	49	52,7%
	very useful	5	19,2%	30	44,8%	35	37,6%
	total	26	100,0%	67	100,0%	93	100,0%
female	unnecessary	23	14,6%	15	7,1%	38	10,3%
	occasionally useful	99	62,7%	88	41,7%	187	50,7%
	very useful	36	22,8%	108	51,2%	144	39,0%
	total	158	100,0%	211	100,0%	369	100,0%
total	unnecessary	28	15,2 %	19	6,8 %	47	10,2 %
	occasionally useful	115	62,5 %	121	43,5 %	236	51,1 %
	very useful	41	22,3 %	138	49,6 %	179	38,7 %
	total	184	100,0 %	278	100,0 %	462	100,0 %

Source: Authors´ own work.

Almost two-fifths of respondents consider the study support materials in LMS Moodle to be "very useful" (38.7%) and the other half (51.1%) to be "occasionally useful". Only a tenth of respondents consider them "unnecessary" (10.2%). No statistically significant relationship or difference was found in the opinion on study aids in LMS Moodle in terms of monitored variables.

Tab. 11: (The level of) satisfaction with LMS Moodle (Q-3c)

		full-time		combined		total	
male	great dissatisfaction	1	3,8%	3	4,5%	4	4,3%
	dissatisfaction	5	19,2%	6	9,0%	11	11,8%
	neither satisfaction nor dissatisfaction	11	42,3%	24	35,8%	35	37,6%
	satisfaction	6	23,1%	23	34,3%	29	31,2%
	great satisfaction	3	11,5%	11	16,4%	14	15,1%
	total	26	100,0%	67	100,0%	93	100,0%
female	great dissatisfaction	8	5,1%	12	5,7%	20	5,4%
	dissatisfaction	15	9,5%	15	7,1%	30	8,1%
	neither satisfaction nor dissatisfaction	79	50,0%	66	31,3%	145	39,3%
	satisfaction	50	31,6%	77	36,5%	127	34,4%
	great satisfaction	6	3,8%	41	19,4%	47	12,7%
	total	158	100,0%	211	100,0%	369	100,0%
total	great dissatisfaction (1)	9	4,9%	15	5,4%	24	5,2%
	dissatisfaction (2)	20	10,9%	21	7,6%	41	8,9%
	neither satisfaction nor dissatisfaction (3)	90	48,9%	90	32,4%	180	39,0%
	satisfaction (4)	56	30,4%	100	36,0%	156	33,8%
	great satisfaction (5)	9	4,9%	52	18,7%	61	13,2%
	total	184	100,0%	278	100,0%	462	100,0%

Source: Authors´ own work.

Almost two-fifths of respondents expressed a neutral position on the issue of satisfaction with LMS Moodle. However, if we compare the two poles of possible answers and add up their extreme values (great dissatisfaction and satisfaction), then we can state almost half the satisfaction with this product (47%). At the same time, it was proved that "dissatisfaction" with LMS Moodle" differs statistically significantly in terms of the form of study. Students in the combined form (N = 278; m = 3.55) are on average statistically significantly more satisfied (t = -3.792; df = 460; p = 0.000) than full-time students (N = 184; m = 3.20).

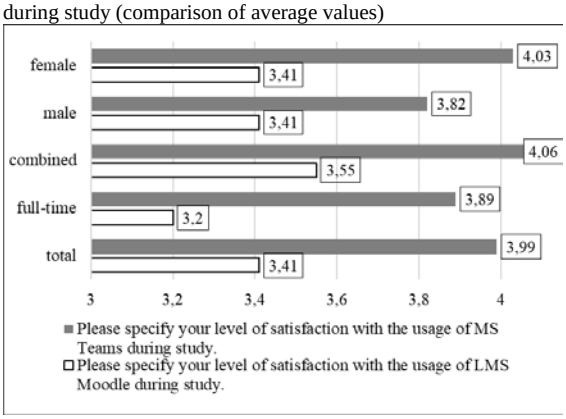
Tab. 12: (The level of) satisfaction with MS Teams (Q-3d)

		full-time		combined		total	
male	great dissatisfaction	2	7,7%	1	1,5%	3	3,2%
	dissatisfaction	1	3,8%	2	3,0%	3	3,2%
	neither satisfaction nor dissatisfaction	6	23,1%	14	20,9%	20	21,5%
	satisfaction	15	57,7%	34	50,7%	49	52,7%
	great satisfaction	2	7,7%	16	23,9%	18	19,4%
	total	26	100,0%	67	100,0%	93	100,0%
female	great dissatisfaction	7	4,4%	3	1,4%	10	2,7%
	dissatisfaction	6	3,8%	9	4,3%	15	4,1%
	neither satisfaction nor dissatisfaction	20	12,7%	27	12,8%	47	12,7%
	satisfaction	81	51,3%	97	46,0%	178	48,2%
	great satisfaction	44	27,8%	75	35,5%	119	32,2%
	total	158	100,0%	211	100,0%	369	100,0%
total	great dissatisfaction (1)	9	4,9%	4	1,4%	13	2,8%
	dissatisfaction (2)	7	3,8%	11	4,0%	18	3,9%
	neither satisfaction nor dissatisfaction (3)	26	14,1%	41	14,7%	67	14,5%
	satisfaction (4)	96	52,2%	131	47,1%	227	49,1%
	Great satisfaction (5)	46	25,0%	91	32,7%	137	29,7%
	total	184	100,0%	278	100,0%	462	100,0%

Source: Authors´ own work.

Unlike the previous question, the answers focused on satisfaction with MS Teams already more clearly expressed satisfaction with this tool for online education. However, even here it was proved that "dissatisfaction with MS Teams" differs statistically significantly in terms of gender and form of study. Students in the combined form (N = 278; m = 4.06) were on average statistically significantly more satisfied (t = -1.963; df = 460; p = 0.05) than their colleagues in the full-time form of study (N = 184; m = 3.89). At the same time, women (N = 369; m = 4.03) were satisfied statistically significantly more (t = -2.017; df = 460; p = 0.044) than men (N = 93; m = 3.82).

Chart 2: The level of satisfaction with usage of selected LMS during study (comparison of average values)



Source: Authors´ own work.

5 Discussion

Our research survey revealed relatively interesting results, which may be, among other things, a certain stimulus for further implementation of education in online or hybrid form. The obtained data informs about the attitudes of students of teaching disciplines to various aspects of online education. The results certainly show that there are also statistically significant differences (in many cases even at the 1% level of significance). This is between the attitudes of men and women in relation to some aspects of education during the COVID-19 pandemic. Similarly, it is possible discuss students' attitudes in full-time and combined form of study. If we consider the form of study, we cannot ignore certain age differences, which usually characterize these two traditional forms of university study in the

Czech Republic and which probably intervened in the results to a certain extent latently.

A closer look at some of the main results reveals, for example, certain problems of students with the availability of the necessary IT equipment and Internet connection. As many authors point out (eg Driessen et al., 2020; Bergdahl & Nouri, 2021; Pokhrel & Chhetri, 2021 et seq.), this was a common problem during a pandemic. In a way, however, it revealed the so-called digital divide (see, for example, van Dijk, 2020; Lopez-Sintaz, Lamberti, & Sukphan, 2020; DiMaggio et al, 2004, etc.), which existed among students in this regard and which was necessary to "bury" and overcome. It should be added that the students needed to do so by themselves, because at the time of this survey there was no government program that would support the purchase of the necessary IT equipment or the possibility of connecting to the Internet from university students. Support for ILL and UPOL in this regard was also minimal. After all, as our survey shows, almost 25% of students had to spend more than CZK 10,000 (approximately EUR 400) to purchase the necessary equipment due to the ordered introduction of online teaching. Another more than 60% of students invested up to CZK 5,000 (approx. 200 EUR) in the purchase of equipment due to participation in online lessons. At the same time, it can be assumed that it was a relatively high and unexpected expense, especially for full-time students, which could have caused further barriers in their studies.

Based on our results, a similar situation can be observed in connection with the Internet connection, when almost 30% of respondents stated that they did not have a sufficient Internet connection, which could limit their course of education to some extent. In this context, it is interesting to note that men and general students in the combined form of study always have sufficient Internet connection more than women and generally full-time students.

Furthermore, the findings of our research are already somewhat more positive with regard to the implementation of online learning from the perspective of students. In this regard, the respondents positively assessed the synchronous part of online learning, which took place through the MS Teams application. Almost 80% of all respondents were very satisfied or satisfied with the use of this tool during online learning. It may be a surprise to find that "dissatisfaction with MS Teams" differs statistically significantly in terms of gender and form of study. Students in the combined form were more satisfied than their colleagues in the full-time form of study. At the same time, women were more satisfied with this environment than men. We can capture the exact same situation when looking at satisfaction with the LMS Moodle, which was used for the asynchronous part of online learning during the implementation of education during the COVID-19 pandemic. Here, too, students in the combined form were more satisfied than their colleagues in the full-time form of study. At the same time, women were more satisfied with this environment than men.

Another interesting finding was, for example, the fact that satisfaction with LMS Moodle was far lower compared to MS Teams. In particular, only 47% of respondents stated that they were very satisfied or satisfied with this environment that supports asynchronous learning. A large part (39%) of respondents were unsatisfied in this respect, i.e. neither satisfied nor dissatisfied. This result partly corresponds to another result of our research that the study support materials in LMS Moodle were used for their studies "very often" by less than a quarter of respondents and as many as 16% of respondents "at all".

This finding is somewhat surprising because, as reported by Bączek et al. (2021), or Gillis and Krull (2020) LMS Moodle allows, for example, relatively easy access to study materials in electronic form. Similarly, for example, Martín-Blas and Serrano-Fernández (2009) concluded in their research with physics students that students welcome the opportunity to use LMS Moodle. Especially because this environment is generally friendly for them. In other words, through it and in a relatively simple form, they can obtain a large amount of study resources and mainly those resources that the educators usually cannot show them during their learning, usually at the same time, which times of the COVID-19 pandemic due to the closure of university and public libraries were less accessible. Therefore, it could be expected that the use of LMS Moodle, or access to study support materials, will be higher. In this connection, the quality of the processing of study support resources and, in general, their usefulness from the students' point of view may also play a role. Here, data from our research shows that almost 40% of respondents rate them as very useful and only 10% of respondents consider them completely useless/unnecessary.

Last but not least, it was interesting to observe what advantages and disadvantages students generally perceived in online education during the COVID-19 pandemic (both synchronous and asynchronous). The results of our survey show that the students perceived as the most significant advantage the opportunity to stay at home (72%). Other attributes (learning when I want; the ability to record lectures; comfortable environment, etc.) were no longer so strongly perceived. However, it is worth taking a closer look at the "learn when I want" option, which almost 60% of respondents chose. It is impossible not to recall some ideas in this regard from Prensky (2001), Tapscott (1999) or Makimato and Manners (1997), who at the turn of the millennium drew attention to the arrival of a new generation for whom the use of digital technologies will be a completely natural part of life. The emphasis on learning "online when and where I want" can therefore be a concrete example of both the digital native and the nomad in the field of education, and thus confirming the ideas of these authors and the general popularity of digital technologies among students.

The absence of interaction in the classroom with the teacher proved to be a relatively fundamental problem in the implementation of online learning in our research sample. This is a completely predominant disadvantage, which the respondents selected in the research survey (almost 75%). Furthermore, during the online form of education, students also had a negative perception of insufficient interaction with classmates (62%), as well as technical problems in the implementation of learning (68%) or social isolation in general (65%). In this light, our results seem to mimic the results of other previously conducted research (see, e.g., Bączek, et al., 2021; Erichsen et al., 2014, etc.). As in our research, the prevailing finding in these research studies was that fact that students perceived very negatively during the implementation of online education especially the poor interaction with teachers and classmates, lack of personal contacts (face-to-face), but also, for example, longer duration of answers to questions sent to the teachers, generally poorer communication, lack of motivation leading to procrastination, etc.

6 Conclusion

In general, it can be stated that university students of pedagogically oriented study programs provided by ILL and UPOL during the COVID-19 pandemic perceived positively especially the synchronous part of online learning; specifically, working with the MS Teams application, which replaced personal learning, i.e. face-to-face. They were less satisfied with the asynchronous form of learning, i.e. with LMS Moodle, which made available a number of study materials in electronic form within online learning, which were less accessible at the time of the closure of universities and libraries in the Czech Republic. And it is the asynchronous form of online learning (not only LMS Moodle) that is proving to be one of the other research challenges that raises a number of questions that our survey could not answer. Specifically, for example, what are students' ideas about the form of electronic study support materials, their usefulness, general use of asynchronous forms of learning, etc. As some results of our survey show, in addition to these questions it would be appropriate to pay more detailed attention to questions regarding both full - time and combined study form. In a similar way, the issue of quality student connection to the Internet. Although our research was not primarily focused on these phenomena, some of our results show

that the so-called digital divide can also exist among university students. This opens up space, for example, for the question of whether, to what extent and in what way the ordered transition to online learning has in a relatively short time favoured or disadvantaged university students. Whether the transition from face-to-face learning to a purely online form for some of them did not result in a complete end to the study.

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Primary Paper Section: A

Secondary Paper Section: AM

STATE REGULATION OF THE HOUSING AND COMMUNAL SERVICES: REGIONAL ASPECT

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Abstract: The article deals with theoretical and practical issues of state regulation of housing and communal services at the regional level. An idea of the current state of housing and communal services in Russia and the Republic of Kalmykia is given; the main problems arising in this industry are identified. The structure of the housing market is investigated, the peculiarities of the functioning of the housing market are revealed. The practical aspects of the housing market development in the Republic of Kalmykia are analyzed using statistical methods. A number of promising directions for improving the efficiency of the development of the housing and communal services sector on the basis of a rational state policy are proposed.

Keywords: housing and communal services, housing market, state regulation, market of housing and communal services

Activities in the field of housing and communal services are aimed at meeting the material and household needs of citizens and make a significant contribution to the formation of the quality of life of the population. The development and modernization of the housing stock and the renewal of communal infrastructure should be focused on the creation of comfortable and safe living conditions and the provision of high-quality housing and communal services.

The sphere of housing and communal services is one of the largest sectors of the economy of the Russian Federation, making a significant contribution to the country's GDP (about 1% in the structure of gross value added), providing employment for the population (6% of total employment for large and medium-sized enterprises in 2018, according to data Federal State Statistics Service (Rosstat), as well as a sector that is one of the largest consumers of products manufactured in Russia, including energy resources, metals, polymer products. At the same time, the efficiency of organizing the housing and communal services sector, as well as the economic efficiency of providing resources and housing and communal services, are an important factor that determines the growth of consumer prices in the country, and have significant potential to increase such efficiency.

The development of the communal and housing sector in Russia has led to certain improvements in these sectors in comparison with previous periods. If in 2012-2014, according to the VTsIOM survey, the sphere of housing and communal services was noted among the most significant problems, then in 2018 the satisfaction of citizens with their living conditions, including the quality of housing and communal services provided, as well as an assessment of the costs of their payment, grew from 58% in 2012 to 72% in 2018.

Many systems and objects of housing and communal services need modernization and attraction of investments to ensure the quality and reliability of their functioning, including by increasing the level of technological development.

So, according to Rosstat, the emergency housing stock in Russia at the end of 2018 amounted to 25,473.8 thousand m2 and every year the number of unfit for habitation and dilapidated housing only increases. It should be noted that today there are still people and families who live in houses built before 1920.

The depreciation of fixed assets related to housing and communal services is 43% of the total, while the renewal rate does not exceed 10% annually (in 2018, the commissioning of fixed assets amounted to 8.2% of the availability of fixed assets).

At the same time, the communal and housing sector in the Russian Federation is characterized by a different state depending on the subject of the Russian Federation (or, in many cases, on the municipality).

The system of housing and communal services is based on the communal sector. It is part of the non-production sphere, and the purpose of its operation is to take care of the safety of the housing stock, ensure the proper operation and maintenance of the housing stock, the timeliness and completeness of the volume of housing and communal services provided to consumers, as well as the implementation of measures related to the improvement and improvement of the sanitary situation in housing and communal facilities.

The market for housing and housing and communal services is an important component both for the country's economy and for its spatial development. The potential of the housing market as a growth driver for the Russian economy is quite large. The housing economy considers the housing market as consisting of two components: the housing stock market and the housing and communal services market (HUS). (Fig. 1).

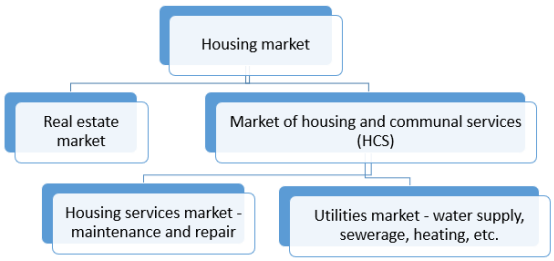


Figure 1. Housing market structure

The housing market is a market in which you can buy and / or sell housing. And the market for housing and communal services ensures the normal functioning of the housing stock. In a number of cases, it seems expedient to single out the markets for housing services and communal services. The housing stock market and the housing and communal services market are interconnected, actively interact with each other, but depend on various factors.

A feature of the housing stock market, which determine the uniqueness of the housing stock, is that the housing stock has the following features:

1. Extremely diverse (large, small, built from different materials, located in different territories, etc.)
2. Immobilized (which means that the dwelling cannot be moved, and therefore the consumption of housing goods is possible only at the location of a particular dwelling)
3. Durable (once bought, the owner receives the useful properties of his home for many years of its use)
4. Has a high value relative to consumer income (therefore, the housing market is associated with financial markets and instruments to finance such a purchase).

Therefore, increasing the affordability of housing is part of the state's economic policy. When analyzing the housing market in its broad sense, the topic of government regulation of the market and government intervention inevitably arises. This is due to the failures characteristic of the housing market, which include the following:

- housing has a high cost and the cost of purchasing housing is significant relative to their income by consumers;
- housing often becomes the main asset of households.
- in this case, the consumer may not have the completeness of information about the acquired dwelling and / or the

seller of the apartment or house, that is, there is an asymmetry of information.

This can lead to abuse by sellers of their position, and, as a result, losses, including financial losses, by consumers. For example, the problem of “defrauded equity holders” is a direct illustration of this situation.

In addition, the following situation can also be attributed to the undesirable results of the functioning of the housing market, when, under the influence of various factors, areas of dilapidated low-quality housing, sometimes even slums, appear. This contributes to the segregation of people living in these areas, further exacerbating their situation.

The emergence of areas with low-quality housing affects the cost of housing, even new and high-quality in itself, but located in this disadvantaged area or even close to it. This is a manifestation of the external negative effect of dilapidated housing.

Practice shows that the main goal of government intervention in the functioning of housing markets is to improve the living conditions of the poor and low-income citizens and mitigate the cyclical nature of housing markets. It is important and necessary for the state to ensure the affordability of housing for the poor and needy citizens. Since housing is one of the basic needs of a person.

The quality of housing largely determines the standard of living of a person. The presence or absence of housing affects the decisions to create a family, the birth of children. When the need for housing is satisfied, a person has more resources, both financial and time, for development, investments in the development of himself and his family. Thus, there is a connection between the provision of quality housing with the development of human capital. A well-developed housing market, including rental housing, facilitates population migration, and thus provides labor market flexibility.

Housing affordability is important not only for the poor, but it is important for all citizens and categories of the population. Therefore, an important task of the state's economic policy is to increase the availability and quality of housing.

It is logical to apply Krugman's “second nature” factors to the market of affordable and high-quality housing, contributing to the concentration of economic activity mainly in post-industrial economies. The factors of "second nature" include human capital, agglomeration effect and developed institutions. It is obvious that without affordable housing it is impossible to count on the development of human capital, which means the agglomeration effect.

Since the middle of the 20th century, it was believed that the housing issue belongs to the social sphere and, therefore, is secondary, since GDP growth will lead to an increase in housing investment and, thus, the problem will be solved. By the end of the 20th century, the views of economists had undergone significant changes and housing began to be seen as an economic rather than a social factor. Research has emerged demonstrating the impact of housing investment on GDP growth and the overall welfare of a country. Today, it is increasingly confirmed that GDP growth is a stimulator of the growth of residential investment. However, there are other studies that support the conclusion that housing investment enhances economic growth. At least in the short term planning horizon for some countries. Empirical work also argues that a weak housing sector increases threats to economic growth during periods of crises and recessions.

The state of the housing sector leads to the most important consequences in the economy due to its scale and multicomponent nature. Many markets and areas of economic activity are associated with the housing sector. (Fig. 2).



Figure 2. The relationship of the housing market with other markets.

Housing investment can reach a third of gross investment in the economy, and this requires a developed financial market both for financing housing construction and bank lending to consumers for buying a home. In addition, property taxes are an important source of revenue for local budgets, including cities. Thus, the decline in housing investments, downturns in the housing market are extremely sensitive for the economy and therefore become objects of the state's economic policy.

In Russia, the right of citizens to housing is enshrined in the Constitution of the Russian Federation. The state implements a policy to ensure the availability and quality of housing. An important moment in the development of the housing market, which still influences the state of the housing and housing and communal services markets in Russia, was the privatization of housing. Privatization of housing is the endowment of citizens with ownership of the dwelling they occupy.

The housing and housing and communal services market in Russia is still actively reforming, and these reforms have an impact on related industries and areas of economic activity. The Russian housing sector is of great importance to the national economy. Investments in housing construction account for about one seventh of all Russian investments in fixed assets. (14.3% of investments in fixed assets at the end of 2017). The volume of housing construction has doubled over the period 2004 - 2017. (from 41 million sq. m. to 85 million sq. m.), and has been actively growing all the two thousand years. In addition, the active development of mortgage lending began, in 2017 the volume of mortgage debt reached 5% of the country's GDP. However, nevertheless, in comparison with the average values for foreign countries, it has not reached the value that reaches more than a third of GDP (35%). Thus, given the tightness of the living conditions of Russians, one can expect a significant growth in the housing sector in the future.

In the Republic of Kalmykia, the average housing supply per person at the end of 2019 is lower not only the national average but also the average for the Southern Federal District and amounts to 25.2 m2 (Fig. 1). This is happening at the expense of the rural population. So, if in Russia the difference in the area of residential premises on average per one inhabitant in urban and rural areas does not exceed 10%, then in Kalmykia this gap is more than 25%. Moreover, in the context of the country, this indicator is higher in rural areas, in the Republic of Kalmykia the opposite situation (Fig. 3).

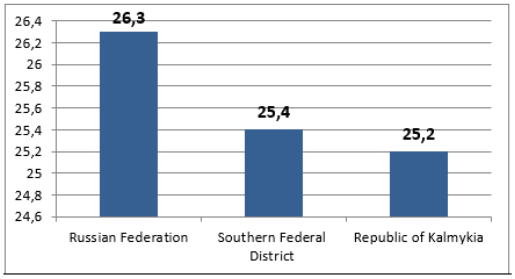


Figure 3. Provision of housing per inhabitant on average, m^2

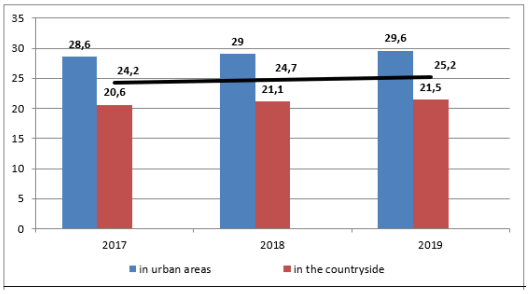


Figure 4. Average housing provision in Kalmykia, m^2

At the same time, it is necessary to note a positive trend towards a decrease in the number of families in need of housing from 2015 to 2019, from 11,502 to 10,261 families. Also, the share of dilapidated and dilapidated housing in the Republic is below the national average. For 2012-2018 in the Republic of Kazakhstan, dilapidated and dilapidated housing stock has been steadily declining from 113.5 thousand square meters in 2012 to 43.3 thousand sq. m in 2018. As a result, in 2012-2018. the share of dilapidated and dilapidated housing stock in the region decreased from 1.8% in 2012 to 0.65% in 2018. In terms of the improvement of the housing stock in Kalmykia, it should be noted the low values of indicators for the provision of water supply and sewerage compared with the average Russian (more than 20%). In part of the rural population, these indicators are even more significant. In this regard, today there is a need to move from infill development to integrated development of territories (ICT), which provides for the construction and commissioning of not only housing stock, but also the creation of modern infrastructure, landscaping and a homogeneous social environment. Also, within the framework of these territories, it is planned to build housing for people with different levels of income and wealth. What is relevant for the population of Kalmykia, in particular, because the standard of living leaves much to be desired. The share of the poor in 2020 in the republic was 22.7%, and the median income was 16,411.9 rubles. (which is almost 40% lower than the national average).

ICT allows building new housing not only on free territories, but also for the renovation of existing buildings (perhaps, first of all, in Elista).

So, in Kalmykia, since 2020, the State Program "Comprehensive Development of Rural Areas" has been in effect, which provides for the introduction of new housing, social and engineering infrastructure, and improvement of residential premises in rural settlements.

Also, an individual program of socio-economic development of the region for 2020-2024 is being implemented in the republic, where in the part of housing and communal services, measures are planned to provide the population of Kalmykia with high-quality and affordable housing, the creation and modernization of infrastructure using promising technologies, updating of housing and communal services, etc.

In addition to the programs being implemented, if the budget loan is approved, the region plans to implement an investment project for the integrated development of a residential neighborhood in the city of Elista.

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Primary Paper Section: A

Secondary Paper Section: AE, AH

THE FEMINIST HUNGARIAN FOLKTALE AS POSTMODERN COMBINATORICS – THE ANALYSIS OF CSENGE VIRÁG ZALKA'S STORY-BOOK TITLED *RIBIZLI A VILÁG VÉGÉN* [CURRANT AT THE END OF THE WORLD]

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Abstract: In this paper we analyze the first story-book of the internationally renowned contemporary Hungarian storyteller, Csenge Virág Zalka. In the first section we investigate the differences between folktale and literary tale, storyteller and story writer, further-/retold heritage and own creation as well as how the boundaries between them destabilize if we note down the folktale originally living in the oral traditional form. Furthermore, we will be discussing the female horizon prevalent in the Zalkaian tale-variants as well as the all-time topicality of the stories by putting the contemporary social and psychological analogies and taboo-breaking procedures of the tales in the foreground. In the focus of our investigation the *Ribizli a világ végén* [Currant at the End of the World] stands as a literary creation, which although we (also) analyze with an approach coming from the relevant literature of folktales and remade fairy tales, we do this all the way through the analysis in light of the postmodern text-organizing strategies.

Keywords: Hungarian folktale, feminist features, postmodern text-organizing strategies, taboo-breaking solutions, topical problem management

1 Introduction

From many perspectives folktales are wormholes: they connect distant spheres in the blink of an eye. They cross the borders of the rational and irrational worlds as well as those running in between cultures. They are about the past, they bring us back to the era of myths, and at the same time they make us face with numerous challenges of the present – for only the world changes, men always stay the same. Similarly to how the plot of certain tale types is constant, the way they are formulated results in countless variants. This happens with every re-telling and rewriting. Exchanging some words or elements, the gesture of name-giving, the peculiar combinatorics of structuring the stories next to each other can create something entirely different, something refreshingly up-to-date.

In many aspects Csenge Virág Zalka's work also stands on a borderline. She is an international storyteller who writes (Trinity College), learned the craft of storytelling on American universities (East Tennessee State University, Bowling Green State University) and showed its heritage for example in the storytelling aspect of role-playing games in her monograph titled *Forum-Based Role Playing Games as Digital Storytelling (Studies in Gaming)* (Zalka 2019a). Her professional volumes intended for the wide audience, such as the *Mesemondók márpedig vannak. A nemzetközi mesemondás világa* [Storytellers Surely Exist. The World of International Storytelling] (Zalka 2016) – which plays a central role in the Hungarian reception of the topic –, and also the *Hősök és pimaszok. Mit és hogyan meséljünk kamaszoknak?* [Heroes and Cocky Ones. What and How to Tell Stories to Adolescents] (Zalka 2019b) deal with the past, present and challenges of storytelling. Therefore Zalka is not "only" a contemporary bard but the researcher and interpreter of storytelling as well. She is a traditionalist but at the same time she also proves, with the same level of professionality, the survival of traditions within the realm of contemporary popular culture. Furthermore, the international nature of her activity is also important: she retold Hungarian folktales – in a world language – at numerous places around the world. This aspiration of hers is proven by her volume titled *Dancing on Blades. Rare and Exquisite Folktales from the Carpathian Mountains* (Zalka 2018), in which she published Anna Pályuk's Transcarpathian tales in English. Through her works Zalka undoubtedly started a productive conversation about the practical and academic discourse on storytelling between the English and Hungarian dimensions.

The storyteller phrased the following ars poetica in the epilogue of her first Hungarian storybook, which is the subject of this analysis, *Ribizli a világ végén. Régi magyar népmesék mai gyerekeknek* [Currant at the End of the World. Old Hungarian Folktales for the Children of Today]: "*I do not consider myself the writer nor the author of the stories in the book. I consider myself a storyteller, who does the same thing that storytellers have been doing since the beginnings of time: found a story, fell in love with it, began to tell it, and colored, polished and cherished it until every detail of it was shining"* (Zalka 2019c, 229–230). In her writing she raises the same questions asked by many professional writers in connection to the works of Perrault, the two Grimms, László Arany, Gyula Illyés and Elek Benedek. Where is the boundary between folktales and literary tales, storyteller and story writer, further-/retold heritage and own creation as well as how the boundaries between them destabilize if we note down the folktale originally living in the oral traditional form? In general, this paper is dealing with these questions. Furthermore, it discusses the female horizon prevalent in the Zalkaian tale-variants as well as the all-time topicality of the stories by putting the contemporary social and psychological analogies and taboo-breaking procedures of the tales in the foreground. In the focus of our investigation the *Ribizli a világ végén* [Currant at the End of the World] stands as a literary creation, which although we (also) analyze with an approach coming from the relevant literature of folktales and remade fairy tales, we do this all the way through the analysis in light of the postmodern text-organizing strategies.

2 ([Postmodern] Remade) Folktale

The dilemma of the primacy of the oral or written form of tales has the same age as the research of tales and using a less scientific analogy, it is similar to the case of the chicken and the egg. It is clear that people started to speak – and tell tales – orally, as opposed to in a written form, but we have ideas about what they were talking about and how they did it only since the time they started to write it down. "*Therefore, the question rather is that how these written records influence speech, whether they influence it at all (obviously yes), in what degree the texts recorded in writing reflect real speech (obviously partially at most), and to what extent these recordings carry in them the unique peculiarities, the stylistic alignments etc. of the person who recorded them."* (Liszka 2015, 99). The question of primacy has also been asked from the point of view of aesthetic quality. In this regard the heated argument between Albert Wesselski and Walter Anderson is one of the most memorable ones. According to the former, only the written down, stylistically treated tale counts as artistic creation, however, the latter, due to the oral and folklore basis of storytelling, considers the orally transmitted tale to have artistic value as well (Liszka 2015, 100). Although it is not the consequence of this debate, it is a fact of scientific history that "during textualization, which is based on the notion of a confined and closed text, the complexity of storytelling usually got/gets lost, and it has only become the subject of scientific reflection mostly since the 1960s by the significance of performance and context gaining more attention (Gulyás 2010, 51) in the Hungarian setting. Recently Ágnes Nagy Gabriella's paper titled *Hagyományos (nép)mesemondás* [Traditional (Folk)Tale Telling] (Nagy 2017) profoundly discussed the performative nature and techniques of telling folktales, the types of storyteller narrators and about the re-situating of telling folktales among various media. The foundation of the former is "*the media anthropology established by Pfeiffer, which provides a framework to emphasize the phenomenon of storytelling from folklore events in a way so that it still remains part of the folk tradition and it becomes visible and interpretable among the cultural phenomena of today*" (Nagy 2017, 189).

The performative acts of telling a tale have a big role in everyday pedagogical practice as well, since preschools and primary schools are highly important stages for the living on of folktales. In case of the storytelling of children they promote

empathy and in case of the storytelling of teachers, besides the abovementioned, they mix with the features of pedagogical communication (Horváthová – Szőköl 2016, 31–40). In such cases the repetitions' function is not only to give emphasis or comply with numerology, but they also contribute to the acquiring of knowledge (Horváthová 2017). In storytelling addressed to children or performed by them a distinguished role is played by surprise aesthetics whose elements (updating, the use of unexpected similes, delaying formulas, character monologues) can be used to make the tale always contemporary and livable and to align it to the momentary needs of the community of children (Andrásfalvy et. al. 2001, 33–36). A deeper experience of the tales is enabled if it is immediately followed by playful activity. The innovative methods and practices of interactive pedagogy, the student-centered and problem-based learning (Tóth 2019, 83–100), the various playful, team-building, communicative, personality- and creativity-improving, drama and project-pedagogical tasks (Kerekes 2014; N. Tóth – Petres Csizmadia 2015, 297–322; Puskás 2019) – which can even span over certain arts (Csehi 1998, 76–79; Csehi 2020, 46–48) and media (Zolczer 2019, 233–234; 236–238) – play a crucial role in developing the competencies of children.

Instead of further discussing the work of storytellers and the pedagogical potential of storytelling, let us steer back to the activities of tale collectors. The most popular figures of the field, Perrault, the Grimms or Elek Benedek in numerous of their publications referred to themselves as the loyal recorders of texts originating on the lips of the folk. "*So there is no extra coming from our own minds which we added to the tales – we did not beautify any relationship or feature in them* […]*; the fact that the idiosyncrasy and the phrasing of things comes from us is self-evident, but we tried to preserve every peculiarity we could notice"* (Grimm 2009, 13). Nevertheless, in their tale collections we can find many remaking and stylistic strategies specifically typical of them.

On a five-step gradual scale Ildikó Boldizsár showed to what extent and with the omission/replacement of which features can the literary tale – originally born from a folk tale inspiration – get further away from the folktale. Boldizsár worked with the most extensive genre corpus: fairy tales. According to her evaluation, on the first step – on the first pole – we have the *oral tradition fairy tales*, which is the base form, the putting down of live speech word by word. On the fifth step – on the other pole – there is the *assimilated and specialized fairy tale* with its own plot and motive system. The second step, the *remade fairy* tales, is the important one for us which includes the tales collected and at the same time remade by tale collectors who left their own fingerprints on them. These have their own peculiar style and their creators allow themselves to eliminate/replace some motives or elements which is mostly influenced by the consideration of the target audience, i.e. children (Boldizsár 1997, 15–17; 188–200). These peculiarities include: the classicist ornaments of Charles Perrault, the components of French etiquette and society integrated by him, the rhyming morals he wedged into the tales; in case of the Grimms it is the unification of the dialectal elements, the weeding out of obscene expressions, the totalization of fantastic elements and the iron hard rigor; and in case of Benedek it was morality, the educational aims, the glorification of the peasant-like conduct, the amplified prosaic rhythm, the varied beginning and closing formulas and the flavored expressions (Borbély 1999; Boldizsár 2004, 71–77, Petres Csizmadia 129; 134; 144–145). Furthermore, the collectors mentioned in the above order also adapted each other's tales and what is more, refolklorization – the getting back to the oral tradition – is also a common feature of theirs. "*What is generally true for a folktale, artificial tale, Grimm tale, for written and oral forms is that certain text variants were almost untraceably wandering around in the past centuries from a written form to an oral form and vice versa, from a folktale to an artificial one and back, perhaps with a short Grimm tale detour*" (Liszka 2015, 102).

The American folklorist Ruth B. Bottigheimer defines two forms of this wandering. The oral form is essentially typical for the *micro-spreading* and it has a limited radius of impact both in time (a few generations) and space (small distances). She connects the publishing environment to *macro-spreading* which allows great ranges for propagation including the crossing of language boundaries (Bottigheimer 2011). Besides the (remade) tale collections of certain collectors and published by publishers and also the (often fragmented) materials of archives and ethnographic collections, we can associate the various sound and audiovisual recordings which preserve the storytelling evenings as performance shows with the latter, i.e. with macro-spreading. Bards operating nowadays (from a medial perspective, too) can draw from a much more extensive corpus, on the other hand, the indication of the sources and origins of the tale, the drawing of the quasi genealogy of the new generation tale-variant is expressed towards them almost as a professional expectation. In fact, this is the point at which we run into the recognition of the (also originally) postmodern organizing strategy of telling and writing folktales as well as into the recurring dilemma of the question of authorship.

In numerous of his papers Zoltán Németh has dealt with the phenomena of the postmodern, however, from the criteria offered by him for approaching certain works (Németh 2014) many seem to be applicable in case of the (ageless) folktales as well, since the attempt made on grasping the transcendent can be caught in the act, for example in the unidimensional worldview (Lovász 2007, 12–21), and also in the formal tradition in the fractally regenerating elements of identity aesthetics (Andrásfalvy et al. 2001, 22–32). The hiding of oneself can be discussed in connection to the characters' masks and metamorphoses, but also with respect to the collectors/authors as well, who contribute to the tale as sort of co-authors, but since they do this within limits, it is as if their identities would merge with those of the storytellers working before them who also had an impact on the story itself. Another, perhaps the most determinant merging point is also related to this: the totalization of intertextuality, as stylistic modification and the motive-like subtraction/addition/substitution is applied to an inherited material which at times is unmarked, and sometimes is marked. A good example for the latter is the indication of sources, which when done with comments – e.g. in case of Zalka –, is documenting the process of the structuration of the text. It is a wonderful gesture from Zalka that in the inherited material she names the yet unnamed female protagonist Anica, for she retold the tale variant of Anna Pályuk (Anica). The gesture is not simply paying respect or acknowledgment, but also the integration of the creator into the tale in which at this point there are not only various storytellers amalgamated, but there is a fusion of storytellers and protagonists as well, causing a multiple infringement of the levels of reality and fiction. There are postmodern patterns looking back on us in this solution and also in that the beginning and closing formulas can always be read as self-reflections.

Besides these features, folktales are – exactly because of their nature of being free of reference – independent of society or age and still remain up-to-date/updatable. The subordinated voice and the traumas suggested between the lines or with a word-hint dropped here and there succeed by no means only due to the remaking of the tales and the extras added to them. This is where the expertise of the collectors becomes important, since the seemingly infinite folktale corpus already contains these, it "merely" needs some professional combinatorics to put them in the spotlight. In certain cases this can happen within certain tales, but it can be even more emphatic while editing a volume, such as in the case of *Ribizli*. Csenge Virág Zalka did not replace princes with warrior princesses so that instead of a passive princess they would need to rescue a prince with the same attribute. She only retold tales which already are in this way, or in which the female and male characters are on the same level.

In light of all this – as in the postmodern in general – the dilemmas suggested previously do not get (re)solved. What is more, rather the boundary between folktale/artificial tale,

storyteller/story writer, retold heritage/own creation gets questioned or blurry. A pure folktale does not exist, only a series of remade transcripts do, which, however, even in written form preserve their existence in variations, that is, in a certain way they safeguard the ancient form of folktales. The (live speech, performative) activity of storytellers and the (textual) one of story writers constitute one database and arm-in-arm with the phenomena of the era they offer a source of inspiration for the storytellers of the present. If these storytellers continue telling the heritage enriched with their own creativity then they extend it with themselves, they recreate it and merge with it along the strategies of postmodern combinatorics. Also for this reason we can completely agree with Zalka who says that "*to preserve the tale in a fragmented form due to a respect for tradition, to keep it in a sort of frozen state, even if the audience of today does not understand a thing from it,* […] *pays less respect to the genius storytellers of the past than if we, to our best knowledge, create a meaningful whole out of the inherited fragments*" (Zalka 2019c, 229).

3 Feminist folktales?

Brian McHale's *Postmodernist Fiction* volume is widely considered to be one of the foundational works of the academic literature dealing with the poetics of postmodern literature. McHale emphasizes the aspirations of these works according to which they wish to give space to the voice of previously marginalized groups as well as to their historical experience, and this is something that the history functioning as the central great narrative does not count with. Among others such aspirations are the female horizons or the perspective of any nationality, racial, sexual etc. minorities. The works of the *apocryphal history* evolving this way often put the particular eras and events under an entirely different light (McHale 1987, 90). This aim resonates with Zoltán Németh's *anthropological strategy* which he describes as one of the manifestations (out of the three) of postmodern literature. It is typical for it that "*it is sharply against authority, often acts openly political, it raises word against patriarchal, assimilative, homogenizative and globalizing tendencies with the purpose of preserving multicoloredness and the differing traditions*" (Németh 2012, 35).

Naturally, the authors of contemporary literary works can move much more freely, if not within limitless frames, with the purpose of validating the marginalized viewpoint, which is something that cannot be said, or at least not in this form, about the storytellers working with folktales. The folktales including people have women for the most part in the same ratio as they have men. This is self-evident since without them marriage – the most wide-spread expression of eucatastrophe – would not be possible to come to fruition. The *princess* is one of Propp's seven permanent roles in fairy tales (Andrásfalvy et al. 2001, 24), which predestines the woman as the partner or reward of another character: the *hero*. This pattern takes effect in a significant portion of the folktale corpus, although not in all of them and what is even more important, by no means only as subordinated.

Csenge Virág Zalka asks the question: "*If we want to nurse and preserve our own traditions, do we really have to give up the hope that our children could meet with diverse female idols in between the »once upon a time« and the »lived happily every after«?*" (Zalka 2019c, 224). And the powerful "No" answer is represented by the bright princesses, kind witches and tricky female troublemakers in the tales of *Ribizli*. "*These girls and women were not waiting for a savior: they slew the dragon themselves, they saved the kingdom, and they rightly became the ruler. The tale collection would have been complete without boys, princes and men who appeared next to these active women as equals*" (Zalka 2019c, 225). Therefore Zalka did not write extreme feminist tales, but with her collection she proved that the Hungarian folktale realm is not interested in the totalization of distribution of the traditional gender roles, but preceding its era, it considers feminist values (Puskás 2013) as basic principles and it contains the realized emancipation from its very beginning. At least it is definitely the case in these thirty-nine tales – how exponential of a self-reflection of tale-number. "*To my mind this is feminism; the heroes and heroines appear next to each other with equal value hierarchies*" (Csapodi 2019) – says the storyteller, then elsewhere she adds: "*Though when in the 19th century they started to compile the tale collections for children, they were selecting them obliquely and in a biased way according to the zeitgeist of the time. It was not the tradition which was one-sided*." (Karafiáth 2020).

Among Zalka's stories we can find ones with numerous histories but pieces which are well known ones as well, and generally it can be said that she was collecting these tales from the entire Hungarian language region. Many of the tales can be classified among those exceptions of classical tale-treasures which provide enough space for identity-formation and for the psychological processes and doubts of relationship development, in contrary to those solutions where "*the finding of the adult's role without any history or transition obviously is a fabulous element to the same extent as the topos of the love at the first sight providing the foundation to a lasting relationship*" (Kappanyos 2019, 8). Many of Zalka's female and male tale heroes "*saved each other, learned from each other, freely chose each other as partners and were able to admit their own mistakes as well*" (Zalka 2019c, 225). Let us look at some examples.

In the tales of *Ribizli* there are specifically self-aware female characters who are typically "*laborious and proactive in finding solutions to life situations*" (Parti 2020). In *A feneketlen kút* [The Bottomless Well] none of the princesses is willing to kiss the suitor even against their father's command, who not incidentally is the only one unable to identify the cavalier. "*My beloved father, if you need the ring so badly, kiss the devil yourself!*" – says the smallest one. And a few lines later we can read that: "*The king has sent the word to the palace for Anica to come out. Anica sent the word back that if her father wishes to speak with her, he shall come inside*" (Zalka 2019c, 8). The resistance here is not the expression of disobedience, but that of reason, which later even the king sees after realizing that the devil offered a fake ring for his daughters. The heroine in the *A sárból gyúrt leány* [The Girl Kneaded out of Mud] called Föld Gyengéje [The Weak One of the Earth] is one of the most active characters of the tale collection who – only due to her own talent –, from being a child of the poor gypsy people and being kneaded out of mud, became the savior of kingdoms, the conqueror of dragons and the darkness, and the equal partner of valiant soldiers. The latter could not be expressed better by anything other than what happened at the end: instead of the expected marriage they shook hands. With all this Föld Gyengéje refutes the prejudices connected to her origins, femininity, and name. The latter gets reinterpreted via the closing of the tale, since instead of indicating the "weakest", it can mean that the bearer of the name is the "gyengéje" [vulnerability] of everything on the Earth.

The love "on the first sight" is shaded in numerous places in the text of Zalka's tales. Although the Anica of *A feneketlen kút*, due to the lucky faith of the tale, can marry a soldier who had been promoted to a prince; the way "*they smiled at each other with the slender man; it was clear that this is not the first time they have smiled at each other*" (Zalka 2019c, 9). Thus the relationship – even if in secret – had enough time to evolve. In the *A három vásárfia* [The Three Fairings] via the king's wisdom the princess's permanent role becomes active when she can decide on her own which of the three suitors, who basically perform equally, she selects. One can argue with her reasoning, but not with her free will – this is the lesson here. In case of the *A titokzatos beszédű lány* [The Girl with the Mysterious Way of Speaking] the interest for each other is what becomes notable. Here it is not the suitor, the one who is seemingly the main character until two-thirds of the tale, but his brother – the escort – who becomes the protagonist by going back to the girl. "*The girl opened the door with a smile on her face and invited the boy into the kitchen. / – I thought you won't even come back! / – I came back – admitted the boy. – I confess, the many questions we asked from you; I didn't understand any of your answers. Explain please*" (Zalka 2019c, 31) – the boy asked. The girl's smile and words even retrospectively tell a lot about the previous

scene's uncovered happenings and presumable looks shared among each other, however, the last two words of the boy are the expression of treating each other as equals. He does not consider her a fool for not talking clearly – like his brother did – but rather he asks for clarification. He is curious. It is important though that the protagonists of some of the tales do not find a mate. For example, despite the offer, the last member of the trio in *Hapták, Kerdáj, Rékcung*, does not wish to marry the princess who has played him so many times; instead he very consistently chooses Julcsi, her handmaid.

Romantic intimacy appears in between the lines and in forms of references in the stories. After a short dilemma, for example, it becomes obvious in the *Az aranyhajú kertészbojtár* [The Goldilocks Gardener-Boy] at the point when the girl finally "*without a word took the comb from his hands and she continued to comb the golden hair*" (Zalka 2019c, 89). However, Ribizli is driven away and turned into a lizard by the convent school director because "*she was displaying herself in the window* [of the convent]" and "*was seducing the princes*" (Zalka 2019c, 70), which – even despite the intense protest of the girl – is counterpointed by a statement from the narrator from earlier: "*she wasn't keen about a life in a cloister, she was always looking out of the window*" (Zalka 2019c, 70). Ribizli [Currant] "*was given this unique name because since her childhood she wasn't willing to eat anything else*" (Zalka 2019c, 69), but later we find out that it could be red, white or black currant as well. According to color-symbolism the character is connected to sexuality, innocence and loss/the marching out of this world as well (Pál et al. 2001), which is also verified by the story. Although it is not revealed how close Ribizli got to the prince previously, it is clear that while being turned into a lizard she herself was helping him in fulfilling his tasks, and meanwhile the prince also restored her world. Therefore they had plenty of time to get to know each other and all this certainly happened with physical intimacy suspended.

Perhaps Zalka's most emphatic solutions for strengthening the female position is name giving, which is something that the female characters are in a significant disadvantage in the folktale treasury. "*I felt that all the girls and women who remained unnamed also deserve a name*[.] […] *Aside from one or two exceptions (where the girlness of the girl or the grannyness of the granny seemed more important than their first name) where there was no name, I borrowed one from another tale of the same tale collection or from another version of the same tale type* […]. *In a few cases I named a character after the original storyteller in order to pay my respects to them*" (Zalka 2019c, 229). We can rightly consider the collection which was realized among the lines of the female position as well as this form of name giving as the manifestation of McHale's *apocryphal history* and Zoltán Németh's *anthropological postmodern strategy* both within the framework provided by folktales. Thus the girls/women/old ladies do not remain an unnamed blend of mass in the shadows of Fehérlófia [The Son of White Horse], Király Kis Miklós [King Little Nicholas] and their company, but they become independent individuals who are equal partners of men as Ribizli, Zsófia [Sophie] or Anica.

4 All-time timeliness – social and psychological analogies, de-tabooing

Tales have played an honored role in all cultures and they continue to do so to this day. We can find them in the rites of the archaic societies who used them to celebrate the stations of human maturation. In the Jewish culture religious education was always linked to storytelling; this is why they were telling tales to the newlyweds on their traditional weddings. In case of the Christians the parables about Jesus teach us the morals, and for the Muslims tales are the tools for easing off after a whole day of fasting during the Ramadan (Boldizsár 2010, 24–25). Besides entertainment, the knowledge-shaping function of tales is also determinant. They promote immersion, they improve tolerance and the problem-solving skill, and according to the results of Ildikó Boldizsár and other professionals, they have a healing effect as well. The basis of the latter is the feature of tales that only their beginning and closing sections are harmonious, however the biggest, inner part of the tale is full of challenges and battles which the characters fight for winning back the equilibrium. In addition to the fact that the patient and usually the reader puts this fight in parallel with their own, the wonderful quality "*makes it obvious that tales do not want to convey knowledge about the outside world but rather about the inner processes of the self*" (Bettelheim 2011, 29). The sensitivity of tale therapy means that the symbols of the tale open for the recipient only to the extent at which they can currently tolerate them, and the steps of resolution and comprehension have emotionally energizing effects (Boldizsár 2010, 54–56). In light of all this, one can state that tales "*are about the fact that a person at any time during their life can be more than what in the current moment they experience, what is more, everything that functions incorrectly in the world can be changed*" (Vas, 2014, 209). Due to overcoming of their difficulties, the tale heroes of Zalka also can get a role in this process.

In the tales of *Ribizli* we very often are faced with (all-time) topical elements of social criticism. The most classical is the story of the *A láthatatlan munka* [The Invisible Labor] which renders the primacy question of female and male labor pointless. And this question "*whether you like it or not, is topical. Even today still many find it evident that the soap dish never gets empty at home...*" (Csejtei 2020). The treasurer of *Vidám Királyfi* [Merry Prince] confronts us with embezzlement and corruption, whose position ultimately is filled in – as sort of a counterpoint – by the fisherman father-in-law of the ruler, who due to their poverty did not even want to let her daughter into the court, despite them asking her to be the queen. At times this is enough for drawing full characters. Similarly to the two older princes of *Ribizli a világ végén* who, contrary to their brother, tried to solve all their tasks with money. The *A három vásárfia* confronts us with hostility and the sometimes meaningless declaration of public opinion, when all subjects know which prince should the king choose – it is just that they have nothing to do with it. "[T]*opics which are at the minimum flabbergasting appear here. The escape from the toxic family, abusive husband or harassing father. Growing up in a broken family. The cursing of children and the difficulties of lifting the curse. The overcoming of the boy-father or tyrant-mother arbitrariness, free mate selection, the taming of the unrestrained powers*" (Stenszky 2020), but also respecting the elderly comes up in many tales. The *A szegény asszony és a sárkány* [The Poor Woman and the Dragon] confronts us with the prejudices against the Romani people, the *Igazmondó Lőrinc vitéz* [Truth-Telling Valiant Soldier Lőrinc] makes us face harassment, where although the guilty gets the punishment, the case is not closed with this. "*And for you, my daughter, I do not simply allow to spit in the eye of anyone who wishes to hug you against your will, but I order you to slap them as well!*" (Zalka 2019c, 160) – the ruler says with a roar. With this the tale not only reacts to the scandals of our recent past, but it also emphasizes: if we want to put and end to harassment, the first thing to do is that the victims have to break the silence.

In several stories some of the motives of ancient Hungarian culture come to life. In *Incula* not only the eponym princess is a táltos [priest, healer, sage], but the only cure for her father's illness is the turul bird [ancient Hungarian mythological bird]. Here the (ancestral) national symbol and the cure are in a metonymical connection, and the liberation of the turul can symbolize the aspirations of revealing the past. In this sense the latter is also a self-reflection, since, to a considerable extent, this process is only made possible by the results of ethnography or by the conveying and the keeping alive of inherited traditions – for example with the telling of folktales. The fact that at the end of the tale Incula becomes a táltos princess resituates the place of women in old Hungarian culture. The *A híres szittya király fiai* [The Sons of the Famous Scythian King] guards the memory of the adventure era. One of its heroes, Aladár, is not only the eponym of the *Botond monda* [Botond legend], but also he can be put in parallel with the Biblical David through his fight with the giant. A princess of the same tale, Heléna, shows kinship with Helen of Troy from *Iliad*. The tripled golden apple throwing

of the Az aranyhajú kertészbojtár evokes the case of Paris and the goddesses of antiquity, and the A sárból gyúrt leány as well as the A pirosmalac [The Red Piglet], due to getting – here slightly alternatively – blessed with a child quite late draws a parallel with the story of Abraham.

We can also highlight the family structures which differ from the traditional model (a more recent volume of the storyteller, *Széltestvér és Napkelte* [Wind-Sibling and Sunrise] [Zalka 2020a]). In the *A feneketlen kút* "[the] *three princesses were born from three mothers*" (Zalka 2019c, 5), but were growing up at their father's. There were differing reasons for why the first two wives left. One of them was a fairy and when the fairies left the human world she went with them "*up to the starry sky*" (Zalka 2019c, 6). This phrasing suggests that death might have been the reason for the end of the marriage. The second wife, a women of science ultimately had to leave because of her science, since people in the court were accusing her with witchcraft. Here the reason was also not the spoiled king-queen relationship, although the gossip might have established a basis for this. Only the third girl has a simple mother, however, they do not quarrel with each other, and the king does not make exceptions with any of them either. Furthermore, with the first wife it was a multicultural one, while with the second one it was a marriage of two with different "educations". The female hero of the *Tengöri Hereberi Atyámuram*, on the one hand becomes memorable because of her loyalty – since she makes three seducers laughable while waiting for them "naked" in the bed –, and on the other because she tolerates another wife of her husband, besides herself. "*They sat down next to each other, they talked for a while, then they turned to Principci: they decided that they won't mind if both of them remain a wife*" (Zalka 2019c, 195). With this turn the tale does not only face the tradition of the purely monogamist marriage, but it also opens up the question of sexual orientation.

The potential traces of homo-, bi- and transsexuality appear on multiple places, be it playful situations or the emphasized search for ones identity. It is typical for these sections that they have a humorous – but definitely not derisive – style, which might make the reception easier (or just differently understandable) for those who are averse to these ideas. "*The king looked upon the devil. The devil also looked on the king. The king really wanted to get back his ring... therefore he leaned over and gave the devil a smack on the lips*" (Zalka 2019c, 8). The previous quote from the *A feneketlen kút* is only a game; the question of sexuality is emphasized most markedly in the tale titled *Vitéz Rózsa* [Valiant Soldier Rose], in which all three princesses try to slip into a male role. All three "*went to see the barber, had a haircut, put on valiant soldier clothes, and took off for the world*" (Zalka 2019c, 98), but only Rose gets through the copper, silver and golden forest too, which are sort of level markers for the steps of becoming a man. Rose proves to be a superb soldier insomuch as even Ilona Tündér [Helena Fairy] wishes to marry her. The text does not reveal whether Ilona knows about Rose's girlness, but that the latter "*who really started to like Ilona Tündér*" (Zalka 2019c, 102) also continues acting to this purpose makes the question of sexuality undoubtedly topical. From this point of view the fact that due to Saint Peter's curse – "*If you were a boy, turn into a girl, if you were a girl, turn into a boy!*" (Zalka 2019c, 104) – Rose's "*body changes*" (Zalka 2019c, 104) and allows a pass for heterosexual marriage is basically secondary, since Rose felt attracted toward Ilona Tündér even as a women. The latter opens the horizon of lesbianism, and the knighthood aspect and strongly masculine function of it introduces transsexuality. The *Béla kisasszony* [Lady Béla] seemingly also raises the previous questions, but in that one we "only" have a female hero who can alternate between male and female roles and identities and who does not relativize her girlness and sexual orientation even despite her name [Béla is a common Hungarian male first name]. "Gender identity is not necessarily equal with gender expression. *If a girl wears jeans, a T-shirt and male shoes, it doesn't necessarily mean that she wants to be a boy – simply that's what she likes, that's what's comfortable for her* […], *because it fits better to her personality when she's currently in a lady of the castle status*" (Zalka 2015a) – says Zalka herself as her own evaluation of the story, which in this form is the critique of the this or that way of thinking.

The storyteller does not weed out the cruel parts of the stories either, at most she renders them with a rhetoric solution. For example, when the green dragoon was "[f]*rying and frizzling*" (Zalka 2019c, 15) over the fire, when the witch in the *Incula* (although accidentally, but) slaughters all seven of her children or when in the *A híres szittya király fiai* the cut off hands of the twelve outlaws are poured out of a sack. The cruelest scenes are in *A szépen zengő pelikánmadár* [The Nicely Ringing Pelican], in which the kidnapped and then robbed princesses are thrown into the scythe-well by the fraud princes. "*In this tale love doesn't defeat everything. The princess, after seeing the attractive prince for what he really is, doesn't try to save him or shift responsibility to the remaining two siblings*" (Zalka 2015b). The tales in this way preserve the eye for an eye principle which is an important tool for restoring order in the classical tradition.

Certain linguistic solutions and notions of the stories fit into the updating strategy of surprise-aesthetics by which the tales are brought closer to the present era. For instance the green dragoon is beaten by an umbrella, or that they try to roast him in a frying pan and on a roasting dish. His wife happens to have a coffee glass while the king of *Vitéz Rózsa* likes to read newspapers. In the *A tengerlépő cipő* [Sea-Crossing Shoes] they send for firefighters to help the poor man get off from the church tower, and the princes of the *A három vásárfia* mark their path, out of the three available ones, with a pocketknife.

As closure we might mention the genre-related self-reflections which are the strongest in the tale titled *Egy halottban hét eleven* [Seven Living in one Dead]. In a certain sense the beginning and closing formulae always count as strong ones, but here we have the following overture: "*Once upon a time – if there hadn't been a time, I wouldn't be telling you about it –, there were two lovers in a village*" (Zalka 2019c, 76). Therefore, at this point, the love is already interpreted as a given, only its social fulfillment is blocked by existential and financial issues. The boy gets into the bad ways when he tries to solve his problem by stealing, but he gets collared and the punishment is hanging. Only his lover can save him if she can come up with a riddle which nobody can answer. "*The more she was thinking, the more she became worried that none of them will be good enough. She learned riddles since she was a child from the elderly of the village, her parents and from the other children; they were shared by word-of-mouth so she wasn't sure whether any of them would be recognized by someone from the village*" (Zalka 2019c, 76–77). Thus the riddle here functions as the key to survival, and due to the previously mentioned features, it is the analogy of the tales as well. As the self-validating insertion in the beginning formula of the story is a reference to the all-time validity of tales, the solution of the story, the creation of a new riddle (in other words tale, or maybe tale-variant) founded on real and contemporary basis is the key to the rescue and survival of the boy, storytelling and also to folk culture.

The volume is illustrated by the unique and ageless pictures of László Herbszt. The patterning solutions of the latter whose industrial elements, while evoking the parts of a machine – which return the same way as the backgrounds and the surface-filling patterns –, are the manifestations of the depths residing under the surface and the repetitions specific to folktales in a different medial context but at the same time being operationally analogous to them (Kocsis 2020). We can rightly consider the rich, vivid and saturated colors of the figures as updating markers, and "*the pattern on the inner cover can also be found under the titles, reminding the reader for the revived folk motives fitting for the revived texts, and also showing that they can find the permanence referring to tradition and the innovative visual world in the geometric shapes and colors of the drawings*" (Parti 2020).

5 Conclusion

As it could be noticed on the continually integrated details, Csenge Virág Zalka uses a "*clean but at the same time dynamic and live language. An enormous merit of hers is that she found a written, but also readable language for the tales narrated by her which can move both the feelings and the imagination of the reader*" (Hansági 2020). Although she gives voice to the old heritage, she does it with a modern language, modern tools and according to modern criteria. A determining element of her poetics is humor and with it she makes the material lifelike, but at the same time she is far from using exaggerated simplifications, which makes the works for the wide and ageless readership remain exciting. Since then a second volume of the collection was completed in a similar spirit, but containing a selection from the tale treasury of the whole world and having the title of *A kalóz királylány. Nemzetközi népmesék mai gyerekeknek* [The Pirate Princess. International Folktales for Children of Today] (Zalka 2020b).

Zalka's work and first tale collection, the *Ribizli a világ végén* – with which she earned the prize of the Best Children's Book of the Year 2019 in Hungary (Hubby 2020) –, besides many other things, has shed light on the role of the already emphatic female horizon which she further strengthened by the possibilities of storytelling/story-rewriting in the Hungarian folktale corpus, and she also illuminated the fact that the all-time topicality of tales is not an empty phrase, but a continually proven fabled feature.

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AESTHETIC AND PHILOSOPHICAL FOUNDATIONS OF UKRAINIAN ART EDUCATION DEVELOPMENT IN THE LATE 17TH – EARLY 20TH CENTURIES

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Abstract: The article highlights the basic aesthetic and philosophical principles of the European Baroque and clarifies their influence on art education development in Ukraine in the late 17th – early 20th centuries. It is shown that 17th – 18th centuries in Ukraine are characterized by formation of the national culture, which was defined and clearly outlined during the Cossack era and was embodied in the Ukrainian Baroque. With the help of the culturological principle the features of the Ukrainian (Cossack) Baroque formation in the historical development of the aesthetic and philosophical concept of art education in the territory of Ukraine of the studied period are traced. Considerable attention is paid to highlighting the differences between the aesthetic and philosophical principles of the European and Ukrainian (Cossack) Baroque.

Keywords: aesthetic and philosophical foundations, art culture, art education, history of art education, principles of European and Ukrainian (Cossack) Baroque.

1 Introduction

According to historical-cultural and historical-artistic sources, the Baroque is called the first stylistic trend in the history of culture, which not only covered all the peoples of Europe (regardless of religion or nationality), but also went beyond European borders. The Baroque style became popular in the Ukrainian lands of the Cossack era. In general, the 17th – 18th centuries in the cultural and educational sphere of Ukraine were marked as time of educated, talented, active people. This period is characterized by the formation of the Ukrainian state, a new national culture, and a system of education. According to modern scholars, during the 17th – early 18th centuries, the Ukrainian people were united into a nation, the outstanding feature of which is its own national culture, which was finally formed during the Cossack era and was embodied in the Ukrainian Baroque.

A new round in the history of Ukraine at the turn of the 17th – 18th centuries was marked by emergence of a new style in the development of the national culture, formed under the influence of the liberation movement in the Ukrainian lands led by the Cossacks, called "Ukrainian" Baroque or "Cossack" Baroque. A new direction was introduced in the art of European countries. However, the new conditions of the social system (creation of a wealthy Cossack leader), the requirements and canons of the church art of the Orthodox Church (which the Cossacks took under their protection), as well as commitment to cultural and artistic trends of Western Europe, contributed to the transition to a new style, which envisaged the use of folk art traditions and democratization of plots. The style of the Ukrainian (Cossack) Baroque influenced development of architecture, painting, sculpture, literature, music and decorative arts of the time under study.

We agree with the opinion of modern scholars (Bulakh, 2010; Vinogradov, 1994; Devdiuk, 2005; Stepovyk, 2012; Fedevych, 2008) that in some way Baroque philosophy still influences the culture of modernity – through samples of architecture, fine arts and products of traditional folk arts and crafts in museums. We believe that this determines the relevance of the study of aesthetic and philosophical foundations of the Baroque style, which in some way manifested itself in the period of art education formation and cultural development of Ukraine in the 17th – early 20th centuries.

2 Methods

The study used the following methods: *historiographical analysis* – to clarify the peculiarities of interpretation of the chosen issue in the scientific literature; *historical and logical analysis* – to classify the source base; *terminological analysis* – to determine the terminological field of research; *historical-genetic method* – to single out stages of art education development in the period under study; *synchronous analysis* – to define basic aesthetic and philosophical principles of art education development.

3 Results and discussion

3.1 Aesthetic and Philosophical Principles of the European Baroque of the 17th – 18th Centuries

Research (I. Bulakh (2010), M. Vinogradov (1999), S. Vladimirova (1994), S. Kapitaliv (1973) et al.) shows that the Baroque style appeared in the 17th century against the background of the crisis of the Renaissance ideas and appeared where the Renaissance reached its peak – in Italy. The ideological basis for the spread of the Baroque in Europe was general weakening of spiritual culture, the split of the church – as a consequence of the decline of its authority, which turned into a struggle of doctrines that reflected the interests of different classes. Instead, Catholicism remained the ideological basis for feudal trends, and Protestantism reflected the interests of the bourgeoisie. Gradually, for these socio-economic reasons, a new style emerged, the primary task of which was to create the illusion of wealth and power, the rise of the Catholic Church. The seventeenth century in Western Europe is marked by the complexity of social and spiritual processes – there was a real worldview revolution, which led to the destruction of traditional ideas about the universe, formation of a new picture of the world and a new understanding of man. The revolution in the consciousness of mankind was caused, first of all, by great scientific discoveries, which testified to the emancipation of the human mind and its limitless possibilities in the knowledge of the world. It resulted in the formation of a view of the world, different from the previous one, a different "image" of reality, a new vision of the state of affairs. It is worth noting that the Baroque, although it appeared in Italy, spread very quickly throughout Europe and even beyond its borders (Weiss, 2005; Lipatov, 1963).

We'd like to stress that the term "baroque" appeared a little later than the trend in art. Later, in the 18th century, the term acquired a negative meaning in aesthetics: Baroque was called everything rough and clumsy (Kolomiitsev, 2001; Laptiev, 1996). Initially, this term was used to describe culture as its decline. This situation lasted until the middle of the 19th century, until appearance of the new cultural ideas (which, logically, were influenced by Baroque philosophy). Over time, the term "baroque" has lost its negative connotation (Vladimirova, 1994).

A new view of "baroque" as a category to characterize the cultural direction was introduced by H. Wolfflin in the book "Renaissance and Baroque" (1888). In this and all subsequent works, H. Wolfflin defined the Baroque as the highest, critical stage in the development of any artistic style: the first stage is archaic, the second – the classics, the third – the Baroque. Hence there is an opposition of classicism and baroque as concrete-historical artistic styles (Wolfflin, 2004). H. Wolfflin's opponent M. Dvořák considered the Baroque style a product of Mannerism, but at the same time – the highest stage of "development of the spirit". The author paid much attention to philosophy and historical-sociological aspects of art, considered "baroque" an integral feature of certain national cultures and historical types of art (Dvořák, 2001). Thus, the changes that took place in his assessments indicate that "Baroque" has acquired characteristics of an artistic-aesthetic style. However,

the modern concept of Baroque provides it with a certain cultural and historical status: aesthetics, in general, means the essence of the form of beauty in artistic creativity, art and life (Borieiev, 2006). It is worth noting that in the philosophy of the Baroque period, Man ceased to feel "the most intelligent being", on the contrary, began to doubt his perfection. As M. Vinogradov emphasizes, a kind of Baroque period (a period of catastrophe, decline) can be found in any era (Vinogradov, 1999). In our opinion, this is especially important for understanding the philosophy of Baroque aesthetics, which began to reject authorities and traditions as superstitions. Baroque neglects everything connected with antiquity and the Renaissance and seeks new forms for learning about the beautiful, surrounding world (Devdiuk, 2005).

It is worth mentioning that in the Renaissance the basis of scientific knowledge was man, however, Baroque figures and philosophers believed that he [man] had been already sufficiently studied and began to talk primarily about the mind, rejecting the spiritual component. It is necessary to emphasize that these trends are the basis for understanding the aesthetics of the Baroque, its eternal antithesis. Most likely, the Baroque developed the principles laid down in the Renaissance, but with a radical change in the main aesthetic and philosophical doctrine gave these principles a new dynamic and decorative character. The desire for metaphor, for allegory reached its apogee; however, a strong naturalistic basis clearly emerges through all metamorphoses in the Baroque period (Laptiev, 1996).

Due to the fact that in the Baroque different types of fine arts (architecture, sculpture, painting) actively interact, this style spread so quickly in Europe (Weiss, 2005; Dassa, 2004). I. Bulakh emphasizes that the Baroque artistic concept considers wit the main creative force – the ability to combine dissimilar. The researcher points out, that due to this fact, the Baroque masters attached such great importance to wit and as a consequence their special attitude to metaphor and emblem was born, which was aesthetically a more refined way of expressing artistic meaning than the symbolism of the Renaissance. Since the Baroque puts the ability to surprise, impress with novelty, this style allows in its works grotesque, ugly, fantastic (Bulakh, 2010: 65). The theoretical aesthetic and philosophical concept of the Baroque era emphasizes that art is profoundly different from logic as a science. According to I. Bulakh, wit in the Baroque is a sign of genius, the artistic gift is given by God, and no theory can help to acquire it (genius) (Bulakh, 2010: 66). In our opinion, ingenious works are born on the verge of paradoxes (contradictions) and occasionally due to a balanced conservative logic.

Thus, the Baroque, like other cultural and historical styles, is characterized by a peculiar worldview, philosophy and a number of specific features. Philosophers of art and cultural historians distinguish as a special category for the study of Baroque, the so-called antinomy – incompatible opposites, which together show a certain harmony and aesthetics. Such an antinomy is extremely important for understanding the essence of the philosophy of the Baroque aesthetics (Borieiev, 2006). Scientific research has established that the most characteristic antinomies of the Baroque are the opposition of chaos and order, life and death; the assumption that man is everything and nothing at the same time.

In addition, there are still certain oppositions at such levels of knowledge of being as time, space and thinking. It is characteristic for the philosophy of the Baroque era to see the contradictions inherent in the foundations of things. Thus, the specific features of the Baroque are: increased emotionality, emphasized dynamism, contrast of images, the use of irrational effects and elements (Vladimirova, 1994).

During the Baroque period, the worldview of man finally lost its harmony. Man's consciousness is overwhelmed by contradictions (internal contradictions of being, human life, the universe), in which, in fact, lies the basic meaning of the aesthetics and philosophy of the Baroque. Thus, Baroque is an artistic trend that reflects the crisis concept of the world in general and the individual in particular. At the same time, it should be noted that in the Baroque era there was a Renaissance tendency to understand man as an individual, but no longer "integral and harmonious", but "confused and contradictory". In the fine arts of the Baroque period, the priority of aesthetics is the spiritual test of man, which can explain the predominance of religious content, since theorists, leading figures and Baroque artists considered the world chaotic and ambiguous, dominated by dark destructive forces, which according to church canons embodied the devil. Thus, in Baroque painting, color spots and chiaroscuro predominate over lines, violating the principles of dividing space into plans, ignoring the laws of linear and aerial perspectives in order to enhance the depth and planning of space in the picture and convey the illusion of infinity. Currently, in the Baroque architecture there is an attraction to the ensemble of buildings, to the complex organization of the architectural environment with squares, palaces, grand staircases, fountains, park terraces, swimming pools, ground floors and so on. In urban and countryside residences, architecture and sculpture are combined with a single conceptual idea and a practical solution: in public buildings, preference is given to the use of plastic decoration with a whimsical play of shadow and light. In the ceremonial interiors of palaces, a multi-colored sculpture, elegant sculpting, carving, gilding, painted plafonds, etc. are used (Dassa, 2004).

Thus, the essence of Baroque as an artistic direction reflects the complex atmosphere of the era, combining seemingly incompatible phenomena: reality and illusion, mysticism and irrationality, expression and rationalism, and so on. In painting, preference was given to religious subjects of martyrdom and creation of sacred miracles. The images in the paintings of the time are characterized by contrast characteristic of the Baroque, dynamic images, hyperbole and pathos, the desire for greatness in both religious and secular subjects.

Only much later, from the 19th century, the Baroque began to be considered along with the Renaissance as the embodiment of one of the directions of aesthetic and philosophical principles of the historical and cultural period. Today, the term "baroque" refers to the artistic style of European art of the 17th – 18th centuries (Stolkovska, 2007). The above-mentioned features of the Baroque were used in music, literature, architecture, sculpture, fine and decorative arts in various countries (Italy, France, Germany, Flanders, Spain and Russia) in the 17th – 18th centuries (Shkaruba, 2005).

3.2 The European Context of Aesthetic and Philosophical Principles of the Ukrainian Baroque in the Development of Artistic Culture and Education of Ukraine in the 18th Century

It should be noted that in early 18th century the Baroque gained a kind of development in Ukraine, which was reflected in the cultural and educational aspects. Concerning formation of art education in the eighteenth century in the context of our study, it should be noted that in the studied period two directions of education formed: formal (in the newly created Kyiv-Lavra Icon Painting Workshop, Kharkiv Collegium, Kyiv Academy) and informal (in the folk tradition of teaching arts and crafts in the family). Formal education emerged mainly under the influence of the demands of aristocratic art (order of the Cossack elders and church hierarchs), and informal – due to the demands of democratic arts and crafts (folk, traditional). The most significant in this stratification is the art of embroidery – for lords and for peasants (although it should be noted that aristocratic art was also created by folk artists) (History of Ukrainian Art, 2011). This gives grounds to consider all the varieties of Ukrainian decorative and applied arts of the 17th – early 18th centuries as folk, i.e. traditional (Boichenko, Nykyforov, Hulei, 2020).

It is important to emphasize that the greatest flourishing in this period gained the art of graphics, and especially engraving (a type of graphics in which the image is a printed imprint)

(Krypiakevych, Lutsyk, Maksymenko, 1971) due to opening in 1728 of the first art education institution in Ukraine – Kyiv-Pechersk Lavra Icon Painting Workshop. A certain system of painting training was established in the institution, which was based on textbooks and manuals for drawing and the experience of leading domestic and foreign artists-teachers of their time (Swentsitska, 1965). Later, similar workshops were opened in Lviv, Chernihiv and Novhorod-Siverskyi (Krvavych, Ovsiichuk, Cherepanova, 2004).

P. Zholtovskyi in the introduction to the album-catalog "Drawings of the Kyiv-Lavra Icon Painting Workshop" makes an excursion into the history of the workshop, provided extracts from archival documents. In addition, the author considered the methods of teaching at the Lavra Painting workshop. He argued: "The basis of training was redrawing from various Western European albums of engravings" (Zholtovskyi, 1982, p. 6). These facts testify to the influence of the Western European artistic and pedagogical tradition on the formation of art education in Ukraine.

On the pages of the above-mentioned work P. Zholtovskyi placed a register of books with which the apprentices of the workshop worked. It allowed us to conclude about the use of textbooks and manuals in the educational process of the Lavra Painting School. From the description of P. Zholtovskyi we have an idea of the stylistics of the images, the elements of which were "sybills, prophets and apostles, allegorical figures with intricate draperies of clothing". The above mentioned indicates the use of visual elements in the methodology of teaching fine arts in the 18th century.

The influence of folk art on the development of theory and practice of teaching fine arts is evidenced by numerous examples of the use of ornaments inherent in various types of traditional folk art of Ukraine in various types of practical work of apprentices. "Lavra apprentices were good ornamentalists", notes P. Zholtovskyi, "their works are decorated with ornamental motifs, borrowed from folk embroidery, wood carving, various projects of decorative cartouches, jewelry stamping" (Zholtovskyi, 1983, p. 7).

Analysis of the themes of creative and practical works of apprentices of the painting workshop allows us to trace the influences of the Western European school of fine arts. Thus, the analysis of archival sources (albums, drawings) made it possible to establish that the graphics of the seventeenth century developed on the basis of stable ancient Byzantine traditions within the canon of Christianity. However, since early 18th century, painting of the naked human body has found its place in the system of art education in Ukraine. Eventually, postures and angles became more complicated, and there arises an interest in conveying feelings – anger, rage, crying, and so on. In the drawings of female images one can feel the "madonized" Virgin Mary with manifestation of national female features (Stepovyk, 1982).

The increase in attention to secular subjects is evidenced by the expansion of the subjects of the painting workshop apprentices' works. Thus, among the animalistic plots should be mentioned the image of deer, horses. In addition, drawings of exotic animals – lions, camels, porcupines, monkeys, kangaroos, ostriches, etc. – attract attention. The category of secular motifs should also include images of eagles against the backdrop of a mountain landscape, swans in calm water, forest and water birds. It is worth noting that artistic technologies and themes of works were not only borrowed, but also creatively rethought and based on them there were created authors' own techniques and works of art. For example, the landscape drawings of the Lavra painting workshop were made by the technique of ink washing, very different from the engraved and etching patterns (Logvyn, 2002). This indicates a creative rethinking of Ukrainian masters of the Western European models in their own artistic language.

Significant changes in the methods of teaching fine arts testify to the high pedagogical proficiency of the teachers of Kyiv-Lavra painting workshop. Such conclusions allowed us to analyze apprentices' works, themes and tasks of which gradually became more complex and expanded. At present, with regard to architectural motifs, they are characterized by a rocker construction, which in some cases gives way to aerial-perspective construction (Zholtovskyi, 1983, p. 8). Occasionally there are everyday scenes and plots that are interesting only by their narrative character (Biletskyi, 1981). An important place in our analysis is occupied by one-figure paintings of apostles, prophets, allegorical personifications. In the eighteenth century, the seated figures of the evangelical apostles were replaced by full-length figures, in which, first of all, the engravers tried to convey high wisdom, deep spirituality, the will to preach, and willingness to sacrifice. Allegorical images include images of day and night, an allegory of geometry in the form of a woman near a globe, and a popular allegory of the futility of human life in the form of a child leaning on a human skull with one hand and holding a pipe with the other (Zholtovskyi, 1982).

The above mentioned indicates an increase in the professional level of training, acquisition of new professional competences. In addition, the completed proportions, confident poses, expressive dynamics of movements, turned the engravings into perfect works of art.

In 1721 a college was founded in Kharkiv to teach the children of the clergy, elders, wealthy burghers and Cossacks. In 1658, the Kyiv-Mohyla Collegium was opened, which in 1701 received the status of an academy with the assistance of Hetman I. Mazepa and was enshrined in the charter of Peter I (Korol, 2016). The academy had such a high level of education that it allowed it to reach the same level as the best education institutions in Europe at the time. According to modern scholars, the high enlightenment status was confirmed by the structure of academies and the content of curricula. Important is the fact that education was not caste, i.e. available for all layers of the population regardless of age or origin. The only condition for all entrants was: first – ability to learn; second – Orthodox confession.

At the beginning of the 18th century the academy had about two thousand students. Great attention in the organization of training was paid to upbringing of respect for elders, formation of Christian virtues, devotion to the Motherland, and so on.

In the context of our study, it is important that Kyiv Academy was the leading both scientific and artistic center of Ukraine. Among the outstanding teachers and students of the academy there were prominent domestic figures of culture, education, science and arts in various fields. In particular, prominent graphic artists who taught fine arts at the Kyiv-Mohyla Academy: I. Myhura, I. Shchyrskyi, L. Tarasevych, H. Levytskyi and others, who in their pedagogical and artistic activities promoted the ideas of Baroque and Enlightenment both in Ukraine and abroad (Stepovyk, 2012; Sichynskyi, 1937).

It is worth noting that in the late 17th – early 18th centuries in the Chernihiv and Lviv printing houses also worked a team of talented artists. "... The art of Ukrainian engraving responded to the demands of the Cossack officers with a new genre", writes D. Antonovych (Antonovych, 1993, p. 356). In addition, the author, in his printed lectures, gives a brief but accurate description of each artist of the era, which, first of all, includes I. Myhura, who dedicated his work exclusively to portraits of dignitaries and saints. However, the artist was a master of emblems decor, had unlimited imagination. It should be noted that in 1706 on a huge sheet of paper he created an engraving "Mazepa surrounded by good deeds". In the central part of the composition he placed the figure of I. Mazepa in a knight's attire, with a mace. On both sides there are figures of six women who represent truth, power, justice, science and art. The upper part of the painting depicts six churches founded by I. Mazepa (Fomenko, 2002).

Further research has revealed that the graphic artist I. Shchyrskyi, according to the accurate description of

A. Antonovych, was not so inventive in his panegyric compositions as I. Myhura, nor was he skilled in performance. In addition, I. Myhura did not make engravings of church content, like the old engravers, and worked almost exclusively on eulogies (Nykyforov, 2019a).

Conceptual analysis of scientific sources has shown that researchers consider two Tarasevychs to be outstanding masters of Ukrainian engraving of the Baroque period (Stepovyk, 2012). In particular, D. Antonovych considers O. Tarasevych to be especially gifted, and expresses an interesting opinion about his portraits: "everyone showed a great taste for framing the portrait, not accumulating accessories, but adhering to noble restraint" (Antonovych, 1993: 358). It is known that O. Tarasevych headed the Lavra printing house, worked on the creation of engravings of religious content, also made portraits of contemporaries in various graphic techniques. In his work he aspired to the realism of the model image, tried to convey the psychological state as accurately as possible. Famous portraits include images of Meletius Vuiakhevych, Lazar Baranovych and Prince Vasyl Holitsyn (Tkachenko, 2013).

The discovery of the volume of O. Tarasevych due to the virtuoso mastery of light and shadow modeling of the form had a great influence on the further development of art education in Ukraine in the 18th century and later. The artist-educator made many portraits of kings, prominent figures of Europe, illustrations for various publications in foreign journals (Kahamlyk, 2005: 18). At the same time, D. Antonovych notes, decoration of portraits by O. Tarasevych was often more interesting than the portrait itself (Krypiakevych, 1926). Indeed, the faces in the portraits of the master are quite generalized. According to many researchers, O. Tarasevych was one of the most prominent graphic artists in Eastern Europe. That is why the works of the master were used in the educational process as a visual aid.

In contrast to O. Tarasevych's creative method, L. Tarasevych's approach to the practice of portraying is followed by an energetic interpretation of images with vivid reflections of the character and individuality of the characters. According to D. Antonovych, L. Tarasevych is more a master of his time and a representative of tastes of his time than O. Tarasevych (Antonovych, 1993: 358). All works by the author have a skillful drawing, skillfully modeled chiaroscuro, perfect technique of the cutter, which indicates his high level of methodological training. It should be added that L. Tarasevych's illustrations to "Paterik Pecherskyi" were used by apprentices of the painting workshop as a visual aid and were repeatedly copied in wood and metal engraving by masters of the 18th – early 19th centuries.

Special attention deserves the work of the graphic artist of the first half of the 18th century of the Kyiv-Lavra printing workshop O. Kozachkivskyi. The works of the master are characterized by a complex composition, full of dynamics of forms and bold strokes and lines.

In the second half of the 18th century, Ukrainian graphic art was replenished with works by master H. Levytskyi, whose works were characterized by perfection of composition, balanced drawing, soft hatching and mastery of chiaroscuro modeling. In addition, the artist refers in his compositions to various symbols, allegorical images and biblical stories (Kahamlyk, 2008).

While analyzing the scientific sources, it has been established that in Ukraine by the second half of the 17th – early 18th century there was a multilevel system of education. The level of education of the general population had significantly increased, which had led to a significant cultural and educational rise in the system of European culture, education and science. The Kyiv-Mohyla Academy was formed as a center of sciences and arts, which served as a basis for the formation of art education in Ukraine.

In the context of our study, it has been found out that the oldest examples of graphics are most closely related to folk engraving. Based on the analysis of the works of I. Krypiakevych, R. Lutsyk, F. Maksymenko, it was established that graphic sheets were printed on wooden boards on separate sheets of paper and distributed in the form of popular pictures among the people. According to V. Fomenko, the peculiarity of such printing is a small size of individual graphic sheets. Mostly they corresponded to the measurements of a standard sheet of paper accepted in the printing practice of that time (Fomenko, 2002: 7). These were mainly images of plots to biblical parables, as well as stylized portraits of saints, realistic portraits of contemporaries, landscapes, scenes of historical events. O. Shpak in the study "Ukrainian folk engraving of the 17th – 19th centuries" considered peculiarities of the folk engraving development, identified the relationship with some types of traditional arts and crafts, namely – wood and stone carving, compared with manufacture of wooden manners for beating on fabric. At the same time, O. Shpak pointed out a peculiar way of using folk engravings – pasting them into book frames during their restoration (Shpak, 2006).

It should be noted that engravings from printing houses in Kyiv and Lviv served as a source of plots and iconographic schemes for craftsmen from the people. Thus, we can state that in the second half of the 17th century there were features of the interaction of professional and amateur art of graphics. It should be noted that the plot basis until the end of the 18th century in folk graphics remained iconographic themes, characteristic of Baroque philosophy. The most common images – Jesus Christ and Virgin Mary, Archangel Michael, St. Panteleimon the Healer, the holy martyrs Barbara, Paraskeva, Catherine; from plots: twelfth holidays; scenes from the lives of saints: St. George the Victorious, St. Nicholas the Wonderworker, and so on. The peculiarity of folk engravings is observance of Byzantine canons. Secular images have not become widespread (Nykyforov, 2019b).

Thus, the works of easel woodcutters penetrate into the lives of the poor. It should be added that the ban imposed by the church on unprofessional, primitive engravings gradually put an end to the distortion of images by uneducated amateur workers. As a result, underground shops in Kyiv, Chernihiv, and Lviv continued to exist for some time, but deviations from the canons, changes in the artistic tastes of the population, and competition from powerful centers of professional artists nullified production of cheap artisanal counterfeits.

Thus, as a result of scientific research, two directions of art education development in the 18th century in Ukraine were identified: informal (in the folk tradition of family education in arts and crafts) and formal education (in the newly created: Kyiv-Lavra Icon Painting Workshop, Kharkiv Collegium, Kyiv-Mohyla Academy). It has been found out that with opening of the Kyiv-Lavra Icon Painting Workshop a system of painting education was formed, which was based on textbooks and manuals for drawing and experience of the leading artists-teachers O. Kozachkivskyi, H. Levytskyi, I. Myhura, L. Tarasevych, O. Tarasevych, I. Shchyrskyi and others.

It is noted that structure of the Kyiv Academy and content of its curricula allowed:

- to raise the level of education at the academy, which could be compared with the leading education institutions of Europe in the 18th century;
- to raise the status of the Kyiv Academy to the leading scientific and cultural-educational center of Ukraine.

3.3 Manifestations of Aesthetic and Philosophical Principles of the Baroque in the Cultural and Educational Space of Ukraine in the 19th – early 20th Centuries

It is important to point out that the aesthetic and philosophical principles of the Baroque acquired a peculiar development in Ukraine and were used in the educational and cultural space of the following centuries. That is why the further subject of our research attention is establishment of Baroque manifestations in

the artistic and craft movement of Ukraine of the 19th – early 20th centuries. Theoretical and philosophical views and principles of the Baroque aesthetics as an artistic style found expression in the development of traditional folk handicrafts (first half of the nineteenth century) and in the formation of arts and crafts education in Ukraine (second half of the nineteenth and, especially, early twentieth century). This is confirmed by the exhibits of museum collections of Ukraine: handicrafts and arts and crafts schools, paintings. Rethinking of the role of the Baroque in the world and Ukrainian culture was facilitated by the use in the late 19th and early 20th centuries of the certain Baroque elements in art, architecture, and book graphics. It is worth noting that these trends are particularly noticeable in the decorative and applied arts. Thus, in the fine arts, application of aesthetic and philosophical approach was manifested in the decorative approach to painting, these trends of domestic painting were especially developed in the early twentieth century: manifestations of Baroque are especially noticeable in the paintings of the "modern" style. However, the decorative approach was reflected above all in handicrafts, and especially in such types of folk art as embroidery, quilting, painting.

It should be noted that a special rise occurred in handicraft pottery in the late 19th – early 20th century. Production of pottery and tiles was expanded, in the decoration of which the Baroque construction of the composition of the work as a whole was used. According to the study by A. Zaika, who recorded the memoirs of a master-ceramist Pavlo Ivanchenko (a graduate of the Hlynsk School of Art and Ceramics), Baroque floral motifs (lotus, pomegranate) were used in the decoration of pottery school in Hlynsk (Zaika, 2016).

The researcher of the history of art and ceramic schools development in the 18th – early 20th centuries L. Fedevych notes that in the forms and paintings of Ukrainian ceramics the influences of the ancient Old Russian art are noticeable, but in the choice of ornamentation of works of decorative and applied art of the studied period preference is given to "Baroque reminiscences" (Fedevych, 2008).

Thus, the above-mentioned gives grounds to claim that in the 18th – early 20th centuries, the aesthetic and philosophical principles of the Baroque were embodied in the development of culture and art education of Ukraine, because:

- Ukrainian fine and decorative arts of the 18th – early 20th centuries developed in line with the artistic style of the Baroque;
- new artistic trends were embodied in graphics, manifesting themselves in strengthening the emotional sound of religious scenes, in specifying the place of action and images, bringing them closer to the folk type, which led to a change in the means of their artistic expression;
- Ukrainian art education developed in two directions: on the one hand – formation of professional art education, on the other – development of folk art;
- the general discourse of art education took place in line with European culture;
- revival of religious and educational activities contributed to the expansion of book publishing: in addition to Kyiv and Lviv, there were printing houses in Chernihiv, Novhorod-Siverskyi, Pochaiev;
- the period under study is characterized by the influence of traditional types of decorative and applied arts – ornamentation of embroidery, embossing, quilting, carving and other folk crafts on the content of art education;
- the work of Ukrainian teachers-artists of the 18th – early 20th centuries is marked by national originality and authenticity.

Thus, the above-mentioned gives grounds to assert that in the eighteenth – early twentieth century, the aesthetic and philosophical principles of the Baroque were embodied in the development of culture and art education in Ukraine in the period under study.

4 Conclusions

The scientific research established the defining features of the aesthetic and philosophical concept of the Western European Baroque, which were formed on the basis of previous historical, cultural and artistic traditions: a marked strengthening of the role of the church and the state; raising religious influence in all spheres of culture, art and education; interpretation of the image of man not as a counterweight to God, but as His most perfect work; reconciliation of the coexistence of traditions of ancient and Christian origins in art; an attempt to combine the ancient ideal of beauty with the Christian (an attempt to combine spiritual and physical beauty); appeal to nature (both in science and in art), but now nature is interpreted not as a counterweight to God, but as "a way of knowing the perfection and mercy of the Creator"; fascination with hyperbole, paradoxes, grotesques, etc.

It is stated that in addition to the above features, the Baroque style developed its own philosophical and aesthetic features: the tendency to complicate forms in architecture; strengthening the dynamics in the plastic arts; sketches of movement, travel, tension, catastrophes in the literature; elegance in decorative arts; decorativeness in fine arts.

As a result of the study, it has been found that Ukrainian Baroque in comparison with Western European one has the following features: significant advantage of spiritual (religious) components over secular ones; involvement of ancient mythological images in Ukrainian art without resistance and struggle, because it was a favorable "spiritual ground"; the language of Ukrainian Baroque literature remained fundamentally Church Slavonic, as in the previous period.

The analyzed creative heritage of Ukrainian and foreign philosophers, historians, art historians, education historians, scientific views of educators and cultural figures have shown that:

- aesthetic and philosophical paradigm of the Baroque era, first of all, reflects the crisis concept of the world in general and the individual in particular;
- the artistic concept of the Baroque is humanistically oriented, but socially pessimistic: there are doubts about the capabilities of man, there is a sense of futility of life;
- the specific features of the Baroque are increased, strengthened and hyperbolized: dynamics, emotionality, contrast of images;
- the biggest aesthetic and ideological shortcoming of the Baroque (according to art historians), is too great an advantage of the external over the internal, excessive decorativeness, with which sometimes disappears the inner, deep meaning of the work.

It is stated that the aesthetic and philosophical principles of the Western European Baroque affected all spheres of culture and art education of Ukraine in the 17th – early 20th centuries.

The practical significance of the obtained results is that the discovered materials on the theory and practice of Ukrainian (Cossack) Baroque can contribute to the enrichment of knowledge in the field of ethnography, culturology, art history, history of art education in Ukraine in the 17th – early 20th centuries.

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Primary Paper Section: A

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DIGITAL ECOSYSTEM OF STATE SUPPORT FOR INNOVATIVE DEVELOPMENT OF RUSSIA

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Abstract: The purpose of the research is to form a full-fledged innovation infrastructure in the context of the implementation of the digital policy of the state. The research uses the methods of dialectical approach, system approach, and comparative analysis. The Results of the study can be useful for expanding the conceptual framework, which will significantly improve the use of the innovation approach in the territorial development of the economic system. The Relevance of the research is not in doubt, in modern conditions, world economic science considers the innovation concept as an effective tool for improving the competitiveness of the state economy, regional economies, as well as individual industries and enterprises.

Keywords: digital ecosystem, innovative development, socio-economic development, state innovation support, strategic development, strategy

1 Introduction

The current economic crisis has once again clearly shown how closely the processes of globalization of the world economy in recent decades have intertwined and integrated with the regionalization of economic life. At the same time, in the hierarchy of globalization and regionalization processes, in relation to the conditions of the Russian economy, it is globalization that clearly dominates. The transition of the country's economy to an innovative path of development is impossible without the formation of a globally competitive national innovation system, for which it is necessary to increase the demand for innovations from most of the sectoral economic entities, increase the importance and effectiveness of interaction between fundamental and applied science, form a full-fledged innovation infrastructure in the context of the implementation of the digital policy of the state.

2 Literature review

The political structure, the level of economic development, the instruments of motivation of innovation policy as special characteristics determine the role of the state in financing innovation. Thus, for the United States, the main motive is global military-political and economic hegemony on the world stage, for European countries – social stability and improving the quality of life, for China – achieving sustainable growth and economic leadership, for Brazil, India, Malaysia – overcoming poverty and internal stability, for the Republic of Korea and Singapore – increasing competitiveness in a macro-regional competitive environment. [5]

Russia is characterized by a huge discrepancy between the accumulated human scientific and technical potential and the overall productivity of the national economy, which is usually measured by the value of the gross national product (GNP) per capita. Numerous studies show that Russia confidently occupies one of the first places in the world in terms of the number of scientific and technical personnel, overtaking many developed countries. [3] Despite the presence of a huge scientific and intellectual potential, during the formation of market relations in the country, the economic situation has deteriorated sharply, the efficiency of domestic enterprises has decreased, and the number of unprofitable enterprises remains significant. [4] The rise of domestic production cannot be carried out without its technological re-equipment, innovation orientation and scientific support.

At the same time, it is important not only to preserve and effectively use the existing production and innovation potential of Russia, but also to gradually raise it to the level of developed countries.

The relevance of technological developments is due to two groups of changes in the environment of the enterprise, which have a domestic and international nature. In other words, the external and internal market puts pressure on enterprises. This pressure is expressed in changing consumer behavior; the development of markets for goods and services and, as a result, increased competition; the worldwide development of new technologies of different characteristics; the globalization of supply and demand. [2] All over the world, innovation today is not a whim, but a necessity for survival, maintaining competitiveness and further prosperity. At the moment, the most innovative industries in the country are the defense industry and space. These industries are being actively developed and have great potential in their development. Promising industries are agriculture, medicine, IT technology and construction.[1] It is the development of these industries that will improve the standard of living in the Russian Federation.

3 Research methods

A set of general scientific and special methods was used to solve the research task. The methodological basis of the research is the dialectical method of cognition of economic phenomena and processes occurring in the macro-mesoeconomical system; a systematic approach, comparative analysis.

4 Empirical results

In 2020, the implementation period of the Innovative Development Strategy of the Russian Federation "Innovative Russia 2020", prepared by the Ministry of Economic Development of the Russian Federation, which declares that Russia "sets ambitious but achievable long-term development goals" – ensuring a high level of well-being of the population, consolidating the country's geopolitical role as one of the global leaders determining the world political agenda. The only possible way to achieve these goals is the transition of the economy to an innovative socially-oriented development model."[2]

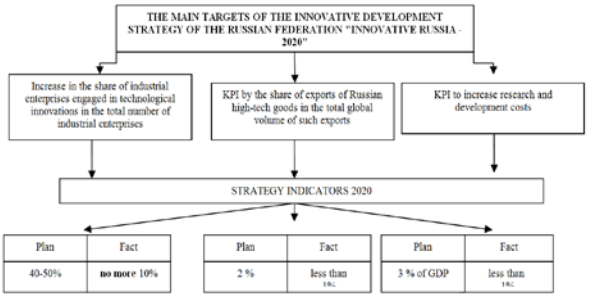


Figure 1 - Results of the implementation of the Innovative Development Strategy of the Russian Federation "Innovative Russia - 2020"

The main targets in this strategy were to "increase the share of industrial enterprises engaged in technological innovations in the total number of industrial enterprises to 40-50% by 2020."
KPIs have not been achieved for the share of exports of Russian high-tech goods in the total global volume of such exports (it

[1] VTSIOM-SPUTNIK SURVEY Press Release № 3132: URL: https://wciom.ru /index.php?id=236&uid=115737
[2] Innovative Russia-2020. Strategy of innovative development of the Russian Federation for the period up to 2020 - p.5. URL: http://www.economy.gov.ru/minec/activity/sections/innovations/doc20101231_016

should be 2%, in fact less than 1%), for increasing research and development costs (3% of GDP was planned, in fact it was a little more than 1%, and remained), etc. The strategy also assumed a sharp increase in business participation in research and development financing and a decrease in the share of the state - also did not happen. Consequently, the main performance indicators of the strategy have not been achieved.

Tab. 1: Examples of BFR by strategy areas

1. BUSINESS ACTIVITY GROWTH	*NEW HIGH-TECH ECONOMY*		
	INCREASING TRUST AND IMPROVING THE BUSINESS CLIMATE	Reform of the law enforcement and judicial system	CREATING A COMFORTABLE JURISDICTION IN RUSSIA AND ATTRACTING ALL STARTUPS IN THE EurAsEC SPACE
		Reducing administrative pressure and excessive regulation	
		Risk-based approach to regulation and inspections	
		Reducing the share of the state in the economy and using the potential of state-owned companies to accelerate technological and digital development	
2. INFRASTRUCTURE DEVELOPMENT	*AGGRESSIVE INFRASTRUCTURE DEVELOPMENT*		
	DEVELOPMENT OF THE COUNTRY'S SUPPORT BASE	Development of high-speed railways	INTENSIVE FORMATION OF INFRASTRUCTURE
		Creation of competitive infrastructure of seaports	
		Development of the support frame of high-speed highways	
		Integrated development of urban areas	
		Development of the agglomeration transport framework	
		Planning the construction of satellite cities of large cities	
		Development of an eco-friendly public transport system	
3. POVERTY REDUCTION	*NEW SOCIAL CONTRACT*		
	UNIVERSAL FAMILY ALLOWANCE WITH A NEED CHECK	Focusing targeted support mechanisms, the principle of "know your customer" (KYC):	FORMATION OF TARGETED FINANCIAL MECHANISMS FOR THE COMPLETE ELIMINATION OF MONETARY POVERTY
		-determination of need criteria (families with children, the disabled, the working poor)	
		- determining the exact amount to eliminate the household income deficit	
		Introduction of Social Treasury	
		Provision of medicines and technical means of rehabilitation	
4.PUBLIC ADMINISTRATION REFORM	*CLIENT-CENTRIC STATE*		
	STATE -AS - A-SERVICE	Implementation of AI in the field of public administration, prioritization of ethics issues	THE STATE AS A SERVICE
		End-to-end and proactive provision of public services using a unique digital identity	
		Redesign of public services based on behavioral analytics of decisions of people and SMEs	
		Implementing a risk management system to achieve government goals	
		Development of cloud services for government agencies	
		Development of the digital labor market, ensuring adaptation to new forms of employment and the needs of the "digital" sectors	
		Development of digital city services, quality improvement in the provision of public goods	
		Implementation of client-centric approaches to the work of FOIVS	
5. STIMULATING INNOVATION AND ICT DEVELOPMENT	*NATIONAL INNOVATION SYSTEM*		
	IT AND INNOVATION DEVELOPMENT: DIGITAL INFRASTRUCTURE AS A PUBLIC GOOD	Formation of a single trusted and secure digital circuit for communication between the state and citizens:	MODEL OF KOREAN CHAEBOLS (FPG)
		- EDS, digital document storage environment, EDO, EBS, mobile identifier;	
		- IT infrastructure and platform services (PAAS), for B2B, for B2G, B2C, C2C by subscription	
		Development of cloud services for startups (IaaS)	
		Restarting development institutions in the areas of Industry 4.0	
		Superconditions for R&D: tax reduction, acceleration of depreciation, acceleration for SMEs:- avoiding "toxic" public money through the involvement of large companies in the development agenda;- creation of favorable conditions for the work of personnel in innovation and IT in Russia	

Source: Compiled by the authors

The government, on the initiative of Prime Minister Mikhail Mishustin, has developed a new socio-economic development strategy in order to ensure the implementation of 5 national projects: "new social contract", "client-oriented state", "aggressive development", "new high-tech economy" and "national innovation system", each of which includes up to 25 sectoral/functional strategic directions (up to 5 per working group). (Figure 2)

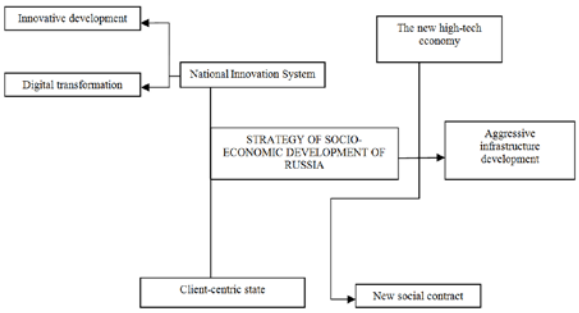


Figure 2 - Frontal strategy of socio-economic development of the Russian Federation
Source: Compiled by the authors

For the innovative development of the Russian economy, it is necessary to form a political, social, information, and economic infrastructure in order to create favorable conditions for effective interaction between government and business.
In terms of state innovation support for the development of entrepreneurial forms, the Ministry of Economy will launch a digital ecosystem of support for small and medium-sized businesses by the end of 2021 — companies will be able to receive state support and the services they need on the principle of "one window" based on the platform of this ministry.

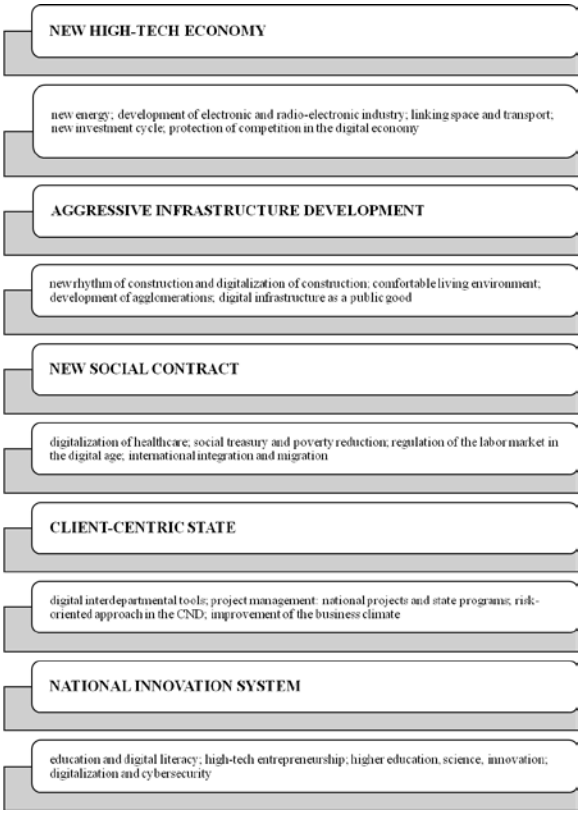


Figure 3 - The main objectives of the key directions of socio-economic development of the Russian Federation
Source: Compiled by the authors

The platform will form a "digital profile" of companies based on government and commercial sources for more effective business support, depending on its condition and needs — it is promised that the system will "accompany" entrepreneurs as they grow. It is expected that such consolidation of data on SME support at one point will provide the Government with knowledge about the degree of effectiveness of the assistance provided.

Tab. 2: Comparative analysis of state forms of influence on the economy as a whole[1]

Composite elements	State forms of influence		
	State support	Public administration	State regulation
The prevailing impact on society	Administrative		Political
Subjects	Executive authorities and the State apparatus		Senior political leadership, legislative and judicial authorities
Participants	No		Elements of the political system: parties, civil society institutions
Goal	Satisfaction, first of all, of state interests		Satisfaction, first of all, of private and public interests
Political regime	Democratic /Liberal	Totalitarian/authoritarian	Democratic/Liberal
The prevailing type of property	Private, cooperative	State	Private, cooperative
The degree of state intervention in the economy	Uncertain, situational	Maximum	Minimum
The prevailing method of economic management	Indefinite (mixed)	Planning	Forecasting
Effectiveness of anti-corruption	Low	Low	Upward trend

The federal project "Creation of a Digital platform with a mechanism for targeted selection and the possibility of remote receipt of support measures and special services by SMEs and self-employed citizens" implies the creation of a single digital ecosystem containing comprehensive up-to-date information about all measures and institutions of support for SMEs and allowing entrepreneurs to choose and receive remotely required support measures (Fig.4).

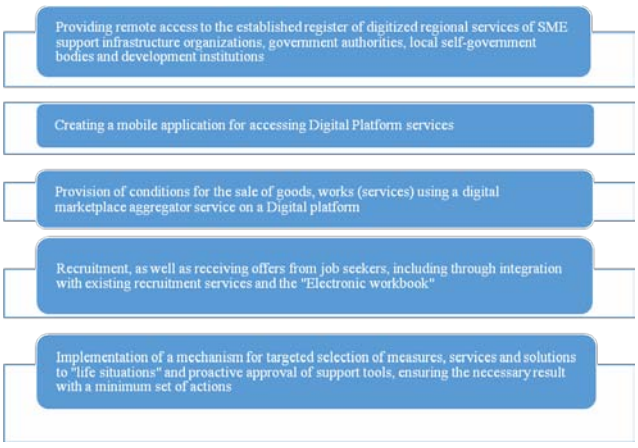


Figure 4 - The main activities of the federal project on the formation of a digital ecosystem
Source: Compiled by the authors

Tab. 3: Indicators of the implementation of the federal project "Digital Platform"[3]

Indicators	Period	
	2021	2024
the number of services implemented within the Digital Platform, units.	5	25
the number of unique SMEs and self-employed citizens who have used the services and services of the Digital Platform, thousand units.	200	500
the number of services and services received within the Digital Platform, thousand units.	300	600
satisfaction of users who have received services and services on the Digital Platform, %	50	80

The launch of the digital platform in 2020 required an updated national project for the development of SMEs: it promises a mechanism for targeted selection of support measures, as well as their proactive approval. To do this, the Ministry of Economy has provided for the formation of a "digital profile" of recipients of state support on the basis of the platform — the "digital reputation" index. It will be formed from three data blocks. The first block (official sources) will not require the participation of an SME: after registration, data from other government systems will be uploaded. The second block (commercial sources) will be replenished with data from banks, marketplaces, credit bureaus, real estate portals, social networks. Additionally, the business will be able to report on its operations, requests and what services it used.

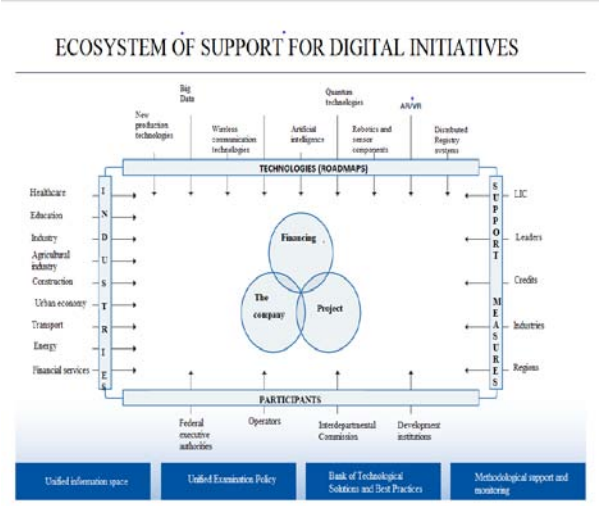


Figure 5 - Ecosystem of digital initiatives support [4]
Source: Compiled by the authors

The Ministry of Economy points out that the index will automatically pre-fill out application forms, carry out their remote approval, as well as offer businesses potentially in-demand measures.
pData on the state of the business will be used for its acceleration — so the platform will be able to offer hints about further steps for development. De facto, the government is creating a system of state support for small businesses throughout the life cycle.
Now the platform is already integrated with the Federal Tax Service in terms of the unified register of SMEs (work is underway to integrate with the recently launched Federal Tax Service register of recipients of state support). Several banks, educational platforms and electronic trading platforms have already joined the ecosystem. So from 2021, SMEs and the self-employed can apply for a loan through the platform, receive

[3] https://msp.economy.gov.ru/
[4] https://msp.economy.gov.ru/

educational services and track public procurement. The Ministry of Economy plans to launch tax services (for example, payment in the "one window" mode), services for exporters, while the target is the development of super services - package solutions for small businesses, depending on typical situations. To do this, the platform will be integrated with the services of ministries that support SMEs (Ministry of Agriculture, Ministry of Industry and Trade), the banking community, as well as development institutions in the SME segment (Russian Export Center, SME Corporation).

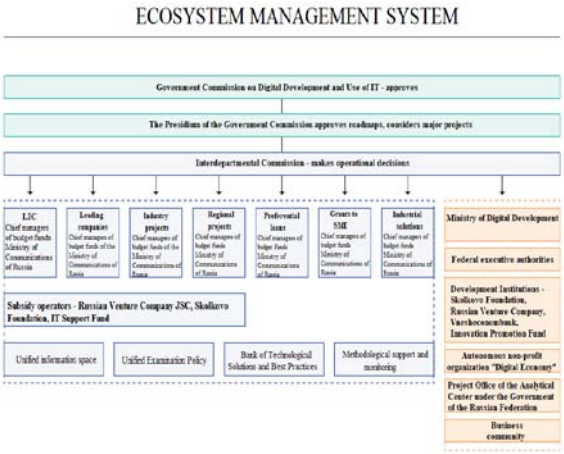


Figure 6 - Ecosystem management system [5]

It is expected that the service approach will facilitate the activities of companies and contribute to the recovery of small businesses after the shocks of the coronacrisis - by simplifying interaction with the state and facilitating access to state support. Support measures include events for leading companies, companies in the real sector and IT technologies, industry, regional programs that will be implemented with the support of Russian venture capital companies, Skolkovo, the Information Technology Support Fund with the direct participation of banking institutions.

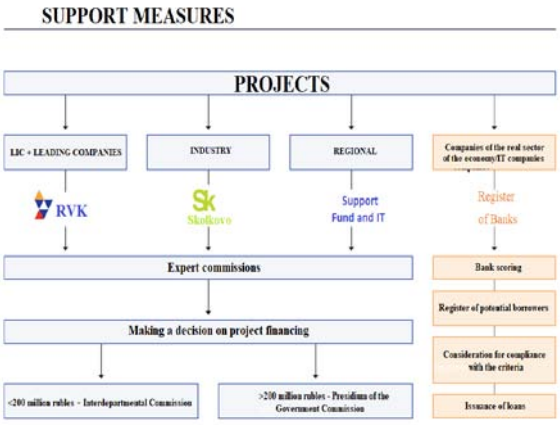


Figure 7 - Support measures [6]

For the government, the launch of a platform that consolidates data on all recipients of state support at one point is an opportunity to analyze the volume and effectiveness of the assistance provided, the data obtained will be used to prioritize state support measures and their adjustment.

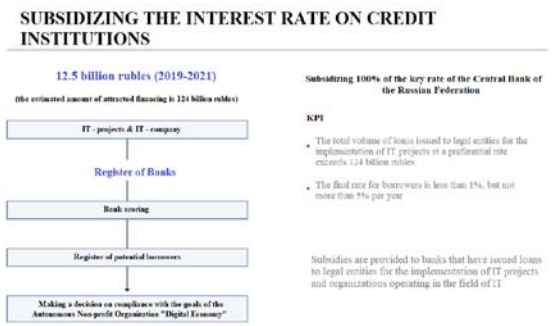


Figure 8 - Subsidizing the interest rate on credit institutions

This program provides for subsidizing the interest rate on credit organizations, which indicates further interest on the part of the Government of the Russian Federation, developing a measure of state financial support for small and medium-sized businesses in the field of IT technologies and organizations operating in the field of IT technologies. 12.5 billion rubles (2019-2021)

5 Discussion

Thus, when embarking on market transformations, Russia was unable to formulate a scientific and innovative policy and determine its priorities. [2] Until the end of the last century, an approach based on financial stabilization prevailed in relation to the scientific and technical sphere - one of the three "whales" of the initial stage of reforms. It was based on the full economy of budget funds allocated for its maintenance. It was only with the resumption of economic growth that the state began to pay more attention to science and innovation. A practical study of the problem under consideration allows us to conclude that the knowledge of alternative options for financing innovations, the formation of a digital ecosystem is the main task in developing a strategy for the socio-economic development of the state.

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Primary Paper Section: A

Secondary Paper Section: AH

[5] https://msp.economy.gov.ru/
[6] https://msp.economy.gov.ru/

THE ROLE OF IMPULSIVITY IN MILITARY LEADERSHIP - A LITERATURE REVIEW

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Project: Creation of model situations, enabling to cover the spectrum of potential stress situations arising in the conditions of modern operations. 7/2020 on 19.10.2020.

Abstract: This paper focuses on impulsivity as a significant predictor of risk-taking and decision-making in the context of military leadership. It examines the possible sources and implications of elevated levels of impulsivity in this specific leadership domain, looks at the approaches to studying this subject, as well as other key implications of this construct. Attention is also paid to the prevention and elimination of undesirable forms of impulsive behavior, especially in the context of dealing with challenging situations in the real conditions of professional activity of military leadership students and in the performance of military service of military leaders.

Keywords: military leadership, impulsivity, impulsive behavior, pathological impulsivity, prevention.

1 Introduction

In the context of the current global peacekeeping and defense situation, the broader socio-economic and socio-cultural context in which military leadership is currently being implemented is a very complex situation based on overwhelming volatility, uncertainty, complexity and ambiguity of changing strategic priorities (Laurence, 2011). However, in historical as well as present context, specific, extremely high demands have then and now been placed on military leadership. These demands are thus often implemented within the context of prolonged mentally and physically demanding or even extreme conditions (Morath et al., 2011; Ullrich et al., 2018).

Therefore, in the context of military leadership, both military students and professional soldiers are undoubtedly exposed repeatedly and long-term to situations that place high demands on them both in preparation for their future profession and in real deployment (Ullrich et al., 2018, 2020). This is reflected in the trend of increasing demands in the recruitment, training, selection and subsequent education of military leaders. In addition to professional expertise, the ever-increasing demands on these specific positions are placed on the effectiveness and quality of the decision-making process in the context of considering the appropriateness of risks. This approach is framed by a significant systematic effort by modern armies to minimize risk.

Closely related to risk minimization are the efforts of militaries to maximize security in all core aspects of leadership. From a psychological point of view, then, high demands are placed on the stress resilience, attention and decision-making processes of military leaders in particular, as any impulsive and ill-considered decisions should have no place in the military (Börjesson et al., 2015). Therefore, the military's efforts are aimed at not only averting, but more importantly, preventing as much as possible any impulsive behavior and decision-making of military leaders, which in the long run is reflected in their selection and training process (Wong et al., 2003).

Research studies conducted in this field have shown that an individual's risk appetite and risk-taking behavior are related to several groups of significant intervening influences, which are: 1) demographic factors (education, gender, age, etc.); situational factors (stress, social pressure, current emotional state, etc.); and personality factors, which include impulsivity (Baumann & Odum, 2012; Floden et al, 2008; Killgore et al., 2006; Sicard et al., 2001). Therefore, mapping the degree and possibly the developmental trends of impulsivity as a personality characteristic, tied to potential risks especially in the area of decision-making and action taking, is a key topic for military leadership students preparing for their future careers, as well as for military leaders. Indeed, elevated levels of impulsivity are not only associated with risk-taking or risky behavior and decision-making (Bresin, 2019), but they are also considered an important diagnostic indicator associated with many other types of maladaptive behavior (see below). Thus, in military settings, high levels of impulsivity have been associated with, for example, increased risk of exclusion from military training (Lubin et al., 1999), or with weapon-related risks (Glicksohn et al., 2004), illustrating the importance of examining it in military leadership.

At the same time, research focusing on decision-making has shown that two significant factors of impulsivity, namely lack of planning and sensation seeking, are two key factors related to risk-taking in this context, both of which can be considered pivotal in military leadership, especially since it has been repeatedly shown that individuals with higher levels of sensation seeking are more likely to engage in risk-taking activities regardless of the positive or negative consequences of their actions (Zuckerman, 2007). Since the decision-making of military leaders has a profound impact on the lives and safety of others, any impulsive and ill-considered decisions should have no place in the military (Börjesson et al., 2015).

Therefore, the ability to manage current stress and long-term pressure and resist the urge to act impulsively and take shortcuts or make decisions in these situations is a core competency of military leaders. It is of utmost importance that it be given increased attention in their selection, education, and training (Hannah et al., 2010). For this reason, adequate procedures for identifying individuals, who may be personally predisposed to impulsive decision-making and action, need to be developed and then appropriately implemented in the training of military leaders as part of prevention (Ambrozová et al., 2016).

2 Methods and results

The paper has been prepared in the form of a literature review, with the aim of presenting a selection of relevant sources, analyzing and synthesizing their content and presenting the main findings. The search of sources was carried out in English language through the international electronic research databases EBSCO, ProQuest, SCOPUS and Google Scholar, using the above-mentioned keywords based on the literature search. Publications from the year 2000 to the present were included in the review study, focusing on current knowledge on this research topic. The selection of the information sources was carried out in the following steps: literature search and definition of keywords, initial search of the set of publications, narrowing of the set based on the analysis of the basic data (elimination of duplicates, publications eliminated for title and abstract study), critical reading of the sources, analysis of the narrowed selection of publications and selection of high quality and relevant sources that were used in the review (N = 48), which was supplemented with contextual sources dating back to 2000 (N = 13). Based on the knowledge drawn from the sources used, we present the following results:

2.1 Impulsivity as a personality trait

Impulsivity is usually defined in the literature as a personality trait that conditions hasty action based on a current impulse, without considering the consequences that may befall the individual or his or her surroundings as a result of this action. Thus, impulsivity is also characterized by a tendency to act with a lower degree of forethought than most individuals with the same abilities and knowledge, or a predisposition to rapid, unplanned reactions to internal or external stimuli, regardless of

the negative consequences of these reactions (International Society for Research on Impulsivity, 2012).

As a result of this mechanism of acting without prior consideration, or the tendency to act with less forethought and consideration of risks, it is a very important personality variable in the context of military leadership which should be given increased attention (Börjesson, 2020). This is because individuals are largely predisposed for not engaging desirable volitional processes in the decision-making process, which translate into the choice of appropriate goals or the selection of the most appropriate strategy to achieve these goals. At the same time, the individual does not sufficiently consider the long-term effects of his or her behavior on him or herself and on his or her environment, which is totally unacceptable within the military.
The view of impulsivity, as a psychological construct, has undergone considerable historical development, or rather transformation from a unidimensional to a multidimensional view. The development of the construct of impulsivity as we know it today dates back to the mid-19th century. First, Esquirol, in Treatise on Insanity (1845), described symptoms for monomania that, according to the International Classification of Diseases (ICD 10), correspond to today's symptoms of compulsive and impulsive personality disorder. Subsequently, during the twentieth century, a number of other authors appeared who incorporated some form of impulsivity into their theories of personality (e.g., S. Freud in Three contributions to the theory of sex, 1920). The development of the study of impulsivity was influenced by other important authors in personality psychology, such as Eysenck and Guilford. Eysenck created the Manual of the Eysenck Personality Inventory (1964), in which he viewed impulsivity, along with sociability, as a lower factor of extraversion. Guilford (1975), who advocated a more traditional Jungian conception of extraversion, objected to this composition of extraversion. Not only because of his critique, but also because of the work of many other authors. Authors studying impulsivity have subsequently concluded that the unidimensional conceptualization of impulsivity does not work. This change in the approach to the study of impulsivity is well illustrated, for example, by Dickman, who in 1990 developed a unidimensional model of functional and dysfunctional impulsivity, and just three years later (1993) presented a three-dimensional elaboration of dysfunctional impulsivity, focusing on attentional problems, impulsivity in reasoning, and disinhibition.

Thus, in the current literature, impulsivity is understood exclusively as a multifactorial construct consisting of several lower-order factors. However, there is not complete agreement among authors working on this issue as to what these factors are. A number of authors have attempted to grasp impulsivity from a multidimensional perspective, but their efforts have resulted in a rather extensive confusion in the scientific models and theories associated with this construct. In fact, there has been quite a lot of diversity in thinking about this construct, which has been reflected in particular in the different approaches to what subscales impulsivity consists of. Subsequently, a considerable number of self-assessment instruments aimed at measuring impulsivity have been developed based on these different theoretical frameworks (Carver, & White, 1994; Gray, 1991; Farmer & Sundberg, 1986; Zevon & Tellegen, 1982). Moreover, the inconsistency in the approach to examining impulsivity has been exacerbated by considerable terminological inconsistency (particularly the naming of different subscales with the same name and the use of the same names for different constructs). However, this problem, termed jingle-jangle fallacies (Casper et al., 2018), is relatively common in psychology. The diversity in approaches to conceptualizing this construct is illustrated, for example, by the emergence of Zuckerman's (1971) sensation seeking model, which was subsequently elaborated in depth in Psychobiology of personality (Zuckerman, 1991), or Cloninger's (1991) model, which included novelty seeking, harm avoidance, and reward dependence. Barratt's three-factor model (1995) is also considered to be important. Impulsivity is also embedded in the Big Five model of personality traits (Costa & McCrae, 1990), which consists of 5 higher-order factors that the authors called domains (Neuroticism, Extraversion, Openness to experience, Agreeableness, and Conscientiousness). Each of these domains is then further composed of six more lower-order factors, with one of the five lower-order factors of Neuroticism being Impulsiveness (a high score on this domain is thought to indicate poor Self-Control). The Conscientiousness domain then contains the lower factor of Self-discipline. The authors of the model note that people with high Impulsivity cannot resist stimuli to which they do not want to respond, and people with low Self-Discipline cannot bring themselves to do what they would like to do. This model simultaneously included two additional subscales of extraversion referring to impulsivity.

A relatively large shift, or a considerable degree of consistency in fragmentation in the approach to the confounding of impulsivity, was brought about at the turn of the millennium by Whiteside and Lynam (2001). These authors began to examine existing instruments or personality questionnaires measuring impulsivity, comparing their factors using exploratory factor analysis. Based on their findings, they developed a four-dimensional model of impulsivity (Urgency, Lack of Premeditation, Lack of Perseverance, Sensation seeking). Here, urgency is understood as the tendency to act hastily in response to anxiety, lack of planning maps the tendency to act without forethought, lack of perseverance represents the inability to maintain focus on the task, and intense experience seeking represents the tendency to seek new and exciting experiences. To model impulsivity, the authors developed the Impulsive Behavior Scale (UPPS) questionnaire instrument. Their work was subsequently built upon by Cyders and Smith (2007), who extended the model to include a fifth dimension by dividing the Urgency factor, which is intended to represent emotional impulsivity in the questionnaire, into negative and positive urgency (positive urgency is understood as the tendency to act rashly under the influence of a good mood). Thus, based on their research findings, the authors postulated that the individual factors of impulsivity should have two levels. They subsequently modified the model to include three higher factors (Urgency, Deficits in Conscientiousness, and Seeking Intense Experiences) and four lower factors. Thus, as noted above, the higher Urgency factor is composed of two lower factors (Positive and Negative Urgency), as is the Deficits in Conscientiousness factor, which is also subdivided into two lower factors (Lack of Planning and Lack of Persistence). The only higher factor that remains undivided in their conception is the search for intense experiences. The authors' work resulted in the UPPS-P questionnaire, which reflects all the above changes in the concept of impulsivity. Both of these instruments (UPPS AND UPPS-P) have become widely used worldwide, yet both models AND the instruments derived from them are currently under constant criticism directed against their creation based on factor analysis alone. A number of authors have also argued whether the addition of additional dimensions detracts or adds to the explanatory value of the UPPS-P questionnaire (Gullo et al., 2014). A very good scholarly resource regarding the history of research on impulsivity is provided by Grant and Potenza in their comprehensive treatise, The Oxford Handbook of Impulse Control Disorders (2012).

2.2 Impulsive acts/behavior

The level of impulsivity plays a significant role in what is considered normal, normal actions and behaviors and what is already considered pathological actions and behaviors (Evenden, 1999). Everyone has some tendency to behave or act impulsively in certain situations or under certain conditions. Especially in more challenging situations when we find ourselves under some kind of pressure or threat, whether temporal, social, emotional, or physical (Floden et al., 2008). Impulsive behavior may not always be conscious, it is immediate and uninhibited, and can also be understood as a lack of ability to delay gratification, premature action, inappropriate activation of a particular type of behavior, or a lack of anticipation before acting, and may be only episodic rather than sustained (Whiteside & Lynam, 2001). Impulsive behavior occurs more stably in dispositional individuals and often leads to precipitous actions (rash-actions).

When impulsive actions have positive consequences, they are often perceived retrospectively by the individual and his or her social environment as courageous, intuitive, and sometimes even heroic, rather than impulsive, which poses a significant risk to military leadership. This effect is reinforced if the environment has a positive view of the individual prior to the act (Dickman, 1990), which is another reason for a preventive approach to mapping the level of impulsivity in the military environment and for developing adequate programs aimed not only at screening but especially at a systematic approach to the problem.

2.3 Pathological impulsivity

Increased levels of impulsivity are generally perceived by the professional and lay public as part of pathology. The Diagnostic and Statistical Manual of Mental Disorders (DSM) 5 covers Impulse control disorders (American Psychiatric Association & American Psychiatric Association, 2013). Impulse control disorders are characterized by symptomatic behaviors that have five successive phases: the first phase is the acting out of an irresistible urge or desire; the second phase is the inability to resist the urge; the third phase is an increased sense of arousal; the fourth phase is the giving in to the urge, which is associated with tension but apparent relief; and the fifth phase is associated with feelings of guilt and regret after the act is completed (Hollander & Stein, 2007). Increased impulsivity is included in the diagnosis of a number of other significant disorders, such as borderline personality disorder. This disorder has a ten percent comorbidity with impulse control disorders (Grant & Potenza, 2012). A study by Berlin H. and Rolls E. (2004) highlighted the fact that people with borderline personality disorder overestimate the length of time passing compared to the general population (they have a faster so-called internal clock). This dysfunction has been linked to their impaired ability to wait and delay gratification and thus behave significantly more impulsively than the general population. Moreover, borderline personality disorder very often coexists with posttraumatic stress disorder, which is more common in the military environment than in the general population, and this coexistence increases the risk of PTSD impact (Williams et al., 2017). Increased impulsivity is part of the clinical picture of many other disorders, such as Attention Deficit and Hyperactivity Disorder, pathological gambling, eating disorders, and manic disorders, to name a few. Central to distinguishing impulsivity from pathological affect is that the individual remembers his or her actions (Evenden, 1999).

3 Research approaches to the study of impulsivity

In the past, two main approaches to understanding and examining impulsivity have existed side by side. These were the behavioral, so-called laboratory approach, and the self-report, so-called personality approach. As the names of the two approaches based on different foundations suggest, the most significant difference between the two approaches lies in the way they measure and construct the factors that influence the resulting level of impulsivity. These approaches, based on different paradigms (personality and behavioral), coexist even today. However, while they were previously seen as competing with each other, it is now clear that each has its place in the study of impulsivity and the two approaches are very often complementary or combined in current research (Sharma et al., 2014).

3.1 A personal approach

The personality approach to the study of impulsivity is conceived as measuring rather the psychological manifestations of impulsivity in terms of personality traits (impulsive personality/personality traits). It works with impulsivity as a set of traits that are defined as innate or acquired ways of acting, behaving, or experiencing situations in a certain way (Blatný, 2010). The trait approach to personality is based on the thesis that these traits can be described, captured, and measured as a way to consistently predict an individual's future behavior. They believe that the resulting level of these traits together constitute the overall level of impulsivity. Knowing this level makes it possible to subsequently predict an individual's behavior.

This approach uses self-report, i.e. questionnaires or scales, as a method of investigation. An important component of this approach is highly sophisticated statistical analyses, in particular factor analysis, which assesses the individual factors that combine to produce the resulting impulsivity. The questionnaires used by the personality approach include, in addition to the aforementioned worldwide Impulsive Behavior Scale (UPPS-P; Cyders & Smith, 2007; Whiteside & Lynam, 2001), the Barratt Impulsivity Scale (BIS-11; Patton et al., 1995) as well.

The personality approach to investigating the level of impulsivity is widespread, especially in quantitative research and in applied psychological disciplines (e.g. in the field of work and organizational psychology, but more specifically in military psychology), as its implementation is relatively easy and involves lower financial costs. The methods can be easily and quickly administered to many people individually, and their administration is very often used in addition to research and to supplement the test battery for complex diagnostics in clinical psychology.

Disadvantages of this approach include the Social Desirability Effect, i.e., the tendency to respond to tests in such a way that the individual presents himself or herself in a positive light, whether to self, researcher, or psychologist. This effect is even more pronounced in military settings than it is for ordinary individuals, and it may not be a conscious process on the part of the subjects (Kaminski et al., 2019; Thunholm, 2001).

3.2 The behavioral approach

To begin with, the behavioral paradigm does not consider self-report methods as appropriate research tools due to measurement bias. Therefore, proponents of the behavioral approach to the study of impulsivity generally do not work with impulsivity as a multidimensional construct, but rather focus on impulsive behavior, or on examining one or more separate or interrelated manifestations of impulsivity. This is based on the assumption that the level of impulsivity is related to the quality of each individual's level of neurobiological function.

Within this approach, behavioral tests are preferred (Linhartová & Kašpárek, 2017), which allow for better control of variables, accurate measurement of performance and subsequent comparison of results. Thus, the laboratory approach uses methods such as the Go/NoGo task, Stop signal task, Stroop test, Delay discounting task, and many others (Reynolds et al., 2007). In current practice, several specially designed software solutions are used for this purpose. These software applications use, for example, the aforementioned GoNoGo impulsivity task, which is a "stopping task" designed to measure response inhibition. The primary response of interest here is the inability to inhibit a response when a "go" instruction is unexpectedly accompanied by a "stop" instruction. Dougherty et al. (2005) presented interesting results from a software application that includes four paradigms for measuring multiple unique aspects of impulsivity simultaneously or independently: the two-choice impulsivity paradigm; the one-key impulsivity paradigm; the GoStop impulsivity paradigm; and the time paradigm. These tasks measure processes related to the ability to tolerate delay for reward, to inhibit an already initiated response, and to estimate the passage of time, all of which are relevant to understanding impulsive behavior. The flexibility of this design allows the experimenter to manipulate a number of parameters related to delay and reward conditions, timing, feedback/reward for performance, etc.

This type of measurement has logically lower ecological validity and it is often more difficult to interpret its results or to predict the subsequent behavior of a particular individual. While these procedures are not well suited for comprehensive diagnosis for the reasons outlined above, they clearly provide valuable information for diagnosing unidimensional determinants of

impulsivity (Maxwell et al., 2020). For this reason, the behavioral approach has extensive applications, particularly in neuropsychology, cognitive psychology, genetics, and for general brain research. Another broad area in which the behavioral approach finds extensive use is the investigation of substance and non-substance addictions, which are often the result of risky behaviors.

3.3 Comparison of approaches to the study of impulsivity

The current research agrees that the results of the two approaches (laboratory and self-report) to examining impulsivity measure two different constructs, i.e., different impulsivity. (Dougherty et al., 2005; Sharma et al., 2014; Um et al., 2018). In two US meta-analyses by Cyders and Coskunpinar (2011) and Duckworth and Kern (2011), only very weak correlations between behavioral and psychological impulsivity were confirmed. Significant correlations were found only between several subscales of both constructs. Thus, the two approaches are very likely to measure different aspects of impulsivity, and ideally these approaches should be combined in research on impulsivity. However, it is also possible to find studies in the literature that claim that self-report survey scores correlate with behavioral test scores in healthy adults (Enticott et al., 2006). However, these results are not entirely conclusive as they can be interpreted in multiple ways. The following table summarizes the basic differences in the two approaches to examining impulsivity:

Table 1. Advantages of approaches to examining impulsivity

Behavioral approach	Personality approach
better predictive properties of specific behaviors	better predictive properties of broader behaviors
capturing a specific aspect of behavior	capturing complex behavior
less susceptible to emotional breakdown of the individua	less susceptible to cognitive fatigue
accurately measurable outcome	usually faster and cheaper to administer
test can be taken by illiterate individuals or younger children	does not require laboratory conditions
better controls for intervening variables	higher ecological validity
greater use in brain research	more suitable for clinical diagnosis and applied psychological disciplines

4 The importance of preventive mapping of impulsivity in the military and military leadership

The importance of monitoring the level of impulsivity both in the military environment in general and in military leadership is mainly due to the specific conditions of the profession. It is in many respects connected not only with professional knowledge, skills and competences, but also with high demands on resistance to stress of various kinds. For this reason, from the beginning of their careers, members of the armed forces and students in preparation for professional activities in the army are intensively shaped in a systematic way to meet the requirements placed on them. The central framework of all demands is then to demand total obedience to leadership (Bradley, 2006). From the above, it is clear that unique demands and expectations are placed on these individuals that fundamentally contribute to the differences in personality makeup between soldiers and civilians (Darr, 2011).

Both in the general population and in the military environment, increased levels of impulsivity manifest themselves especially by maladaptive or risky behaviors of various kinds. From the perspective of the military environment, any elevated level of impulsivity is undesirable. However, in this context, the association of impulsivity with aggression can arguably be considered the most significant. This interdependence is evidenced, for example, by a meta-analysis confirming a strong relationship between aggression and all subscales of impulsivity as defined by Cyders and Smith (2007), including both physical violence and verbal aggression (Bresin, 2019; Miller et al., 2012). Increased levels of impulsivity also increase an individual's susceptibility to substance abuse, which can have far more dangerous consequences in the military environment than in the general population. Indeed, drug addicts are highly likely to seek out behaviors that will provide immediate, often not very large, but very risky, rewards (Fattore & Melis, 2016). Several research studies have then documented a link between elevated levels of impulsivity and a wide range of other risky behaviours, such as criminality (Sharma et al., 2014), self-harm or eating disorders, and virtual world abuse (Grant & Potenza, 2012). Similarly, impulsivity can also be associated with risky sexual behavior, which is more likely to occur when an individual is under psychological strain or stress (Grant & Potenza, 2012), or unnecessarily risky behavior, which can be highly physically threatening to individuals and those around them (Floden et al., 2008; Holmes et al., 2009; Kreek et al., 2005).

The significance of the association of increased levels of impulsivity with the prevalence of maladaptive/risk behaviors in the military environment is even greater in the context of other research findings. These confirm that levels of Impulsivity are simultaneously influenced by levels of stress, both short and long term. Impulsive behavior is then more likely to occur during periods of heightened stress, or periods of prolonged sleep deprivation, for example (Killgore et al., 2006), conditions that are very common in the military environment and in their consequences also affect other important factors such as quality of postnatal care or decision-making. The ability to manage this stress and to resist tendencies towards impulsive behavior is an important characteristic of military leaders. This ability to self-regulate and make good choices of coping strategies should be emphasized and developed in military leadership studies and in military practice (Hannah et al., 2010).

At the same time, in the context of military leadership, it can be considered significant that the tendency of individuals in military environments to behave impulsively appears to vary over time. Individuals who have served longer in a military environment are less likely to succumb to impulsive behavior than new recruits. The Impulsivity factor in Kilgore et al.'s (2006) study addressing the issue was significantly negatively correlated with maturation factors in military service. This finding suggests that as individuals gain more years of military experience and higher rank, they are less likely to exhibit impulsive or risk-taking behaviors. These results are consistent with an earlier study conducted on a similar topic (Lee & Cho, 1999), with the changing nature of these individuals' activities and the conditions in which they perform them also likely playing a role here.

Moreover, the process of risk-taking behavior or decision-making based on an increased level of general impulsivity may not be the same for all individuals. Therefore, the behavior of individuals with elevated levels of impulsivity does not always have to result in negative consequences. Individuals who consciously choose to engage in risky behaviors while also exhibiting higher levels of deliberation or lack of premeditation within their level of impulsivity are more likely to have positive consequences of their behavior (Momen et al., 2010). Research shows that two factors of impulsivity, lack of planning and sensation seeking, are mainly related to risky behavior. Meanwhile, the elevated level of sensation seeking is evidenced by a number of research studies conducted in military settings. Individuals who have higher levels of sensation seeking are more likely to undertake risky activities regardless of positive or negative outcomes (Zuckerman, 2007). At the same time, however, a person's likelihood of engaging in activities with the risk of negative outcomes affects their level of discretion. Simply put, the more prudent an individual is, the lower their propensity to engage in risky activity (Fischer & Smith, 2004).

As mentioned above, soldiers and students preparing for a career in the military are often exposed to mentally and physically very demanding situations. Their effects can be essentially twofold -

either resilience and adaptive forms of responses and behaviors are built through coping with extremely stressful situations, or the effect can be the opposite and bring negative impacts on mental health and psychological well-being (Maheshwari & Kumar, 2016). In the context of Impulsivity in the military, Post Traumatic Stress Disorder (PTSD) in particular plays a significant role in this area, the prevalence of which is elevated here compared to the general population. Individuals suffering from PTSP are significantly more aggressive, often have significantly elevated levels of urgency and a higher tendency to engage in risky behaviors than soldiers who do not suffer from it (James et al., 2014), which only illustrates the necessity of applying a comprehensive, systematic approach to screening for impulsivity as a means of preventing risky forms of behaviors and decision-making.

All the above contexts can be considered particularly serious in a military environment - especially with regard to the possible consequences. Therefore, one of the tasks of military leadership is to apply appropriate preventive measures before the emergence and development of any form of risky/maladaptive behavior, to be alert to signals indicating the possible occurrence of these risks and to apply appropriate corrective measures in a timely manner.

5 Conclusions

Since every modern army is nowadays particularly focused on systematic minimization of any risks, high demands are also placed on the prediction of desirable forms of behavior and decision-making of military leaders, since their decisions or actions can have a major impact on the lives and safety of others and military equipment as well. As professional soldiers are frequently exposed not only to real combat, but also to a variety of other challenging situations in both training and actual deployment, questions regarding the unnecessary acceptance of avoidable risks become increasingly important when considering recruitment, training, and selection of leaders (Lescher, 2008).

However, as some degree of acceptable risk has a natural place within the military and is inevitably a necessary part of dealing with the complex and uncertain situations that characterize many military operations, it is imperative to systematically seek to minimize these risks as much as possible (Börjesson et al., 2015). Military leaders absolutely must possess the ability to assess and select acceptable risks while avoiding unnecessarily risky behavior.

The U.S. Army conducted one of the most extensive research studies to map the best personality makeup to become an effective military leader. The most important personality characteristics in this context included emotional stability, conscientiousness and extraversion, which also included a high level of stress management skills (Allen et al., 2014). It is undoubtedly impulsivity that features prominently in all of these characteristics, underscoring the importance of this personality predisposition to rapid, unplanned reactions to internal or external stimuli, regardless of the negative effects of these reactions on the individual and on the environment (see above). In general, heightened impulsivity is considered an important diagnostic marker that is related to inadequate perception and appraisal of situations, reactive aggression, reduced quality of attention and decision-making, and many types of risky/maladaptive behaviors of various etiologies (Bresin, 2019; Fattore & Melis, 2016; Floden et al., 2008).

The nature of current military operations provides a clear underpinning for future challenges in selecting, teaching, and training future soldiers in the area of military leadership, particularly in the prevention of risky forms of behaviors and decision-making in the context of increased stress, or current and long-term stress. On the basis of these results, it will be possible to develop and eventually implement in the training of military leaders adequate procedures for the identification of individuals who may be personally or physiologically predisposed to this undesirable type of behavior and decision-making.

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UNIVERSITY-INDUSTRY COLLABORATION AS A DRIVE FOR INNOVATION IN EUROPE – A LITERATURE REVIEW WITH A SYSTEMATIC APPROACH

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This paper was prepared within the framework of the project titled *Managerial competences and innovations in current educational practices* (project ID: IGA 007VŠDTI/2020).

Abstract: The aim of our study is to systematically review existing literature from the past five years on university-industry collaboration, with a special emphasis on their relation to innovation. We conducted a literature review with a systematic approach with the involvement of 29 studies from European countries, published between 2016 and 2020. Our results have revealed a rather homogeneous pattern of research studies focusing on university-industry collaboration in European countries.

Keywords: university-industry collaboration, innovation, literature review, Europe

1 Introduction

As the role of higher education is in a constant interplay with the contextual change processes, the universities are expected not only to reflect on societal and economic challenges, but to be active agents in tackling the emerging issues by co-creating knowledge with relevant stakeholders (Perkmann et al., 2013). This notion has strengthened the importance of partnerships between higher education institutions (HEIs) and external (non- and for-profit) organizations. A plethora of studies interpret universities' collaboration endeavours as a driving factor for innovation (Ankrah & AL-Tabbaa, 2015), and although there is a growing body of valuable research contribution to the topic, mostly collaboration between universities and industry stakeholders (UIC) stands in the focus of scientific attention; therefore, there is a knowledge gap regarding HEIs' partnerships with other, non-profit-oriented bodies.

Reinforcing the attention on university-industry collaboration, systematic literature reviews from recent years provide valuable, comprehensive overview of the previously scattered knowledge (e.g. Ankrah & AL-Tabbaa, 2015; Rybnicek & Königsgruber, 2018; European Commission, 2018). Although there are few publications focusing on other, non-industry-university-oriented collaborations (e.g. Halász, 2016; Pesti et al., 2020), these contributions are either too discipline-specific or mostly of a case study nature, thus their generalizability is possible only in a narrower context.

Based on these cornerstones, the aim of our study is to systematically review existing literature from the past five years on university-industry collaboration, with a special emphasis on their relation to innovation. We conducted the literature review with a systematic approach along an overarching question: What are the most recent developments concerning partnerships in higher education? To grasp the essence of the reviewed literature, three research questions were formulated:

1. What patterns emerge from existing literature on university-industry collaboration?
2. How can the innovative aspects of university-industry collaboration be characterized?
3. How do research papers from the past five years contribute to the knowledge on university-industry collaboration?

This paper first discusses partnerships in higher education, then, we introduce the methodology for our literature review with a systematic approach. The next chapter presents the results where we used the modules of the coding table as an organizing principle. Following this, we answer the research questions in the Analysis and discussion chapter. Finally, the paper is summarized in the last chapter that incorporates the conclusions.

2 Materials and methods

2.1 Research design

The aim of our study is to systematically review existing literature from the past five years (from 2016 to 2020) on university-industry collaboration, with a special emphasis on their relation to innovation. The study is guided by an overarching question of what the most recent developments concerning partnerships in higher education could be identified in literature.

In the literature review we adhered to a rigorous systematic approach along the PRISMA guidelines (Preferred Reporting Items for Systematic Reviews) (Moher et al., 2015) to ensure the transparency and replicability of the review process. Based on preliminary screening of literature, a review protocol was developed, which detailed various aspects of literature identification (such as eligibility criteria, information sources, search strategies), as well as considerations for recording literature (data management, selection process, data collection process) (a brief summary of the review protocol is presented in Appendix 1).

We sought peer-reviewed research papers on English language that were published between 2016 and 2020 and that were available through ProQuest database. Other eligibility criteria included some aspects of the population (publications must involve university/university staff OR higher education/higher education institution staff), and geographical considerations (we narrowed our review to literature focusing on European countries). Studies that were identified during the database search but were of a literature review type or non-empirical publications were recorded but excluded from further analysis.
A set of key descriptors were used during database search, including synonyms for the higher education pillar (such as university, higher education, higher education institution, college), for the collaboration pillar (such as partnership, collaboration, cooperation, network). In order to ensure that studies focusing on the innovative aspect of the partnership were identified, the search string was amended with the *innov** term.

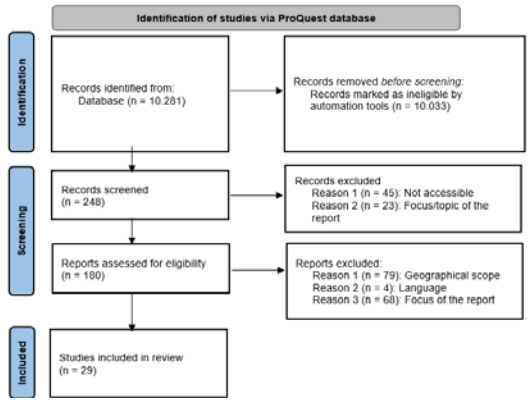
2.2 The process of identifying the studies

Having the review protocol developed and accepted, the next step was to identify studies through database search, which happened in four phases (Figure 1):

1. The search string described above returned 10,281 records, from which 10,033 were eliminated before screening by the use of various automation tools (especially checking eligibility for peer-reviewed studies, language, and geographical scope).
2. 248 studies were selected for screening, which included the reading of the title and the abstracts by one researcher. As a result, 66 records were excluded from further reviewing due to either being a review, not relying on empirical data, not focusing on partnerships in higher education or not being accessible.
3. 182 reports were assessed for eligibility. Firstly, a set of 40 studies (approximately 22% of all the selected studies) were assessed independently by two researchers, and in case of discrepancies in their assessment (this occurred in case of two studies), they discussed the reasons, came to a joint conclusion, and clarified the review protocol for further assessment with the aim to ensure consistency. Following this, the remaining studies were assessed by one researcher.

We used a reference management system (Mendeley) throughout the identification, screening, and inclusion phases. Studies included in the review are listed in Appendix 2.

Figure 1: PRISMA flow diagram for systematic reviews (adapted from Page et al. (2020))



2.3 Data collection and analysis

Parallel with the screening process, we developed a code system for extracting data from the included studies (n = 29) for further analysis. The code system included seven modules with several categories:

1. General information (descriptive data): authors, year, title, relevant discipline, geographical scope;
2. Keywords defined by the authors of the studies;
3. Methodology: research design, aims
4. Characteristics of the collaboration: participators, level of formality, leader of the collaboration, special focus, activities;
5. Innovative aspects: linkage to innovation;
6. Main findings;
7. Coder's description and impressions.

After the code system development, we conducted double coding with five studies (two researchers coded the same five studies individually). The level of consistency of the double coding was high, therefore the remaining studies were coded by one researcher.

The coded data was suitable for further, quantitative, and qualitative analysis. Concerning some categories (e.g. keywords), we quantified the data, and used IBM SPSS® Statistics 25 for quantitative analysis; while in the case of some other categories, a thematic analysis proved to be a suitable step forward in order to identify common themes in data (e.g. aims, main findings) – MAXQDA, a software aiding qualitative analysis was used. Appendix 3 illustrates a more specific summary of the code system, data analysis and their relation to research questions.

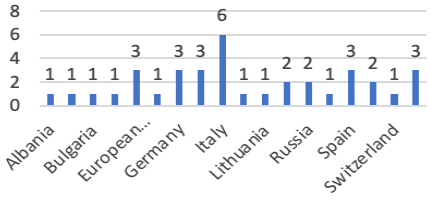
3 Results

3.1 General information (descriptive data)

In our literature review we included studies presenting empirical research from a European country, published between 2016-2020: there are two studies from 2016, six studies from 2017, nine studies from 2018, five studies from 2019, and seven studies from 2020. Regarding the geographical distribution of selected studies, only Italy stands out with six publications, while the other countries are represented in our sample with one, two or three studies (Figure 2 summarizes the descriptive frequencies of country-related data).

Concerning the geographical scope that the studies cover, we coded for four categories (international, national, regional, institutional). Dominantly, the two extreme categories (international as the widest scope (34.5%) and institutional (31.0%) as the narrowest scope) are represented in the selected studies.

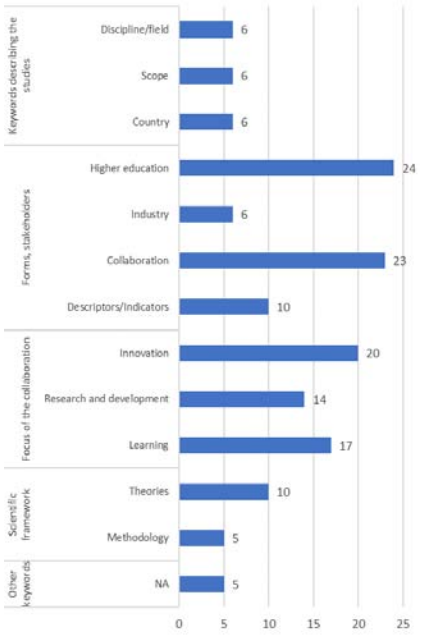
Figure 2: Frequencies of selected studies per country, count (n = 29)



3.2 Keywords identified in the selected studies

Throughout the 29 selected studies, we recorded 152 keywords defined by the authors, and after carefully reviewing them, 4 main themes, and 13 sub-thematic groups emerged (Figure 3).

Figure 3: Occurrence of keywords associated with the selected studies by their authors along the identified themes and sub-thematic groups, count (n = 152)



The first theme consists of groups of descriptive keywords. Only a small number of studies used specific keywords for indicating the discipline (e.g. industrial biotechnology, digital technologies), and although UIC is a context-specific endeavour, just 6 studies indicated the country of origin clearly with the keywords.

The second theme includes groups of keywords concerning the form of collaboration and its stakeholders. Although the data is not representative, it must be emphasised, that keywords related to the university (or to its associates, students, etc.) as a participant in the collaboration occur 4 times more often, than keywords related to the industry. Keywords referring to the form of collaboration are rather homogeneous (e.g. university-industry collaboration, cooperation, relationship, network, etc.), merely a few studies indicate differing terms, such as clusters (n = 2), intermediation (n = 1), or joint experience (n = 1).

The third theme consists of keyword-groups that relate to the focus of the collaboration. Keywords in the innovation group are rather diversified and specific (e.g. user innovation, social

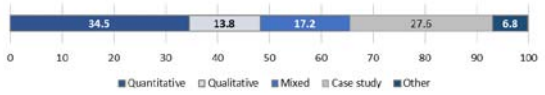
innovation, innovation competences, etc.); the only keywords that appear in more studies are innovation performance (n = 2), and open innovation (n = 3). Similarly to the previous one, the group of research and development (R&D) is rich in various keywords, however, sustainability emerges to be a major focus of research papers (6 research papers indicated this focus in their list of keywords). At last, but not least, in the group of learning-related keywords one might find terms concerning knowledge (e.g. knowledge transfer), IT (e.g. gamification, serious video games), and competence development (e.g. skills training).

The fourth theme includes two sub-groups, referring to the theoretical and methodological framework of the studies. Regarding the theories that the selected studies rely on, the triple helix model of innovation occurs as a keyword in the case of 5 studies.

3.3 Methodology of the selected studies

During the coding, methodological data was also extracted from the selected studies (Figure 4). This has revealed that most of the studies are of a quantitative design (34.5%). We found it important to highlight the high occurrence of case studies as well (27.6%) – in these studies the authors have not defined explicitly whether they relied on a quantitative, qualitative, or mixed design. With 13.8, purely qualitative research is the least applied one.

Figure 4: Distribution of types of research in the selected studies, % (n = 29)



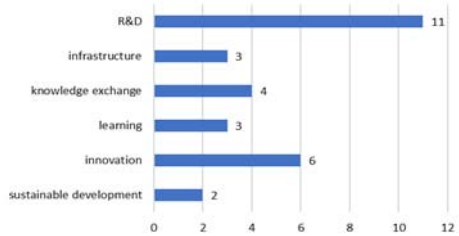
3.4 Characteristics of the collaboration described in the selected studies

First, we observed who are the participants of the collaboration in the selected studies, and besides higher education (it appeared as a participant in every study) we identified four main categories:

1. industry (n = 25, e.g. from small and medium size firms to big corporate organizations),
2. society (n = 6, e.g. civil organizations),
3. research and innovation (n = 4, e.g. research institutions, innovation clusters),
4. authorities (n = 3, e.g. city council, national authorities).

Almost 40% of the studies (n = 11) explicitly indicated that the collaboration they dealt with was of a formal nature (e.g. established partnership contracts), but in most of the studies this characteristic was not that straightforward. This uncertainty remained with the next coded category, concerning the leader of the collaboration: none of the selected studies indicated explicitly whether the university or other participants are the leaders of the collaboration.

Figure 5: Results of the thematic analysis regarding the focus of collaboration, count (n = 29)



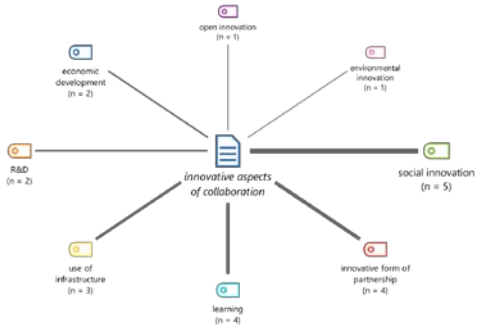
We conducted a thematic analysis on the extracted textual data describing the focus of the collaboration (Figure 5), which has revealed that R&D is the most common aim for and of collaboration, followed by innovation, and knowledge exchange.

3.5 Innovative aspects of the collaboration described in the selected studies

Without any exception, the selected studies were explicitly linked to innovation by their authors. The thematic analysis of the extracted data from the studies revealed 8 thematic focuses concerning the innovative aspects of the collaboration between HEIs and other participants (Figure 6):

- Social innovation appeared in five studies, and was commonly linked to the universities' third mission, focusing on the social development of their narrower region (Aleffi et al., 2020; Birkner et al., 2017; Farré-Perdiguer et al., 2016; Meyer et al., 2018; Mititelu et al., 2017).
- Four studies explicitly mentioned some innovative forms of collaboration, such as partnerships between innovation clusters and HEIs, universities acting as business incubators, or the presence of intermediary organisations between universities and other participants (Edmunds et al., 2019; Blix Germundsson et al., 2020; Lysenko et al., 2020; Oplakanskaia et al., 2019).
- The theme of learning also appeared among the most frequent once, indicating that the collaborating participants interpret innovation in the context of learning that covers competence development, and professional development (Abelha et al., 2020; Adomavičiūtė, 2018; Rojo et al., 2019; Secundo et al., 2017).
- Two studies reported on the innovative aspects of collaboration through the joint establishment, development and/or use of infrastructure (such as commercial laboratories or scientific/technological/innovation parks) (Bergquist et al., 2019).
- Although less stressed, and with more tangible definitions, two-two studies connected the innovative aspects of collaboration to R&D activities in general (Capaldo et al., 2016; Yordanova, 2018) and economic development (Abelha et al., 2020; Farré-Perdiguer et al., 2016).
- At last, but not least, one-one studies explicitly interpreted the innovative aspects of collaboration in the context of open innovation and environmental innovation (Lukac & Chatzimichailidou, 2017).

Figure 6: Innovative aspects of collaboration in the selected studies, count (n = 29)



3.6 Main findings focusing on the impact of collaborations in the selected studies

The thematic analysis of the selected studies' main findings revealed a somewhat more nuanced pattern regarding their focus then the innovative aspects of collaboration presented in the previous chapter.

Hereby we present the various positive and negative impacts of collaborations (n = 18), since most of the studies referred to them in their findings:

- a positive impact on firms' performance in general and specifically on financial performance (Albats et al., 2018; Di Maria et al., 2019; Guzzini & Iacobucci, 2017);
- a positive impact on the higher education system in general, including the enhancement of students' mobility and

graduates' participation in the (global) labour market (Albats et al., 2018; Di Maria et al., 2019; Lysenko et al., 2020), but a negative impact on university-based professors' performance (Di Maria et al., 2019);
- a positive impact of universities as agents of intermediation on knowledge transfer (Farré-Perdiguer et al., 2016; Oplakanskaia et al., 2019);
- a positive impact on the development process regarding new production technologies, further co-patents, innovative infrastructure, education and training (Lysenko et al., 2020; Murgia, 2018), including attracting investments for further development (Lysenko et al., 2020).

4 Discussion

In this chapter we summarize our analysis and findings and present them along the three research questions.

RQ1: What patterns emerge from existing literature on university-industry collaboration?
Although our sample of 29 selected studies for the review is not representative, some patterns have emerged that can be valuable for developing further research directions. Based on our results, most studies are either of an international (e.g. Abelha et al., 2020; Prokop et al., 2018) or an institutional (e.g. Levrouw et al., 2020; Mititelu et al., 2017) geographical scope. Interestingly, although partnerships in higher education influence a wider scope (e.g. settlement, region, state), only a few studies focused on such collaboration on the regional level (e.g. Jahic & Pilav-Velic, 2020; Aleffi et al., 2020). Moreover, since the policy environment is also an influential factor regarding the efficiency and impact of partnerships on economical and societal developments, it is important to highlight the low number of studies dealing with HEIs' partnerships on a national level (e.g. Secundo et al., 2017; Murgia, 2018).

Concerning the participants of partnerships, most studies focused on university-industry collaboration (and this resonates with the findings presented in RQ3). Civil organizations, research institutions or authorities appeared only in a small number of studies, and as a third party in university-industry collaboration (e.g. Birkner et al., Oplakanskaia et al., 2019). Therefore, although we kept our search strategy open for any kind of partnerships in higher education, in the selected database, for the selected time period, only such studies could be identified that had relation to the industry.

RQ2: How can the innovative aspects of university-industry collaboration be characterized?
All the selected studies (n = 29) are linked to innovation, and although in most cases the authors were very explicit about the innovative aspects of the partnership, some studies just established this connection on a superficial level (e.g. stating that collaboration affects innovation). Data has revealed that social innovation and learning are two among the most common themes concerning the innovative aspects of partnerships.

RQ3: How do research papers from the past five years contribute to the knowledge on university-industry collaboration?
Around third of the selected studies were of a quantitative nature (e.g. Edmunds et al., 2019; Farré-Perdiguer et al., 2016), and, not so surprisingly, the occurrence of case studies was also high (27,6%, (e.g. Adomavičiūtė, 2018; Albats et al., 2018)) – this resonates with the number of studies with an institutional scope (we presented this finding under RQ1). This finding – although only to an extent due to the limited number of reviewed studies – draws the boundaries of the current research scenario of partnerships in higher education.

Data concerning the focus of collaboration in the selected studies revealed that most partnerships aim to foster joint research and development (e.g. Capaldo et al., 2016) or innovation (e.g. Edumnds et al., 2019). Although in fewer studies, but for future research might be interesting to draw out, that knowledge exchange (e.g. Di Maria et al., 2019) infrastructure development (e.g. Jahic & Pilav-Velic, 2020), learning (e.g. Meyer et al., 2018) and sustainable development (e.g. Mititelu et al., 2017) also emerged as themes concerning the focus collaboration.

Results from the thematic analysis of the research findings reported in the selected studies has revealed a rich map of contributions. Impact of the collaboration and indicators of the collaboration proved to be dominant themes in the extracted research findings (18 studies reported on it). Further analysis of the impact of the collaboration showed, that most studies identified positive impacts of UICs (e.g. on firms' performance, on the higher education system, on knowledge transfer, on technology production, on education and training etc.).

5 Conclusions

The changing societal-economical expectations from higher education raises such new challenges that stand in urgent need for collaboration between relevant stakeholders. This collaboration is commonly interpreted as a driver for innovation at micro, macro, and meso levels, and although the widely applied triple helix model of innovation (Etzkowitz & Leydesdorff, 2000) emphasises the interactions between academia, industry and government, literature suggest that university-industry collaboration is (and for years has been) in the centre of scientific attention. Based on these cornerstones, our study aims to systematically review scientific literature published between 2016 and 2020, focusing on university-industry collaboration. We also devoted a special emphasis on how these studies relate to innovation.

In our literature review with a systematic approach, we adhered to the premises of the PRISMA guidelines for conducting systematic literature review; however, the study has some limitations that one must consider. These limitations include the chosen database (we identified studies in one online database), restrictions on the language (studies published in English were selected), or the short time period (our review covers 5 years). Despite these limitations, the results contribute to the ever-growing body of knowledge on partnerships in higher education through its attempt to reveal the characteristics of not only UIC, but partnerships of any kind, in general.

However, our results have revealed a rather homogeneous pattern of research focusing on partnerships in higher education, since most of the selected studies (1) are of an international or institutional scope, (2) dominantly have university-industry collaboration as a focus, and (3) are of a quantitative or case study design. This can be the starting point of future research aiming to elaborate on partnerships in higher education in more depth.

Appendices

Appendix 1. Review protocol

Review questions
1. What patterns emerge from existing literature on partnerships in higher education?
2. How can the innovative aspects of partnerships in higher education be characterized?
3. How do research papers from the past five years contribute to the knowledge on partnerships in higher education?

Key descriptors/key terms
- Synonyms for the higher education part: university, higher education, higher education institution, college
- Synonyms for the collaboration part: partnership, collaboration, cooperation, network
- Innovation

Population: The publication MUST involve:
- university/university staff OR higher education/higher education staff,
- AND other actor/staff from another institution.

Databases
- ProQuest

Time period

- 2016 - 2020

Language
- English

Type of publication
- peer-reviewed journals

Geographical focus
- Europe
- Special focus on the V4 countries

Criteria for exclusion at any point of the process
- population does not meet the criteria
- publication time does not meet the criteria
- language does not meet the criteria
- type of publication does not meet the criteria
- geographical focus does not meet the criteria
- reviews and non-empirical publications will be recorded, but excluded from further analysis

Search strings:
(ti(universit* OR "higher education" OR college) AND ab(partnership* OR collaborat* OR cooperat* OR network*) AND ab(innov*) AND stype.exact("Scholarly Journals") AND la.exact("English") AND at.exact("Article")) AND la.exact("ENG") AND PEER(yes))

Appendix 2. Selected studies for the literature review

Year	Number of selected studies	Selected studies
2016	2	Capaldo et al. (2016), Farré-Perdiguer et al. (2016)
2017	6	Birkner et al. (2017), Guzzini & Iacobucci (2017), Lukac & Chatzimichailidou (2017), Mititelu et al. (2017), Runiewicz-Wardyn (2017), Secundo et al. (2017)
2018	9	Adomavičiūtė (2018), Albats et al. (2018), Kaklauskas et al. (2018), Kobarg et al. (2018), Meyer et al. (2018), Murgia (2018), Pleśniarska (2018), Prokop et al. (2018), Yordanova (2018)
2019	5	Bergquist et al. (2019), Di Maria et al. (2019), Edmunds et al. (2019), Oplakanskaia et al. (2019), Rojo et al. (2019)
2020	7	Abelha et al. (2020), Aleffi et al. (2020), Germundsson et al. (2020), Huggins et al. (2020), Jahic & Pilav-Velic (2020), Levrouw et al. (2020), Lysenko et al. (2020)

Appendix 3. Code system used for data collection, type of data and analysis in relation with the research questions

	Category	Data	Research question
1. module: General information	Author	Extracted from the database ID data, not used in analysis	NA
	Title	Extracted from the database ID data, not used in analysis	NA
	Year of publication	Extracted from the database Descriptive statistics	NA
	Discipline	Coded data Descriptive statistics (quantified)	NA
	Country	Extracted from the database Descriptive statistics (quantified)	NA
	Geographical scope	Coded data Descriptive statistics (quantified)	RQ1
2. module: Keywords	Keywords	Extracted from the database Thematic analysis, then descriptive statistics (quantified)	RQ3
3. module: Methodology	Research design	Coded data Descriptive statistics (quantified)	RQ3
	Aims	Quotation extracted from the study Thematic analysis, then descriptive statistics (quantified)	NA
4. module: Characteristics of the collaboration	Participators	Coded data Descriptive statistics (quantified)	RQ1
	Level of formality	Coded data Descriptive statistics (quantified)	RQ1
	Leader of the collaboration	Coded data Descriptive statistics (quantified)	RQ1
	Focus of the collaboration	Quotation extracted from the study Thematic analysis, then descriptive statistics (quantified)	RQ4
5. module: Innovative aspects	Is the collaboration linked to innovation?	Coded data Descriptive statistics (quantified)	RQ2
	What are the innovative aspects?	Quotation extracted from the study Thematic analysis, then descriptive statistics (quantified)	RQ2
6. module: Main findings	What are the main findings of the study?	Quotation extracted from the study Thematic analysis, then descriptive statistics (quantified)	RQ3
7. module: Coder's impressions	What are the general impressions after reading the study?	Comments of the coder Not used in analysis	NA

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CONSTITUTIONAL PRINCIPLES OF LAW: CONCEPT, TYPES AND THEIR ROLE IN THE LEGAL SYSTEM

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Abstract: The article aims at defining the concept of constitutional principles of law and their meaning in the legal systems of civil law countries, as well as classifying the constitutional principles of law. The sources underlying the study are constitutional and sectoral codified acts of civil law countries. The main methods of scientific research include the formal legal analysis of regulatory legal acts and their classification. The article distinguishes between the concepts of "constitutional principles of law" and "principles of constitutional law". It defines the principles of constitutional law as follows: constitutional principles of law are the most important initial ideas that are enshrined in constitutional acts and underlie a certain branch of law, a set of its branches or the entire legal regulation within a specific legal system. The article emphasizes the importance of constitutional principles of law in civil law countries. The position is substantiated that all general legal principles are constitutional in such countries but not all constitutional principles are general legal. The authors propose the classification of constitutional principles of law based on such criteria as their scope, duplication in sectoral legislation, the way of presenting a constitutional act in text.

Keywords: legal principles, constitutional principles of law, principles of constitutional law, Constitution, civil law system, positivism.

1 Introduction

Currently, the United Nations counts 193 member states [1]. Each of them has its own legal system. At the same time, the legal systems of some countries have similarities due to their historical development, geographic proximity, cultural community and other factors. Therefore, these are usually combined into legal systems [2-4]. Along with the Anglo-Saxon legal system ("common law"), the Romano-Germanic legal family ("civil law") plays an important role on the world map of legal families.

In civil law countries, the main source of law is a regulatory legal act, and the key legal act is the Constitution. Any branch of law and the entire system of legal regulation consists of certain basic and initial ideas that are called the principles of law in the scientific community. Considering the role of constitutional acts in the legal systems of civil law countries, constitutional principles rank high among the principles of law, i.e. ideas that are directly enshrined in the Constitution.

The corresponding scientific literature is concerned with various aspects of the principles of law in their positivist understanding. The main efforts aim at studying the concept and types of principles of law, the legal technique of their consolidation in regulatory acts and their role in legal regulation [5-8].

Scholars who adhere to the ideas of natural law in their modern interpretation also address the principles of law. However, they focus not on their normative and regulatory function but rather on their axiological and cognitive components [9-11].

Within the framework of integrative legal thinking, attempts are made (not effective, in our opinion) to synthesize positivist and natural legal ideas about the principles of law, to combine their regulatory and philosophical understanding [12-14].

Finally, there are studies concerned with the general principles of European Union law and the principles of individual branches of law of its member states, including constitutional law [15-20].

Despite scientific interest in the principles of law in general and the principles of constitutional law in particular, the constitutional principles of law are still understudied. This is especially true for their definition, classification and role in the legal system.

The article aims at defining the concept of constitutional principles of law and their meaning in the legal systems of civil law countries, as well as classifying the constitutional principles of law.

2 Methods

We support positivist legal thinking. In this regard, the main type of sources was regulatory legal acts of civil law countries. Since the constitutional principles of law are enshrined in the Constitution and duplicated in sectoral legislation, first of all, we considered Constitutions and sectoral codified acts. The main scientific method was the formal legal analysis of regulatory legal acts (or the scientific interpretation of regulatory legal acts), which allowed to single out and systematize the constitutional principles of law. When structuring the system of constitutional principles of law, we utilized the classification method.

3 Results

3.1 Constitutional principles of law and principles of constitutional law

The relevant scientific literature does not distinguish between the concepts of "constitutional principles of law" and "principles of constitutional law" [16, 21-24], which mixes the essence of these concepts. The use of these two concepts as synonyms significantly narrows the content of each of them. These concepts partially overlap but they are not identical.

We believe that the constitutional principles of law are enshrined in the Constitution (mandatory element) and, in some cases, duplicated or specified in sectoral legislation (optional element) as the most important, significant, basic, initial ideas and provisions that underlie a certain branch of law, a set of branches of law or all legal regulation within a specific legal system.

The principles of constitutional law are the principles of a branch of constitutional law, i.e. special norms of "constitutional legislation which have the highest legal force, allowing to organize the relevant social relations; universality allows the principles to exert a guiding impact on all subjects, all spheres of social relations within the state; their influence is imperative" [25, p. 61].

The constitutional principles of law underlie various branches of law, while the principles of constitutional law lay the basis for constitutional law. It is worth mentioning that the constitutional principles of law conditions the system of law, while the principles of constitutional law lay the foundations of the state structure and its constitutional system. In the latter case, we deal with the principles of state structure enshrined in the Constitution (for example, the principle of democracy, the principle of sovereignty, the principle of separation of powers, etc.) or the principles of organizing public power, constitutional principles of justice, principles of the constitutional system, principles of constitutionalism, etc.

After studying the correlation between the constitutional principles of law and the principles of constitutional law, we

have concluded that these are not only different concepts but also completely different elements of the legal system.

3.2 Correlation of constitutional principles of law with general legal, intersectoral and sectoral principles

In legal literature, there are different classifications of the principles of law. V.V. Ershov made a detailed review of them [26, p. 310-324]. One of such classifications divides the principles of law into general (or general legal), intersectoral and sectoral [27, p. 105-106]. Let us consider the role of the constitutional principles of law in this system.

General or general legal principles are enshrined and used in all branches of the law of a particular state. These ideas underlie legal regulation, all branches of law, the system of law and the legal system. If any principle is present in most branches of law but is absent at least in one of them, then it cannot be attributed to general legal and becomes intersectoral.

The allocation of general legal principles is complicated by the fact that there is a division of law into substantive and procedural. Due to their specifics, most principles of procedural law cannot be typical of material branches since the latter is characterized by a different nature of regulated social relations. For example, the principles of adversariality, the language of legal proceedings or the consideration of a case within a reasonable time are exclusively procedural and cannot operate in the branches of substantive law.

Cross-sectoral principles are typical of several branches of law. They can be exemplified by the cross-sectoral principles of the procedural branches of law (the principles of administering justice only by the court, the independence of judges, adversariality, a reasonable period of proceedings, the language of court proceedings and others).

Sectoral principles are specific principles inherent only to a particular branch of law. They are legal endemics that are common to a particular branch and cannot be found in other branches.

Based on positivist legal thinking and the fact that the Constitution contains the most general and important rules, we believe that civil law countries have no general legal principles that are not enshrined in the Constitution. On the contrary, the Anglo-Saxon legal system often has unwritten constitutional principles of law [28], which influences not only the legal system itself but also the political decision-making process.

Some scholars express an erroneous opinion that general legal and constitutional principles are the same phenomenon [24, p. 34]. We believe that all general legal principles are constitutional in civil law countries but not all constitutional principles are general legal. The last statement can be exemplified by the legislation of the Russian Federation.

According to the Constitution of the Russian Federation adopted at National Voting on December 12, 1993, the principle of independence of the judiciary is enshrined in Clause 1 of Article 120, the principle of adversariality is consolidated in Clause 3 of Article 123, the principle of the language used in legal proceedings is fixed in Article 68. All these constitutional principles (as well as several others) are not general legal principles, but intersectoral, since they are common to such branches of the Russian law as criminal procedural, civil procedural, arbitration procedural and administrative procedural. An intersectoral constitutional principle of law is the presumption of innocence enshrined in Article 49 of the Constitution of the Russian Federation which operates in criminal, administrative and tax law.

Certain constitutional principles of law are even narrower and more sectoral, inherent in only one specific branch of law. For instance, we can cite such a principle of family law as the principle of state protection of the family, motherhood, fatherhood and childhood (Clause 1 of Article 38 of the Constitution of the Russian Federation), such a principle of labor law as the principle of freedom of labor (Clause 1 and Clause 2 of Article 37 of the Constitution of the Russian Federation) or such a principle of criminal law as the principle of the inadmissibility of repeated conviction for the same crime (Clause 1 of Article 50 of the Constitution of the Russian Federation). This list of examples can be continued.

3.3 Specific formulation and classification of the constitutional principles of law

The constitution in civil law countries is a regulatory legal act that differs from all the other legal acts not only by its leading role in the system of legal regulation and a special role in the system of law and the legal system but also by the specific structure and nature of enshrining the rules of law. The fact that the most general and socially significant norms are enshrined in constitutional acts influenced their wording. In the constitutions of civil law countries, the concept of "principle" is used mainly in relation to international law (generally recognized principles of international law) and extremely rarely in the meaning of "principle of law" [8, p. 612-613]. This complicates the interpretation of a constitutional act on whether a particular provision of the Constitution is a principle of law, how to formulate a specific principle, whether this principle is enshrined in one article of the Constitution or is "scattered" under several articles. Accordingly, an important role is played by the interpretation of the text of the Constitution: how a particular constitutional principle is called in sectoral legislation, how it is disclosed, duplicated and/or interpreted.

Unlike most Constitutions of civil law countries, articles in the Constitution of the Republic of Armenia adopted on July 5, 1995 (as amended by a referendum on December 6, 2015) have informative titles with the "principle" word. For example, Article 6 "The principle of lawfulness", Article 71 "The principle of guilt and principle of proportionality of punishments", Article 72 "The principle of lawfulness in defining crimes and imposing punishments", Article 78 "The principle of proportionality" and Article 79 "The principle of certainty". Thus, the legislator unambiguously indicated which ideas enshrined in the Constitution of the Republic of Armenia were regarded as the principles of law. However, this does not mean that the constitutional principles of the Armenian law are enshrined exclusively in these articles.

In contrast to the constitutional principles of law, it is easier to emphasize the principles of law in sectoral legislation. However, there are different ways to consolidate such principles in regulatory legal acts [29]. The most efficient method is to determine a chapter or article, whose title includes the "principle" word, in the structure of a codified act.

Based on the foregoing, we can propose the following classification of constitutional principles of law. Using such a criterion as scope, the constitutional principles of law should be divided into three groups:

1. General legal constitutional principles.
2. Cross-sectoral constitutional principles.
3. Sectoral constitutional principles.

In different countries, there is a different ratio of these groups [30] but the constitutional principles of each group are enshrined in the national Constitution. The scope of general legal constitutional principles is all branches of law, the scope of cross-sectoral principles is at least two branches, sectoral principles are the only branch of law characterized by a specific principle.

The examples of general legal principles (based on the Russian and Armenian sources) are as follows: the principle of lawfulness (Clauses 1, 2, 3 of Article 15 of the Constitution of the Russian Federation; Article 6 of the Constitution of the Republic of Armenia), the principle of guaranteed protection of

human and civil rights and freedoms (Article 17, Article 18, Clause 1 of Article 45 of the Constitution of the Russian Federation; Articles 3, 75, 76, 80 of the Constitution of the Republic of Armenia), the principle of equality before the law and court (Clause 1 of Article 19 of the Constitution of the Russian Federation; Articles 28, 29, 30 of the Constitution of the Republic of Armenia), etc.

Cross-sectoral constitutional principles of law comprise the principle of the inadmissibility of using evidence received through violating law (Clause 2 of Article 50 of the Constitution of the Russian Federation; Clause 3 of Article 63 of the Constitution of the Republic of Armenia) that is valid in all procedural branches of law; the principle of administering justice only by the court (Clause 1 of Article 118 of the Constitution of the Russian Federation; Article 162 of the Constitution of the Republic of Armenia), the principle of freedom from the obligation to testify (Article 51 of the Constitution of the Russian Federation, Article 65 of the Constitution of the Republic of Armenia), etc.

Finally, national constitutional sectoral principles include such a principle of criminal law as the principle of inadmissibility of repeated conviction for the same crime (Clause 1 of Article 50 of the Constitution of the Russian Federation; Article 68 of the Constitution of the Republic of Armenia), such principles of civil law as the principle of free movement of goods, services and capital (Clause 1 of Article 8 of the Constitution of the Russian Federation) and the principle of freedom of economic activities and guaranteeing economic competition (Article 59 of the Constitution of the Republic of Armenia), such a principle of family law as the principle of the obligation of adults to take care of their disabled parents (Clause 3 of Article 38, Paragraph 1 of Clause 1 of Article 72 of the Constitution of the Russian Federation; Clause 2 of Article 36 of the Constitution of the Republic of Armenia), etc.

The constitutional principles of law can also be divided according to such a criterion as duplication and/or specification in sectoral legislation. Accordingly, all the constitutional principles of any legal branch are divided into 1) those enshrined in the Constitution and not duplicated in sectoral codes; 2) constitutional principles duplicated and/or specified in sectoral legislation. For each branch of law, the ratio of these types of constitutional principles will be different in civil law countries [8, p. 612-614]. Although the Constitution has supreme legal force and direct effect in most modern states, all the constitutional principles should be enshrined in sectoral codified acts for the convenience of the law enforcement officer.

Depending on the way the constitutional principles of law are presented in the text of a constitutional act, they can be divided into 1) those enshrined in one article; 2) fixed in one or more clauses of one article; 3) consolidated in different articles or clauses of different articles. Here are some examples from the Constitution of the Russian Federation. Thus, the principle of the presumption of innocence is enshrined in only one article of the Constitution of the Russian Federation (Article 49). It is worth mentioning that this method of securing the presumption of innocence is typical of the constitutional acts of all civil law countries, starting with the Declaration of the Rights of Man and of the Citizen adopted in France on August 26, 1789 (Article 9) and up to the present.

The examples of consolidating constitutional principles are as follows: in one clause of the article – the principle of protecting rights and freedoms in all ways not prohibited by law (Clause 2 of Article 45 of the Constitution of the Russian Federation) and the principle of privacy of correspondence, telephone conversations, postal, telegraph and other messages (Clause 2 of Article 23 Constitution of the Russian Federation), in several clauses of one article – the principle of lawfulness (Clauses 1, 2 and 3 of Article 15 of the Constitution of the Russian Federation) and the principle of openness of judicial proceedings (Clauses 1 and 2 of Article 123 of the Constitution of the Russian Federation). For example, several articles of the Constitution of the Russian Federation consolidate the principle of respect for the honor and dignity of the individual (Articles 21 and 22) and the principle of compensation for damages caused by unlawful actions (inaction) of public authorities or their officials, as well as a result of a crime (Articles 42, 52, 53). Furthermore, the norms on compensation are also contained in Article 133 of the Constitution of the Russian Federation concerned with the guarantees of local self-government. In this article, local self-government in the Russian Federation shall be guaranteed by the right for judicial protection, for compensation for additional expenses emerging as a result of decisions adopted by state authority bodies. Finally, an example of consolidating one constitutional principle in separate clauses of different articles is the principle of privacy (Clause 1 of Article 23 and Clause 1 of Article 24 of the Constitution of the Russian Federation).

3.4 Constitutional principles of law in the legal system of society

The constitutional principles of law consist of the most significant ideas. Naturally, any idea arises in a real historical situation and is conditioned by it. While society develops, some ideas lose their relevance and others emerge and perform an important social function, influencing lawmaking and law enforcement. On the one hand, doctrinal ideas are the basis for the principles of law and become such if the legislator has enshrined them in the text of a regulatory legal act. On the other hand, the principles of law and their practical implementation have an impact on the development of legal science.

The principles of law are the ideological core of any branch of law, while constitutional principles are the basis of the system of principles of each legal branch. The effectiveness of law enforcement directly depends on the formulation of the principles of law and the degree of their comprehensibility for all the subjects of legal relations. Considering the above-mentioned specifics of the constitutional principles of law, which consists in the fact that the "principle" word is not used in the texts of constitutional acts, it is important to interpret the Constitution. Indeed, the doctrinal interpretation of the Constitution is necessary but only its official interpretation influences legal relations in society. In different states, the official interpretation of the Constitution is entrusted to different higher judicial bodies: the Constitutional Council in France, the Federal Constitutional Court in Germany, the Constitutional Court in Russia, etc.

While creating a framework of sectoral principles, the constitutional principles of law act as the basis of the entire system of law. Currently, it is impossible to effectively regulate public relations without legally fixed ideas, therefore the effectiveness of the entire system of law directly depends on the efficient consolidation of the principles of law. At the same time, the constitutional principles of law are not only the basis of the system of law but also the basis of the entire legal system. The Constitution contains ideas that determine the entire state and social structure, the construction of civil society and the rule of law. Therefore, we can conclude that the constitutional principles of law are not only important but also crucial in the legal system of civil law countries.

4 Conclusion

The constitutional principles of law are the most important initial ideas enshrined in constitutional acts which underlie a certain branch of law, a set of branches of law or the entire legal regulation within a specific legal system. The constitutional principles of law represent the ideological core of any branch of law and lay the basis for the system of the principles of each legal branch and the entire system of law.

The constitutional principles of law have not only theoretical but also practical significance because the effectiveness of law enforcement directly depends on how they are formulated and how subjects of law understand them as a guide to action.

In contrast to the principles of law enshrined in codified legal acts, the constitutional principles of law have a specific structure and consolidate the rules of law. This is manifested in the fact that constitutional acts practically do not use the concept of "principle" in the meaning of "principle of national law", which hinders the process of identifying constitutional principles of law or formulating their names, and also predetermines the significant role of the official interpretation of the Constitution.

In civil law countries, all general legal principles are constitutional but not all constitutional principles are general legal. Being a phenomenon of legal reality, constitutional principles of law can be classified based on various criteria. Depending on their scope, the constitutional principles of law can be divided into general legal, intersectoral and sectoral. Depending on the duplication in sectoral legislation, we can single out the constitutional principles enshrined in the Constitution and not duplicated in the sectoral codes, and constitutional principles duplicated and/or specified in sectoral legislation. Finally, depending on the presentation of a constitutional act, constitutional principles can be divided into those enshrined in one article; consolidated in one or more clauses of one article and fixed in different articles or clauses of different articles.

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Primary Paper Section: A

Secondary Paper Section: AG

EU STRATEGIC INTERESTS IN KAZAKHSTAN IN THE CONTEXT OF GEOPOLITICAL AND GEO-ECONOMIC CHANGES IN THE REGION WITH FOCUS ON CHINA

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This paper is a part of two research projects of the Ministry of Education, Family and Sports of the Slovak Republic: VEGA No. 1/0777/20: Belt and Road initiative - opportunity or threat for the EU and Slovak export competitiveness?; and VEGA No. 1/0039/20: The Importance of the Eurasian Economic Union for Shaping of EU Trade Strategies (with Implications for Slovakia).

Abstract: Kazakhstan has an important position as the EU´s main trading partner in Central Asia and the EU has been its largest trade partner as well as the largest source of foreign direct investment. The importance of China as trade and investment partner is rising, on the contrary, the EU's share is declining. Even though there remains plenty of scope for further growth, mutual relations and cooperation are influenced by increased geopolitical tensions and geo-economic changes in the wider region. The paper evaluates the position of the EU and its strategic interests in Kazakhstan in the context of geopolitical and geo-economic changes in the region based on the assessment of the trade and investment position of the EU in comparison with the position of China.

Keywords: Belt and Road Initiative (BRI), China, EU, Eurasian Economic Union (EAEU), investment, Kazakhstan, trade.

1 Introduction

Kazakhstan, the world's largest landlocked country, due to its location, vast landmass and energy reserves is not only a subject but also an object of geopolitical interests. Situated in the middle of the trade routes from China to Europe with significant transport and logistics importance, the country is building strong partnership to the East (China), to the West (EU) and within the region (especially as a member of Eurasian Economic Union).

It is the largest and most advanced (upper middle-income country) economy in Central Asia with strong position in the energy sector thanks to the second largest oil reserves in Eurasian region (after Russia), significant reserves of other non-ferrous metals, gold, uranium etc., as well as in agricultural sector as one of the top wheat exporters and producers in the world (Fehér & Fieldsend, 2019). Thanks to its geographical location it is considered as a linchpin of Eurasia and therefore, its huge potential should be considered not only in terms of natural resources abundance, but also in terms of its geostrategic location and thereafter possibilities of developing transcontinental routes, in particular as a transit country in Euro-Asian (especially between Europe and China) trade and economic relations (Kašťáková et al., 2019).

The highly volatile geopolitical situation has brought significant and unexpected changes that affect the position of the EU in Central Asia and Kazakhstan. Since 1990s Kazakhstan officially pursues a "multi-vector" foreign policy, tries to maintain good and mutually beneficial trade, investment, and diplomatic relations with all the great actors engaged in Central Asian region, especially with Russia, China, the EU, and the United States (Zogg, 2019; Vanderhill et al., 2020) as well as balance its investments needs in energy, transport, or retail (Pieper, 2020).

Regarding the country´s dependence on energy and raw materials exports, it has strong ties with the nearest neighbours, Russia, and China. Kazakhstan is a founding member of the Eurasian Economic Union (EAEU) and the Shanghai Cooperation Organization. As EAEU members Russia and Kazakhstan strive for close cooperation and deeper integration. The EAEU also established a legal framework with China, the agreement on trade and economic cooperation entered into force in October 2019 (EEC, 2019). Whereas Russia is considered as the most influential actor in Kazakhstan, China comes second. Paradoxically, in terms of cultural appeal, Kazakhstan is more oriented towards Europe. For Russia, Kazakhstan, as a part of Central Asia, area of its closest foreign policy interests, is strategically important in terms of security, energy, and economic cooperation. Similarly, these areas predominate in Chinese as well as European interests. However, the EU is not a key player in the region, it cannot compete with Russia, China, or the US in terms of hard power policy (Konopelko, 2017), its importance is universally acknowledged as region´s economic partner (Cornell & Engwall, 2017) and thanks its soft power policy (promotion of democracy, rule of law, respect to civil liberties etc.) it can play a constructive role as an alternative to Russia or China. On the other hand, the EU perceives Kazakhstan as a partner for promoting peace and security in the wider region. Kazakhstan tends to deepen mutual relations and cooperation with the EU, it is also the result of its efforts to increase openness and more active participation in international organizations and regional integration.

The rise of China´s economic power and assertive foreign policy, along with its Belt and Road Initiative (BRI) have changed the balance of power in Central Asian region, what has among other things led to growing concerns in Kazakhstan about its influence and power (Vanderhill et al., 2020). Kazakhstan is among the top ten beneficiaries of Chinese non-concessional finance. China is also more visible in Kazakhstan compared to surrounding countries. BRI project in Kazakhstan, unlike in neighbouring countries, is coordinated with its national development strategy "Nurly Zhol".

2 Literature review

There is an increasing interest among academics as for the trade, investment, political and economic impact of increasing Chinese influence, engagement regarding its Belt and Road Initiative development. The impact of geopolitical changes on the EU's foreign trade relations with Kazakhstan and with the Central Asian region was examined in detail by Kašťáková et al. (2019). As for the BRI implications for Europe, these has been discussed by Cornell and Swanström (2020).

Some authors have dealt with the effects of the BRI in Central Asia or Kazakhstan. Bitabarova (2018) has shown that there is a complementarity of mutual Chinese and Kazakh interests and trade, however the economic cooperation strengthening has not let to improvement of perceptions of China in Kazakhstan. Pieper (2020) examines Kazakhstan´s position in relations between China (BRI) and Russia (EAEU), and critically analyses implications of the BRI on the socio-political structure in Kazakhstan. Pantucci (2019) discuss China's relations with Central Asia via Belt and Road Initiative. Nabiyeva (2019) draws attention on implications and risks of Chinese cooperation as a consequence of lack of transparency of Chinese loans, financing of unsustainable projects, and non-respect of environment and human rights. The author reminds the possibility that "Chinese cooperation does not necessarily contribute to higher economic growth, business development and employment" (p. 6). Perceptions arising from China´s presence in Kazakhstan are also discussed by Pieper (2020); Vakulchuk and Overland (2019) discuss the perception of China among local actors in Central Asia analyzing economic cooperation, infrastructure, and educational projects; and Laruelle (2018) examines the effects of China's soft power diplomacy in Kazakhstan.

Other scholars have focussed their attention on the relations between the BRI and EAEU. Shakhanova and Garlick (2020) conducted a comparative analysis of the perceptions concerning the coordination of the BRI and EAEU and concluded that mutual coordination would rather be more difficult. Czerewacz-Filipowicz (2019) has assessed the potential of the EAEU as a transport corridor within the BRI.

From the point of view of Kazakhstan´s relations with the most important partners in connection with geopolitical changes Vanderhill et al. (2020) confirm the effectiveness of

Kazakhstan´s multi-vector foreign policy in protecting its independence and achieving its goals and argue that natural resources´ wealthiness served as a great leverage in relations with China, the EU and Russia (use their competing interests and avoid economic dependence on any of them) and to achieve its foreign policy success.

3 Methodology

The aim of the paper is to evaluate the position of the EU and its strategic interests in Kazakhstan in the context of geopolitical and geo-economic changes in the region based on the assessment of the trade and investment position of the EU in comparison with the position of China.

This contribution is a part of authors´ broader research in relations between the EU and the Eurasian region, impact of geopolitical and geo-economics changes, increasing position of China, and its BRI initiative investments on the EU agenda in the region. Therefore, in this case we decided to focus the comparison of the EU position only on position of China as one of the main strategic partners for Kazakhstan, especially due to increasing trade and investment relations (BRI). We focused on comparing the positions of the EU and China as trading partners of Kazakhstan, while also comparing the commodity structure of Kazakhstan's trade with both partners and evaluating the level and intensity of mutual trade. Subsequently, we compared the position of the EU and China as investors in the country.

To assess and compare the level and intensity of Kazakhstan´s trade cooperation with the EU and China – as well as vice versa – we used trade intensity index (TII). The purpose of TII is to determine whether the value of trade between two countries/regions is greater or smaller than it would be expected based on their importance in the world trade. It is defined as the share of one country's exports going to a partner divided by the share of world exports going to the partner (World Bank, 2010). It is calculated as:

$$TIIij = \frac{\left(\frac{xij}{Xit}\right)}{\left(\frac{xwj}{Xwt}\right)} \quad (1)$$

where x_{ij} is the value of country i´s exports to partner country j, X_{it} is the value of total exports of the country i; x_{wj} – value of world exports to country j, and X_{wt} is the world exports´ value.

The TII values range from 0 to +∞. A value greater than 1 indicates a relationship more intense than the world average for the partner country (World Bank, 2013). If the index is more than 1, it indicates a more intensive trade between the partner countries than expected given their position in world economy; and if the TII is less than 1, the intensity of trade is at lower level, than it would be expected.

For our analysis and the calculation of TII, we used foreign trade data from International Trade Center (ITC), the Trade Map database. The monetary units of this database are expressed in USD. From the point of view of Kazakhstan, all values concerning trade flows, FDI and external debt are expressed in USD. As far as the EU is concerned, for the period under review we calculated with data for the 27 member states (EU27).

4 Results and discussion

Energy has been the driving force for cooperation since the establishment of Kazakhstan´s relations with both the EU and China. Up to two-thirds of EU investments in Kazakhstan go directly to exploration and extraction of natural resources (Konopelko, 2018). The EU is pushing for diversification of supply and Kazakhstan's potential is not yet fully exploited. Besides energy, the Central Asia's development as an important trade corridor has created a new major vector for mutual economic relations. In this respect, Kazakhstan in terms of its geographical location, business environment and economic policy improvements, is becoming more important especially in connection with Chinese project of revitalizing the Silk Road trade routes. Since 2013, when BRI was originally announced in Astana (Nur-Sultan), Kazakhstan has been heavily politically involved in the project. The Kazakhstan´s role as the landlocked country will be particularly important for Silk Road Economic Belt (SREB), the land part of the BRI. According to Pieper (2020) the BRI helps break Kazakhstan´s landlocked country status and "shapes new geopolitical realities" as well (p. 6).

4.1 Kazakhstan´s trade relations with the EU and China - comparison

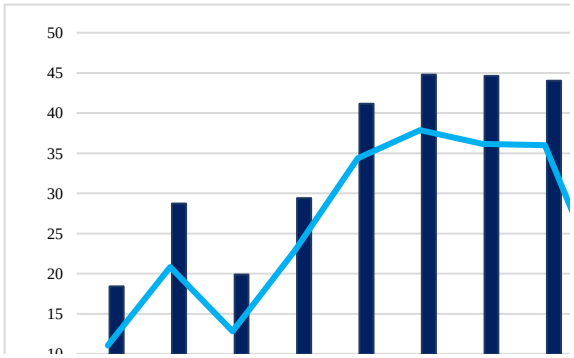
Kazakhstan is the largest EU trading partner of the Central Asia, accounting for more than 85% of the overall trade between the EU and the region. However, for the EU the Central Asian region is rather insignificant trade partner, it accounted just for 0.7% of the EU external trade in 2019 and Kazakhstan was on the 31st place as the EU trading partner (0.6% of the EU trade). On the other hand, the EU is still the main trading partner (especially as an export market) for Central Asia (24.1% of the region´s external trade), closely followed by China (22.3%) and Russia (20.2%) (European Commission, 2020a,b).

Relations between the EU and Kazakhstan can be described as close and mutually beneficial. There is no unified approach, however, to Kazakhstan or Central Asia as a whole, among the EU member states, thus it has been difficult for the EU to induce significant change in country´s approach to the values promoted by its Western partners (respect for civil liberties, media freedom, fair elections) (Zogg, 2019). The EU has had an important role in emphasizing its norms and values which have been promoted as important conditions for mutual relations in its approach to Kazakhstan and included in key bilateral documents and agreements, and EU strategy on Central Asia as well (Yesdauletov et al., 2017) which emphasizes the EU engagement with Central Asian countries in protection and promotion of human rights, rule of law and fundamental freedoms.

Mutual relations are governed by the Enhanced Partnership and Cooperation Agreement (EPCA), which entered into force in March 2020 and provides a framework for reinforced political dialogue, trade relations and cooperation in variety of areas. The EPCA replaced the Partnership and Cooperation Agreement (signed in 1994) which became obsolete and no longer reflected the development of both partners and new geopolitical reality. The EPCA agreement puts strong emphasis on democracy, rule of law, human rights, fundamental freedoms, civil society cooperation.

However, mutual relations have been negatively affected by deteriorated EU relations with Russia (since 2014 due to crisis in Ukraine). Moreover, the EU and Russia compete for increasing their influence in post-Soviet space and Kazakhstan is highly dependent on both. Russia is the second largest trading partner accounting for more than 20% of Kazakh foreign trade; shares the second longest land border in the world; both countries are members of the EAEU, and Russia serves as transit territory for almost all of Kazakhstan´s exports to the EU. Thus, it is necessary for Kazakhstan to find a balance between the divergent interests of the EU and Russia (Yesdauletov et al., 2017). For example, due to transit restrictions for the EU and Ukrainian goods supply introduced by Russia via its territory to Kazakhstan, as part of its sanctions, Kazakhstan has become a big looser although the country does not share the same political tensions with the EU or Ukraine as Russia and does not aspire to a geopolitical role (Balás et al., 2018). Figure 1 provides information about the development of trade relations between Kazakhstan and the EU.

Figure 1: Kazakhstan´s trade in goods with the EU27 (2007 – 2019, in million USD)



Source: Own elaboration according to ITC (2021) data.

Kazakhstan has an active trade balance in trade with the EU. Since 2009 mutual trade increased dramatically reaching its highest levels between 2012 and 2014, to more than 51 billion USD, especially on the exports side thanks to favourable world market oil prices. Due to geopolitical tensions in the region caused by the Ukrainian crisis and significantly worsened situation in relations between the EU and Russia, as well as due to fall in world oil prices, mutual trade decreased dramatically in 2015 and 2016. The EU´s share in Kazakh external trade fell to 37%. After 2-years growth trend, in 2019 mutual trade decreased again. Compared to 2018, imports from the EU decreased by 2.7% and exports to EU fell by almost 20%. However, according to the EU statistics, imports from Kazakhstan declined by 8.9%, whereby exports of goods to Kazakhstan increased by 7.9% (European Commission, 2020b).

As regards the commodity structure, Kazakhstan strives to diversify its economy, as well as its trading partners, however, it is still highly dependent on European partners and hydrocarbon exports. The country´s exports to the EU are limited to a few commodities, particularly oil and metals, whereby the imports from the EU consist of industrial products with transport and machinery having the largest share, followed by manufactures and chemicals (Table 1). The EU has a strong interest in modernisation and diversification of Kazakh economy, however, even though cooperation has expanded into many areas (including energy, transport, and agriculture), there remains plenty of scope for further growth. Compared to Russia or China, it has lesser political influence in Kazakhstan, but maintains significant economic influence.

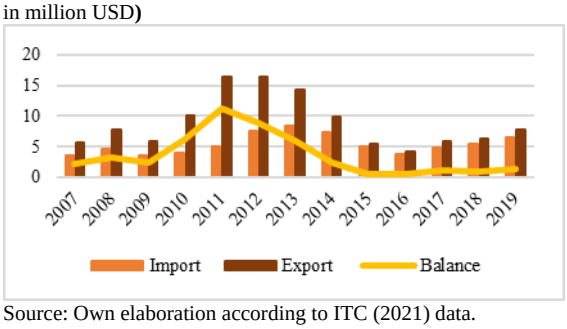
Kazakhstan´s strategic aim is to diversify and modernize the economy. The priority sectors include metallurgy, petroleum and chemical industry, mechanical engineering, food, and construction industries. The state program of intensive industrial and innovative development (SPIID) highlights the model of economic development with manufacturing as the main driver of the industry´s growth. The program is complemented by “Nurly Zhol” (the “Bright Path”) economic policy which focuses primarily on the infrastructure in seven areas (Kazakhembus.com, n.d.). “Nurly Zhol” was announced in 2014 as a reaction on decreased oil prices leading to economic slowdown, related decrease of trade and FDI with China (Aitzhanova, 2019).

Mutual China–Kazakhstan economic relations, established long before the BRI announcement, have become much more diversified with BRI cooperation (Aitzhanova, 2019). Kazakhstan announced independence in 1991 and China recognised the sovereign state in the same year, establishing diplomatic relations in 1992. Chinese investments, principally in fossil fuels, participated in exploitation of oil already in 1997, when Chinese National Petroleum Corporation became 60% shareholder of Kazakhstan’s National Petroleum Corporation. In 2013 China announced the idea of land based SREB to support transnational links between China and Eurasian region. SREB or BRI suitably complemented “Nurly Zhol”. In 2014 countries signed formal agreement “Joint Construction of the Silk Road Economic Belt”, in 2015 an agreement on aligning Kazakh and Chinese (SREB) initiatives was approved (Pieper, 2020), and China has become one of the partners of the infrastructure program. As of 2019 Kazakhstan and China are permanent comprehensive strategic partners. China wants to be perceived as reliable partner, tolerant to Muslims, peaceful as an alternative to Russia or western countries but without political goals, though with common objectives and benefits – development and economic growth.

For Kazakhstan China is the third largest trade partner accounting for 15% of Kazakh foreign trade, which is less than half of the value traded with the EU (31.5% of Kazakh trade). Trade balance is positive, Kazakh exports to China exceed imports (European Commission, 2020b).

More detailed information on trade in goods between China and Kazakhstan is in Figures 2, 3 and Table 1. Exports to China ranged between 10.3% (in 2018) to 18.5% (in 2011). One third (36%) of the exports in 2019 consisted of mineral fuels, oils, and distillation products. Kazakhstan´s exports to China were significant between 2010 and 2013, which corresponds to high oil prices (oil prices declined at the end of 2014). Imports from China oscillated between 10.7%-17.8%, reaching almost 17% of all Kazakh imports in 2019. Up to 84% of Kazakhstan exports to China are fuels, minerals and metals and the country understand the need to diversify economy in order to overcome its dependence on raw materials.

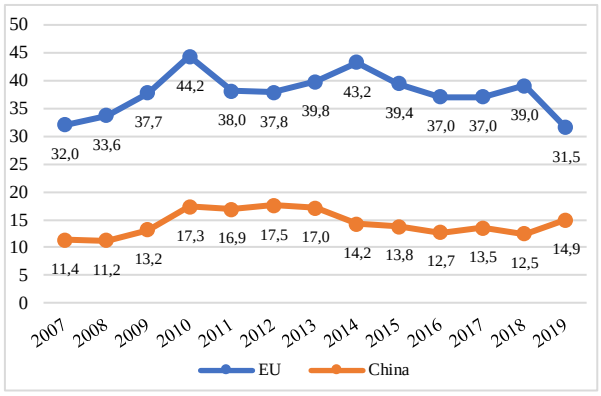
Figure 2: Kazakhstan´s trade in goods with China (2007 – 2019, in million USD**)**



Source: Own elaboration according to ITC (2021) data.

Trade with the EU represented almost one third of the country´s total external trade in 2019, making the EU its principal trade partner. However, we can observe a decrease in EU´s share by 7.5 percentage points compared to 2018 (Figure 3).

Figure 3: The development of the EU and China share in Kazakhstan trade (in %)



Source: Own elaboration according to ITC (2021) data.

Between 2010 and 2013 China accounted for about 17% of Kazakhstan´s foreign trade, then its share fell to an average of 13% between 2014 and 2018. In 2019 we can observe a slight increase ich China´s share. The EU's share has also been declining since 2014 (except for a slight increase in 2018), and

in 2019 it decreased by almost 8 percentage points. Comparing Kazakh trade with the EU and China as for its commodity structure, we can conclude that is very similar as for imports. Machinery and mechanical appliances ('84) is the top import commodity group accounting for more than one fifth of Kazakh imports from the EU and China as well. Electrical machinery and equipment ('85) similarly, account for almost 20% of imports from the EU and China. Thus, equally, 40% of Kazakhstan´s imports both from the EU and from China are manufactured goods (machinery and electrical equipment). On the Kazakh exports side, mineral fuels, and oils ('27) account for 94% of all exports to the EU, whereby exports to China are more diversified – with mineral fuels and oils accounting for 36%, copper and articles thereof for 20%, ores and slags for 14%, iron and steel for 11% of exports to China.

Tab. 1: Commodity structure of Kazakhstan´s trade with the EU and China – breakdown to top 5 commodity groups, HS2 in 2019 (value in million USD)

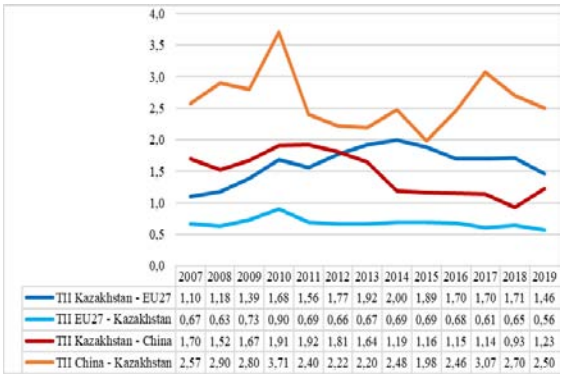
IMPORT from the EU				IMPORT from China				EXPORT to the EU				EXPORT to China			
	Category	Value	%		Category	Value	%		Category	Value	%		Category	Value	%
'84	Machinery, mechanical appliances, nuclear reactors, boilers	1368	23	'84	Machinery, mechanical appliances, nuclear	1356	21	'27	Mineral fuels, mineral oils and products of their	22746	94	'27	Mineral fuels, mineral oils and products of their	2828	36
'85	Electrical machinery and equipment and parts	1106	18	'85	Electrical machinery and equipment and parts	1225	19	'28	Inorganic chemicals; compounds of precious, rare-earth metals	377	2	'74	Copper and articles thereof	1567	20
'30	Pharmaceutical products	714	12	'73	Articles of iron or steel	477	7	'72	Iron and steel	217	1	'26	Ores, slag and ash	1123	14
'73	Articles of iron or steel	415	7	'93	Arms and ammunition	361	6	'76	Aluminium and articles thereof	175	1	'72	Iron and steel	830	11
'87	Vehicles other than railway or tramway rolling stock	289	5	'87	Vehicles other than railway or tramway rolling stock	336	5	12	Oil seeds and oleaginous fruits; grains, seeds and fruit;	153	1	'28	Inorganic chemicals; compounds of precious, rare-earth metals	540	7
	Others	2150	36		Others	2783	43		Others	567	2		Others	935	12
	TOTAL	6042	100		TOTAL	6538	100		TOTAL	24235	100		TOTAL	7823	100

Source: Own elaboration according to ITC (2021) data

Kazakhstan covers a significant part of the EU energy demand as the third most important oil supplier (6% of EU oil demand) after Russia and Norway. Similarly, it is the single largest supplier to EU nuclear energy industry and accounts for more than 21% of the EU uranium demand. Thus, Kazakhstan significantly contributes towards the diversification of energy sources supply for the EU (EEAS, 2020b).

We used the TII to evaluate the size of Kazakhstan´s trade with EU27 and with China as well as the to evaluate trade intensity of the EU and China´s trade with Kazakhstan. Figure 4 shows the trend of trade intensity in the period under review.

Figure 4: Development of TII between Kazakhstan and the EU and between Kazakhstan and China, as well as vice versa in 2007-2019



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
TII Kazakhstan - EU27	1,10	1,18	1,39	1,68	1,56	1,77	1,92	2,00	1,89	1,70	1,70	1,71	1,46
TII EU27 - Kazakhstan	0,67	0,63	0,73	0,90	0,69	0,66	0,67	0,69	0,69	0,68	0,61	0,65	0,56
TII Kazakhstan - China	1,70	1,52	1,67	1,91	1,92	1,81	1,64	1,19	1,16	1,15	1,14	0,93	1,23
TII China - Kazakhstan	2,57	2,90	2,80	3,71	2,40	2,22	2,20	2,48	1,98	2,46	3,07	2,70	2,50

Source: Own elaboration according to ITC (2021) data.

The value of TII Kazakhstan-EU27 as well as the value of TII Kazakhstan-China (with one exemption in 2018) was more than

Therefore, we can claim big activities of Kazakh exporters on the EU and China´s markets. The highest value of Kazakhstan´s trade intensity with the EU was reached in 2014, however since then the index has been declining. According to Kašťáková and Barinková (2019) this decline should be caused by fall in world oil prices. Despite that, it did not drop below 1 during the period under review. That means the Kazakh trade with the EU was more intense than it was expected considering the EU position in the world and that the EU is an important trade partner for Kazakhstan.

On the other hand, the trade intensity with China reached its highest values in 2010 and 2011 and in 2014 decreased significantly. It increased again in 2019. The average value of Kazakhstan´s trade intensity with China (1.46) was 0.16 below the average value of trade intensity with the EU27 (1.62). It indicates intensive trade from Kazakhstan to China.

As for the trade intensity of the EU trade with Kazakhstan it reached values lower than 1 during the whole period under review. This means that for the EU, Kazakhstan is not such a trading partner as would be expected based on its position in the world economy, which is also confirmed by its position in the EU's foreign trade.

On the other hand, the trade intensity index of China and Kazakhstan is high, reaching values exceeding 2 (except for 2015). The highest values were reached in 2010 and 2017 (3.71 and 3.07 respectively), indicating China's high export activity to Kazakhstan.

4.2 Investments

Kazakhstan accounted for 78% of gross FDI inflow to Central Asia between 2007 and 2019 (Yergaliyeva, 2020). The EU is one of the principal sources of FDI in Central Asia, whereby Kazakhstan has benefited from substantial inflows of these FDI, especially thanks to its extractive and exploration industries. Although the FDI flows have become more diversified, this sector remains as a dominant source of FDI (Bossuyt, 2015). Similarly, China, in comparison to the EU as a relative latecomer, has become an important source of FDI in Central Asia with the biggest share going to Kazakhstan as well. China´s FDI in the region are concentrated in transport infrastructure and the extractive and mining industries (Bossuyt, 2015).

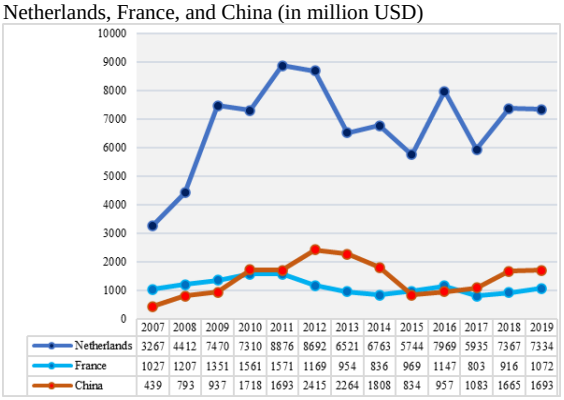
Since 2007, the total amount of FDI (inward stock) to Kazakhstan almost doubled in 2010 and in 2016 exceed the amount of 140 billion USD. As for the FDI inflows the highest levels of more than 13 billion USD were reached in 2008, 2009, 2011 and 2012, however, in the subsequent years, inflows gradually (except in 2016) declined from 10.3 billion in 2010 to 3.1 billion USD in 2019. According to World Investment Report 2020 the FDI flows to Kazakhstan decreased in 2019 by 17% in comparison to 2018. The largest greenfield project in Kazakhstan was the announcement of 600 billion USD carbide plant of Chinese North Huajin Chemical Industries (UNCTAD, 2020). Ongoing large projects in metal mining continue to attract the majority of FDI inflows, mining and metallurgy is still the most successful sector for FDI in Kazakhstan accounting for 56.3% (13.6 billion USD) of the FDI inflows in 2019. This is followed by FDI in manufacturing (14.3%), in wholesale or retail trade (12.3%) and transportation sector accounted for almost 5% of total FDI inflows (Kazakh invest, 2019). The FDI into extraction of crude petroleum and natural gas alone lured 50% of all FDI inflows in 2019. However, due to weakened demand for commodities and low oil price the UNCTAD revised downward prospects for natural resource based FDI inflows in 2020 (UNCTAD, 2020).

When considering the gross FDI inflows to Kazakhstan in 2019, the Netherlands (30%), USA (23%), Switzerland (9%), China (7%), and Russia (6%) are the top largest FDI sources to Kazakhstan together accounting for 75% of all gross FDI inflows in 2019. The EU has been by far the largest investor in Kazakhstan, accounting for 42.5% of total gross inflows in 2019

(10 369 million USD), whereby Netherlands as the dominant investor in Kazakhstan (30.2%) accounts for more than 70% of all EU gross inflows. The second major EU investor (10%) has been France (1 072 million USD in 2019) (National Bank of the Republic of Kazakhstan, 2021).

Therefore, to assess the position of the EU and China, it is appropriate to compare China with the Netherlands and France, which together account for more than 80% of the EU´s FDI in Kazakhstan (Figure 5). Gross inflows from Netherlands increased rapidly to its record values of more than 8 billion USD in 2011 and 2012, however since then, the value of the inflow has declined, but has remained above 5 billion USD. The highest inflows from China were recorded in 2012 and 2013 (2415 million USD and 2246 million USD respectively), but haven´t exceed 2.5 billion USD. In 2015, the Chinese inflows declined (833 million USD) but since 2016, when 55 (27–28 billion USD) new industrial projects were announced, FDI have grown slowly again.

Figure 5: Gross FDI inflows to Kazakhstan from the Netherlands, France, and China (in million USD)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Netherlands	3267	4412	7470	7310	8876	8692	6521	6763	5744	7969	5935	7367	7334
France	1027	1207	1351	1561	1571	1169	954	836	969	1147	803	916	1072
China	439	793	937	1718	1693	2415	2264	1808	834	957	1083	1665	1693

Source: own elaboration according to National Bank of Kazakhstan (2021) data.

Energy sector lured the main share of FDI inflows from the EU companies (especially Royal Dutch Shell or French Total) which have provided the Kazakh energy sector of crucial technology. Overall, 7% of gross FDI inflows are from China. The investment activities of China intensified after the launch of BRI initiative, and moreover, Chinese lending and investments became more diversified (Kley, 2020). China has adopted new economic model for Eurasian region, investing less in infrastructure and spreading the risks to different industries manufacturing, solar and wind farms, as well as agriculture. The list of mediated BRI project (55 projects total of 27.6 billion USD) was made public only in 2019, within which half of the investments flows into the hydrocarbons (13.9 billion USD), 22% into mining and metallurgy (5.98 billion USD), 9% to energy (2.38 billion USD), 4% into machine building (1.16 billion USD), 1% in food industry (0.39 billion USD) and 14% into others (3.77 billion USD) (Kazakh Invest, 2019). Out of announced 55 projects:

- 15 projects are completed (3.9 billion USD: 50% in petrochemicals, 22% in mining and metallurgy). Although the vast majority of the projects is not in line with national plan to diversify, the first promising companies were created in auto assembly industry (1.1 billion USD) and camel milk processing (22 billion USD) (Mardell, 2020).
- 11 projects are under construction and,
- 29 are in planning process and 10% of them should be in production of finished consumer products (Kazakh Invest, 2019).

As for the Chinese loans to Kazakhstan these are, compared to those from the EU, unconditional, but also non-transparent in terms and conditions. China is not a member of OECD consensus and therefore is not obliged to report official loans as it is required by other export credit agencies. Almost all investments are realised by state-owned companies and usually have minimum 50% of Chinese content; loans are partly financial aid and China requires oversight of the project (Railway from Dostyk to Aktau, port of Aktau extension, Kuryk port). Kazakhstan´s debt to China is the largest in the region (in absolute terms), but lowest as a percentage of GDP. Total debt (declining) of 10 621 million USD was significantly lower compared to the debt to EU27 (60 575.7 million USD) in 2019 (National Bank of Kazakhstan, 2021).

Following should be taken into the consideration in terms of Chinese presence in China:

- Extreme politicizing of China's presence in Kazakhstan, even BRI is perceived among people as expansionist policy. Only one in six people in Kazakhstan has a positive view of China and is ranked among the unfriendliest countries, increasing the presence in the country, without giving back benefits (Vakulchuk & Overland, 2019).
- Increase of far-right nationalist tendencies against minorities, including Chinese workers, which has both cultural and economic reasons. Kazakhstani government adopted new law that requires local companies to hire minimum percentage of workers from Kazakhstan and visas with work permit are strict to regulate migration of foreign workers.
- China's oppression in East Turkestan, where Uyghur Turks, including Kazaks and Kirgiz, were put in to the „re-education camps", is perceived in Kazakhstan as cultural genocide, creates tensions between China and Kazakhstan.
- "Predatory aid" offering unconditional loans for natural resources mining is locking Kazakhstan in "raw material trap" (Laruelle, 2018). In general, conditions under which China offers its loans, without paying attention to debt sustainability, financing "white elephants", not reporting to OECD or informing public could lead to corruption and worsen debt position of receiver.

5 Discussion

From trade perspective the EU is the main trading partner for Kazakhstan accounting for 31.5% of total Kazakhstan's trade, China is the third largest trading partner (15%) with a perspective of increasing share in its total trade. On the contrary, the EU's share is declining. Commodity structure of imports from China and the EU to Kazakhstan is similar, exports to the EU consist mainly up of oil and mineral fuels (94%), exports to China are more diversified, however, mostly compound of raw materials (Table 1). Measuring market (using trade intensity index TII) potential of Kazakhstan on both EU and China markets we came to conclusion, that the intensity of the Kazakh trade with both partners is rather intensive, declining in case of EU since 2014, and on increase with China since 2018. EU trade intensity with Kazakhstan is below expectations, creating room for the increase of trade flows and improvement in the EU foreign trade strategy.

The EU was the largest investor in the country in 2019 (42%), the share of China was 7% though the volume is growing since the launch of BRI aligned to "Nurly Zhol" strategy. However, half of the projects is still implemented and planned in petrochemistry sector.

To realise large projects, China is offering loans but, since China has not adopted any antibribery convention, nor is the member of any international arrangements for export credit agencies, the loans lack transparency. In addition, there are concerns about environmental impact of investment projects. On the contrary, EU loans are not only conditional with the commitment of Kazakh government to follow the European requirements on good governance, rule of law, human rights protection, etc. but EU also adheres to international initiatives as a signatory of "OECD agreement OECD Recommendation of the Council on Common Approaches for Officially Supported Export Credits and Environmental and Social Due Dilligence", that also places limits on financing terms and conditions, "OECD Convention on

Combating bribery of Foreign Public Officials In International Transactions" (1997) and "OECD Anti-bribery Recommendation" (2009).

China is blamed for predatory development aid aimed at natural sources exploitation and thus locking the country in to the "trap of natural sources". From the EU´s point of view Kazakhstan as a middle-income country is not eligible for aid through Development and Cooperation Instrument (DCI). However, is eligible to receive financial and technical assistance through the European Instrument for Democracy and Human Rights (EIDHR), the Instrument contributing to Stability and Peace (IcSP), the Nuclear Safety Instrument, the Partnership Instrument, Development and Cooperation Instrument 2019 new regional programme and through the ERASMUS+ Programme. Kazakhstan has been a major beneficiary of this funding in Central Asia (EEAS, 2020a).

Kazakhstan is perceived as a linchpin of the Eurasia as for the overland part of the BRI initiative (the northern Trans-Siberian corridor) as its geographical location is one of its greatest advantages. There is a possibility of international trade between the EU and China facilitation through railway transport (Czerewacz-Filipowicz, 2019). However, it is limited due to EU-Russia deteriorated relationship (sanctions imposed by the EU, Russian embargo imposed on European goods). Moreover, the EU de facto has not developed proper relations with the EAEU and this fact creates the biggest problem and barrier to the more successful development of the northern part of BRI as goods traded from China to EU cross only two customs boundaries, the EAEU and the EU. Therefore, establishment of proper relations with EAEU should be perceived as one of the biggest challenges for the EU (Czerewacz-Filipowiz, 2019).

We agree with Cornell and Swanström (2020) that the EU should not rely solely on the power of promoting European values, it should rather focus on its own interests lying in terms of economics and trade, thus clearly define it interests and act as economic power (export market and investor). Thus, it is also important to promote tailor-made approach to Chinese activities in the region, to unit EU members´ approach towards Kazakhstan and to define and clarify the EU relations with EAEU is needed.

6 Conclusion

The EU as well as China have become important actors in Kazakhstan as well as in the whole Central Asian region. The EU has been the largest trading partner for Kazakhstan, representing more than 30% of its external trade. Although China's share is only half that of the EU, in context of its growing engagement in the region, the value of mutual trade and its share of Kazakh trade is expected to increase. EU-Kazakhstan relations are also negatively affected by ongoing tensions in EU-Russia relations. Similarly, the possibility of facilitating trade between the EU and China (via the territory of Kazakhstan) is limited due to the absence of EU policy towards relations with the EAEU.

As for the commodity structure, we can conclude that is very similar for EU and China´s exports to Kazakhstan; machinery and electrical equipment account for 40% of Kazakhstan´s imports from both. Whereby most of the exports to the EU consist of mineral fuels, and oils, exports to China are more diversified, with fuels and oils accounting for a third of exports.
Based on the TII analysis results, we can conclude that Kazakhstan´s trade relations both with the EU and China are intense, whereby according to TII results in 2019, the trade intensity with EU decreased and the intensity in trade with China increased. EU trade intensity index TII with Kazakhstan is below the EU potentiality in terms of EU position in international trade and gives suggestion to reflection on the EU strategy towards Kazakhstan.

As far as investment, the EU accounts for 42% of FDI inflows to Kazakhstan, thanks to Netherlands (71% of the EU inflows). China is the fourth largest source of FDI inflows, its investment engagement has intensified in connection to its BRI projects. Energy sector attracted the main share of FDI inflows from the EU and Chinese companies as well. Long term Chinese investments together with coordinated BRI policy and local "Nurly Zhol" strategy may help Kazakhstan to become important transport hub for China in the region as well. Chinese new economic model for the region with investments diversified to several sectors and with participation of local investors gives strong signal to Kazakhstan for long interests of China in the region. However, Kazakhstan has limited diversification of economy and it is questionable if Chinese investments into the infrastructure will boost the development of other sectors. On the other side, the EU approach to Kazakhstan within the new EPCA agreement is not built on the convincing long term investments strategies. To improve the EU trade intensity and investment position the clear policy towards the whole region of EAEU would be a beneficial approach.

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Primary Paper Section: A

Secondary Paper Section: AH

THE INFLUENCE OF COOPERATIVE LEARNING ON PROSOCIAL BEHAVIOUR OF PUPILS OF YOUNGER SCHOOL AGE

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Abstract: The aim of this study is to present the results of empirical findings of cooperative learning's influence on prosocial behaviour of pupils of younger school age. Cooperative learning has been implemented in two experimental classes into teaching the subject Natural Science for two years. We verified its effectiveness through the questionnaires My Class Inventory (MCI), Prosocial Tendencies Measure (PTM) and through Sociometric rating questionnaire (SO-RA-D). We found out that cooperative way of teaching positively influenced the prosocial behaviour of younger school children.

Keywords: cooperative learning, prosocial behaviour, classroom climate, social competences, younger school age

1 Introduction

By the end of the younger school age period, the character of social relationships in a classroom, the level of acceptance of a pupil by the group is a significant determinant not only in the area of pupil's performance, but it also influences the formation of future social relationships and potential social behaviour. Due to different areas, the effectiveness of cooperative learning has been researched mainly abroad (Johnson, D. W. & Johnson, R. T. 2009). In Slovakia, complex researches of prosocial behaviour in connection with the above mentioned way of teaching on the first level of elementary schools have not yet been undertaken. The difficulty of prosocial behaviour measuring may be in this age conditioned by social and cognitive development, while the biggest leap in its development was proved by N. Einsenberg (1983, pg. 849) in the period between childhood and early adolescence. Based on this fact we assume that stimulation of the affective component of a personality, especially of pupils in younger school age (the area of experiencing, evaluation and behaviour), can significantly contribute to further moral development in the time when many character features are just beginning to form. In the programmes for education of good character or development of prosocial behaviour (Lickona, T. 1992; Berkowitz, M. & Bier, M. 2004; Battistich, V. & Solomon, D. et. al. 1989) experts recommend implementation of cooperative activities.

In our research we have focused on finding out (a) whether and how has social dynamics changed in the classroom due to implementation of cooperative teaching strategies; (b) whether and what kind of changes occurred in the evaluation of the classroom due to interactions in cooperative groups; (c) how did the prosocial tendencies in elementary school pupils' behaviour change under the influence of cooperative learning. The research problem was analysis of the changes in prosocial behaviour of 4th grade pupils at the elementary school under the influence of cooperative learning.

2 Methodology of Research

General Background of Research
The aim of the research was to find out the influence of cooperative teaching strategies on prosocial behaviour of pupils at the first level of elementary school.

We set the following hypotheses:
H_1: When using cooperative learning, statistically significant differences will occur between the input and output values of some of the examined parameters from the MCI questionnaire.

H_2: Implementation of cooperative learning will cause statistically significant change between input and output values of sociometric indices in the experimental group.

H_3: Implementation of cooperative learning on Natural Science classes will cause statistically significant difference between the input and output measurements of the Prosocial Tendencies Questionnaire.

Sample of Research
The scope of the sample of research has been ensured by available selection, conditioned by willingness of teachers to participate on the research. The sample of research consisted of 9-10-year-old pupils of 4th grades of elementary schools, while experimental group (EG) consisted of the classes 4.C and 4.A (n = 39 pupils), control group (CG) consisted of 4.A and 4.B classes from another elementary school (n = 32 pupils).

Instrument and Procedures
The Prosocial Tendencies Measure – Revised (PTM-R) questionnaire (G. Carlo & B. Randall, 2002), was used to identify to what extend and with what type of prosocial behaviour (Altruism, Compliant, Emotional, Public, Anonymous, Dire) the pupils of EG a CG identified themselves with the most/the least.

My Class Inventory (MCI) (B. J. Fraser & D. L. Fisher, 1986), which identified the current psycho-social climate in the classrooms in the following variables: Satisfaction, Friction, Competitiveness, Difficulty, Cohesiveness.

Sociometric rating questionnaire (SORAD) (V. Hrabal, 1979), analyses the structures of the current state of social relations and interactions in a classroom. This research tool enabled us to quantify the data on the level of individual index of influence - III, individual index of popularity - IIP and individual index of sympathy – IIS of each pupil. The calculation of individual indices enabled us to calculate the group indices of influence (GII), popularity (GIP) a sympathy (GIS) in each classroom. As the GII informs about the group cohesion and the GIP enables us to assess the emotional atmosphere of classrooms, by comparison with MCI we verified the variables of cohesiveness and Competitiveness of a classroom.

During implementation of cooperative learning (33 lessons) we used in the EG the method of participatory observation and interview with the intention to understand how the designed cooperative activities in the subject Natural Science influenced the manifestations of prosocial behaviour of pupils. The interview helped us to provide intervention into social skills of pupils that we consider to be indicators of social interaction and psychological climate. Through observation we focused on cooperation, communication, commitment, following the rules, responsibility for the role (work) in a group, helping, sharing, supporting, occurrence of problems and dealing with them in cooperative groups.

Data were processed by the statistical program STATISTICA 8.0 (StatSoft Inc., Tulsa, OK, USA). For main comparison of experimental and control group we used the nonparametric Wilcoxon signed-ranks test. Next we processed the analysis of the differences of pre-test and post-test data (the data corresponded to a normal distribution) by multivariate/univariate One-way ANOVA test. Correlation statistics was generated through Spearman Rank Order correlation test. We displayed the outputs in descriptive statistics.

3 Results of Research

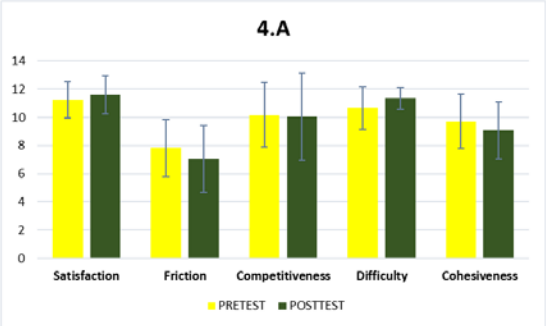
When verifying the hypothesis H_1 within input comparison, we assumed that there will be no significant differences between the classes. Analysis of the multivariate (One-way ANOVA) test

proved our assumption, p = 0.10 > 0.05. Statistically significant changes in evaluation of the classroom climate appeared after the experiment in the class 4.C of the experimental group (Tab. 1/A, p = 0.001240 < 0.05), specifically in the variables friction (Tab. 1/B, p = 0.001497 < 0.05) and competitiveness (Tab. 1/B, p = 0.000067 < 0.05).

Tab.1: A) Results of the analysis of the multivariate (One-Way ANOVA) test;
B) Univariate test in MCI in the 4.C class (EG)

A	Test	Value	F	Effect	Error	p
Intercept	Wilks	0,002879	2216,486	5	32	0,000000
TEST	Wilks	0,549172	5,254	5	32	**0,001240**

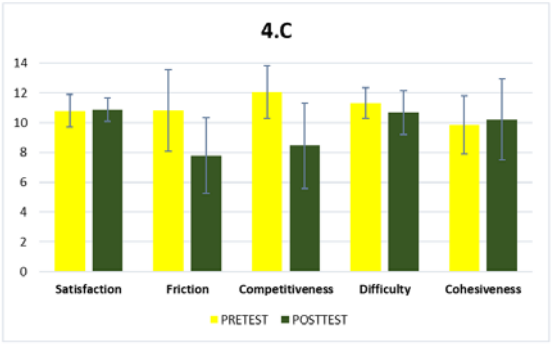
Graph 2: Comparison of variables in the MCI questionnaire in CG

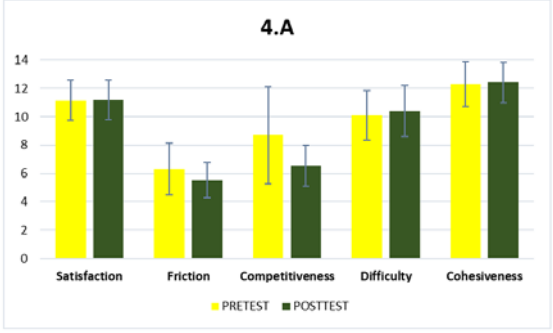


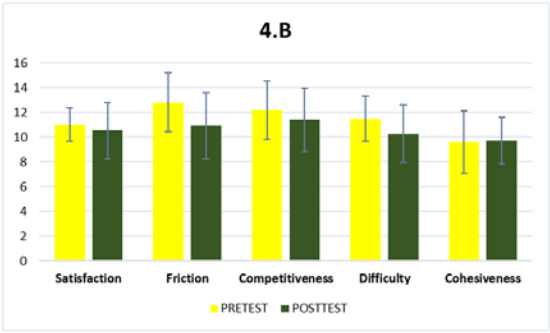
B	Degr. of	SATISFACTION				FRICTION				COMPETITIVENESS			
Intercept	1	4466,947	4466,947	4601,494	0,000000	3297,789	3297,789	440,2201	0,000000	4002,632	4002,632	668,0820	0,000000
Test	1	0,105	0,105	0,108	0,743843	88,526	88,526	11,8173	**0,001497**	121,684	121,684	20,3104	**0,000067**
Error	36	34,947	0,971			269,684	7,491			215,684	5,991		
Total	37	35,053				358,211				337,368			
		DIFFICULTY				**COHESIVENESS**							
Intercept	1	4598,000	4598,000	2660,772	0,000000	3820,026	3820,026	643,5709	0,000000				
Test	1	3,789	3,789	2,193	0,147349	1,289	1,289	0,2172	0,643958				
Error	36	62,211	1,728			213,684	5,936						
Total	37	66,000				214,974							

Statistically significant differences in the other classes were not marked. The change in the parameters of a classroom climate is illustrated graphically in EG and CG (Graph 1, 2).

Graph 1: Comparison of the variables in the MCI questionnaire in EG







We consider the more significant reduction of competitiveness in EG to be the result of the intervention. When verifying H_2 we found out statistically significant difference between the values of pre-test and post-test only in one of the observed classes in EG.

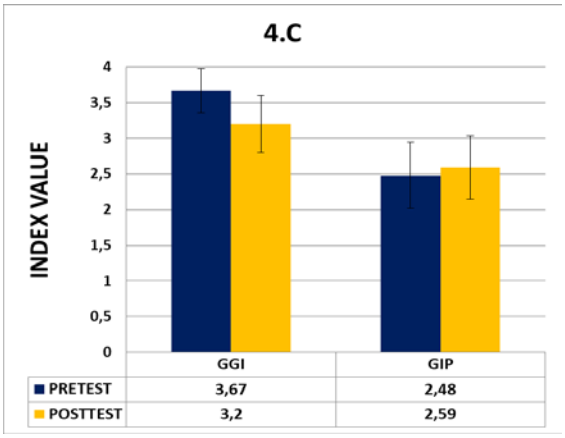
Tab.2: A) Results of the analysis of the multivariate (One-Way ANOVA) test;
B) Univariate test for the variables GII, GIP and GIS in the 4.C class of EG

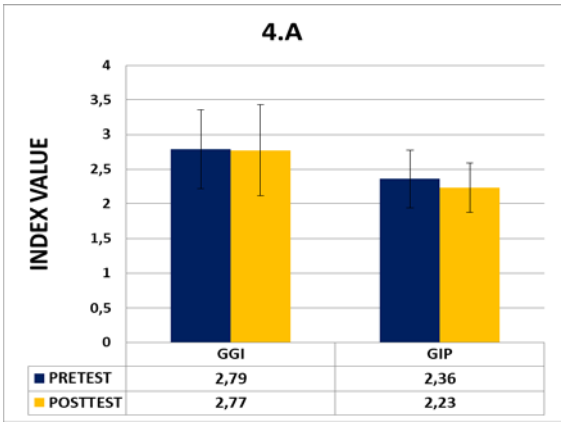
A	Test	Value	F	Effect	Error	p
Intercept	Wilks	0,009239	1215,366	3	34	0,000000
Test	Wilks	0,430436	14,997	3	34	**0,000002**

B	Degr. of	GROUP INDEX OF INFLUENCE				GROUP INDEX OF POPULARITY				GROUP INDEX OF SYMPATHY			
Intercept	1	449,3099	449,3099	3489,426	0,000000	244,7771	244,7771	1190,504	0,000000	244,7771	244,7771	496,5175	0,000000
Test	1	2,0793	2,0793	16,148	**0,000286**	0,1173	0,1173	0,570	0,455003	0,1173	0,1173	0,2379	0,628681
Error	36	4,6355	0,1288			7,4019	0,2056			17,7476	0,4930		
Total	37	6,7147				7,5192				17,8648			

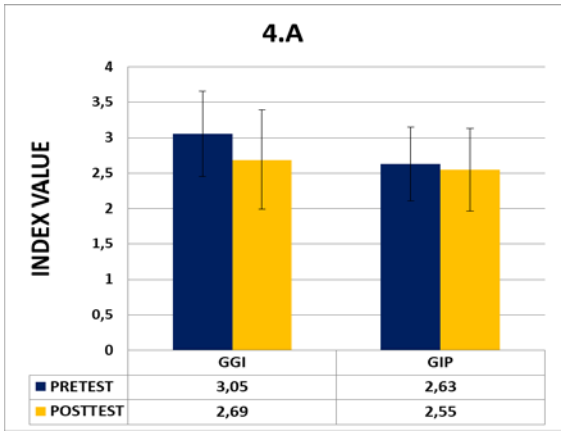
Significant reduction of GII (p = 0,000286; Tab. 2/B) indicates change of cohesion in the given classroom. Statistically significant differences between input and output values of group indices in other classes were not marked. We illustrate the change of values of individual indices graphically.

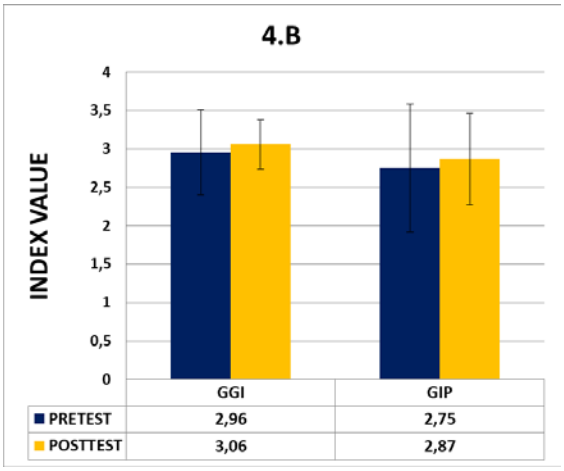
Graph 3: Comparison of input and output values of group indices of influence and popularity in EG





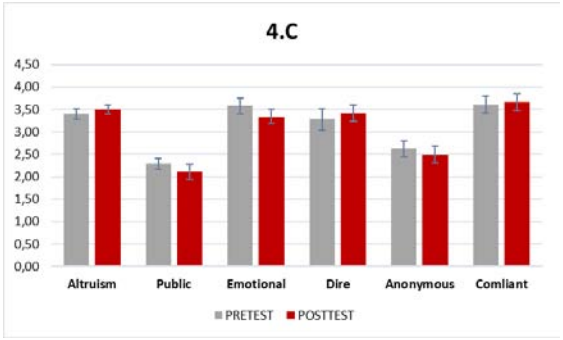
Graph 4: Comparison of input and output values of group indices of influence and popularity in CG

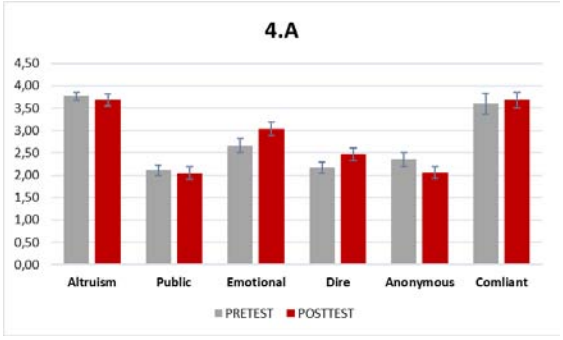




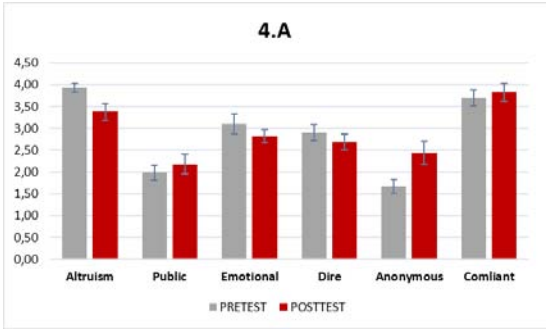
When comparing the input and output values of the PTM questionnaire we did not identify in any of the researched groups statistically significant differences in the variables altruistic prosocial behaviour, public prosocial behaviour, emotional prosocial behaviour, prosocial behaviour in a crisis, anonymous prosocial behaviour. The changes in tendencies to apply types of prosocial behaviour in individual classes of EG and CG are demonstrated in the graphs below.

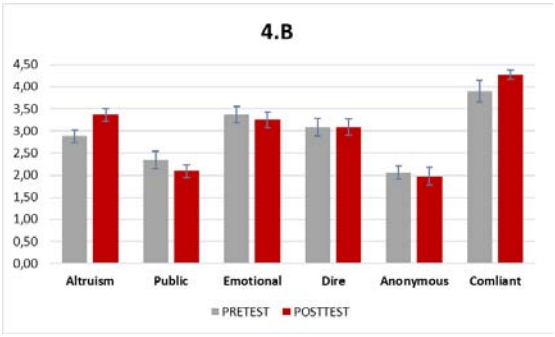
Graph 5: Overview of changes in tendencies to prosocial behaviour in EG





Graph 6: Overview of changes in tendencies to prosocial behaviour in CG





In general, it can be stated that pupils in experimental classes reached lower scores than pupils in control groups in post-test values in the tendency to apply public prosocial behaviour and higher tendencies to apply altruistic prosocial behaviour. The most significant tendencies of younger school children were proved in applying the requested prosocial behaviour. In order to prove significant differences only in the 4.C class of the EG, we worked out a correlation analysis of all the variables in order to detect the changes and identify the relationships and connections between the variables.

Tab.3: Correlation analysis of the pre-test and post-test variables in the 4.C class (EG)

			PRETEST													
			MCI					PTM-R						SO-RA-D		
			Satisfaction	Friction	Competitiveness	Difficulty	Cohesiveness	Altruism	Public	Emotional	Dire	Anonymous	Compliant	II influence	II popularity	II sympathy
POSTTEST	MCI	Satisfaction	1,000000	0,439615	0,122780	0,045740	-0,242684	-0,106215	0,194710	0,296090	0,141032	0,189161	-0,027476	0,434946	0,132052	-0,188994
		Friction	-0,069627	1,000000	0,623332	-0,225938	-0,194979	-0,158060	0,114321	-0,064294	0,001876	0,567027	-0,294923	0,023850	0,001400	-0,086475
		Competitiveness	-0,076803	0,562616	1,000000	-0,444036	0,000000	-0,038967	0,319762	-0,206712	0,007947	0,278395	-0,145055	0,099029	0,001977	-0,294977
		Difficulty	0,155071	0,035905	-0,036444	1,000000	0,120682	-0,074803	0,101560	0,328913	0,195413	0,026088	-0,029646	-0,053176	0,297569	0,247365
		Cohesiveness	-0,193530	-0,348398	-0,376693	-0,264824	1,000000	-0,223146	-0,018228	0,521727	0,273405	-0,132208	0,134890	-0,122055	-0,096648	0,027978
	PTM-R	Altruism	-0,292897	-0,278992	-0,065571	0,019998	0,387254	1,000000	-0,319289	-0,385618	-0,387680	-0,565722	-0,020381	-0,153167	-0,188900	0,221193
		Public	-0,102833	0,148741	0,055259	-0,371945	-0,068790	-0,480834	1,000000	0,069020	0,205615	0,099387	0,187014	0,244536	0,585135	-0,262401
		Emotional	0,006952	-0,046702	-0,100298	-0,211287	0,137635	-0,486355	0,392418	1,000000	0,750333	0,092601	0,447338	-0,031887	-0,100797	-0,064188
		Dire	0,193687	-0,259951	-0,235542	0,056737	0,183817	-0,228136	0,286933	0,616699	1,000000	-0,038530	0,503426	-0,242586	-0,288558	-0,369471
		Anonymous	0,137892	0,163520	0,295519	-0,018836	-0,110487	-0,537963	0,351524	0,355556	0,249443	1,000000	-0,091616	-0,050331	0,054650	0,173875
		Compliant	0,090363	-0,100513	-0,298617	0,027423	0,228233	-0,485548	0,113810	0,807355	0,677609	0,303633	1,000000	-0,107736	-0,153253	-0,088843
	SO-RA-D	II influence	-0,336224	-0,069488	-0,222206	0,247194	0,073020	0,247575	-0,214140	0,196029	-0,070608	-0,380371	0,094758	1,000000	0,629957	-0,157036
		II popularity	-0,318657	-0,110695	-0,180894	0,355503	0,025886	0,157675	-0,335425	0,052167	-0,136956	-0,319757	0,103347	0,807744	1,000000	-0,010128
		II sympathy	-0,029056	-0,062268	-0,033873	-0,004432	0,423604	0,029441	0,148388	0,433118	0,492923	0,032730	0,526731	0,206063	0,255170	1,000000

These data indicate positive correlation of individual index of popularity (IIP) with public prosocial behaviour in pre-test, while in post-test this relationship wasn't statistically significant. After the experiment there was negative correlation of altruistic prosocial behaviour with public, emotional, anonymous and requested prosocial behaviour. The variables of competitiveness and friction in the classroom positively correlated in pre-test and also after the experiment.

4 Discussion

Within verification of $H_{1,}$ when comparing the values of variables from MCI questionnaire, we identified no statistically significant difference in the experimental class 4.C in evaluation of variables friction and competitiveness in a classroom, the reduction of which we consider to be the result of implementation of cooperative learning.

Friction in a classroom points to complications in relationships among pupils, extent and frequency of tension and conflicts, fights and inappropriate social behaviour. Through intervention we achieved in the given class improvement of pupils' social skills, which according to M. Vágnerová (2019, pg. 342) contribute to dealing with controversial situations and conflicts among peers. The author (Vágnerová, M. 2019, pg. 342) claims that the way of responding to conflict situations usually corresponds with the status the pupil has within the group. In favour of cooperative learning speaks also the finding that *group index of influence*, which influences the conformity of pupils and depends on social fitness (Hrabal, V. 1987, pg. 12), reached in the 4.C class EG *statistical significance* in favour of optimization of cohesive groups.

Significant decrease of *competitiveness* was marked in the experimental classes compared to the control classes, where in one of the classes in post-test competitiveness reached the highest score (4.B). We believe that changes in the values of competitiveness in EG (significant in 4.C class) happened due to implementation of cooperative learning which through cooperation eliminated perception of competitive relationships among pupils, the amount of efforts to excel or experiencing school failures. We also hypothetically assume that the decrease in values of competitiveness in both experimental classes indicates decrease of behaviour that maximizes relative advantages of an individual over others and that positively corresponds with the motives of prosocial behaviour.

Based on the given argument we confirm the hypothesis H_1 and at the same time state that significant decrease in values of variables friction and competitiveness in a classroom most correspond with implementation of prosocial forms of behaviour – help instead of conflicts, sharing ideas and feelings instead of striving for self-assertion, sharing the learning material and cooperation instead of competitiveness, etc.

We based our verification of the hypothesis H_2 on the analysis of group structure in a classroom, which according to J. Výrost (2019, pg. 240) informs about division of power in a collective, mutual sympathies and antipathies among the group members, perceived contribution of individuals to the group life.

Significant decrease in the group index of influence in the 4.C class suggests that there appeared regulation of relationships that results from social fitness of individuals from the point of view of values and norms of the group. Cohesion, which is represented by GII, has modified in a positive direction, pressure on conformity of group members in the 4.C class decreased, which probably means that intervention through which we taught pupils to cooperate, make compromises and to use argumentation to defend their opinions while respecting the opinions of others, was successful. Our interpretations correspond with the research described by P. R. Abelson (2004), who documented that highly cohesive groups exert great pressure on members with opposite opinion to accommodate to the majority and to be conforming. Group members eventually stopped exerting pressure on the individuals with opposite opinion, but they also stopped talking to them and assigned them with the least desirable tasks. This can also mean that the pupils in the 4.C class acquired the competences to cooperate and effectively communicate, which were manifested by the courage to "revolt" over socially influential group members, or in other words, by improving the position of the pupils whose opinion had no power in the group. Our interpretations correspond with the opinion of M. Vágnerová (2019, pg. 345), who states that the position of a pupil in a group can be understood as the result of implementation of social competences with the ability to assert oneself in an acceptable way.

It is important to add and accept the fact that pupils are subject to conformity out of desire to become popular or to be accepted by the group (Verešová, M. 2007, pg. 140). We consider it to be a natural phenomenon in younger school age. At this point we would like to point out that the ***group index of popularity*** was not statistically significant in any of the observed classes, while it positively changed in the 4.A class of EG and the 4.A class of CG. Improvement in the state of emotional atmosphere in a classroom – GIP were more significant in the experimental group, which again testifies in favour of cooperative teaching strategies.

Analyses of other indices provide interesting findings resulting from the correlation analysis in the 4.C class of the EG (Tab.3). Before implementation of cooperative learning (in pre-test) there has been positive correlation of the individual index of sympathy with the public prosocial behaviour ($p = 0{,}585135$). IIO shows the rate of acceptance of a pupil by his/her classmates (Hrabal, V. 1979, pg. 59) and informs about (non-) acceptance of a pupil by the group, of social (un-) fitness from the point of view of fulfilling the values and norms of the group. The tendency to apply public prosocial behaviour refers to providing help in order to achieve approval, appreciation and respect from other pupils (Carlo, G. & Randall, B. A. 2002, pg. 32). Based on this we assume that pupils in the 4.C class were becoming popular in the collective according to the way in which they provided help, appreciation, acceptance of other pupils and how they followed the norms accepted by the group. Such conformity eventually corresponds with conventional level of morality of pupils of this age. After the experiment (in post-test) correlation between the IIP and public prosocial behaviour was not so significant. However, the results indicate that the higher the altruistic prosocial behaviour was, the lower was the public, emotional, anonymous and requested prosocial behaviour (the value p reached negative values). In this sense we believe that fixed tendencies to altruistic prosocial behaviour, the motivation of which are sympathies and internalized norms and principals, are in case of some pupils a consequence of the transfer of adoption of the desired competences (cooperation, acceptance, tolerance, decentration, effective communication, etc.) which we have tried to achieve through cooperative learning into the consciousness, experiencing and successful interpersonal behaviour. As we have marked statistically significant changes in the experimental group in the 4.C class in the group index of influence, we state that the H_2 has been confirmed.

Verification of H_3 lied in the assumption that implementation of cooperative learning in the experimental group will result in statistically significant difference between input and output values of the Prosocial Tendencies Measure questionnaire. This hypothesis was not confirmed.

One of the reasons for the absence of significant changes in motivation to prosocial behaviour of pupils of younger school age might be the fact that "opportunities and diversity of prosocial behaviour increase at the age of adolescence, partly due to formation of new interpersonal relationships, cognitive and emotional development and changes in the social context" (Carlo, G. & Hausmann, A. & Christiansen, S. et. al. 2003, pg. 108). In addition, the authors of the questionnaire themselves claim that "cooperative behaviour contains different set of skills (including wider social and communication skills) from those reflected in the specific forms of prosocial behaviour included in the questionnaire" (Carlo, G. et. al. 2010, pg. 352).

Considering the state of scientific knowledge and with regard to the fact that the largest leap in the development of prosocial behaviour was recorded between childhood and early adolescence (Eisenberg, N., 1998) we state that in order to validate the significant differences in motivation to help we should optimize the duration of intervention and implement it in the long term so that experiences from interaction in cooperative learning can be sufficiently reflected into moral consciousness, experiencing and subsequent behaviour. In addition, an expert in cooperative learning in the Czech Republic, H. Kasíková (2004, pg. 130) admits that effects of cooperative learning often show up only after a longer period.

Another way of interpretation refers to the results acquired by the means of a questionnaire. The results suggest that after the experiment pupils of both groups had strongest tendencies to behave prosocially on the basis of verbal or non-verbal request from others – *requested prosocial behaviour* (Carlo, G. & Randall, B. 2002, pg. 33). The results correspond with the findings of G. Carlo & B. Randall (2002, pg. 39), who state that these tendencies are more common for younger pupils than for adolescents and are more frequent than spontaneous help. It is a positive finding that the precondition of granting the request for help is understanding of the situation of another person, empathy and sense of social responsibility for helping others (Carlo, G. & Randall, B. 2002, pg. 39). The provided motives correspond with the stages of moral development of pupils of younger school age, which represent the transition between heteronomous and autonomous level of moral development (Kohlberg, L. 1963, pg. 14). By the means of cooperative learning we tried to develop such skills of pupils that would teach them to trust each other, listen and respect opinions of others, accept differences, take responsibility for their work and for their friends in the group, while we consider these competences to be the prerequisite for internalization of valuable prosocial values.

Higher values of tendencies to *altruistic prosocial behaviour*, the primary motives of which are sympathies and internalized norms and principles (Carlo, G. & Randall, B. 2002, pg. 32), are noticeable according to the post-test in the experimental groups. Even though more significant appearance of tendencies to altruistic prosocial behaviour in the positive direction were demonstrated in one class of the control group (the 4.B class), these values did not reach the level of pre-test values detected in the experimental groups. Quite significant tendencies to altruistic prosocial behaviour of pupils of younger school age in both

groups can be interpreted by the statement that pupils, with regard to the specifics of their developmental period, reach optimal level of moral knowledge (awareness of the rules, of the desirable values, de-centration, moral reasoning, decision making, self-awareness, etc.), which is the prerequisite of potential prosocial behaviour. However, if we compare the level of post-test values of public prosocial behaviour (lower values in the experimental group), which is according to G. Carlo et. al. (2003, pg. 111) connected with low level of prosocial moral reasoning and higher tendency to satisfy one's own needs, we may warily expect that the level of prosocial cognitive development is higher in case of pupils in the experimental group than that of pupils in the control group. We tried to influence this level by justification of advantages of cooperation in group work, establishing rules and norms of group work, targeting activities to necessity to respect opinions of others and to reach agreement, evoking feedback from classmates that affects self-awareness etc. Even though the hypothesis was not statistically confirmed, interpretation of the situation in the classes regarding prosociality of pupils suggests positive consequences of the intervention in favour of the experimental group.

5 Conclusions

By the presented research we have fulfilled our goal, which was to find out the influence of cooperative learning on prosocial behaviour of pupils of younger school age. We state that cooperative learning develops such interpersonal competences of pupils and forms such interpersonal relationships that contribute to improvement of social climate in the classroom. In the classrooms of younger school children prevailed requested prosocial behaviour, which is based on understanding of other person's situation, empathy and sense of responsibility. In groups where cooperative learning was implemented we detected higher values of tendencies to altruistic prosocial behaviour, which is connected with more mature level of moral consciousness. In these classrooms we also detected lower values in tendencies to behave prosocially in order to get social approval and increase one's own value and prestige.

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A SOCIAL CONTRACT AS A WORK TOOL FOR SOCIAL WORKERS IN POLAND - ASSUMPTIONS VERSUS REALITY

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Abstract: Social policy is an important aspect of the activities of any state because it determines the welfare of citizens. To achieve its goals, social policy has to be effective, and the solutions used in public activities should contribute to the actual improvement of the situation of citizens. In Poland, as part of social policy, many initiatives are undertaken and tools implemented, but they often do not contribute to improving the social and living conditions of citizens. This article aims to identify the effectiveness of social contracts, one of the tools used in the social assistance system. The empirical research and analysis carried out for this article show that social contracts are ineffective, which can be considered one of the manifestations of the dysfunctional solutions used in Polish social policy.

Keywords: dysfunctionality, Poland, social assistance, social contract, social policy

1 Introduction

Social policy is an extremely important aspect of the activity of every state, it is its effectiveness that determines the well-being of individuals and the entire society. To achieve its goals, social policy should first of all be effective, and the solutions used in the public activity of the state must contribute to the actual change in the position of citizens. In Poland, as part of social policy, various initiatives, programs, and tools are introduced, but the effects of these changes are often negligible and do not improve the living conditions of individuals. Hence, conducting research and analysis on the state's social policy is extremely important, and identifying signs of the dysfunctionality of this activity may be of key importance for improving the well-being of citizens of the entire country. This article fits into these assumptions.

Social policy has many definitions in the literature on the subject. For example, P. Alcock notes that the term social policy can be understood in two ways. Firstly, it means activities undertaken by politicians and decision-makers aimed at changing the legal framework to improve the welfare of individuals and society. It also means researching these decisions by politicians and decision-makers (Alcock, 2016: 7). It can be assumed that all definitions boil down to the view that contemporary social policy is designed to implement the ideas of the state that lead to the well-being of citizens. One of the key areas of social policy of each country, making a significant contribution to the empowerment and equalization of life chances for the economically and socially weakest individuals, is social assistance.

The occurrence of social problems such as the phenomenon of poverty (see Zastrov, 1988: 6), as well as support systems for those in need, is not a new phenomenon. Both of these elements of social life have always existed, but their nature and intensity, forms of assistance, and finally their location in the structure of social policy have changed over time. Based on these few reflections, one can therefore formulate a statement that also in Poland there was almost always a "social welfare system", which was more or less structured, but not always supported by the state and was often implemented through charity work or support of non-governmental organizations. (see more e.g. Pląsek, 2014; Brenk, Chaczko & Pląsek, 2018). There are many publications in the scientific circulation that describe the development and history of the Polish social assistance system (see e.g. Surdacki, 2018; Broda-Wysocki, 2010). Interested readers can therefore benefit from these publications, and there is no reason to go over these points again.

In Poland, the currently applicable social assistance system was shaped by the Act of 12 March 2004 on social assistance (Journal of Laws of 2018, item 1508, as amended), which defined its structure and tasks. The main goal of social assistance is to support people who are unable to get out of a difficult life situation using their strength and resources. This support, however, should be incidental and may not lead to their dependence on social assistance. This system should be supportive, not caring or helping (see more Rymsza, 2016), which means that a necessary feature of this system should be its effectiveness, manifested in the independence of individuals from social welfare and the use of active social welfare tools that they increase the level of participation of individuals in the helping process.

The social contract as a solution in social assistance was introduced to the Act on social assistance on March 12, 2004. The goals that were set before the social contracts were extremely ambitious. It was assumed that this tool would help: eliminate long-term dependence on social assistance; it will enable people in a difficult life situation to return to the labor market and enable better use of the forces and resources wasted so far (Kaźmierczak, 2016: 80). Currently, the provisions on the social contract are regulated by the Act of March 12, 2004, on social assistance. Article 6 (6) of the Act on Social Assistance indicates that a social contract means a written agreement concluded with a person applying for assistance, which defines the rights and obligations of the parties to the contract as part of jointly undertaken actions aimed at overcoming the difficult life situation of a person or family. Such a definition of a social contract indicates that when concluding a contract with a person benefiting from social assistance, there is active participation in the assistance process and consent as to the activities undertaken under the concluded agreement. The written form of the concluded contract is also clearly defined. Therefore, these assumptions indicate that the social contract can be classified as an active form of social assistance. Each contract should also contain legal sanctions in the event of failure to fulfill the provisions of the contract. Such legal sanctions have already been included in the Social Assistance Act itself. When specifying the regulations concerning the limitation or refusal of social assistance benefits, the legislator indicated that refusal to conclude a social contract, failure to comply with its provisions may constitute grounds for refusing to grant benefits, revoking the decision on granting benefits, or withholding cash benefits from social assistance (Act, 2004, art. 11 section 2). Thus, non-performance of the provisions of the social contract is treated as a failure to meet the agreed obligations by the beneficiary of the social assistance system. Confirmation of the provisions of the Act on limiting the voluntary nature of beneficiaries to conclude social contracts in social assistance may be the positions of Polish administrative courts (see e.g. judgment of the Supreme Administrative Court of 7 May 2015, OSK 3305/15; judgment of the Provincial Administrative Court in Kraków of 9 December 2013, III SA/Kr 424/13; judgment of the Supreme Administrative Court of 12 September 2012, OSK 623/13; judgment of the Supreme Administrative Court of 24 May 2017, OSK 489/17). In Poland, the conclusion of social contracts has been entrusted to social workers employed in social welfare centers or poviat family assistance centers. The provisions of art. 108 sec. 2 of the Act on Social Assistance indicates that to determine the method of cooperation in solving the problems of a person or family in a difficult life situation, a social worker may conclude social contracts. Contracts are concluded to strengthen life and professional activity and independence or to counteract social exclusion. This means that the contract concluded with the beneficiary of social assistance is not only intended to allow them to overcome the difficult life situation in which they find themselves, but also indirectly lead to the development of full "social independence" through social integration and professional activity. For social assistance to be effective, also its tools, such as social contracts, should be effective.

2 Materials and Methods

To analyze social contracts in Poland, in 2017 an empirical study was carried out in one of the regions of Poland, i.e. Podkarpackie Province. The first stage of the research was to survey a group of social workers working in social welfare centers in the Podkarpackie Province. The survey covered all 160 social welfare centers in the voivodeship. The author managed to obtain 420 return questionnaires, which means that 33.98% of all social workers performing their work in the Podkarpackie region (420 out of 1,236 people) participated in the empirical study.

The second stage of the empirical study was to obtain social contracts collected in social welfare centers in the Podkarpackie Province. When obtaining the existing materials and selecting the research sample, a random stratified selection was used, which consists of dividing the entire general population into the so-called layer and making direct sampling of independent samples within each layer. Three layers were created, distinguished according to the type of commune in which social contracts were concluded (urban communes, urban-rural communes, and rural communes), the minimum sample size was estimated using the formula for the sample size for a finite population, and then a random selection was made in proportion to the size of the layers. Ultimately, during the field research, 516 social contracts were obtained from social welfare centers in the region (n = 516, including 215 contracts from rural municipalities, 223 contracts from urban-rural municipalities, and 78 contracts from municipal municipalities). That is, 18.35% of all social contracts concluded in 2015 in the Podkarpackie Voivodeship were covered, and the value of the estimation error will not exceed 4%. The collected material was subjected to qualitative and quantitative analysis. The Statistica 12.0 program was used for statistical analysis. The qualitative empirical material was analyzed following the assumptions of the grounded theory (see Charmaz, 2006; Konecki, 2000; Konecki, 2009; Denzin, 2009). For scientific research, the main research hypothesis was also formulated, which was contained in the statement that social contracts in the Podkarpackie Voivodeship are most often concluded when attempts are made to activate people using the support of the social welfare system.

3 Results and discussion

One of the goals of the empirical study was to determine the type of commune in which the analyzed social contracts were concluded. 215 social contracts (i.e. 41.7% of the total) were concluded in social welfare centers located in rural communes, 223 contracts (i.e. 43.2% of the total) were concluded in centers located in urban-rural communes, and 78 contracts (i.e. 15.1%) were included in centers located in cities.

From the point of view of the analysis of social contracts, it was important to determine the subject of the social contract, i.e. the reason that made social contracts concluded with people benefiting from social assistance in the region.

Tab. 1: Reasons for concluding social contracts with people benefiting from the support of the social assistance system in the Podkarpackie Voivodeship

The subject of the social contract	N	%*
unemployment / professional activation	502	97.3%
participation of the social welfare center in projects financed from external funds	247	47.9%
disability	99	19.2%
improvement of the living situation	96	18.6%
supplementing professional qualifications by people using the social welfare system	76	14.7%
counteracting social exclusion	73	14.1%
addiction	57	11.0%
improvement of housing conditions	22	4.3%
social activation	20	3.9%
getting out of a difficult life situation	18	3.5%
improving the health situation	10	1.9%
obtaining cash benefits	7	1.4%
rebuilding family ties	6	1.2%
helplessness in care and educational matters	5	1.0%
another	7	1.4%

Note: *interest does not add up to 100% as the social contract could be concluded for several reasons

Source: Own study based on the conducted research.

In the Podkarpackie Voivodeship, social contracts were most often concluded due to the lack of work for people benefiting from the support of the social welfare center or due to attempts to activate these people in the labor market. In the region, as much as 97.3% of all analyzed social contracts (ie 502 contracts) were concluded precisely for this reason. A significant part of social contracts were concluded also due to the participation of social welfare centers in various types of projects financed from external sources (247 contracts, i.e. 47.9% of indications).

Box 1: Examples of reasons for concluding social contracts among respondents

"A family of 4, a married couple, they raise two sons aged 6 and 4. The reasons for the difficult situation of the family are: Mr. Piotr's long-term unemployment, lack of professional qualifications, poverty caused by unemployment, conflict with the law (stay in arrest)"(Social contract No. 7)

"Ms. XYZ is a long-term unemployed person, registered in the District Employment Agency in Krosno. The above-mentioned is married, but for many years she has been informally separated from her husband, who is staying at the Homeless Shelter in Warsaw. They are not in contact with each other. The reasons for the difficult life situation are: lack of knowledge about the possibilities of forms of assistance, low activity, fear of changing the lifestyle, lack of work and income" (Social Contract No. 2)

Source: Own study based on the conducted research.

The conducted empirical research also allowed to determine the duration of the contract - welfare tents in Podkarpacie. In the Podkarpackie voivodship, short-term social contracts were concluded most often in social welfare centers, the duration of which did not exceed 6 months. In 2015, 337 such contracts were concluded in the region (i.e. 65.3% of the total).

An analysis was carried out to check whether the type of commune influences the duration of concluded social contracts.

Tab. 2: Correlation analysis using the chi-square*** test for the variables: duration of the social contract and the type of commune

Duration of the social contract	Community						Together
	rural		urban-rural		urban		
	N	%	N	%	N	%	
up to 6 months	181	84.19%	84	37.67%	72	92.31%	337
over 6 months*	34	15.81%	139	62.33%	6	7.69%	179
Overall	215	100%	223	100%	78	100%	516
Chi-square test results**	$\chi^2 = 134.1126$; df = 2; p = 0.0000[A]; Cramer's V = 0.5098119						

Note: *in the category of the duration of the social contract over 6 months, 4 contracts were also included (i.e. 0.8% of all researched contracts), which lasted 13-18 months
**statistically significant results (p <0.05) are marked [A], and results close to the limit of significance are marked [B].
***meaning of symbols used in the tables: Pearson's chi2 = symbol χ^2 - the value of the chi-square test statistics; df-number of degrees of freedom; p-test probability; Cramer's V -measure of the strength of an effect (strength of a relationship).

Source: Own study using Statistica 12.0.

The results show that short-term social contracts (up to 6 months) were most often concluded in the region. Short-term contracts accounted for 84.19% of all contracts concluded in rural communes and 92.31% of contracts concluded in municipal communes. Only in urban-rural communes contracts whose duration exceeded 6 months dominated. The chi-square test analysis showed a statistically significant relationship (p = 0.0000) between the type of commune and the duration of the social contract. The value of the V coefficient indicates a strong relationship (Cramer's V = 0.5098).

An analysis was also carried out to check whether the duration of the social contract depends on the cause of the difficult life situation in which the person covered by this form of support finds themself.

Tab. 3: Correlation analysis using the chi-square test** for the variables: the cause of the difficult life situation of the person covered by the social contract and the duration of the social contract

The cause of the difficult life situation of a person covered by support in the form of a social contract	Duration of the social contract				Together	χ^2	p*	Cramer's V
	up to 6 months		over 6 months					
	N	***% ******	***N***	***% ******				
lack of work	328	97.33%	175	97.77%	503	0.090483	0.76356	0.0132
lack of professional qualifications	88	26.11%	65	36.31%	153	5,830993	0.01575[A]	0.1057
addiction	48	14.24%	3	1.68 %	51	20.729870	0.00001[A]	0.1965
disability, long-term illness, poor health	103	30.56%	36	20.11%	139	6.489045	0.01085[A]	0.1114
no income (including very low income)	319	94.66%	177	98.88%	496	5.598270	0.01798[A]	0.1035
problems related to care and educational matters	7	2.08%	0	0.00 %	7	3.769234	0.05220[B]	0.0851
life helplessness (including improper management of financial resources, neglect of the condition of the apartment)	60	17.80%	12	6.70 %	72	11.997260	0.00053[A]	0.1507
low self-esteem (low self-esteem)	26	7.72%	2	1.12 %	28	9.916424	0.00164[A]	0.1373
inappropriate relationships in the family (including domestic violence, marital conflicts)	26	7.72%	2	1.12 %	28	9.916424	0.00164[A]	0.1373
incomplete family (single parenting)	6	1.78%	10	5.59 %	16	5.636640	0.01759[A]	0.1039

Note: *statistically significant results (p <0.05) are marked [A], and results close to the limit of significance are marked [B].
**meaning of symbols used in the tables: as for tab. 2
***interest does not add up to 100% because the social contract could be concluded for several reasons (multiple choice question)
Source: Own study using Statistica 12.0.

The results show that the reasons for the difficult life situation of people for whom short-term (up to 6 months) and medium-term (over 6 months) social contracts were concluded were similar, i.e. the reasons for unemployment and lack of income prevailed. If the difficult life situation of a social assistance client was caused by addiction, disability or poor health, care and educational problems, life helplessness, low self-esteem, or improper family relationships, social contracts were concluded for up to 6 months. On the other hand, when the cause of the difficult life situation of the person benefiting from social assistance was the lack of professional qualifications or single parenthood (incomplete family), social contracts lasting more than 6 months were concluded more often. The results of a series of chi-square tests revealed that, except for one reason, i.e. joblessness, in all other causes of a difficult life situation, there was a statistically significant correlation between the reason for a person's difficult life situation and the duration of social contact. It should be noted, however, that the strength of the effect as measured by the Cramer's V coefficient indicates a weak relationship, the highest value (only V = 0.19) was obtained for the cause of a difficult life situation related to addictions.

The conducted empirical research showed that in Podkarpacie, social contracts they were concluded with women (54.3% of the total) than with men (45.7% of the total).

During the analysis, it was also checked whether the sex of the person covered by the social contract influences the performance of the contract under its provisions.

Tab. 4: Correlation analysis using the chi-square test** for the variables: was the social contract implemented as agreed and gender

Whether the social contract was implemented as agreed	sex				Together
	woman		man		
	N	%	N	%	
Yes	252	90.00	221	93.64	473
No	28	10.00	15	6.36	43
Overall	280	100.00	236	100.00	516
Chi-square test results*	χ^2 = 2.226194; df = 1; p = 0.13569; Cramer's V = 0.0655423				

Note: *statistically significant results (p <0.05) are marked [A], and results close to the limit of significance are marked [B].
**meaning of symbols used in the tables: as for tab. 2
Source: Own study using Statistica 12.0.

The conducted analysis showed that, regardless of gender, social contracts in the region were implemented as agreed. The analysis of the percentage distributions showed that at least 90% of all contracts in the voivodship were implemented as agreed. However, the chi-square test analysis did not show the existence of a statistically significant probability between the sex of the person covered by the social contract and whether the contract was performed as agreed (p = 0.13569).

In the course of the analysis, it was possible to identify the factors that led to the difficult life situation of people from the Podkarpacie region and forced them to use the social assistance system.

Tab. 5: Reasons for the difficult life situation of people supported in the form of a social contract in the Podkarpackie Province

The cause of the difficult life situation of the person covered by the support in the form of a social contract	N	%*
lack of work	503	97.5%
no income (including very low income)	496	96.1%
lack of professional qualifications	153	29.7%
disability, long-term illness, poor health	139	26.9%
life helplessness (including improper management of funds, neglecting the condition of the dwelling)	72	14.0%
addiction	51	9.9%
low self-esteem (low self-esteem)	28	5.4%
inappropriate relationships in the family (including domestic violence, marital conflicts)	28	5.4%
incomplete family (single parenting)	16	3.1%
problems related to the care and educational matters	7	1.4%
other problems	13	2.5%

Note: *the interest does not add up to 100% because the difficult situation of people covered by the social contract could have had several reasons
Source: Own study based on the conducted research.

The most common cause of the difficult life situation of people supported in the form of a social contract was the lack of work, as much as 97.5% (i.e. 503 contracts) of the contracts concluded related to a situation in which people did not work professionally. The lack of a job was closely related to the lack of income. Almost all persons with whom social contracts were concluded did not have sources of income, or their income was very low. In many cases, people with whom social contracts were concluded also did not have professional qualifications that would allow them to perform work on the labor market (153 contracts, i.e. 29.7%) or were disabled (139 contracts, i.e. 26.9%).

Persons supported in the form of social contracts undertook to undertake specific actions leading to the achievement of the main goals of the contracts. In turn, achieving the main goals of

the concluded contract was to allow the beneficiaries of the social assistance system to overcome the difficult life situation in which they found themselves. In return for fulfilling the provisions of the social contract and carrying out specific activities, persons covered by this type of assistance received financial or non-cash support from social welfare centers. The analysis of the social contracts collected in the analyzed region made it possible to identify all these factors.

The conducted research made it possible to determine the main goals that were to be achieved by people covered by social contracts in the Podkarpackie Province.

Tab. 6: Main goals that were to be achieved by people covered by social contracts in Podkarpacie

Main goals that were to be achieved by people covered by social contracts	N	%*
taking up a job / or actively looking for a job	355	68.8%
obtaining financial independence	193	37.4%
proper functioning of the family (including extinguishing conflicts, building proper relationships in the family)	41	7.9%
obtaining a certificate of the degree of disability	30	5.8%
improving your health situation	17	3.3%
carrying out renovation, repairs in the household	15	2.9%
abstaining from addiction	14	2.7%
another	6	1.2%

Note: *the interest does not add up to 100% because the person could have several main goals in the concluded social contract
Source: Own study based on the conducted research.

Social contracts were most often concluded so that people benefiting from the support of the social assistance system would take up work or actively seek work - 68.8% of the contracts concluded, ie 355 people. In the region, it was also important from the point of view of concluded contracts to bring people using the social assistance system to obtain financial independence - 37.4% of contracts concluded (193 people).

Persons covered by support in the form of a social contract, to achieve the main goals of the contract, were obliged to undertake specific actions stipulated in the contract.

Tab. 7: Actions are taken by people covered by the social contract in Podkarpacie

Actions are taken by a person covered by a social contract	N	%*
supplementing professional qualifications (including retraining)	282	54.7%
active job search (including registration at the employment office)	281	54.5%
systematic treatment / treatment	58	11.2%
obtaining a certificate of the degree of disability	55	10.7%
taking action to obtain cash benefits (including, for example, an application for alimony)	49	9.5%
refraining from addiction	26	5.0%
improving the functioning of the family (including mitigating conflicts)	18	3.5%
repair / renovation of a dwelling	16	3.1%
purchase of necessary products/goods for household needs	13	2.5%
preparation of necessary documents, e.g. ID card	6	1.2%
another	6	1.2%

Note: *the interest does not add up to 100% because the person could undertake several activities under the concluded social contract
Source: Own study based on the conducted research.

The activities are most often undertaken in the field of concluded social contracts included supplementing professional qualifications (including retraining) - 282 people, i.e. 54.7% and active job search (including registration at the labor office to obtain the status of an unemployed person) - 281 people, i.e. 54.4%.

Fulfilling the provisions of the social contract by people covered by this type of support allowed them to obtain various forms of help from a social welfare center.

Tab. 8: Assistance obtained by persons under the concluded social contract

Assistance obtained by persons under a social contract:	N	%*
financial support	425	82.4%
material assistance	40	7.8%
organizational assistance	45	8.7%
social work	134	26.0%

Note: *the interest does not add up to 100% because the person could obtain several forms of assistance under the concluded social contract
Source: Own study based on the conducted research.

In the analyzed region, people covered by social contracts from social welfare centers received mainly assistance in the form of cash benefits. The analysis of the collected social contracts shows that as many as 425 people (82.4% of concluded contracts) in a difficult life situation received cash benefits as support. The second most common type of support was social work (134 people, ie 26% of concluded contracts).

To evaluate the activities set out in the social contracts, it was checked whether the contracts were implemented under the arrangements or whether they required taking additional actions and making changes.

Tab. 9: Implementation of social contracts as agreed in the Podkarpackie Province

Whether the social contract was implemented as agreed			Is a social contract required changes and action?		
Findings	N	%	Findings	N	%
YES	473	91.7%	YES	33	6.4%
NO	43	8.3%	NO	483	93.6%
Together	516	100.0%	Together	516	100.0%

Source: Own study based on the conducted research.

The collected data indicates that almost all social contracts in the region (i.e. 473 contracts - 91.7% of the total) were implemented as agreed. Only in 43 cases (i.e. 8.3% of the total) contracts were not performed under the contract concluded by social workers. Moreover, almost all the contracts performed in the analyzed voivodship did not require any actions or introducing changes.

During the research, an attempt was also made to assess whether the activities included in social contracts have been fully implemented.

Tab. 10: Implementation of activities specified in the surveyed social contracts

The activities stipulated in the social contract have been implemented	N	%
Yes	493	95.5%
No	23	4.5%
TOTAL	516	100.0%

Source: Own study based on the conducted research.

The review of social contracts obtained from social welfare centers in the Podkarpackie voivodship shows that in almost all contracts the agreed measures were implemented (493 contracts, i.e. 95.5% of the total). Only in 23 cases (4.5% of the total) the measures provided for in the contract could not be fully implemented.

One of the main goals of the research was to determine whether social contracts effectively contribute to the improvement of the life situation and the development of full "self-social independence" of social welfare beneficiaries through their social integration and professional activity. During the analysis, it was checked whether the social contracts in the region contributed to a full or only partial change in the life situation of the beneficiaries of the social assistance system. The complete change of the situation of the person covered by the social contract meant an improvement in the life situation and the achievement of full "social independence". The implementation of the social contract meant that the person covered by it could independently function in society and on the labor market, and did not have to use the support of the social assistance system.

Tab. 11: The impact of social contracts on changing the difficult situation of people benefiting from the support of the social assistance system in the Podkarpackie Voivodeship

Achieving the goal of the social contract led to a change in the difficult life situation of a person	N	%
YES - full change	165	32.0%
NO - partial change	351	68.0%
TOTAL	516	100.0%

Source: Own study based on the conducted research.

In most cases, in the case of people with whom social contracts were concluded, the implementation of tasks provided for in the contract only led to a partial change in a difficult life situation, which means that they did not achieve full "social independence". Despite the implementation of the social contract, these people were not able to function independently in society and on the labor market and still had to use the support of the social assistance system (351 people, ie 68% of the total). Only in 165 people (32% of the total) the social contract led to a complete change in the difficult life situation and the achievement of full social independence, and thus to social integration and professional activity.
To explain the reasons for concluding social contracts in social welfare centers in the Podkarpackie Voivodeship, an analysis of the correlation seniority of social workers and the reason for concluding a social contract.

Tab. 12: Correlation analysis using the chi-square test** for the variables: the reason for concluding social contracts and the seniority of the surveyed social workers

Reasons for entering into contracts	work experience up to 10 years		work experience 11-20 years		over 20 years		Together	χ^2	p*	Cramer's V
	N	% ***	N	% ***	N	% ***				
addiction	61	34.27 %	24	27.91 %	48	30.77 %	133	1.17 72	0.55 51	0.053
homelessness	17	9.55%	8	9.30 %	11	7.05 %	36	0.73 64	0.69 20	0.042
Violence in the family	6	3.37%	2	2.33 %	9	5.77 %	17	2.05 71	0.35 75	0.069
unemployment / professional activation	16 3	91.57 %	81	94.19 %	136	90.48 %	380	3.58 97	0.16 61	0.092
disability	28	15.73 %	10	11.63 %	thirty	19.23 %	68	2.40 98	0.29 97	0.075
helplessness in care and educational matters	37	20.79 %	18	20.93 %	39	25.00 %	94	0.98 06	0.61 24	0.048

Note: *the statistically significant results (p <0.05) are marked [A], and results close to the limit of significance are marked [B].
**meaning of symbols used in the tables: as for tab. 2
***the percentages do not add up to 100% as the question was a multiple choice question.
Source: Own study using Statistica 12.0.

To illustrate whether the length of service of social workers who conclude social contracts affects the reasons for concluding contracts, an analysis was carried out using the chi-square test. The results show that the reasons for concluding social contracts are similar, regardless of the length of service of the social worker who used this tool in their work. The results of a series of chi-square tests showed that there is no statistically significant (p <0.05) relationship between the length of service of a social worker and the reasons for concluding social contracts in social welfare centers in the Podkarpackie Province.

It was important during the research to also identify reasons for breaking social contracts in social welfare centers in the region. Most of the surveyed social workers stated that social contracts were not broken in their centers. Such an answer was given by 227 people (54% of respondents), and 182 people (43.3%) stated that in their commune the agreement concluded in the form of a social contract with people using the social assistance system was broken. It can be assumed that the main reasons for terminating social contracts in the region are: lack of cooperation with the client or failure to comply with the provisions of the contract, and undertaking professional work or going abroad by persons who are parties to the contract.

One of the objectives of the survey was to determine the experience of social workers from the Podkarpackie Voivodeship in concluding social contracts. During the survey, social workers were asked how often in their everyday work they choose the social contract method in working with the client, how many in the form of contracts they concluded in the last 7 years (2010-2017), and when they first used the social contract tool in their professional work.

Almost all respondents, i.e. 415 people (98.8% of the total), indicated that they choose the social contract method sporadically when working with clients, which means that they conclude up to 11 social contracts a year.

Tab. 13: Number of social contracts concluded by surveyed social workers during the year

How often do you choose the method of the social contract when working with the client	N	%
sporadically (up to 11 a year)	415	98.8%
quite often (12-19 a year)	4	1.0%
often (20 and more per year)	1	0.2%
TOTAL	420	100.0%

Source: Own study based on the conducted research.

Only one individual indicated that they choose a social contract quite often (4 people indicated that they conclude 12-19 social contracts annually, which is 1.0% of the total). This means that social workers in the region only sporadically use social contracts in their daily work.

During the survey, social workers were asked whether the possibilities of actual enforcement of the provisions of the social contract were limited.

Tab. 14: Opinions of social workers on the possibility of actual enforcement of the provisions of social contracts

Do you think the possibilities of actual enforcement of the provisions of the social contract are limited?	N	%
Yes	303	72.1%
No	106	25.2%
Hard to say	11	2.6%
TOTAL	420	100.0%

Source: Own study based on the conducted research.

The answers of the respondents indicate that the majority of them believe that the possibilities of actual enforcement of the provisions of the social contract are limited, such an answer was given by as many as 303 surveyed social workers (ie 72.1% of the total). Thus, the analysis of the statements of the surveyed social workers leads to the disturbing conclusion that social

workers, even though in their daily work they use a tool such as a social contract, most consider that the current legal regulations limit the possibilities of actual enforcement of the provisions contained in the social contract. Most often, social workers indicated that the enforcement of the provisions of the social contract was limited because a person in a difficult life situation could not be refused help.

Because some of the surveyed social workers signaled that the limitations in the possibility of enforcing the provisions of the social contract are because a person in a difficult life situation cannot be refused help, the respondents were asked whether they had encountered a refusal to assist a client at their workplace, if they do not comply with the provisions contained in the social contract.

Tab. 15: Refusal to assist a client of a social welfare center in the event of failure to comply with the provisions of the social contract, in the opinion of the surveyed social workers

Have you ever encountered a refusal to help a client in your workplace in the event of when he fails to comply with the provisions contained therein in a social contract?	N	%
Yes	30	7.1%
No	390	92.9%
TOTAL	420	100.0%

Source: Own study based on the conducted research.

Almost all respondents (390 people, i.e. 92.9% of the total) indicated that in their workplace they had not encountered a refusal to assist a person who did not comply with the provisions contained in the social contract.

One of the elements of the evaluation of the effectiveness of the tool, which is the social contract, is whether the persons covered by this type of support continue to use the social assistance system after the end of the contract.

Tab. 16: Using the social assistance system after the end of the social contract by persons in the opinion of the respondents

According to your knowledge, do people covered by this support still benefit after the end of the social contract from the social assistance system?	N	%
Yes	392	93.3%
No	8	1.9%
I do not know	20	4.8%
TOTAL	420	100.0%

Source: Own study based on the conducted research.

The results obtained during the study seem to be disturbing, as 392 social workers (i.e. 93.3% of the total) indicated that after the end of the social contract, people covered by this type of support continued to benefit from the social assistance system.

People who received support in the form of social contracts were also asked what form of assistance.

Table 17. Forms of support from the social assistance system which are used by people after the end of the social contract

What forms of help are used by people who were covered by a social contract (N = 392)	N	%*
financial support	354	90.3%
material assistance	74	18.9%
food aid	73	18.6%
social work	60	15.3%

Note: *the percentages do not add up to 100% because the question was a multiple choice question

Source: Own study based on the conducted research.

People who were supported in the form of a social contract and still use the assistance of a social welfare center receive mainly cash benefits (354 responses, i.e. 90.3%).

Over 60% of all surveyed social workers (254 people) negatively assessed the effectiveness of the social contract as a method of work in social assistance. The contracts were assessed positively by 115 employees (i.e. 27.4% of the total).

Conducted scientific research allowed to obtain new information on the effectiveness of social contracts in Poland, which constitute an important supplement to the existing scientific research. The audit of the Supreme Audit Office (NIK) carried out in 2013 in Poland indicated that the effectiveness of social contracts - measured by the level of independence of social assistance beneficiaries was low (NIK, 2013: 9). Similar conclusions were also received by R. Szarfenberg, who in 2006 established that the opinions of social workers (N = 104) about social contracts in Poland are rather negative (Szarfenberg, 2007: 13). Also A. Golczyńska-Grondas and A. Kretek-Kamińska, after surveying social workers in Lodz in 2006-2007 (N = 213), stated that as much as 80% of all surveyed social workers were sceptical about the possibility of achieving better work results thanks to the use of social contracts in social assistance (Golczyńska-Grondas, Kretek-Kamińska, 2009: 156). Slightly different results were obtained by M. Mikołajczyk, who covered 16 social welfare centers in the area of Warsaw and studied 64 social workers. The author pointed out that the great advantage of the social contract is motivating clients to take action to change their difficult life situations (Mikołajczyk, 2017: 102-112).

Empirical research carried out in the Podkarpackie region, confirmed some of the research conducted so far on the effectiveness of social contracts in Poland and strengthened the voice in the discussion about the ineffectiveness of this tool in the Polish social assistance system.

4 Conclusion

One of the elements of the country's social policy is the social assistance system. Its task is to support people and families in difficult life situations in regaining social independence. The current social assistance should be focused on strengthening and making its beneficiaries independent. This leads to the conclusion that the use of social assistance should be incidental, and the success of the assistance system is that people become independent and stop using social assistance. For the efficient functioning of the social assistance system, however, tools are needed that will make it possible to provide support to those in need. According to the assumptions, these tools should be active, i.e. not limited to financial transfers, but also involve individuals in the aid process and make them independent. Such assumptions in Poland have been assigned to the social contracts, which are the subject of the conducted analysis.

The empirical research aimed to analyze the effectiveness of social contracts. During the study, it was possible to establish the circumstances and reasons for concluding social contracts in the Podkarpackie Province (south-eastern part of Poland). In the Podkarpackie Voivodeship, social contracts were most often concluded due to the lack of work of people benefiting from the support of social welfare centers and they were short-term (up to 6 months).

Social contracts in Podkarpacie usually led to the improvement of a difficult financial situation by paying benefits in the form of cash to the needy, or increasing professional qualifications, and improving the professional activity of the beneficiaries of the social assistance system. However, even this kind of change, despite the full implementation of contractual tasks, did not make people using the help of social welfare centers take up employment on the labor market and become independent from the support of the social assistance system. It should therefore be concluded that the social contracts concluded in the Podkarpackie Voivodeship did not contribute effectively to the improvement of the life situation and the development of full

"social independence" of the beneficiaries of social assistance through their social integration and professional activity. Undoubtedly, professional activation, fuller social integration, and the cessation of using the support of a social welfare center can be considered a manifestation of full independence of recipients of social assistance benefits. During the research, it was found that almost all surveyed social workers indicated that after the end of the social contract, people covered by this form of support continued to benefit from the support of the social assistance system (93.3% of responses in general) and receive mainly cash benefits. Hence, it indicates that the tool of social contracts is ineffective and in no way contributes to achieving full independence of people who received support in this form from a social welfare center. The ineffectiveness of this tool can be considered one of the symptoms of dysfunctional solutions used in Polish social policy. The conducted empirical research allows to confirm the main hypothesis of this text and indicate the discrepancy between the goals that were set for social contracts at the time of their introduction to the social assistance system, and the effects of using these tools in Poland. It is disturbing that despite voices about the dysfunction of this tool in the Polish social assistance system, the state does not change the assumptions and structure of social contracts.

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ECONOMIC VALUE ADDED INDICATOR FOR LEADING FIRMS IN SLOVAKIAN AUTOMOTIVE

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Abstract: The article deals with the modern financial performance indicator EVA of the three leading companies in the automotive industry in Slovakia: Volkswagen Slovakia, Kia Motors Slovakia, PCA Slovakia. Based on the previous studies conducted by various authors, no company in Slovakia paid sufficient attention to the modern EVA indicator. Therefore, the paper aims to calculate the Economic Value Added as a tool to increase the effectiveness of financial performance management in selected companies for 2019. Following this study, it can be said that although the calculation of the modern EVA indicator is more complex, companies should pay sufficient attention to it, as it is a management tool used to value the company and also takes into account value creation for owners. Based on the calculation, we found that all of the three main companies achieved positive values of this modern indicator. Based on this, we conclude that the companies produce value from the funds invested in them. It is important to note that these companies are foreign companies that have decided to invest in the automotive industry in Slovakia.

Keywords: Financial analysis; Financial performance; Modern indicators of financial performance; Economic Value Added.

1 Introduction

Today's rapidly changing times are forcing companies to move forward, modernise individual processes and activities. One of the competitive advantages for companies in the current global environment is to increase financial performance and efficiency. The goal of business entities is to maximise market value or profit, and therefore if any company wants to achieve a positive financial result, it is necessary to pay a high degree of attention to financial performance management. It is crucial to deal with the analysis, development, and monitoring of performance in terms of its effectiveness, while the company's effective management is conditioned by current and relevant information. In recent years, there have been global changes, which also affect financial performance, financial indicators and evaluation. Companies thus face a large number of decisions aimed at maintaining a solid position in the market. Businesses are gradually moving from standard indicators and models of financial performance based on accounting profit to modern indicators and models based on the company's economic profit or market value.

The automotive industry has a strong tradition in Slovakia and has become the most critical industry and driving force of the Slovak economy. Over the last 20 years, it has been an essential source of foreign direct investment. Here are some reasons why these companies decided to invest in Slovakia: Political and economic stability, CEE leader in labour productivity, Cost-effective, skilled and educated labour force, Developed and constantly growing research and development centre and innovation network, Attractive investment incentives for the automotive industry, Well -developed infrastructure.

2 Literature review

When searching the Web of Science database, the word "Economic Value Added" has been recorded since 1993, which roughly corresponds to the first mention of EVA in the publication of Stern Stewart in 1991 and its addition in 1994. The numbers clearly show a gradual increase in the publication output in this database, especially in areas such as Management, Economics and Business.

The first mention of EVA can be found in Stewart (1991). According to Stewart, EVA is a measure of a company's performance that has been developed to motivate managers to increase shareholder value. Stewart (1994) also adds that the company believes that EVA is more persuasive than other performance indicators in driving stock prices, creating wealth and interpreting changes in shareholder wealth.

The author Brealey (2015) convinces that EVA measures mean "How many dollars a business is earning after deducting the cost of capital". In other words, the more assets a manager has to work with, the more excellent the opportunity to generate enormous EVA.

Based on O'Byrne (2016), a significant consideration in the application of EVA is the adjustment of a large number of accounting variables. However, EVA is widely used in different studies and can be applied in various areas like industry, education, tourism, IT, and others. EVA is a measure of operating performance as it balances the secondary measures (also known as value drivers) to maximise company value, and it is based on the basic rule that a company must produce, at least, as much as the return on investment. As McLaren (2005) mentioned, these capital costs (or the required rate of return) relate to both equity and debt. Just as creditors are entitled to the payment of their interest, shareholders are required to pay an adequate rate of return on invested capital to offset their risk.

According to Awan et al. (2014), EVA is a performance measure that intends to express the effective value creation in a firm, besides being one of the most efficient criteria for quantitative assessment of stock returns. There is a weak, positive correlation between EVA and returns, though the degree of association between ROA and returns has turned out to be stronger. Santos et al. (2018) claimed that the regression models showed that EVA & ROA are positive and significant regressors for our stock sample.

Deeswat (2010) said that net profit margin, return on assets, and return on equity relates to a company's stock price significantly, and through stock price, investors can observe how effective the company is. Nowadays, modern financial indicators such as EVA follow value-based management goals. Kyriazis & Anastassis (2007) showed that EVA, even though helpful as a performance evaluation tool, need not necessarily be more correlated with shareholder's value than established accounting variables. Rowland (2016) decomposed EVA equity, which is viewed as the strategical goal of a company, into partial indicators that can be incorporated into a company's tactical plan in the form of operative plan indicators.

Behera (2020) assumes that this method compares company-specific earnings with required earnings or regular market earnings. According to a suggestion by Stewart in 1991, an adjustment to one identical factor of EVA may cause an imbalance in the comparative ability of earnings and regular market earnings, which can reduce accuracy. It is necessary to calculate the cost of capital and adjustments to the accounting profit in such a manner that year-to-year comparison measures the performance. For accurate EVA calculation, accounting earnings should be considered instead of adjusted operating earnings because accounting earnings explain the equity return and market value of equity better than adjusted net operational earnings. EVA is a method by which shareholders measure a company's profit after paying alternative costs of capital. The purpose of the application is critical when using the method and its calculation. Even the availability of data and the way of determining the cost of capital is an important aspect. It also depends on whether the goal is to determine an absolute or a relative value.

Claessens & Yurtoglu (2013) said that better corporate governance benefits firms through greater access to financing, lower cost of capital, better performance, higher competitiveness and more favourable treatment of all stakeholders. The following findings show how better corporate governance increases financial positions and also competitiveness:

1. Khan et al. (2013) examined the relationship between corporate governance and the extent of corporate social responsibility (CSR). Their results suggest that although CSR disclosures generally have a negative association with managerial ownership, such a relationship becomes significant and positive for export-oriented industries.
2. Liu et al. (2017) believe that the media can play a role in corporate governance by influencing the value of CEOs' human capital.
3. Kalodimos (2017) found that the effect of internal governance on performance is potentially economically significant and, as such, increases competitiveness. However, it might be difficult to identify.
4. Gompers et al. (2003) claim that firms with stronger shareholder rights have higher firm value growth and lower capital expenditures and, therefore, have much higher competitive sustainability.
5. Brealey (2015) in his book provide a more practical view on shareholder value and state that "shareholder value depends on good investment decisions" and "on good financing decisions".
6. Rieg (2015) said that shareholder value could be an excellent management approach if it is used to its advantage, not as the sole indicator of value add. If not used properly, it may lead to short-term optimisation of cash flows to boost shareholder value while harming long-term investments.

Corporate governance has become increasingly important over the past 15 years. Meanwhile, shareholder value in the meantime has a somewhat negative touch in the sense of being short-term and capital focused only. It looks like EVA is the best known and often used measure applied by firms in recent years. Blendinger & Michalowski (2018) believe that EVA, on the one hand, is well-if not best-suited. But also, on the other hand, it has limitations due to its constraints.

Fernandez (2007) described the following groups comprising the most widely used company valuation

methods: balance sheet-based methods, income statement-based methods, mixed methods, and cash flow discounting-based methods. He said that the fundamental problem with these methods is that some are based solely on the balance sheet, others are based on the income statement, but none of them considers anything but historical data. According to his article, the most suitable method for valuing a company is to discount the expected future cash flows, as the value of a company's equity -assuming it continues to operate- arises from the company's capacity to generate cash (flows) for the equity's owners. He also presented the most common errors in valuations. There are the most common of them:

1. Using the historical industry beta.
2. Using the wrong formula for levering and non-levering the beta.
3. The required market risk premium is equal to the historical equity premium.
4. Debt to equity ratio used to calculate the WACC is different than the debt to equity ratio resulting from the valuation.
5. Using the wrong formula for the WACC when the value of debt is not equal to its book value.
6. Not considering the country risk.
7. Using arithmetic averages instead of geometric averages to assess growth.
8. Wrong concept of the optimal capital structure.
9. Considering that the ROE is the return to the shareholders.
10. A company has the same value for all buyers. (Fernandez, 2020)

Following Saheli et al. (2014), EVA, the most recent method of organisational performance evaluation, focus on the maximisation of shareholder wealth. It is an important indicator that can help investors in their decision-making and can create a competitive advantage for organisations. Economic value added is the value created in excess of the required return of the firm's investors and can be used for evaluating the performance of firms and developing incentive schemes.

Based upon Kraus (2013), EVA is used ex-post for evaluation of the performance over the last reporting period. This method is based on a concept called residual income, which is equal to the annual accounting profit less the required return on capital employed, that is, an interest charge on the book value of assets.

According to Fernandez (2019), it is very important that a company identify the fundamental parameters that have the most influence on value creation. Obviously, each factor's importance will vary for the different business units.

Based on Costa et al. (2018), an alternative for the company would be the improvement of its management tools in order to improve the choice of your investments and projects. The alternative that the present work proposes is to analyse the EVA. The main objective of this indicator is to indicate whether the company is increasing its value since the subtraction of the cost of equity of operating profit allows the value at which the company is assessed to be analysed, remunerating the shareholder and whether or not this amount adds value to the partners.

Bassan & Martins (2016) point out that the use of EVA becomes a differential of the work compared to the others, since many use analysis methodologies based on financial performance measures and not focused on creating value for companies. Curadi (2017) convinced that EVA is a fundamental indicator to measure the company's real profitability. They still state that the tool provides an overview of investments for managers and investors that allows them to better assist in making strategic decisions in a corporate environment.

On the basis of Bruni (2008), this method allows executives to clearly assess whether the capital employed in a given project or company is being well spent. The method presented by EVA aims to improve the information provided by the accounting profit, which occurs through an accounting adjustment in which the opportunity cost of equity is deducted from the accounting profit. In addition to profit, it is important to compare this with the opportunity cost, which is the return that the partners expect for the capital invested in the operation.

Nowadays, the market is dynamic by reason of globalisation, competition and the pressure of incentives. In this market, a constant return on equity or a constant normal market return cannot be expected. Several studies have been conducted on EVA during the last three decades to examine its efficiency as a periodic performance measure:

1. Behera (2020) conducted a study on selected companies and compared the efficiency of EVA with accounting measures in explaining stock prices. The results showed that EVA maintained a strong association with the stock price and yielded incremental information content beyond that provided by other accounting measures.
2. Khan et al. (2013) conducted a study that considered samples selected from non-financial firms and found that EVA availed incremental information content beyond the information content given by earnings.
3. Kumar & Sharma (2011) reported, according to their studies, that EVA had incremental information content in addition to the information content of the earnings.

On the basis of Behera (2020) studies also have backed the idea that the required return changes because of changing inflation and a changing economy. Studies conducted on other valuation models indicated that valuation models under a changing required return better explain the market value of equities than a constant required return.

Shen et al. (2015) investigated the influence of the economic value-added on the value of the cash holdings of central state-owned enterprises (CSOE). They reported that EVA has some influence on the overinvestment of CSOE cash holdings and

significantly increases the value of CSOE cash holdings compared with the cash holdings of local state-owned enterprises. The more excellent value of CSOE cash holdings derives from underinvestment modification and overinvestment restraint. The value of cash holdings increases more for companies with better accounting performance. Economic value added policy increases CSOE efficiency.

Blendinger & Michalski (2018) shows how long-term value-added driven competitiveness is adopted by German corporations and how it can be measured. It explains and shows how different measures such as economic value added, return on equity, and others are calculated and how they correlate to show long-term value-added and, therefore, competitive differentiation. The article focused on which measures are used to quantify the competitive value addition and then shows the most used EVA measures. Also, the paper shows that ROCE correlates best with EVA and, in the absence of an EVA calculation, it is the best measure to represent value creation as a competitive differentiator.

Research by the authors Bluszcz & Kijewska (2016) focused on the company's strategy that concentrates on the growth of the company represented by EVA requires the identification of factors affecting the size of the EVA. The authors transformed EVA in such a way as to reveal the determinants affecting its value. The assumed three levels of disaggregation of EVA: the first level: EVA depends on the amount of invested capital (IC) and economic spread (EC), the second level: economic spread is expressed using the weighted average cost of Capital (WACC) and the return on invested capital (ROIC), the third level: takes into account the capital structure (wi), the cost of capital (ki), the profit margin (NOPAT/S) and invested capital turnover ratio (S/IC). In this way, the authors could indicate which factors and to what extent affected negatively and positively the change of EVA.

The aim of the article by Boonvorachote (2018) is to rank priority on companies' performance improvement for medium-sized and large-sized companies in Thailand: cost-efficiency seeking and value-added creation. Listed large-sized companies showed better performance than non-listed medium-sized companies in every measurement dimension, as they determined: larger company sizes, higher profitability and lower costs of capitals. In short-run, non-listed companies should aim for seeking cost efficiency from production and financial cost reduction. To enhance companies' value, companies' EVA increases by fixed asset turnover, profit margin, sales growth, and time interest earned. On the other hand, WACC is negatively related to EVA, which means that the companies with high EVA will have lower costs of capitals.

Based on an overview of the various authors on the EVA indicator, we come to the conclusion that Economic Value Added is an important indicator that can help investors in their decision-making, also can create competitive advantage for organisations. It might be a perfect instrument for the board of directors, supervisory board and management in combination with additional means and measures. Also, it is widely used in different studies and can be applied in various areas like industry, education, tourism, IT, etc. On the other hand, the authors who address this issue in-depth point to the fact that, despite the importance, the application of the EVA indicator in the financial management of the company is still underestimated.

3 The Possibilities to Apply EVA Methods to the Conditions in Slovakia

The aim of this article is to calculate the indicator of Economic Value Added as a tool of financial performance operating in the automotive industry based in Slovakia. For this reason, we decided to devote part of the literature review to previous research on the application of the EVA method to conditions in Slovakia.

The research study of Salaga et al. (2015) devoted themselves to modifying the method of calculating the EVA indicator under the Slovak accounting legislation. Malichova et al. (2017) also emphasised the justification for the application of modern performance evaluation methods, including the EVA. These authors showed several variants of the calculation of EVA indicator. Mainly, they defined the possibilities to apply EVA methods to the conditions in Slovakia. Despite Daraban (2017) reported it is not very easy to quantify the EVA indicator correctly, it has been documented that the EVA method help to achieved sustainable performance in the long term.

On the basis of Salaga et al. (2015), in Slovakia, the economic profit is known in the theoretical sphere, where the possibilities of its usage are constantly debated. In financial practice, attention is paid to this indicator, usually only in financial analysis. The reasons are:

1. originate of the business management in traditional methods,
2. construction of EVA,
3. poorly developed capital market in Slovakia, because of the lack of the necessary data,
4. the concept of maximum accounting profit and profitability were preferred for many years. Owners of the companies in Slovakia change their value orientation slowly.

The authors Cabinova et al. (2018) analyse the performance of Slovakia's spa sector over the years 2013-2017 based on the Economic Value Added and other modern performance measures. Results of the study pointed to a close interconnection between the dimension of performance measure EVA and efficiency.

The author Jankalova & Kurotova (2019) performed a research study in which EVA methodology has been applied to real-life corporate data and present a company's value operating in Slovakia. Also, the data including identification of limitations in measuring a company's value. This research discusses the link between the EVA's results and the company's Sustainable Value. The authors said that the EVA indicator combines all the essential components required to describe the economic situation of the company, and it is a tool for measuring the economic sustainability of a company and the most important thing, and the companies can see this as one form of innovation.

The main aim of the research conducted by the author Dvorakova & Faltejskova (2016) was to create an automotive industry company performance model in the context of customer satisfaction. Findings on the importance of customer satisfaction as moving forces of performance in relation to the EVA indicator. They applied the idea that the management of customer satisfaction lies in the identification of vital influencing attributes. Influencing these attributes through a number of activities, including quality improvement projects, leads to changes in customer expectations and perception and forms their satisfaction. The presented performance model is set in an environment that integrates Controlling, Balanced Scorecard and Activity Based Costing. The simulation model showed the capital intensity of automobile production. Moreover, the automobile is a product significantly tied to the life cycle. In today's global, technical and economic conditions, we should expect a shortening of this life cycle.

Previous studies conducted by the various authors from Slovakia and the Czech Republic show that no company in Slovakia has paid sufficient attention to the modern EVA indicator. In conclusion, although the modern EVA indicator is more complicated to calculate, companies should pay sufficient attention to it as it represents a management tool that is used to value the company and also takes into account the creation of value for owners.

4 The Methodology

The analytical part of the article is based on financial data of the three major companies in the Slovak automotive industry Volkswagen Slovakia, a.s., Kia Motors s.r.o. & PCA Slovakia, s.r.o. belonging to the statistical classification of economic

activities SK NACE Rev. 2, sector C- production, division 29, which deals with the production of motor vehicles, trailers and semi-trailers, namely subgroups 29.10 (manufacture of motor vehicles), 29.20 (manufacture of bodies (coachwork) for motor vehicles and manufacture of semi-trailers and trailers) and 29.30 (manufacture of parts and accessories for motor vehicles). Financial data of companies in the automotive industry were obtained from the Finstat database, as it provides financial data for a large number of companies. The critical period for our analysis was the years from 2008 to 2019 because available financial data were reported by companies in this period.

Based on an extensive analysis of professional publications dealing with the issue of financial performance using the EVA method, we found that a modern indicator of economic value added can be calculated in several ways. For this article, according to the availability of data, the following formula was chosen:

$$EVA = NOPAT - WACC \cdot C \quad (1)$$

where

NOPAT	Net Operating Profit After Taxes
WACC	Weighted Average Cost of Capital
C	Capital Invested

For calculating the value of the EVA indicator, it has been necessary to calculate the indicator Weighted Average Cost of Capital. The quantification of the WACC indicator expressed as follows:

$$WACC = R_e \frac{E}{E+D} + R_d \frac{D}{E+D} \quad (2)$$

where

C	Capital
Re	Cost of Equity
E	Equity
D	Debt
Rd	Cost of Debt

In order to quantify the value of the cost of equity, it is necessary to determine the values of all its parameters.

$$R_e = R_f + R_p \cdot \beta + R_s \quad (3)$$

where

Rf	Risk-free rate of return
Rp	Market risk premium
ß	Coefficient Beta
Rs	Specific risk premium

The first unknown in the formula is the risk-free rate of return Rf, and by this term, we mean the return brought to it by "risk-free" assets. It is essential to realise that "risk-free" investment is a relative term, and therefore it is necessary to take into account the risk of the country where the financial flows will actually take place when quantifying this parameter. Based on the views of well-known academics (Damodaran, A., Cornell, B.), countries use the current yield on long-term government bonds to calculate. To obtain this value, we relied on sources provided by the Regulatory Office For Network Industry in Slovakia.

Another parameter that needs to be quantified is the value of the market risk premium Rp. This is the difference between the return that the investor obtained by investing in the stock market and the return that the risk-free investment brings him. It is essential that this difference is subsequently adjusted according to the risk of the country. To obtain this value, we relied on sources provided by the Regulatory Office For Network Industry in Slovakia.

The Beta coefficient ß expresses the volatility in the stock market. For the needs of this article, it is the volatility in the car market. We are based on external sources, specifically the calculations of the American professor Damodaran (2018). This author calculated the Beta coefficient by the method of expert estimation, which is expressed as follows.

$$\beta = \beta_u + \beta_u[D \cdot (1-T)]/E \quad (4)$$

where

ßu	Beta companies without debt
D	Market value of debt
T	Income tax rate
E	Market value of equity

The method used by Damodaran was based on the idea of determining the Beta coefficient on the basis of a comparison with other but similar undertakings. However, when calculating the coefficients, it also took into account the differences of the given sector, and therefore calculated the coefficients for companies of different sectors and industries. The calculation was also based on values obtained on the basis of market data over a period of five years intended for European companies in the sector, in our case, the automotive industry. Suppose the Beta coefficient is more significant than one and thus more significant than the volatility of the whole market, which means that it is also riskier. In times of economic growth, we see this as a positive signal, as it indicates a tendency for faster growth and a more significant response to developments, so our car market is growing faster than the overall stock market.

The specific risk premium Rs applies to a specific company and maybe different types of surcharges, e.g. surcharge for the size of the company, for the capital structure, for the risk that the company will not be able to repay its liabilities, etc. For our calculations, we have chosen a risk premium for the size of the company because after studying several sources, this is the most common. We determine this parameter on the basis of the rules, which are listed in Table 1.

Table 1 Additional charge for the size of the company

Amount of E	Additional charge for the size of the company
E<3.9 mil. €	5%
3.9 mil. €< E<117.84 mil €	$(117.84 \text{ mil } € - E)^2/168.2$
E>117.84 mil €	0%

Source: own processing, Kotulovic et al. (2018)

The additional charge will be applied in the formula with its size set at 5%, as the equity of the companies did not exceed 3.9 mil €.

It is also to calculate the Cost of Debt (Rd) according to the following formula:

$$R_d = R_i \cdot (1-T) \quad (5)$$

The average interest rate (Ri) at which a company could refinance all of its debt at the time the WACC is calculated to have been used.

5 Results

The aim of this article is to evaluate Economic Value Added for the three major companies in Slovak automotive industry. We chose the formula where the WACC had to be calculated. It has been necessary to quantify Cost of Equity (Re), then Cost of Debt (RD). Using the WACC formula (2) from the previous chapter, we recorded the following values:

Table 1 WACC calculation

Weighted Average Cost of Capital (WACC)	Volkswagen
Risk-free rate of return (R_{fj})	2.27%
Market risk premium (R_p)	5.18%
Coefficient Beta (β)	1.92
Specific risk premium (R_s)	5.00%
Cost of Equity (R_e)	17.22%
Cost of Debt (R_d)	3.90%
Market value of the firm´s equity (E)	1,656,521,000.00
Market value of the firm´s debt (D)	1,297,165,000.00
Percentage of financing that is debt (D/E)	78.31%
Tax rate	22.0%
WACC	11.37%

Based on the EVA formula (1) we chose, moreover, the calculation of Net Operating Profit After Taxes and Invested Capital has been needed. The NOPAT indicator was taken from the financial statements of selected companies. The effective tax rate has been considered according to Konecna and Andrejovska (2020) and Mihokova et al. (2016). Invested capital was calculated as NOPAT divided by ROIC (Return on Invested Capital). The values of ROIC have been taken from the financial statements of the companies.

Table 2 NOPAT, WACC & C calculation

	NOPAT	WACC	C
VW	449,499,934.40	11.37%	1,864,794,223.47
KIA	318,853,647.24	11.41%	1,310,839,324.94
PCA	65,377,145.47	10,79%	197,176,173.83

As the last step, we numerically expressed the Economic Value Added through formula (1) from the previous chapter. The values of this indicator for the three main companies chosen by us are captured in Table 4.

Table 3 EVA calculation

	EVA
VW	237,513,637.48
KIA	169,318,503.15
PCA	44,029,382.58

As shown, all of the three major companies in the automotive industry in Slovakia have achieved positive values of EVA indicator. According to the Economic Value Added calculation, we can summarise the results. The value of the company increases and create value for the owners.

6 Discussion

The purpose of the calculation was to determine and interpret the significance of the EVA indicator. Based on the results of a research study by Salaga et al. (2015) & Malichova et al. (2017), who paid particular attention to the application of EVA methods to conditions in Slovakia and focused on adjusting the method of EVA indicator according to Slovak accounting legislation, we applied the conditions to our calculation. Although it is difficult to quantify the EVA indicator correctly, according to Daraban (2017), the EVA method has been found to help achieve sustainable performance. On the basis of a study by Jankalova & Kurotova (2019), we also investigated that EVA combines all the essential components needed to describe the economic situation of the company, as we based its calculation on several different indicators.

After conducting research by Fernandez (2019), he argues that it is essential for a company to identify the basic parameters that have the most significant impact on value creation. Following our results, we agree with his statement that the importance of each factor will vary for different business units. Since the calculation of this indicator required the monitoring and capture of various classical indicators, we advocate a similar thought as Costa et al. (2018) & Bruni (2008), who argue that the main objective of this indicator is to indicate whether the company is increasing its value, since the subtraction the cost of equity of operating profit allows the value at which the company is assessed to be analysed remunerating the shareholder and whether or not this amount adds value to the partners.

As captured in the previous part, we found that all of the three main companies achieved positive values of this modern indicator, and thus EVA is greater than zero. Based on this, we conclude that the companies produce value from the funds invested in them. It is important to note that these three main companies are foreign companies that have decided to invest in the automotive industry in Slovakia.
The Possibilities to Apply EVA Methods to the Conditions in Slovakia.

7 Conclusion

The purpose of the article was to deal with the calculations of the modern EVA indicator of three major companies in the automotive industry in Slovakia. EVA is based on a very simple concept. If a company earns a return that is higher than expected, then the value has been added. This modern indicator represents the difference between actual and expected return multiplied by the capital invested. Based on the results of our calculation, we can assume that all companies achieved positive EVA values. Volkswagen had the highest value at 237,513,637.48, followed by Kia Motors 169,318,503.15 and the lowest PCA Slovakia, 44,092,382.58. The value of EVA is calculated by adjusting accounting profits and balance sheet data, so analysts need to be careful to quantify the individual parameters necessary to calculate EVA published by companies. Comparison of profit and capital with accounting data are given. Adjustments to accounting data are extremely subjective, and they can have an essential effect on the EVA calculation result.

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PREPARATION FOR (ACTIVE) AGEING AND (ACTIVE) OLD AGE THROUGH THE ANDRAGOGICAL-RESEARCH OPTICS

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Abstract: The submitted study has a theoretical research character. In the first part, the author analyses the concepts of ageing, active ageing, old age and active old age. Proceeding from the opinion of R. Čevela, Z. Kalvach and L. Čeledová (2012), it is necessary to distinguish 1) successful ageing and healthy (active) old age, 2) usual ageing and old age, and 3) pathological ageing and pathological old age as well. The second part deals with chosen national and foreign research focusing on preparation for (active) ageing, (active) old age, or leaving to retirement.

Keywords: (active) ageing, (active) old age, preparation for (active) ageing and (active) old age, education of adults, research.

Introduction

Several sciences or scientific disciplines, such as literary science, anthropology, medicine, psychology, sociology, theology and educology (compare, e.g. Kruse, 1994; Grün, 2008; Žemberová, 2014; Křivohlavý, 2011; Sak, Kolesárová, 2012; Hegyi, 2013 and others) deal with the old age and ageing as research variables. The submitted study looks at (active) ageing and (active) ageing a priori with the andragogical optics.

It is possible to use the potential of education also in people`s preparation for their ageing and old age (a pedagogical-andragogical phenomenon). In this way, when they reach retirement age, their ageing and old age can be really denoted as active ageing and active old age (a geragogical phenomenon).[1] P. Novotný et al. (2014, p. 117) confirm the mentioned opinion regarding the relationship between active ageing and education/formation. They say that „education increases adaptability and contributes to managing social and societal changes reflected in every individual's life. Education offers a possibility to focus on new perspectives and values, and it stimulates civic activities. At the same time, education positively influences health, and it prevents social exclusion".

The submitted study will document these and many other acquired results about the importance of education for ageing and old people [2].

1 About the concepts (active) ageing and (active) old age

In the beginning, it is crucial to mention that we perceive a significant difference between ageing and active ageing on one side and, on the other side, between old age and active old age. However, these processes and periods can overlap mainly in the last periods of life when people are already in retirement age and are getting older (Határ, 2019, p. 97).

Irreversible changes of the living organism, such as functions of time and environment, characterise ageing as a process (Oswald, 2000, p. 8). A. Kruse (1992, in: Oswald, 2000, p. 11) states that ageing is „characterised with:

- intra-individual variability (it is not the same in all functions),
- inter-individual variability (significant differences between people),
- dynamics (positive and negative changes),
- proper developmental potential (possibilities to carry on),
- contextuality (a mutual influence with social and environmental elements)
- life perspective (an impact of previous periods of life)".

For the sake of completeness, it is essential to mention that ageing is accompanied not only with biological changes but also with mental, social and spiritual changes (more in detail: e.g. Hotár, Paška, Perhács et al., 2000; Balogová, 2005; Ondrušová, 2011; Kováč, 2013; Határ, 2014; Kaminská, 2017).

R. Čevela et al. (2014, pp. 17 – 18) understand old age as „a consequence of ageing, a late phase of a naturally long life. This phase has its usual characteristic features – in the given time and society – that are related to the phenotype (appearance), functional condition, bio-psychological parameters (the so-called biological old age), social roles, social-economic status (e.i. social old age), age, and hope for a further living (calendar old age). These characteristic features can but do not have to comply...". R. L. Werner (2012, p. 117) says that the concept of old age provokes more negative than positive associations in people, mainly due to the discrimination, loss of the social role, helplessness or the need for care.

We perceive active ageing and active old age as a higher level of people`s approach to their ageing and old age, which is not accompanied by passivity, but, on the contrary, by a meaningful activity (Határ, 2019, p. 97).[3]

The World Health Organisation understands active ageing as „a process of optimising all possibilities for ageing people to protect their health, to participate in the life of their social environment, and to bespeak their safety. In this way, ageing people can improve the quality of their lives" (Aktiv Altern: Rahmenbedingungen und Vorschläge für politisches Handeln, 2002, p. 12). „The word active relates to the incessant participation in social, economic, cultural, spiritual and civic life. It does not mean only the possibility to stay physically active or integrated in the working process" (Aktiv Altern: Rahmenbedingungen und Vorschläge für politisches Handeln, 2002, p. 12). The given document states that older people who are not active in the labour market or have a disability can also be actively involved in the lives of their families, peers, environment, and country.

I. Tomeš and L. Bočková (2017, p. 46) say that the *Active Ageing Index* introduced a new perception of active ageing in practice. „Active ageing refers to situations when people continue participating in the labour market in the same way they are involved in other non-paid activities (e.g. care-providing within a family, volunteering). They have healthy, independent and safe lives while they are getting old." The submitted index of active ageing lies on four fundamental principles: *employment; participation in society; an independent, healthy and safe life; capacity and favourable environment for active ageing* (Active Ageing Index for 28 European Union Countries, 2014, pp. 14 – 15; Tomeš, Bočková, 2017, pp. 46 – 47).

Several factors influence active ageing. The World Health Organisation divided them in the following way: *1/ health and social services, 2/ impact of behaviour, 3/ personal influence, 4/ environment, 5/ social influence,* and *6/ economic influence. Culture* and *gender* are perceived as universal factors (Aktiv Altern: Rahmenbedingungen und Vorschläge für politisches Handeln, 2002, pp. 19 – 32). M. Petrová Kafková (2019, pp. 201 – 202) states that „when people are getting older, their activities

[1] In his publication, E. Livečka (1979, p. 26) writes about *education to old age and in old age.* The scientific work by R. Čornaničová (1998, p. 124) is based on this concept. She mentions *pre-senior education* (preparation for old age), *pro-senior education* (a transgenerational perception of the senium issue) and proper *senior education* (education in old age). We fully respect these concepts in our work.

[2] We can also find the mentioned differentiation between *an ageing person* and *an old person* in the works by H. Haškovcová (2010), I. Tomeš, L. Bočková (2017) and others.

[3] To a certain extent, a mature personality with a high level of autoregulation is an assumption for self-education (Perhács, 2011, p. 95). Similarly, active ageing and active old age represent a specific „top" of human effort (Határ, 2019, p. 97).

change according to the transformation of their preferences, limited abilities and health".[4]

B. Bodnárová (2009, pp. 20 – 21) says that „bad health condition in the pre-senior age, mainly chronic diseases cause that many working people leave to disability pension or early retirement. If we want to speak about a real prolonging of working life, it is crucial to deal more with active ageing strategies and prevention in occupational and general medicine because they can improve the quality of life of younger people. At the same time, they can create health assumptions for prolonging the working life".

„Investments into active ageing are also possible in late adulthood, and they have a potential to positively influence the course of ageing, transforming it into active ageing. Health, integration and participation mutually impact each other: health represents a necessary requirement for active participation in the labour market and voluntary involvement. Social integration and participation positively influence health, e.g. actively involved people" (Tesch-Römer, 2012, p. 7).

2 Analysis of chosen research works dealing with preparation for (active) ageing, (active) old age and leaving to retirement

As we have already mentioned above, it is possible to focus on basic concepts and research dealing with (active) ageing, (active) old age and leaving to retirement within the conditions of various sciences.

Z. Kostolná (2009, pp. 27 – 29) presents the results of representative research done by *Inštitút pre výskum práce a rodiny (Institute for Labour and Family Research).* The research aimed to find out the attitudes and opinions of employers on questions related to the participation of older employees in the labour market. 260 representatives, i. e., employees of the Human Resources Department, owners, executive directors, and authorised representatives of employer organisations, participated in this research. The research focused on the following areas:

- strategies which employers use at the recruitment of employees, and survey of possible discrimination due to employees` high age;
- treatment of older employees at work;
- attitudes and approaches of employer organisations to the lifelong education of older employees;
- employers` responsiveness to flexible forms of work organisation, working regimes and working hours in employing older employees;
- fulfilling the company`s social policy concerning older employees.

Out of all acquired research findings, we choose only those results which are related to education. 68,8 % of employers think that improving education, acquiring new skills, and retraining represent a primary requirement for keeping posts and positions of older employees. 19,6 % of respondents consider further education of this group of workers as irrelevant. 11,5 % employers marked the option *other* with the reasoning that „they do not have such positions in their company that would require education or retraining, and that they need already trained people. They think that further education depends on the position and primarily skills of a particular individual" (Kostolná, 2009, p. 43). From the mentioned research, it is evident that 64,7 % of employing organisations – small companies, enterprises and organisations-believe that further education of older employees is irrelevant. Less than a third of medium enterprise employers and almost 6% of big enterprise employers share the same opinion. To a large extent, employers from local enterprises (88,2 %) also think that further education of older employees is unnecessary. Employers from foreign and international enterprises (in our territory) have a more positive opinion on further education of this target group of employees. Most respondents invest mainly in specialised courses and schoolings (63,5 %) for their older employees. Subsequently, there follow computer courses (35,0 %), personal development courses (20,0 %), retraining courses at work (16,5 %), education improvement (16,2 %), and foreign language courses (15,8 %) (Kostolná, 2009, pp. 44 – 45).

D. Hofäcker, M. Hess and S. König (2019) investigated the last phase of working life and leaving to retirement within German, Austrian, Swedish, and Estonian conditions. At the end of their study, they recommend that all interested parties (i.e. politicians, employers, trade unions and others) invest in the working ability of older employees and strengthen lifelong learning, further education and retraining. They also say that „bad health is one of the main reasons for early retirement, and it is valid keeping and, at best, improving the health of older employees" (Hofäcker, Hess, König, 2019, p. 50).

Based on several theories, M. Petrová Kafková (2019, p. 204) states that „performing various activities changes as people get older, but it does not have to only decrease with the growing age. The levels of cultural, economic and social capital seem to have a crucial impact on the performance of various activities." The author verified these conclusions in her native Czech environment. She found out that „the idea of an ideal lifestyle significantly depends on the age, and respectively, also on the health condition. A more significant change could be seen only in the later old age. There is a strong contradiction between the idea of active spending of old age between younger respondents, and a tendency to more passive activities and spending time with others by older respondents" (Petrová Kafková, 2019, p. 214). The author also found out that a higher economic, cultural and social capital contributed to (a higher tendency to) a more active lifestyle. The research confirmed slight gender differences in lifestyle preferences. On the one hand, women have fewer possibilities to choose relaxation as a preferred lifestyle when compared to men. On the other hand, women more frequently choose to spend time with others (the so-called gender stereotypes in the family). In our study, we consider as crucial the finding (with a relatively small difference) that „people with lower education and lower economic and social capital also have a smaller spectre of relaxing activities" (Petrová Kafková, 2019, p. 215).

H. Engstler (2019, p. 17) dealt with older employees' planned and actual age of leaving to retirement. His research aimed to find the answer to the following questions: 1) How does the later actual leaving to retirement by older employees in Germany comply with their original plan to leave to retirement? 2) Who has a higher probability of leaving to earlier or later retirement than they initially planned? The author verified five hypotheses. The third hypothesis is crucial for the needs of our work: „Little qualified people can more seldom carry out their plan to leave to retirement than better-qualified people. On one side, less qualified employees are at higher risk to lose their working posts. On the other side, there is an assumption that, contrary to better-qualified people, these less qualified employees will stay longer at the working process than they originally planned due to financial reasons." (Engstler, 2019, p. 17). Based on his findings where he compared the years 2008 (a plan) and 2014 (reality), the author divided respondents into four groups or types:

1. those employees who left to retirement according to their plan;
2. those employees who left to retirement earlier;
3. those employees who continue working according to their plan;
4. those employees who worked or still work longer when compared to their plan (Engstler, 2019, p. 19).

[4] M. Petrová Kafková (2019, p. 202), referring to L. M. Verbrugge et al. (1996) and P. L. Klumb and M. M. Baltes (1999), divides daily activities into ***obligatory, committed and discretionary*** (according to the first team of authors). They can also be divided into ***regenerating, productive*** and ***consumerist*** activities (according to the second author team). Based on the work by P. L. Klumb and M. M. Baltes (1999), the author also states that education contributes to a higher rate of the productive activity of women. „In general, there decreases the performance of all productive and consumerist activities in later old age" (Klumb, Baltes, 1999, Scherger et al., 2011, in: Petrová Kafková, 2019, p. 203).

To obtain the answers to the second question, H. Engstler (2019, p. 21) investigated whether „gender, health status, educational level, professional position, and the adherence to western or eastern German labour market impact the probability of leaving to earlier or later retirement than planned“. „Little qualified employees or people with a disability have a higher probability for unplanned earlier retirement. Mainly women stay in the working process longer than they planned ... The deterioration of the health condition and a threat to lose their working positions also increase the risk of leaving to earlier retirement when compared to the original plans“ (Engstler, 2019, p. 16).

The whole Slovak research by M. Koricina (2020, p. 58, 67) is also very interesting. With a sample of 242 respondents, he investigated whether companies with employees in the pre-senior age carry out education focused on the preparation for leaving to retirement. 52,1 % of respondents say that there is no pre-senior educational preparation in their companies. Up to 45,5 % of respondents do not know about this kind of preparation. The author sees the cause of the absence of these programmes of pre-senior education in their economic non-refundability and in the unwillingness of company managers to invest in the education of older employees (Koricina, 2020, p. 68).

Very interesting are also older research works, such as the research by B. Balogová (2005), B. Ráczová and G. Marhevská (2013), or the research by J. Meszárošová, L. Wsólová and K. Gazdíková (2017).

Instead of conclusion

The German authors C. Kricheldorff and S. Klott (2017, p. 437) say that the transition from the economically active age to retirement age, from partnership to „single“ life due to widowhood, or the transition from the natural home environment to residential facilities represent a process without any defined norms and rules. For this reason, people have to rely only on their resources and possibilities when going through this transition.

„Active ageing should enable people to use their potential and to bespeak their continuous social participation“ (Kolland, Meyer Schweizer, 2012, p. 590).

Since the preparation for (active) ageing and (active) old age is a lifelong process, we think it is not only an andragogical or geragogical topic. It also represents a pedagogical research topic.

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Primary Paper Section: A

Secondary Paper Section: AM

BUSINESS RISK IN TIMES OF ECONOMIC RECESSION AND ECONOMIC GROWTH

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Abstract: The issue of business risk in times of recession or growth is very topical in these times. The Czech Republic and its neighboring countries are currently struggling with the economic problems caused by the Covid-19 pandemic. The aim of the paper is to analyze the number of insolvency petitions in the Czech Republic from the years 2010–2020 and to compare them with each other. The data source are data from publicly available resources from the Creditreform group and also from the CRIF database of the Cribis platform. First were created tables for the Agriculture and Forestry, Manufacturing, Construction and Transport sectors. Data for the relevant years were added to them from the aforementioned resources. Then was created a line chart for each industry. Using time series analysis and comparison, we analyze and compare the development of insolvencies. At the same time, we use causal analysis to find out why there were high numbers of insolvencies in the given years. We are also looking at which sectors were hit hardest during the insolvency crisis, when they were hit hardest, how they did in times of economic growth and how they should adapt to the next possible crisis. During the Great Recession, the construction sector was hit the hardest, and then the transport sector also suffered greatly. The largest numbers of insolvencies can be observed in 2012. At a time of economic growth, which began in 2014, the numbers of insolvencies fell in all sectors analyzed, but mostly in agriculture and forestry and transport. Businesses in the sectors analyzed can adapt to the next crisis by creating larger cash reserves or changing, for example, crop production or transport by temporarily reducing fares to attract new customers. We see the benefit of this work in the analysis of the number of insolvencies in the given sectors, which has not been recorded in almost any academic papers. We also see a benefit in determining the conditions for how companies can prevent another crisis.

Keywords: business risk, insolvencies, time series, agriculture and forestry, manufacturing, construction, transport

Introduction

The economy of any country in the world goes through periods of prosperity and growth. At other times, a phase of recession comes. The Czech Republic was affected, either to a lesser or greater degree, by the crisis in 2008, which is also called the Great Recession. This economic crisis was considered an internal global labor market shock (Moritz, Stockinger and Trepesch, 2017). On the other side, according to some economists have more qualified professions more resilience against recession's pressure (Svoboda and Applová, 2016) According to statistics, European unemployment did not manifest itself until the so-called post-recession, namely after 2010. The Czech Republic struggled with this crisis until 2014. However, the Great Recession began in the United States in the real estate market, when in the southern part of the United States real estate prices rose by 170%. This situation was called the real estate price bubble and it gradually "burst". With the growth of interest rates, clients began to fall into trouble when repaying mortgage loans (Musílek, 2008).

The latest financial crisis is ongoing throughout the whole world at this very moment, at the time of the Covid 19 pandemic. Restrictions in various sectors are affecting and will further affect production, services and unemployment. On the other hand, the pandemic will help the gradual transition to Industry 4.0. For example, by using technologies that, thanks to human face recognition, will help to reduce contact when checking in at airports, also help to improve school teaching via the Internet and make automate production (Bhardwaj et al. 2021; Ludbrook et al. 2019). But what these aforementioned crises, and other previous ones, certainly have in common, are insolvencies and subsequent bankruptcies of companies and firms. It is the bankruptcy of companies with related insolvency proceedings, as the impact of the economic crisis on companies that seems to be a very topical issue due to the economic crisis arising as a result of the coronavirus situation. Insolvency proceedings are defined as the inability of companies to cover their debts, in other words liabilities. It can take place in two different ways: either by reorganization or liquidation (Smrčka, Schönfeld and Čámská, 2018). This also raises the need for experts to address this issue and find a parallel between the impact of the crisis on businesses in the 2008 crisis and the economic crisis of 2020.

As has already been stated, the economic crisis in the form of the Covidu-19 pandemic is now affecting a significant percentage of businesses and will undoubtedly result in the bankruptcy of many of them. One possible way for businesses to avoid the effects of this pandemic is to adapt to this situation. Businesses face the challenge of finding solutions to ensure their viability and remain sound. Another aid to alleviate the crisis may be the payment of financial support to entrepreneurs who are forced to shut down their businesses due to the pandemic. At the beginning of the epidemic, the government approved a one-time aid of twenty-five thousand CZK to these entrepreneurs (Andoh, 2020). In addition, other financial aids are paid, whether for gastronomy, transport or culture.

The aim of this work is to analyze the number of corporate insolvencies in times of economic recession or economic growth. Furthermore, which fields were most affected by the crisis and which year was the worst in the number of insolvencies and for what reason. Finally, a plan will be set out on how to adapt to the current situation or to a possible further crisis. The goal stems from an analysis of data on the number of insolvent companies in times of economic growth and times of economic recession over the years, specifically from 2010 to 2020.

1 Literature Research

Insolvency proceedings are governed by Act No. 186/2006 Collection, on bankruptcy and the manner of its proceedings, otherwise referred to as the Insolvency Act. It can be solved in a total of four ways, namely bankruptcy, reorganization, debt relief or other ways of resolving bankruptcy. The main goal is transparency, overall acceleration and streamlining of the management process, as well as strengthening the position of creditors (Svobodová, 2013). According to Svobodová (2013), insolvency in the Czech Republic is a daily problem of a large number of people. She is of the opinion that the worsening of the situation regarding the insolvency of companies and individuals was mainly due to the economic crisis and low financial literacy. The analysis, focused on the comparison of data on filed insolvency proceedings, confirmed that their number has been gradually growing since 2008. Her analysis deliberately focused on data from 2008, as data from earlier years were not available.

Čámská (2020) focused on the insolvency of companies and firms from the point of view of their capital structure, how the capital structure can influence insolvency proceedings. Data from the Albertina corporate database were used for the research. The financial structure of the insolvent company was recorded on 1,700 pieces of data. In addition, about one hundred thousand observations were made. These focused on solvent companies from all sectors. The data were analyzed using relative and absolute frequencies, which monitored the use of debt and certain capital resources accompanied by a leveraged financial ratio. The analysis showed that insolvent companies were 40% more indebted than solvent companies, some were even over-indebted.

On the contrary, Smrčka, Schönfeld and Ševčík (2012) pondered how to adjust the insolvency law. The analysis of the functioning of the Insolvency Act and other attached regulations in the years 2008 to 2012 shows that insolvency proceedings are usually initiated at a later stage, when the insolvent company already owns only a very small amount of assets that are not sufficient to satisfy the company's liabilities. Smrčka, Schönfeld and Ševčík (2012) came to the conclusion that comprehensive changes in the insolvency law are needed. At the same time, they present specific changes in the law that would help improve this unsustainable situation.

The number of insolvency proceedings in the Czech Republic was affected by the crisis in 2008, also known as the Great Recession. This could be compared to the Great Depression of

the early 1930s, as they both have their common origins in the United States. But they also had other similarities and similar factors (Lungová, 2011; Dias, Alexandre and Heliodoro, 2020). Both crises began due to the turbulence in financial markets, which led to a decline in industrial production and world trade. Lungová (2011) divided the factors into short-term and long-term. Among the short-term ones she included a relaxed monetary policy - i.e., lower interest rates. This has helped low-income people invest in real estate. This created a real estate bubble, which subsequently burst and created significant problems for financial institutions. This crisis was responsible for the collapse of the American bank Lehman Brothers in September 2008, an institution almost 156 years old (ČTK, 2018). Long-term factors that affected the economic crisis in 2008 included, for example, unregulated financial market management, imbalances in savings and investment with rising oil prices. The analysis revealed that the mentioned factors had an impact on the crisis in 2008 (Lungová, 2011).

Research from the Czech Statistical Office (hereinafter referred to as the CZSO) focused on the situation during the crisis in 2008. According to the CZSO (2011), the Czech Republic withstood the crisis relatively well. It was an imported crisis caused by a decline in foreign demand. The fall in GDP between 2009 and 2008 did not differ much from the European Union average. The employment market lost about 1.2% of people. Compared to the European Union, it was lower than average. However, Pošta and Hudeček (2017) add that the labor market in the Czech Republic was only affected after a long time, when the Great Recession began to manifest itself for the first time. Pissarides (2013) also commented on this issue, using the Beveredge curve to analyze unemployment in the United Kingdom, the USA, Germany and OECD member states (Organization for Economic Co-operation and Development). The United States was the worst out of the unemployment analysis. Wages and salaries in the Czech Republic decreased by 5%. As for consumer prices, they rose sharply in 2008 due to global causes. The increase was mostly reflected in food prices (CZSO, 2011). Tvrz and Vašíček (2016) commented on the structural changes in the Czech, Slovak and Euro-EU economies during the crisis in 2008. To study structural changes, they used nonlinear dynamic stochastic models of general equilibrium with time-varying parameters. The parameters of the model were estimated using the Bayesian method and a nonlinear particle filter. There were similarities between the Czech and Slovak economies. In addition, they add that the Czech economy was more similar to the euro area economy during the crisis. Thus, they came to the same conclusion as the CZSO statistics.

Ball (2014) observed the Great Recession from a broader perspective. He examined the effects of the crisis on OECD member countries, including the Czech Republic. By measuring the potential product in comparison with the established estimates, Ball (2014) revealed significant differences in changes in production in different countries. A significant decrease in the volume of production was recorded, for example, in Australia or Switzerland. In contrast, in Greece or Hungary, potential output fell by almost 30%. The average loss of all OECD member countries was 8.4%.

The world is currently going through an economic crisis caused by the Covid-19 pandemic. At the financial markets many investors diversity their portfolios (Rommer, Majerová and Machová, 2020; Pardal et al. 2020). Ahmad et al. (2020) focused on the initial situation in China. They claimed that China's gross domestic product would fall to 5.6%. At the beginning of the pandemic, restaurants, cinemas, churches, mosques and shops were closed. These businesses, or rather their operators, received financial aid to compensate for their lost profits. Chen et al. (2020) analyzed the effects of this pandemic in Europe and the United States using high-frequency indicators. Their research documented the fact that the greater the outbreak in a given country, the greater the economic impact and losses that resulted. Weekly energy consumption in all thirty-two European countries was used for the analysis. Despite lower prices in the spring months, energy consumption in the countries declined. Out of all of them, however, consumption fell the most in Italy, which had one of the largest outbreaks of Coronavirus in Europe.

Ambriško et al. (2020) debated the specific effects of the pandemic in the Czech Republic. In March 2020, the Czech Republic took similar measures as China and other European countries. Ambriško et al. (2020) predicted a decline in economic activity and from the expenditure components of GDP the impact on household consumption, investment and exports. However, the Czech government has tried and is still trying to mitigate the consequences of the measures taken through various compensation programs, such as the so-called Antivirus. Furthermore, the development of inflation components was expected - an increase in food prices due to higher transport prices and a lack of seasonal employees. On the other hand, the development of service prices and the decline in fuel prices will reduce inflation.

Mesároš (2020) focused on the positive impact of the Covid-19 pandemic in the area of trade, specifically on the company Respilon, based in Brno. It is one of the world leaders in the production of face masks from nanofibers. Here, the demand has increased compared to other fields. At the same time, online mobile banking at ČSOB began to be used to a greater extent, the use of which increased by up to 35% year-on-year (Patria Finance, 2020). But the company that was largely affected by the pandemic is Czech Airlines (ČSA). At the suggestion of the company itself, the court sent it into insolvency proceedings, because it owes its creditors around 1.8 billion CZK. ČSA saw in the submission of this proposal the possibility of reorganizing and rescuing the company (Zendulka, 2021).

The first suitable method for dealing with business risk is document analysis and then time series analysis. We will then compare the data using comparison. Ball (2014) used the same method to compare potential product estimates. The next method for addressing business risk is causal analysis. By analyzing the number of insolvencies in industries in the Czech Republic during different time periods, we will look for the year when the number of insolvencies was the highest and for what reason. Chen et al. (2020) used this causal analysis to prove that the larger the focus in a given country, the greater the economic impacts that country faced. This was demonstrated by lower energy consumption in Italy at a time when the Covid-19 pandemic was escalating in the country.

2 Data and methods

We will use document analysis to collect data. The base research data will be obtained from three sources. The first data source for the number of insolvency petitions from 2010 to 2017 will come from publicly available sources found on the Google search engine, which used data from the Creditreform group. We will primarily use the tables Insolvency by industry. For each industry, we will create a separate table in Microsoft Excel with two columns and fourteen rows. The first column will contain the years and the second the number of insolvencies. Specifically for the manufacturing industry, it is necessary to sum up data from the paper industry, chemical industry and production from plastics, food industry, woodworking, engineering, production of glass, ceramics, building materials, metals, furniture, printing services and repair and installation of machines.

The second source will be data from the Cribis database from the CRIF platform. The data are divided into four groups of industries according to the CZ-NACE classification and are again recorded in a Microsoft Excel document. We will primarily work with a filter in column D called Active. We will choose to select inactive businesses. Next, we will gradually work with the filter for column E, named DateOfLiquidation. We will gradually filter out the dates from 2018, 2019 and 2020, because these are data that we are missing in the tables for these years. When done, the number of filtered businesses based on our criteria, such as the number of inactive businesses in 2017, will appear in the page layout bar. We divide this number by five, because each business is listed five times in the table. This

will give us the actual number of inactive businesses for that year.

The third source for us will be the website kurzy.cz. Here we will use data for the year-on-year development of the Czech Republic's GDP in percentages. We will rewrite the data from the graph into a table with the same dimensions as for the number of insolvencies.

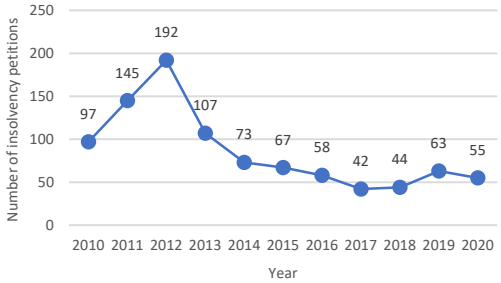
After editing the data in Microsoft Excel, we will have the data for each sector written in four tables. For the possibility of applying our method, i.e. time series analysis, following the analysis of documents, we will create a line graph for each industry using a function in Excel. Each of these graphs captures the number of insolvencies from 2010 to 2020. Once created, we can analyze the development of insolvency petitions for the sectors. At this stage, thanks to the analysis of time series, we will come to the conclusion which sectors were most significantly affected during the crisis. At the same time, in this phase we will use the method of comparison, where we compare the created graphs and data, in which year there were the most insolvency petitions and also a causal analysis, when we determine the reason why the highest number of insolvencies was in that particular year.

We will also use a table showing the year-on-year development of GDP expressed as a percentage. Again, we will use the graphing function in Microsoft Excel to create a line graph. Capturing developments will help us to compare with data on insolvencies in individual sectors. Thanks to the comparison, we will be able to assess which sector was successful in times of economic growth.

3 Results

The first figure below shows the number of filed insolvency petitions recorded in a graph relating to agriculture and forestry. The numbers of insolvency petitions shown by the line graph are linked to the years 2010 to 2020. We are thus monitoring the beginning of the Great Recession and its impact on insolvency. In the chart we can observe a linear growth of insolvency petitions from 2010 to 2012. From 2013, the numbers began to gradually decline. From 2015 to 2019, the end of our analysis, the number of petitions remained at relatively same values. Since 2020, at a time when we are experiencing another crisis due to the Coronavirus pandemic, it is interesting that the increase in the number of insolvencies in this sector has not been noticeable.

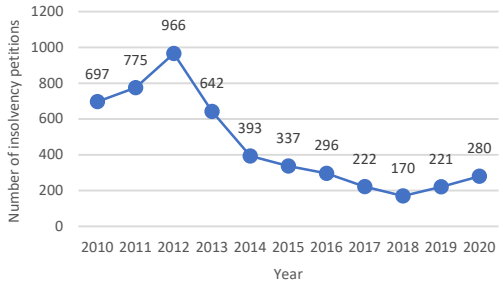
Figure 1: Number of insolvency petitions in 2010–2020 in the field of agriculture and forestry



Source: Own processing based on Cribis dataset.

The second figure shows the number of filed insolvency petitions in the field of manufacturing, which can include the production of food, furniture or textiles. As in the case of agriculture and forestry, we are seeing the same growth trend in insolvency petitions. The numbers grew more moderately in 2010 and 2011. A sharp increase can be seen between 2011 and 2012. On the contrary, in 2013 and 2014 the numbers started to decrease significantly and later the decreases were more modest. However, we do not observe continuity at the end of the analysis in the number of insolvency petitions as in the previous graph. In 2020, the number of insolvencies in this sector increases.

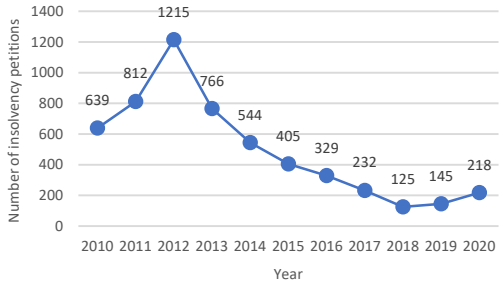
Figure 2: Number of insolvency petitions in 2010–2020 in the manufacturing industry



Source: Own processing based on Cribis dataset.

The third figure shows the development of the number of insolvencies in construction. Here, too, we see the same development trend as in the previous charts. From 2010 to 2012, we can see another increase in insolvency petitions, which again peaked in 2012. After that, we record a decline, the most significant overall between 2013 and 2014. The decrease in petitions lasts until 2018, from 2019 there has been a slight increase again.

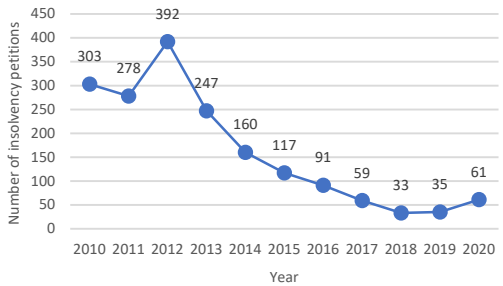
Figure 3 Number of insolvency petitions in 2010–2020 in the field of construction



Source: Own processing based on Cribis dataset.

In the graph located in the fourth figure, we deal with the number of insolvency petitions in transport. Here we can observe fluctuations between 2010 and 2011, when the number of insolvency petitions in 2011 is lower than in 2010. We record the highest increase in 2012, as in previous sectors. Then, over the years, we notice an almost linear decline in insolvency until 2018. From 2019, there is again a small increase in the number of petitions.

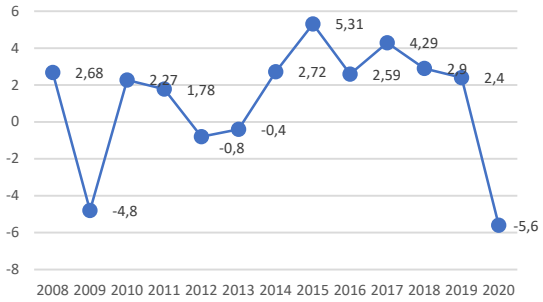
Figure 4: Number of insolvency petitions in 2010–2020 in the field of transport



Source: Own processing based on Cribis dataset.

In the last figure, we capture the year-on-year development of the Czech Republic's GDP since 2008. This will help us determine which sector was the most prominent in terms of the number of insolvencies in the period of economic growth. economy prospered, albeit with slight fluctuations. A large year-on-year decline in GDP occurred in 2020.

Figure 5: Graph of the year-on-year development of the Czech Republic's GDP in percentages



Source: Own processing based on datasets from www.kurzy.cz.

The chart shows the year-on-year decline of GDP in 2009 compared to 2008, when the crisis began in the United States in autumn. Another decline comes in 2012 and 2013. In the following years, the Czech

4 Discussion

With the help of time series analysis, we found out the development of the number of insolvency petitions in the field of Agriculture and Forestry, Manufacturing, Construction and Transport in the Czech Republic for the years 2010 to 2020. The same course of development took place in these four named sectors. Since the beginning of the analysis, i.e. 2010, we have observed an increase in the number of filed insolvency petitions, which lasts until 2012. In the sectors of agriculture and forestry, these numbers are growing almost linearly, while in the manufacturing and construction industries the increase is smaller between 2010 and 2011 compared to 2011 and 2012. In the case of transport, the number of insolvency petitions even decreased in 2011, compared to 2010.

The year 2012 is certainly interesting. In 2012, the highest number of filed insolvency petitions was recorded in all analyzed sectors. This may be due to the euro area crisis in 2011 and 2012. This is also likely to match GDP developments in those years in Figure 5, when there were year-on-year declines in output. Urbánek (2012) demonstrates these problems in the lower growth of companies in the first half of 2012, which was then the lowest in the last five years. At the same time, he mentions the economic problems of the time, such as the restriction of lending by banks, thus the attempts by companies to try to cut costs as much as possible, as well as tax hikes or deteriorating payment morale of companies. Problems in construction are captured in the Analysis of the Development of the Czech Economy in 2012 (2013), prepared by the Ministry of Industry and Trade, specifically by Department 31400. This confirms the decline in construction output by 6.5%.

From 2013 onwards, we can observe a decline in the number of insolvencies. It is also possible to see from the graph of GDP development that there has been a gradual increase from this year on and thus an increase in economic growth. According to the then Prime Minister of the Czech Republic Bohuslav Sobotka, the crisis in the Czech Republic also occurred due to inappropriate government policy, which failed to set a strategic plan for the economy (Urbánek, 2014). The undesirable economic situation also affected the construction industry. Later, the state of the Czech economy and at the same time the construction industry improved.

The increase occurs in 2020, when the aforementioned global coronavirus pandemic. Apart from agriculture and forestry, we see increases in insolvency petitions in all sectors analyzed. Despite the large economic downturn, the increases are not as high as they might seem. The reason, in our opinion, is the payment of compensatory aid, which still keep companies running. However, the development in the following years may not be completely favorable, especially when these bonuses cease to be paid out.

According to the data from the graphs, we can clearly determine that the construction sector was the one most affected by the crisis. In 2012, as mentioned above, the Czech economy was in recession. This is further evidenced by the graph of annual GDP growth. The construction industry suffered greatly due to this economic situation. Furthermore, in terms of the number of insolvencies, the manufacturing industry was also affected. However, it includes a number of other areas and thus a large number of companies, so from this point of view this sector has not been affected so heavily. On the other hand, transport also suffered significantly in the crisis, where we also record a large number of insolvency petitions.

We can observe economic growth from approximately 2014 to 2019. However, the decline in insolvencies began as early as 2013. The low number of insolvency petitions was quickly achieved by the agriculture and forestry and transport sectors. At the same time, we are seeing a decline in the construction industry, but not as sharp as in the above-mentioned sectors. On the contrary, we register a large decline in the manufacturing industry between 2012 and 2014. Which then, however, slowed down significantly.

This is very difficult, because both the crisis in 2008 and the current one are, in a way, specific. As we mentioned earlier, during the 2008 crisis, the construction industry was hit hard by the economy in recession. In today's crisis, the fields of hospitality and gastronomy, as well as retail, are suffering the most. The only advice we would give to owners of businesses to overcome another possible crisis is to have a sufficient financial reserve. It is not possible to make so many recommendations for the sectors we have analyzed - what comes to mind is, for example, changing production in the processing industry, growing crops that are in short supply. In transport, such as bus travel, we would propose a fare reduction to attract more new passengers, even at the cost of lower revenues, and then a re-increase in price. We think the most important aspect is to have a sufficient money reserve and also enough material reserves. The financial support paid by the government can also be of some help. But it cannot be paid out forever.

Conclusion

The aim of this work was to analyze the number of insolvency petitions during the economic recession and economic growth and to find out which sectors were the most affected in what year, and how the sectors performed during the economic growth. The aim was also to find out which year was the worst for the sector in terms of the number of insolvencies. Using document analysis, time series analysis, comparison methods and also causal analysis, we came to conclusions for these questions.

During the writing of this work, we encountered several complications. One of them was the lack of data on the number of insolvency petitions for the individual sectors. The data could be found in publicly available sources but was only available for some years. For the following years, the data were provided to us from the CRIF database. Another complication for us was the lack of documents focusing on the same topic as this work, from which it would be possible to carry out literature research or simply determine the method of research.

In our opinion, this paper has a high potential for further continuation. The Czech Republic and the world are now in the crisis of the Coronavirus pandemic. It is obvious that the Czech

economy is in a deep recession. So far, it has not manifested itself much in terms of the number of insolvencies. After the end of compensation programs for entrepreneurs, we can expect an increase in the number of corporate insolvencies and bankruptcies, but these were not the topic of this work. Therefore, this paper would have the potential for further analysis of the number of insolvency petitions and mapping of their further development.

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Primary Paper Section: A

Secondary Paper Section: AH

MUSICAL THEATER IN SLOVAKIA (IN THE PERIOD FROM BAROQUE TO ROMANTICISM)

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Abstract: Opera as a musical-dramatic phenomenon crystallized in European music of the 17th century, began to develop in Slovakia relatively late. Factors that had an impact on the development of Slovak opera are primarily aesthetic and social. Stylistic and thought tendencies were connected with the possibilities of opera authors to compose in freedom and in its sense to apply fundamental aspects and compositional procedures in opera works, which are internally harmonized with it. This possibility was not a matter of course in all development periods of Slovak opera. In this paper, we provide an insight into the explored issues of the development of opera in Slovakia from the baroque to the romanticism.

Keywords: Opera, Slovakia, historical development, musical-dramatic form, musical theatre.

1 Introduction

Opera is a musical-dramatic form that presents a musically elaborate, theatrically presented story, sung by individuals, a singing ensemble or ensembles. It also consists of choir, ballet and orchestra. Opera, as a musical-dramatic form, has been forming and evolving for centuries.[1] From a historical point of view, we date the origin of the opera to the period at the turn of the 16th and 17th centuries, around 1600. The sixteenth century, in the context of the origin of opera as a form, represented an important stage. It was a transition from the period of Renaissance music to Baroque music, a duel of linearly composed music, represented by the Renaissance polyphonic texture (especially polyphonic motets), and the monodic style. Camerata, a society of poets and musicians who convened in Giovanni Bardi's house (1534 – 1612), was founded in Florence around 1600. There, composers such as Claudio Monteverdi (1567 – 1643), Gulio Caccini (1551 – 1618), Vincenzo Gallilei (1520 – 1591), Jacopo Peri (1561 – 1633) or poet Ottaviano Rinuccini (1562 – 1621) studied ancient music and discussed the rediscovery of ancient Greek drama. The dominant position in it was represented by monodic music, an intelligible sung unanimity accompanied by a group of instruments. Members of the Camerata condemned the polyphonic music of the 16th century, which they accused of incomprehensible text. The meaning of a perfectly understandable word, expressing emotional content and affect, was to be paramount.[2] For this reason, in their new musical form, they promoted an accompanying monody. This type of music was comfortably acceptable to listeners and quickly spread to European countries. Opera, as a separate musical-dramatic form, thus crystallized in European music of the 17th century.[3]

However, in the territory of today's Slovakia, this phenomenon began to develop relatively late. Due to the political, economic and spiritual-cultural conditions in the country, this form did not have the conditions for its continuous development for many decades.[4] Although more than 150 years of threat from Turkish invasions had made part of Slovak territory a refuge for many scholars and nobles, the consequences of the constant state of war have affected the cultural and social development of the whole country. Nevertheless, the musical and theatrical culture of Slovak cities was at a remarkable level. However, we still did not have the conditions to develop a domestic opera event. The period of feudalism had no preconditions for the creation of a national culture, and even the art that was cultivated bore the marks of an Italian-German character. Therefore, Slovakia was still without theater, opera composers or performers.[5]

2 The beginnings of the development of opera in Slovakia

The 16th and 17th centuries in Slovakia were marked by school plays – first Protestant, later Catholic. These games – thematically based on ancient mythology and the Bible, were intended to strengthen religious faith through a compelling story. They were played by lay people and students for invited guests. School plays were performed in the school auditorium, in the house of the mayor, or on an improvised stage in the square. We do not have much information about the musical component of the Baroque school theater – we only know that the individual plays were intertwined with musical inserts, composed by e.g. local cantor, who also took care of the realization of the songs. From the 17th century, Slovakia gradually became the seat of non-national nomadic acting companies, but their sporadic performances only included dramatic spectacles.[6]

After the political and war situation had calmed down, it allowed for the conditions of domestic operatic life to develop, which in the meantime spread to public art for paying visitors of opera houses. The lag behind the operatic development of other European countries in Slovakia was manifested, for example, by the fact that while in the 18th century opera was a matter of aristocratic performances, in most European countries it was more of a bourgeois affair, i.e. intended for the general public. The beginnings and the first expansion of feudal opera in our territory dates back to about 1740, when the opera *Artaxerxes* by Johann Adolph Hasse (1699 – 1783) was performed in the newly built wooden theater building in Bratislava at the coronation of Maria Theresa (1717 – 1780). It was during the reign of Maria Theresa (1740 – 1760) that new aristocratic residences began to appear in the city, where concerts were played, but musical theater was also performed.[7]

3 Opera in Slovakia in the period of Classicism (1760 – 1830)

In the period of Classicism, Slovakia occupied about a fifth of the territory of Hungary at that time. From the point of view of the history of musical Classicism, the greatest contribution was recorded in the years 1760 – 1785. In this golden Theresian age of the development of music in Slovakia, the new quality also manifested itself in the field of creation. Until the mid-1980s, Bratislava was the center of political, economic, religious and cultural life, becoming one of the leading music hubs. In the following period (1785 – 1810) due to heteronomous factors in the historical development of Hungary and changes in the patronage of music (the nobility is gradually being replaced by the bourgeoisie), we register a rather negative impact on domestic compositional production.[8] Ultimately, the period after 1810 brought changes. Despite these facts, Classicism in Slovakia recorded a further formation of its own features of music culture, which could become an active part of the complex of European music culture.[9]

The opera appeared in Slovakia in the 1840s. Its beginnings are connected with the cultural development of Bratislava and the first "theater" building in which professional opera companies could be hosted. The first encounter with Italian opera was the arrival of Pietro Mingotti's opera company.[10] At the turn of the period in the years 1759 – 1760, theater was performed by the Girolamo Bono's theater company. Between 1764 and 1775, the musical theater was performed on the Main Square of Bratislava in the Grünes Stübel house, adapted for the needs of the theater.

[1] BARTKO, E.: *Stručná encyklopédia tanečného umenia*. Bratislava: Verbunk s. r. o, 2018. p. 367. 637 p.
[2] HOSTOMSKÁ, A.: *Opera – průvodce operní tvorbou*. Praha: Státní hudební vydavatelství n. p., 1962. p. 12-14. 797 p.
[3] SMOLKA, J. et. al.: *Dejiny hudby*. Praha: TOGGA, spol. s. r. o., 2003. p. 10. 657 p.
[4] RYBARIČ, R.: *Dejiny hudobnej kultúry na Slovensku I*. Bratislava: Opus, 1984. p. 134. 231 p.
[5] HOZA, Š.: *Opera na Slovensku 1*. Martin: Osveta, N. P., 1953. p. 15. 333 p.
[6] HOZA, Š.: *Opera na Slovensku 1*. Martin: Osveta, N. P., 1953. p. 20-22. 333 p.
[7] NOVÁČEK, Z.: *Hudba v Bratislave*. Bratislava: Opus, 1978. p. 271. 505 p.
[8] MÚDRA, D.: *Dejiny hudobnej kultúry na Slovensku II*. Bratislava: Slovenský hudobný fond, 1993. p. 11. 316 p.
[9] ELSHEK, O.: *Dejiny slovenskej hudby*. Bratislava: ASCO Art & Science, 1996. p. 139-144. 572 p.
[10] DLHÁNOVÁ, V. *Dejiny*. [Online.] [Cit. 2021-12.14.]

The companies of Joseph Felix Kurz and Domenik Zamperini performed here. In 1776, a stone theater building for 800 spectators was built and made accessible for this purpose, located approximately at the premises of the opera house of the Slovak National Theater. However, due to the city's financial difficulties, none of the theater companies persisted here extensively. The theater was also disrupted by the Napoleonic Wars. Joseph Glöggl (1906 – 1977), Karel Frierich Hansler (1759 – 1825), Ignaz Hildebrandt (1690 – 1772) and August Stöger (1791 – 1861) should be considered successful directors of the post-war period, already marked by the taste of the bourgeoisie.[11]

The greatest prosperity of the opera in Bratislava was marked by the eighties of the 18th century, thanks to a collaborator and personal friend of J. Haydn (1732 – 1809) – Karel Wahr (1745 – 1798), who worked alternately in Bratislava and Eszterháza, who contributed to the premiere of several Haydn's musical-stage works. In the last third of the 18th century, the opera buffa was increasingly replaced by the more artistically penetrating singspiel.[12] K. Wahr's promotional activities were closely connected with the private opera company of Count Johann Nepomuk Erdödy, which can be considered the most important aristocratic theater scene of Classicism in Bratislava. Over the course of forty years, it has presented several dozen of premieres of a wide range of styles and genres. The rich repertoire also included current opera buffas, Italian operas of the series and Viennese singspiels. The Hungarian premiere of W. A. Mozart's opera (1756 – 1791) *Die Entführung aus dem Serail*, in 1785, can be specifically mentioned as an interesting feature.[13] The intense cultivation of music by the nobility is evidenced by several laudatory records in the periodical press. The Pálffy Theater also played a vital role in the theater period of Classicism in Bratislava.[14]

Another important center of music in Slovakia in the period of Classicism was the city of Košice. However, the opera arrived to Košice relatively late. It was first introduced by predominantly German nomadic companies, which appeared in the city more regularly from the second half of the 18th century.[15] One of the first was a group of Gertrude Bodenurg and Hilverding. Companies such as Joseph Mayer, Joseph Dietelmayer, Albert Bienfait and Barbora Göttersdorf can also be mentioned. Due to financial difficulties, none of the mentioned companies managed to stay in Košice for more than two to four seasons. An important musical figure of the city – F. X. Zomb (1779 – 1823), emphasized in the first development period (since 1771) the importance of the birth of musical theater in addition to aristocratic and church music and in the second period (since 1789), the need for Slovak opera and reproduction. The situation was not completely resolved by the permanent opera house, which was built in Košice with the support of the city and the nobility in 1789. However, the era of temporary theater buildings and the display of operas on the market or behind the city walls ended. The first tenant of the building was Heinrich Böll, a native of Prague (1917 – 1985), who based his repertoire on the Prague experience. He also included the singspiels of Dittelsdorf (1739 – 1799) and Mozart in the program.[16] At the turn of the century, theatrical plays by the opera company of Philipp Berndt, Ignaz Stöger and L. Fournier were also performed in Košice. The regular performance of operas did not occur until the era of director Václav Mihule (1804 – 1807), and it was thanks to him that the audience could witness Mozart's *Don Giovanni*, *The Abduction from the Seraglio*, *The Magic Flute* and *The Marriage of Figaro* were seen. The repertoire was further expanded by the well-known theater director Philipp Zöllner (1813 – 1816).[17]

4 Music and theater events outside the two main music and cultural centers

Other notable musical centers include cities where performing arts have been presented through companies, but rarely in buildings designed for this purpose. Within Western Slovakia, in addition to Bratislava, we can highlight:

- Holíč – especially the Holíč Castle, which Maria Theresa chose as a summer residence where comedies and opera buffas were performed in her presence;
- Trnava – opera events. Since 1831, Trnava also had a permanent theater building, in which the music and theater company of Daniel Mangoldt performed up to 23 performances in the very first year;
- Nitra – students of the Piarist school performed school plays with music.

Within Central Slovakia, it is necessary to mention:

- Ružomberok, Liptovský Mikuláš – Jesuit schools performed school theater performances and had an amateur music and theater club;
- Banská Bystrica – theatrical events, presented only sporadically in the Jesuit church and monastery.[18]

Within the Spiš region's area of music and cultural events they were:

- Levoča, Spišská Nová Ves, Kežmarok, Spišské Podhradie – theater companies (especially German) coming from Košice;
- Smolník – with one of the oldest stone theater buildings with modern theater technology and a prosperous permanent amateur company, which also performed singspiels.

Apart from Košice, the Eastern Slovak area of music and cultural events fell under:

- Prešov – its own theater, which hosted mostly German nomadic theater companies. Among other things, they performed Mozart's operas *Don Giovanni*, *The Marriage of Figaro* and *The Magic Flute*;
- Bardejov (The Bardejov Spa) – hosting theater companies from Košice and Prešov. The stone building of the theater, which allegedly existed before 1817, is also mentioned in the literature.[19]

5 Theater repertoire and composers of operas in the period of Classicism in Slovakia

The theatrical repertoire in Slovakia was represented within the theatrical performances of opera, singspiels, but also ballets. These were works by mostly German and Italian authors who also performed in Slovakia. From the musical-stage genres, Baroque Italian opera of the Neapolitan type was initially established. It drew ideas from the lives of its contemporaries, especially the aristocracy, which it copied. The singspiel that came to Slovakia from Germany gained general popularity. Domestic production was represented exclusively by composers living in Bratislava in the last decades of the 18th century. The first known opera composer of Slovak origin was Matej Kamenický (1734 – 1821). However, Kamenický belongs to the history of Polish opera, so his first opera *Nedza uszczęśliwiona* (Poverty Made Happy), composed and premiered in 1778 in Warsaw, is also the first Polish opera. In addition to this opera, Kamenický also composed four operas based on the Polish texts

[11] MÚDRA, D.: *Dejiny hudobnej kultúry na Slovensku II*. Bratislava: Slovenský hudobný fond, 1993. p. 22-23. 316 p.
[12] MÚDRA, D.: *Dejiny hudobnej kultúry na Slovensku II*. Bratislava: Slovenský hudobný fond, 1993. p. 22. 316 p.
[13] SMOLKA, J. et. al.: *Dejiny hudby*. Praha: TOGGA, spol. s. r. o., 2003. p. 394. 657 p.
[14] MÚDRA, D.: *Dejiny hudobnej kultúry na Slovensku II*. Bratislava: Slovenský hudobný fond, 1993. p. 19-20. 316 p.
[15] VAJDA, I.: *Slovenská opera*. Bratislava: Opus, 1988. p. 13. 366 p.
[16] HOZA, Š.: *Opera na Slovensku 1*. Martin: Osveta, N. P., 1953. p. 103-109. 333 p.
[17] MÚDRA, D.: *Dejiny hudobnej kultúry na Slovensku II*. Bratislava: Slovenský hudobný fond, 1993. p. 27. 316 p.
[18] ELSHEK, O.: *Dejiny slovenskej hudby*. Bratislava: ASCO Art & Science, 1996. p. 146-149. 572 p.
[19] MÚDRA, D.: *Dejiny hudobnej kultúry na Slovensku II*. Bratislava: Slovenský hudobný fond, 1993. p. 18-38. 316 p.

Sophia, or Country Courtship, Virtuous Simplicity, Tradition Resolved by Humour and *The Burgher's Ball*, which premiered in Warsaw, and two German texts. However, operas with a German text were never performed.[20]

In the literature we can also find mentions of music-stage works:

- František Xaver Tost (1751 – 1829) – opera *Die Werbung auf dem Jaahrmarkt* (1792), singspiels *Der edle Eifer* (1796), *Das Dorf im Gebirge* (1798), *Mann und Frau, Witwer und Witwe, Der Sonderling* and *Der Lügner*;
- Jozef Chudý (1753 – 1813), who continued the traditions of Viennese singspiel – the singspiels *Pikkó Hertzeg és Perzsi Jutka* subtitled the Sad-merry Opera, which is also the first Hungarian opera (1789), and *Der Telegraph oder die Fernschreibmaschine*, however they were not significantly successful;
- Ján Anton Zimmermann (1741 – 1781) – singspiel *Narcisse et Pierre* (1772), melodramas *Die Wilden* performed in 1777 in Bratislava, *Andromeda und Perseus* (1781), *Leonardo und Blandine, Zelmort und Ermide*;
- Juraj Družecký (1754 – 1819) - opera *Mechmet*.

From among the works of Slovak authors, Zimmermann's melodrama *Andromeda und Perseus* has successfully spread on European stages.[21] We have only one documented musical-stage work from the country, the comic singspiel by František Hrdina *Der Bettelstudent*. There are also mentions of the operas of Andrej Bartay (1825 – 1901) and the operas of Ján Jozef Rösler, a native of Banská Štiavnica who operated in Prague (1771 – 1813). However, in most cases, the only reports of the existence of works from the music and stage genres of the home province have been preserved in the periodical press or performance announcements. Among the musical-theatrical works of European composers, the following are significant in Slovakia in the period of Classicism:

- J. Haydn – the premiere of the opera *La Canterina* in 1767, its libretto was published by the Bratislava librettist J. M. Landerer,
  - the premiere of the opera *Der Zerstreute* in 1774,
  - the premiere of *La Fedelta* opera in 1785,
  - the premiere of *La vera Constanza* in 1786,
  - the premiere of the comic opera *Orlando Paladino* in 1787.[22]
- W. A. Mozart – the opera *Die Entführung aus dem Serail*, thanks to J. Chudý, premiered in Bratislava in 1785, thanks to H. Bull in Košice,
  - the premiere of the opera *Le Nozze di Figaro* in 1810/1811 in Košice,
  - the premiere of the opera *Don Giovanni*, premiered two years after its creation thanks to the company of Hubert Kumpf, in 1825 through the company of August Stöger, in 1806 and 1811 also in Košice and the performance of the opera by the theater company of F. Neubauer in Prešov is also mentioned,
  - the premiere of the opera *Die Zauberflöte*, in Košice in 1794, 1808 – 1810, 1831 and in Bratislava in 1814 and 1825,
  - opera *La Clemenza di Tito*, premiere in Bratislava, 1809.[23]

6 Opera in Slovakia in the period of Romanticism

At the beginning of the 19th century, other socio-political changes shaped the musical life in the territory of today's Slovakia, and the Napoleonic Wars paralyzed the development of the entire country. The period of post-war riots and the stabilization of conditions reflected in the music culture by the growing promotion of the taste of the bourgeoisie. The struggle for national identity and civil liberties resulted in the revolutionary years (1848 – 1849).[24] A large number of the Slovak population emigrated to foreign countries, and the nobility and the great bourgeoisie of German and Hungarian origin remained the decisive strata. Socio-political conditions in our country meant that the largest opera stages in the newly built theaters in Bratislava and Košice continued to predominantly serve German and Hungarian theater companies. Since the archives of theater companies operating in Bratislava have been preserved only in fragments, we can only learn information about the history of theater in Bratislava until 1918, reconstructed from a fragmentary source base.

The only remnant of information about theater in Košice is that in the last quarter of the century, the opera duel ended in a deep crisis caused by several factors. Since 1863, the interests of the audience in Košice have been represented by the Hungarian National Theater Commission, made up of representatives of the Hungarian aristocracy and yeomanry, often intervening in the theatre's internal affairs beyond their statute.[25] One of the basic problems was the question of the dramaturgy of professional singspiel theater. As early as 1865, the Hungarian National Theater Commission released the directors of theater companies from the obligation to maintain the opera part of their ensemble, and later that year also to maintain the operetta ensemble. The Commission planned to support the development of Hungarian drama. However, there was no interest in it in the second half of the 19th century, thus the directors continued to attract the audience by staging operettas. The city of Košice had problems with casting talented soloists and with providing a quality orchestra that was able to operate only with the support of a military orchestra. All this resulted in a deep crisis of the musical component of the professional theater in Košice, culminating in 1880 – 1898. By opening of the new theater building in 1899, the theatrical life of Košice, especially the musical theater, was supposed to flourish. The audience in Košice did not experience this until 1902, when the actor János Komjáthy (1865 – 1949) became the director, with a creative personality and taste, who restarted the operatic life of Košice by inviting foreign guest ensembles.[26] In addition to Bratislava and Košice, operas were also sporadically heard in other cities – Banská Bystrica, Nitra, Prešov and Trnava.

7 Contemporary musical and dramatic works in Slovakia

Within the domestic context, it is also necessary to include three stage works by Heinrich Marschner (1795 – 1861), which were created during his time in Bratislava. In addition to one singspiel, there are two three-act operas. The works of *Saidar* and *Zulima* premiered here in 1818 and *Heinrich IV.* premiered in Dresden, staged by C. M. von Weber (1786 – 1826). Other stage works by domestic authors were probably created in the second half of the 19th century.[27] An end to the traditions of school plays is the school opera by Alexander Kapp (1799 – 1869) in two acts from 1867 – *The Sons of Jacob*, with the theme of the first biblical book of Genesis. It was demonstrated several times by students of the Trnava grammar school. The libretto published in the press and part of the vocal and instrumental parts in the manuscript have been preserved, the arias are missing. From a stylistic point of view, this is a compositional work of late Classicism without much peculiarity (the author apparently expected more or less amateur performers). It is the first opera by a Slovak composer, which does not belong to the musical-dramatic history of our neighbors in the north or south. The composers in Slovakia who composed operas mostly belonged to the supporters of the opera reform of Richard Wagner (1813 – 1883). In particular, they received suggestions on instrumentation, provided that the importance of the orchestral component would be strengthened. Wagner was also admired by K. Mayberger (1828 – 1881), who created the four-

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[21] MICHALKOVÁ, Ľ.: *Tradícia a inovácia v koncepte hudobnodramatických kompozícií Antona Zimmermanna*. [Online.] [Cit. 2021-12-14.] p. 9-11.
[22] ELSHEK, O.: *Dejiny slovenskej hudby*. Bratislava: ASCO Art & Science, 1996. p. 153. 572 p.
[23] MÚDRA, D.: *Dejiny hudobnej kultúry na Slovensku II*. Bratislava: Slovenský hudobný fond, 1993. p. 51-55. 316 p.
[24] SMOLKA, J. et. al.: *Dejiny hudby*. Praha: TOGGA, spol. s. r. o., 2003. p. 323. 657 p.
[25] ELSHEK, O.: *Dejiny slovenskej hudby*. Bratislava: ASCO Art & Science, 1996. p. 206. 572 p.
[26] HOZA, Š.: *Opera na Slovensku 1*. Martin: Osveta, N. P., 1953. p. 117-129. 333 p.
[27] ELSHEK, O.: *Dejiny slovenskej hudby*. Bratislava: ASCO Art & Science, 1996. p. 223. 572 p.

act opera *Melusine*.[28] The complete performance of the work took place in the Bratislava theater in 1877. The theme of this opera is a typically romantic story about a beautiful nymph and a nobleman Raimund, especially popular in the 19th century. Currently, only the piano arrangement of this opera is available. He also wrote the burlesque opera, or operetta *Princess Europe*, and did not complete the opera *Who Reigns*. We also consider Ján Levoslav Bella (1843 – 1936) to be an important composer who contributed to Slovak opera.[29]

8 Conclusion

In operas, the world of music is combined with acting, stage images and movement. Opera productions often depict historical, mythological, fairy-tale or comic themes, which are complemented by magnificent music and brilliant singing performances. Most of the characters (or all of them) sing all the time, which gives the opera a touch of grandeur. In some cases, it can even evoke mysterious feelings, which is why people have considered it exotic in history. Opera continues to gain new audience, because it is this form of classical music that can change us physically, emotionally and intellectually.[30] In the presented study, we therefore decided to approach the development of Slovak opera and opera life in Slovakia until the Romantic period. Another stimulus was the fact that Slovak opera is gaining more and more importance in the music world. With this contribution we want to add to the deepening of the international knowledge of Slovak musical theater. This paper represents a starting point for further research of the outlined issues, with emphasis on the period of the 20th century and contemporary opera.

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OCA INDEX AS INDICATOR OF THE CZECH REPUBLIC'S PREPAREDNESS TO JOIN THE EUROPEAN MONETARY UNION

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The paper is the output of the institutional support that was implemented at the Faculty of Economics of the Technical University in Liberec in 2021.

Abstract: The optimum currency area (OCA) theory evaluates the currency area as optimum at a time when the participating countries are not at risk of macroeconomic instability due to the existence of a common currency. The OCA index is a tool used to comprehensively assess the costs and benefits of a candidate for joining a monetary union. It is constructed as a bilateral index assessing the appropriateness of introducing the single currency in two countries. The article presents the OCA index quantified for the Czech Republic in relation to Germany, which is considered to be the core of the European Monetary Union. Since the OCA index needs to be interpreted in a temporal or spatial comparison, the calculation of the OCA index was also performed for other countries of the Visegrad Group (V4) and furthermore for Austria and Portugal, using data from the period of 2007–2019. The results of the OCA index show a high degree of variability in the Czech Republic in the observed period. While in the first half of the period under review, the Czech Republic achieved the best results within the assessed economies and the Czech Republic's level of preparedness for the common currency with Germany was higher than in the case of Austria, it fell sharply after 2012. The reason can be seen, among other things, in the higher growth rate of the Czech economy than in the euro area. Although the OCA index is an indicator assessing the preparedness of an economy to join a monetary union, it cannot be the only indicator. Other important criteria include, for example, labour mobility, price and wage flexibility, fiscal integration and more. Although the Czech Republic is approaching the euro area average in all key indicators, the gap from it remains significant for most indicators and thus continues to be a factor against the adoption of the euro in the coming years.

Keywords: Optimum currency area, OCA index, monetary integration, European Monetary Union.

1 Introduction

A monetary area is an area in which individual countries use a common currency, while not every country is a suitable candidate for membership in a monetary union. The advantage of membership in a monetary union lies in the elimination of transaction costs of exchange and exchange rate risk or an increase in competition and thus making a pressure on the quality of production. The costs then stem mainly from the loss of national monetary policy as a tool for responding to economic shocks and the associated possible losses in economic performance. The economic advantage of membership in a monetary union must therefore be assessed by comparing the benefits and costs associated with the adoption of the single currency. The theory of optimal currency areas (OCA) is used to assess the appropriateness of adopting the single currency. The economic advantage of membership in a monetary union must therefore be assessed by comparing the benefits and costs associated with the adoption of the single currency. The theory of optimal currency areas (OCA) is used to assess the appropriateness of adopting the single currency. The monetary area becomes optimal when the participating countries do not face macroeconomic instability due to the existence of a common currency. This situation arises when the participating countries either have their economic cycle synchronized and are exposed to symmetric demand and supply shocks or are at least equipped with sufficiently flexible adjustment mechanisms in the goods and factor markets. If none of the above conditions of optimality are met, the participating countries risk macroeconomic instability in the form of permanent differences in the level of production and unemployment.

The basis of the so-called classical theory of OCA was laid by Mundell (1961), McKinnon (1963) and Kenen (1969); they thus formulated a completely new approach to convergence assessment. Although the theory of optimal currency areas has had a number of critics since its inception (Mongelli, 2008; Corsetti, 2008, and others), it is considered a comprehensive tool for assessing currency areas.

The basic factors determining the success of the functioning of the monetary union of the classical OCA theory include the mobility of production factors, the openness of economies and the diversification of production. Many authors (Beine, 2000) later use other alternative OCA assessment criteria in their work, such as price and wage flexibility, financial market integration, similarity of inflation rates, fiscal and political integration (Baldwin and Wyplosz, 2019), and others. In the development of OCA theory, Europe has been the main focus of research since the 1990s, due to long-standing efforts to create a monetary union and the availability of a range of data.

2 Methods of Research

The OCA theory has identified the above-mentioned basic economic characteristics to be met by cooperating countries in order to determine whether the use of the single currency is optimal. However, these indicators can only be assessed individually. In order to comprehensively assess the achieved degree of convergence, so-called OCA indices were created. These indices allow a comprehensive assessment of the state of convergence on the basis of one dimensionless number, the value of which expresses the suitability or unsuitability of membership in the monetary union for the respective economy. The construction of the OCA index is based on the formulation of a one-equation econometric model using cross-sectional data. All indices are based on a minimization criterion, which means that the lower the absolute value of the index, the more likely the two compared economies form the optimal monetary area and the benefits of adopting the single currency are maximum. The general disadvantage of OCA indices is the absence of critical values that would determine the fulfillment or non-fulfillment of individual criteria.

One of the first OCA indices was published by Bayoumi and Eichengreen (1997a) who examined key factors such as asymmetric output shocks, trade ties, currency usability for transactions, labour mobility, and the range of automatic stabilizers. The OCA index was then published in the form of the following regression equation using indicators of economic cycle alignment (SD (Δyi - Δyj)), similarity of economic structure (DISSIM), trade interconnectedness (TRADE) and economic size (SIZE). The SD(eij) indicator indicates the variability of the bilateral exchange rate between countries i and j.

$$SD(e_{ij}) = \alpha + \beta_1 \times SD(\Delta y_i - \Delta y_j) + \beta_2 \times DISSIM_{ij} - \beta_3 \times TRADE_{ij} + \beta_4 \times SIZE_{ij} \quad (1)$$

Bayoumi and Eichengreen estimated the parameters of the model based on empirical research as follows:

$$SD(e_{ij}) = -0{,}09 + 1{,}46 \times SD(\Delta y_i - \Delta y_j) + 0{,}22 \times DISSIM_{ij} - 0{,}054 \times TRADE_{ij} + 0{,}012 \times SIZE_{ij} \quad (2)$$

The SD indicator (Δyi Δyj) is calculated as the standard deviation of the difference in the logarithm of real output between i and j. If in both countries the economic cycles are symmetric and the national outputs move together, the resulting value of the indicator is low. The DISSIM indicator is the sum of the absolute differences in the shares of agricultural, mineral, and manufacturing trade in total merchandise trade. A lower value of the DISSIM indicator means better conditions for the adoption of the common currency. The TRADE indicator is the mean of the ratio of bilateral exports to domestic GDP for the two countries. The SIZE indicator measures the size of economies and is the mean of the logarithm of the two GDPs. The lower values of the indicators (with the exception of the TRADE indicator) represent a higher structural convergence between the examined economies. Thus, better conditions for the adoption of the common currency can be expected.

Data from non-European economies were also used in the construction of the above regression equation (2), therefore some authors (for example Horváth and Komárek, 2002) use its form adapted for European countries, also published by Bayoumi and Eichengreen (1997b), to assess optimal monetary areas in Europe. The modified equation is as follows:

$$SD(e_{ij}) = 0{,}75 \times SD(\Delta y_i - \Delta y_j) - 0{,}0026 \times TRADE_{ij} - 0{,}13 \times DISSIM_{ij} + 0{,}031 \times SIZE_{ij} \quad (3)$$

Equation (3) was used to calculate the OCA index of the Czech Republic in relation to Germany which is considered to be the core of the European Monetary Union (EMU). Another reason for choosing Germany is the fact that Germany is the largest economy in EMU and carries out foreign trade with all EU countries. Germany is used as a comparison base for the calculation of OCA indices in the works of the authors such as Cincibuch and Vávra (2000), Horváth, Komárek (2003), Pilat (2011), Frydrych (2018), Selvaraj (2020), Akalpler (2021) and others.

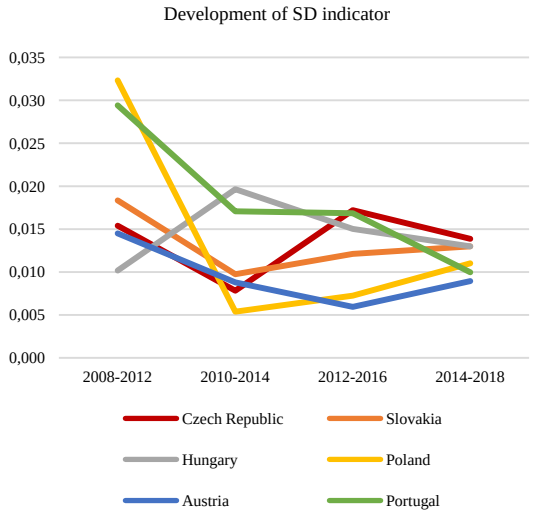
Since there is no clear numerical criterion of the OCA index to draw a conclusion about the usefulness or uselessness of the common currency, the OCA index must be interpreted in temporal or spatial comparison. For the purpose of this comparison, the calculation of the OCA index was also performed for other countries of the Visegrád Group (V4) that is Slovakia, Hungary and Poland, as these are the economies of the Central European region to which the Czech Republic belongs. Another economy studied is Austria, partly because it is part of the Central European region and partly because it is part of the so-called EMU core. The last country to be compared is Portugal as a representative of the periphery of the EMU.

The World Bank data, including the World Integrated Trade Solution database, were used for the calculation. These were data on real GDP at 2010 prices in US dollars, nominal GDP at current prices in US dollars, total exports in US dollars and exports of each economic category according to SITC rev2 Groups. Data for the period 2007–2019 were used.

3 Results of the Research

When comparing the values of the indicator of the alignment of SD (Δyi - Δyj) economic cycles of individual economies with Germany, it is evident that in the observed period they gradually converged, see Figure 1. While the Czech Republic showed better (lower) results in the first two monitored periods than most other countries under comparison, since 2012 it has shown the highest values, which means the least alignment of the economic cycle with Germany of all countries under comparison. However, it should be pointed out that the differences between individual countries are only minimal in the last monitored period (2014 – 2018). In the long run, Austria shows very low values indicating the highest alignment of the economic cycle with Germany. The long-term stable mutual convergence of Austria and Germany is also confirmed by the Gebauer study (2021). Figure 1 also shows that the alignment of Portugal's economic cycle with that of Germany has been improving for a long time. In the period of 2014 – 2018, Portugal showed the second best result in this area following Austria.

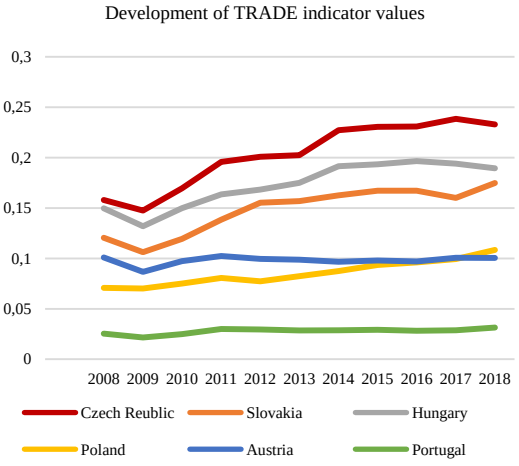
Figure 1 Development of SD values (Δyi - Δyj)



Source: author´s own source based on the World Bank data

In the area of the TRADE indicator, which testifies the interconnectedness of trade between the assessed economies and Germany, the Czech Republic has been doing best in the long-term economies analysed; see Figure 2. The TRADE indicator can be assessed positively in relation to higher structural convergence between the economies examined, if it reaches higher values. The Czech Republic reaches values in the range of 0.15 to 0.24 in the monitored period with an increasing trend. By contrast, Portugal shows the least trade interconnection with Germany in this comparison, with values of only between 0.02 and 0.03.

Figure 2 Development of TRADE indicator values



Source: author´s own source based on the World Bank data

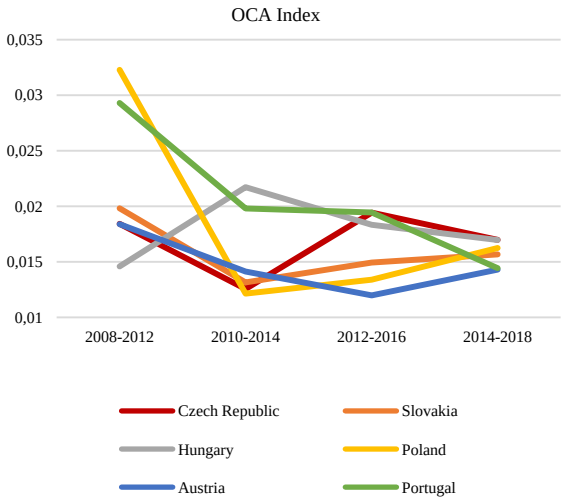
The result of the Czech Republic in the area of the TRADE indicator is by no means surprising. Germany is the Czech Republic's main trading partner and the Czech Republic is also an important trade partnership for Germany. According to DESTATIS (2021), the Czech Republic is the 11th most important export destination for Germany and the 7th most significant import country. The main areas of mutual trade relations between the two countries are engineering products.

According to Horváth and Komárek (2002), the variables SIZE and DISSIM are not significantly different from zero for the

evaluation of exchange rate variability; therefore, their results are not presented in more detail here.

The total value of the OCA index is shown in Figure 3 from which it is possible to trace the mutual approximation of the OCA index values of the monitored countries. While in the period of 2008 – 2012 the assessed economies showed index values in the range of 0.015 - 0.032, in the period of 2014 – 2018 the values ranged from only 0.014 - 0.017.

Figure 3 OCA index



Source: author´s own source based on the World Bank data

The results of the OCA index show a high degree of variability in the Czech Republic in the observed period. While in the period of 2010 – 2014, the Czech Republic achieved the best (lowest) values within the monitored economies, in the period 2012 – 2016 these were the worst (highest) values. In the years 2010 – 2014, the level of preparedness of the Czech Republic for the common currency with Germany was thus higher than in the case of Austria, but later decreased significantly. This fluctuation can be partly attributed to the effects of the economic crisis, which occurred later after 2009 and persisted and disrupted the degree of alignment of the economic cycles of the Czech Republic and Germany. The impact of the crisis on the CEE region was particularly strong. Deterioration of the OCA index results can also be observed in Slovakia and Poland in this period. Later, a higher growth rate of the Czech economy than in the euro area had the effect of reducing the Czech Republic's cyclical alignment with Germany. The main reason was the growth of industrial production, which in the Czech Republic has long been above the euro area average. In the last monitored period in the Czech Republic (2014 – 2018), it is possible to observe again a slight improvement in the value of the OCA index and its approximation to the results of other countries.

From the values of the OCA index reported by countries in the last monitored period (2014 – 2018), it can be concluded that the country's involvement in EMU can contribute to reducing the probability of real asymmetric failures. The countries involved in EMU (especially Austria) show better (lower) values of the OCA index than the countries outside EMU. This statement can be supported, for example, by the finding of Sideris (2011), which concluded, among other things, that a higher degree of structural convergence can be identified in the countries that have adopted the euro. On the other hand, in the case of the Czech Republic's involvement in the EMU, this effect can be estimated as relatively small as the Czech Republic's trade is already largely focused on the euro area and gradual euroization is taking place, see also Mačí (2020).

4 Discussion

While very low values of the OCA index indicate the usefulness of the common currency, high values indicate structural differences in economies requiring a change in the exchange rate in the event of asymmetric shocks and thus less advantage in creating a monetary union. However, there is no clear criterion for distinguishing these extremes, so the OCA index is of relative importance only when compared in time or space. However, variously constructed OCA indices are used quite often for this purpose.

As far as the Czech Republic is concerned, Cincibuch and Vávra (2000), for example, have followed the development of the OCA index in the past. The authors find a strong convergence of Czech OCA variables, especially to Germany, in the 1990s. At that time, according to their findings, the Czech Republic showed a higher degree of convergence than Greece or Portugal. A similar conclusion is reached, for example, by Skořepa (2013). Our findings confirm this trend for the period up to 2012. In the area of the TRADE indicator, however, the Czech Republic has been showing the best values of all analyzed economies on a long-term basis.

The OCA index may be a suitable indicator for assessing the preparedness of an economy to join a monetary union, however, it is not the only indicator. Other important criteria include, for example, labour mobility. For example, Selvaraj (2020) concludes that greater labour mobility, price and wage flexibility and fiscal integration are prerequisites for monetary union to enable a Member State to cope with asymmetric shocks and ensure economic stability. The Czech National Bank (2021) then takes into account other criteria when assessing the Czech Republic's preparedness to join the euro area. These are, for example, ownership links with the euro area, alignment of the financial cycle, convergence of interest rates with the euro area, alignment of the Czech koruna with the euro, alignment of financial markets, sustainability of public finances and convergence of euro area wealth levels. While ownership links with the euro area, convergence of interest rates vis-à-vis the euro area and the alignment of the Czech koruna with the euro are indicators that have spoken in recent years in favour of the Czech Republic's participation in the euro area; for the other mentioned indicators, they range from neutral to negative.

5 Conclusion

The OCA Index is a tool used to comprehensively assess the costs and benefits of a candidate for joining a monetary union. The OCA index is based on OCA theory and is constructed as a bilateral index assessing the appropriateness of introducing a single currency in two countries. The introduction of the single currency is all the more advantageous; the less the nominal exchange rate of countries tends to oscillate.

The degree of convergence of the Czech Republic in relation to Germany can be assessed as relatively good in comparison with the results of the OCA index values of other assessed economies. The position of the Czech Republic regarding the suitability of participation in EMU is comparable with other evaluated economies. In particular, the values of the TRADE indicator suggest a potentially high contribution of the monetary union created between the Czech Republic and Germany. However, the results of the SD indicator ($\Delta yi - \Delta yj$) evaluating the alignment of the economic cycle do not provide such a clear conclusion. Reserves can still be seen here in the Czech Republic, although in the last few years, after a period of considerable volatility, a favourable development can also be observed here. However, it is not yet clear how the effects of the Covid-19 pandemic will be reflected in the alignment of the Czech economy with the German economy and in the functioning of adjustment mechanisms.

The unconvincing value of the OCA index and the fact that the Czech Republic's preparedness to join the euro area needs to be assessed with regard to other factors such as the sustainability of public finances or convergence of euro area wealth levels, it can be stated that the degree of real convergence in the Czech Republic still does not reach the euro area average. Although the

Czech Republic is approaching the euro area average in all key indicators, the gap remains significant in most indicators and continues to be a factor that speaks against the adoption of the euro in the coming years.

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THE MAIN ASPECTS OF UNDERSTANDING OF INNOVATION IN LEISURE SERVICES: A THEORETICAL APPROACH

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Abstract: Innovation is essential for understanding the productive and reproductive processes in the economic system. Recreational organizations do not create innovation, but rather integrate existing and proposed innovation on the base of the proposed new or improved existing services. The purpose of the article – to discuss the application of innovation and understanding the causes of leisure services. Theory of innovation in leisure services backs on four major principles: first – innovation could be caused by customer's internal or external factors, second – an opportunities of new activities renovates customer's interest. The third principle is related to customer's need to be exclusive and self-actualization this means that in order to meet exclusive customer's needs services must be changed in accordance to customer's perception and needs. The forth principle of leisure services innovation emphasizes that met customers' needs affecting health, makes them more active vital and courageous. Innovative content of the system consists of vital indicators of leisure services, containing the following three elements as the whole: the market demand, technology and innovation efforts. Consumer perception and attitude towards innovation leisure services, has a multifunctional nature, where three fundamental issues are distinguished: cognitive, emotional and behavioural components.

Keywords: innovation, leisure services, innovation systems, types, consumer

1 Introduction

Leisure services could be defined as personal, social and public conditions that arises customer's interest and wish to become a participant of these services. These conditions also encourage positive interaction related to physical, social, cultural and organisation environment which creates perfect conditions for a customer to get the needed services.

Undoubtedly leisure services are activities organised by companies and organisations. For instance, these could be festivals, fairs organising companies, film making and showing companies, body training and sports clubs, computer games, design and architecture companies. Services could be analysed as essential business principles in services sector and also as essential marketing principles applied in production.

The influence of clusters on the competitiveness of business sectors and business firms possesses at least three dimensions: entrepreneurship (new businesses), productivity, and innovation. Clusters tend to make good incubators of innovative ideas, new companies, and new businesses. (Malakauskaite, Navickas, 2010).

The experience of recent decades show that the productivity on the service sector is on the rise. It also shows that the products and processes in services are innovatove and create jobs that require and develope special skills of emaployees. Trade in services is growing and it is exposed to intensifying competition, whic is putting increased pressure on performance of producers. As a key performance factors can be consider growing productivity supported by investments in technology and non-tenchnology innovation, liberalization and growth of trade in services. (Kubičková, Benešová, 2011; Michalová, 2010).

Innovation plays a significant role in our economy, promotes the growth of business, creates competiveness and, finally, improves life quality. Theory of innovation in leisure services backs on four major principles: first – innovation could be caused by customer's internal or external factors, second – an opportunities of new activities renovates customer's interest. The third principle is related to customer's need to be exclusive and self-actualization this means that in order to meet exclusive customer's needs services must be changed in accordance to customer's perception and needs. The forth principle of leisure services innovation emphasizes that met customers' needs affecting health, makes them more active vital and courageous. (Chai, Yap & Wang, 2011; Eisingerich, Rubera & Seifert, 2009; Hassanien, Dale, 2012; Hjalager, 2002, 2010; Hu, Horng & Sun, 2009; Salomo, Talke & Strecker, 2008).

Bearing in mind that innovations in leisure activities are developed in different forms and occur of various scopes and content, researchers pin their hopes to already existing innovation systems. Organisations try to cooperate within such systems on various levels and develop leisure product, services and processes (Alonso & Liu, 2012; Hu, Horng & Sun, 2009). Such activities supported by cooperation are vitally important as they strongly impact on customers' behaviour and market environment where leisure services organisations have to find successful manner of functioning (Lopez-Nicolas, Merono-Cerdan, 2011; Sakarya, 2014; Sundbo, Orfila-Sintes & Sørensen, 2007; Zach, 2012, 2013).

Many services providing organisations and companies constantly seeking integrate, imply characteristics of such innovations in their offered products and services (Liechty, Yarnal & Kerstetter, 2012; Ma, Tan & Ma, 2012; Masso & Vahter, 2012).

2 Theoretical background

2.1 Conception of innovation in leisure services

Innovations is the foundation for perception the essence of economic system production and reproduction (Janeiro, Proenca and Conceicao Goncalves, 2013; Raymore, 2002; Salomo, Talke & Strecker, 2008; Stebbins, 2006; Sundbo, Orfila-Sintes & Sørensen, 2007; Tajeddini, 2011; Trott, 2008; Wang & Wang, 2012). Both types of socio-economic processes are strongly influenced by dynamics of technical and technological progress connected with science, research and innovation (Kraft, Kraftova, 2012).

Service innovations are of two forms in scientific literature - the first and the major one frequently lacks background that innovations of all types can be considerably easier expressed in services rather than in production. The second one attempts to clear up the relation between innovations and services both from theoretical and practical sides. One time, research related to production domineered in scientific literature about innovations, however, currently scientists and practitioners having concluded the results of empirical and theoretical studies, assure that services, including leisure activities, imply totally different innovative characteristics comparing them with the ones in production which are completely different in their essence (Nimrod, 2008; Nimrod, Janke & Kleiber, 2009; Nimrod, Hutchinson, 2010; Liechty, Yarnal & Kerstetter, 2012).

Explanation of innovation problem in services embodies two parts. The first - innovation is a new research object. Linguistic boundaries, existing in Europe, suggest that certain time is required for emergence of new and generalised articles where various ideas have to be perceived, systemised and successfully developed in joint European researches. Linguistic boundaries, existing in Europe, suggest that certain time is required for emergence of new and generalised articles where various ideas have to be perceived, systemised and successfully developed in joint European researches. Linguistic constructors only partially explain differences arising in generalisations of researchers from different European countries. These conclusions are often related to economic differences in the European Union countries. (Alexander, Martin, 2013; Bercovitz, Feldman, 2007; Bryson & Monnoyer, 2010; Eisingerich, Rubera & Seifert, 2009;

Evangelista, 2002; Hassanien, Dale, 2012; Hjalager, 2010; Korotkov, McLean & Hamilton, 2011).

Naturally, an impression could be formed that everything and anything could be explained applying innovation concept. In particular, exactly this has become the problem of nowadays researches. As numerous miscellaneous innovations occur, the research field itself is open to research and the problem itself related to types of innovations is unquestionable. The issue of this is essential for researchers as they could be trapped when analysing only innovations of clear evidence not paying attention to other forms which are hidden in some way. A significant statistics problem exists that might be helpful in analysing ways of innovation research. It could be that recent insufficient statistical assessment qualitative indexes of innovation could be more efficient in regions; while quantitative approach tends to focus to technical indexes of innovations (Alonso & Liu, 2012; Paget, Dimanche & Mounet, 2010; Podsakoff, MacKenzie & Podsakoff, 2012; Salomo, Talke & Strecker, 2008).

2.2 Theoretical possibilities of innovation concept and research

Sometimes the diapason of innovation definitions starts from radical, absolutely innovative (sometimes causing failure) and ranges to developing and improving (continuous) adaptation, that means creating with existing resources something more modern, exceptional and attractive to a customer. Thus, the researches carried out require identification of actions which could help promote and manage innovation process (Hjalager, 2002, 2010).

One of the most realistic opportunities to develop innovation research is referred to integration approach. Such an approach does not only provide an opportunity to explain the interaction between goods and services but also gives explanation on interaction between daily life, goods and services innovations; as a matter of fact, innovation, both in process and technical aspects impacts and alternates the existing experience of an individual (Alonso & Liu, 2012; Paget, Dimanche & Mounet, 2010).

On the other hand, it is rather problematic to define the concept of innovation, as this concept implies broad spectrum of different types of activities. Inaccuracy of concept definition is obvious – in leisure services innovations this definition ranges from business news activities to information technologies. It is obligatory to realise that the concept "innovation" is a wide scope of distinct and foreseen definitions, thus, "innovation" itself appears a chaotic conception, or even slightly "vague" – difficult to characterise or even identify. Thus, separate disciplines of science could apply this concept in different ways (Alexander, Martin, 2013; Hassanien, Dale, 2012; Hjalager, 2010; Korotkov, McLean & Hamilton, 2011).

Sometimes the diapason of innovation definitions starts from radical, absolutely innovative (sometimes causing failure) and ranges to developing and improving (continuous) adaptation, that means creating with existing resources something more modern, exceptional and attractive to a customer. (Hjalager, 2002, 2010). Thus, the researches carried out require identification of actions which could help promote and manage innovation process. A.M. Hjalager (2010) is the first who adapted Abernathy and Clark model and further on, introduced innovation categories, for instance, tourism as one of the constituents of leisure industry: the first one - new tourism products/services development for tourists; the second one - new attitudes to tourist management creating; the third - identification of innovations for organisation advantages development. Later on, additional categories were included: new business processes development and improvement, search of advanced ways for interior resources modernisation (human resources), institutional forms improvement managing tourists' flows and etc.

Needless to say, that innovation is related to creating something new, but it does not mean that that this should imply creativity - the change itself could be an innovation. From this point of view, existing ambiguity and broad interpretation of concepts, evidence the existence of different approaches. These differences need to be understood and assessed before any other attempt is made to apply a unified innovation analysis system; versatility is very important in this case. Such a unified analysis system should conclude the various discussions among innovation researchers on research into the concept of innovation (Hassanien, Dale, 2012; Hjalager, 2002, 2010).

For instance, the research carried out in Spain shows that definition of innovation concept is related to „services which are innovative", especially in tourism sector. Hence, technologies, especially those related to information systems (Internet), undoubtedly have enormous impact. Scientists from Germany related innovations themselves to innovative activities measurements. Italian researchers see innovations through relation of new technologies and service innovation, in other words, through innovations in services and innovations in other branches of economy. Norwegians for instance, focus more on technological innovation in small and middle size organisations activities and the manifestation of innovation activities themselves. French researchers describe innovation analysing associations which express themselves when implementing new technologies and alternations in innovative service processes, sometimes with extremely radical changes. It is important to note that innovations could manifest in services without any new technologies implementation to these services (Bryson, Monnoyer, 2010).

There exist at least three types of innovations: product, process and organisation (Bryson, Monnoyer, 2010).

Another very important factor is that modern organizations are learning organizations that encourage their members to be innovative. Thus, modern society and modern organizations are focused on constant change (Svagzdiene, Jasinskas, Fominiene, Mikalauskas, 2013). Thus, an innovation occurs as the essential one in perception of production and reproduction processes in economy system.

Literature on services gives two forms of innovation. The first one is essential and often expressed on not grounded basis asserting that the essence of all types of innovations is transfer from processing industry to services. The other form reviewed in literature assures that theoretical ratio between service activities and innovation is of vital importance (Bryson, Monnoyer, 2010; Chai, Yap and Wang, 2011; Hjalager, 2002, 2010; Janeiro, Proenca and Conceicao Goncalves, 2013; Sakarya, 2014).

Mulej et al. (1997) identified 11 factors encouraging innovations. Nevertheless, the authors created such an equation which implies all obligatory factors for innovation occurrence:

Innovation = invention x entrepreneurship x integrity x management x communication x culture x competitors x consumers x external factors x environment x coincidence

Each of these factors could appear as an obstacle to innovation and each of them is impacted on the activity itself or implemented organisation policy (Mulej et al., 1997).

Naturally, leisure organisations do not create innovations related to new challenges but integrate proposed and existing innovations where new services are offered or the existing ones are developed. Frequently innovations are characterised as services, products or processes focused on customer's benefits or favour; they are new for an organisation itself and require new competences.

Theory of innovation in leisure services backs on four major principles. The first, when innovation is caused by various factors, this could be done relying on customer's interior factors or motivated by internal (i.e. changes in attitudes) or external (i.e. increased length of leisure time or increased income) factors. The second principle is related to new activities providing opportunities to a consumer's improvement,

renovation of former interests and reconstruction of such a consumer's identity. The third principle of innovation theory is related to a customer's wish to be exclusive in the same type of innovation – that means that every customer seeks new activities for perfecting himself or saving himself. Finally, the forth innovation theory principle proves that occurrence of new types of activities strengthen consumers' health, makes customers' feel active, dynamic, vital and courageous (Nimrod & Kleiber, 2009).

The research proves that an innovation in leisure industry is not a rare phenomenon, as it was thought previously (Naranjo-Valencia, Jime´nez-Jime´nez & Sanz-Valle, 2011; Nimrod, 2008; Nimrod, Janke & Kleiber, 2009; Liechty, Yarnal & Kerstetter, 2012).

Many researched assert that application of innovations in leisure services creates favourable conditions for the growth of every single individual, gives satisfaction and new knowledge. Besides, most of the researched confirm the first principle of innovation theory – internal motives determine appropriate choice of leisure activities, thus the researched eagerly seek active forms of leisure for their needs satisfaction (Naranjo-Valencia, Jime´nez-Jime´nez, & Sanz-Valle, 2011; Nimrod, Janke & Kleiber, 2009; Liechty, Yarnal & Kerstetter, 2012).

It is evident that the third principle of innovation theory proved that innovations in leisure provide opportunities to renovate former interests of a customer and reconstruct his identity. Research respondents relying on various active leisure innovations evaluated themselves as more „spontaneous", „independent", „competent", „self-confident", „adventurous". The third principle of innovation theory is related to customer's determination to be exceptional in the same type of innovation – that means that every customer seeks new activities for perfecting himself or saving himself. The researched did not hesitate to use leisure innovations for self identification on a certain level of physical abilities, intellectual competences or community values. Other innovations are associated with new activities and opportunities. Disregarding the fact that research results absolutely justified this principle of innovation theory, many research participants confirmed both principles of active leisure innovations (Alexander, Martin, 2013; Hjalager, 2002, 2010; Liechty, Yarnal & Kerstetter, 2012).

Finally, research results obtained by G.Nimrod & S.Hutchinson (2010) approve the proposition that innovations meant to strengthen health could cause certain misunderstand, however, individuals always can find proper solutions. In other words, the results obtained create preconditions for further development of innovation theory and become the good basis for perception of the experience in existing leisure activities. The research results broaden innovation theory as innovation experience creates conditions for new innovation emergence. Accordingly, those who have experience in creating new leisure services feel more confident and could be more motivated in their activities.

On the other hand, the obtained results cannot summarise in detail the presented principles of innovation theory. Further analysis of innovation significance, its causes and results should be researched among different layers of population. It could show, for instance, how social factors impact on innovation applications in leisure services.

The presented innovation characteristics explain it from a mere change in its composition to service presentation on service lines, adding servicing components or differentiation of the service itself. Successful innovation which is also beneficial for very competitive leisure sector has to increase the value of such a service. Many leisure service providers participate in creating the content of such services and their experience. Such a situation requires vertical communication, as customer's qualitative assessment of such services depends on total perception of service quality. Innovation and management processes create favourable conditions for implementing such innovations into practice (i.e. idea generation, service model application in practice). However, this often causes problems.
Recent research on leisure services (Eisingerich, Rubera & Seifert, 2009; Tajeddini, 2011) proved that obligation to develop connections between organisations have a positive effect retaining the significance of innovations in such organisations. When obtaining knowledge and ideas from partners such organisations identify potential innovation, improve solutions and effectively manage their own behaviour.

3 Methodology and research findings

Innovation plays a significant role in our economy, encouraging the growth of business, creating competitive advantages and finally, improving the quality of life (Eisingerich, Rubera, & Seifert, 2009; Hjalager, 2002, 2010). Entrepreneurial organisations continuously search for innovations and innovative ways of doing business that provide a competitive advantage in the market. Leisure services embody activities organised by companies and organisations. For instance, these could be festivals, fairs organising companies, film making and showing companies, body training and sports clubs, computer games, design or architecture companies. Services could be analysed as essential principles in service sector, as essential principles in business services and also as essential marketing principles applied in production (Chai, Yap and Wang, 2011; Duobiene, Duoba, Kumpikaite-Valiuniene, Zickute, 2015; Liechty, Yarnal & Kerstetter, 2012). Bearing in mind that innovations in leisure activities are developed in different ways and are of different content and scope, researchers turn to the existing innovation systems. In such systems organizations try to cooperate on various levels aiming to develop leisure product, services and processes (Hu, Horng & Sun, 2009). Activities based on cooperation, are vitally important as they impact customer's behaviour, market environment where leisure service organisations have to function in a successful manner.

Considering the above, it is essential to background on systemised - the so called first and second service sectors. The first sector is formed of organisations having the major aim to produce services. The second sector consists of agricultural, production and services companies relying on experience which helps them to present services and marketing tools. Accordingly, innovation system is divided into two sectors.

In leisure services sector organisations are public and private. Most of public organisations, especially in culture sector, are of mixed composition. Public institutions such as museums, theatres, clubs, broadcasting companies etc. adapt their activities up to the market conditions. Public organisations – municipalities provide services as specific mechanisms. Aiming to perceive integral economy, it is necessary to focus on public institutions as to the "third sector" of the system (volunteers organisations and non-formal volunteer groups), and also on private firms. Innovations in public institutions and volunteer associations are also included into innovative systems (Alonso & Liu, 2012; Chai, Yap and Wang, 2011; Sakarya, 2014).

Thus, what constitutes the content of innovative system? Innovative services and factors, related to innovations? Essential indexes, embodying the integrity of these three elements are the following: market demand, innovative efforts and technology.

Successful development and application of innovations frequently relies on scientific research and modern technologies, thus, their specific trajectory has to be defined. Innovative system conception usually indicates instrument which could help a researcher to identify it and a practitioner, considering all economic capacity, to implement this innovation and strengthen his position on the market.

Position of innovation systems implies certain principal indications of innovations. Indications usually reflect some constitutional parts of innovations and direct further ways of their development. For instance, technical laboratory tools illustrate the type of innovation or idea, where people sitting by

computers create new computer games. This is an indication of innovation. The innovation itself has been improved until it is applied in practice; however, its developmental process is limited by tools. An indication in most cases is identified with tools and technical opportunities make a start for innovation process (Eisingerich, Rubera & Seifert, 2009; Hjalager, 2002, 2010).

Factors usually are technological, psychological, sociological, artistic and could be presented in the following way:

- Technological (technological opportunities)
- Artistic creative (individual creativity)
- Collective creative (problem solving)
- Entrepreneurship (to act or to go further with the activities started)
- Competences (management, projecting, work, application of competences)
- Perception (customers perception, further market developing systems) (Eisingerich, Rubera & Seifert, 2009; Hjalager, 2002, 2010).

It is absolutely evident that further growth of leisure services sector will depend to great extent on the level of economic development. Similarly, the society will demand certain tools which could strengthen the impact of innovations and equally the growth of sustainable economy. This could be successfully achieved with the existence of innovative systems (Nimrod, Janke & Kleiber, 2009; Liechty, Yarnal & Kerstetter, 2012).

Political interest prevails aiming to identify innovation. Innovation system conception shows a tool where a researcher could identify an innovation and a practitioner, considering its economic capacity, applied it seeking economic benefits. If the principles of sustainable economy are successfully developed further, a certain priority is obtained in innovation system implementation. However, we need to ask whether such an innovation system exists? Whether the concept of innovation system and appropriate theoretical principles exist when we are on the subject of sustainable economy? (Nimrod, Janke & Kleiber, 2009; Liechty, Yarnal & Kerstetter, 2012).

Innovation system conception - net even if it is objectively justified is a social construct. Such theoretical conception is developed and supported by scientists. Innovation system could be a certain object with very fragile walls. The phenomenon of innovation system embodies not only theoretical conception but something objective as well. The criteria of benefit usually does not mean objective existence of something, on the contrary, it is its applicability – research policy and production potential. Thus, the question could be specified a little: whether innovation system with appropriate tools could develop innovations and at the same time encourage the development of economy? (Bryson & Monnoyer, 2010; Sakarya, 2014).

When innovation research is carried out in leisure services, innovation systems are more difficult to identify, however, if it is done, it is done more free. Services are less actively impacted from technological point as production: services are often purely related to human behaviour. Services innovations very seldom rely on scientific research and developmental methods. That is why an innovation system has certain limitations when it is applied in services sector (Korotkov, McLean & Hamilton, 2011; Masso & Vahter, 2012; Naranjo-Valencia, Jime´nez-Jime´nez & Sanz-Valle, 2011).

In some cases in classical cultural surroundings, e.g. in the theatre we can observe an innovation system. That does not appear the same as in production, as every actor here contributes to general research and development program. Innovation system consists of the whole group of actors – actors themselves, directors, stage workers and other people who are temporary included into play, afterwards they act in another theatre, film or TV shows. They also spread new ideas. It could be asserted that application of innovation systems in leisure services has been rapidly developing. However, it needs further research for this phenomenon application in a wide spectrum of leisure organisations management activities, as the scope of the research related to innovations is rather broad. Innovations in leisure services in many cases are likewise innovations in production but in some aspects they are different. Innovations in leisure services are less systematic than in production, seldom rely on research and prevailing developmental tendencies are more often focused on prompt practical ideas and employees and customers' participation. Service innovations tend to grow faster when they are improved, they are more integrated (product, process, presentation and market innovation) but they are less dependent on technologies (less of new behaviour). However, innovation process in services develops revolutionary and becomes more and more similar to production process (Masso & Vahter, 2012; Sundbo, Orfila-Sintes & Sørensen, 2007; Stebbins, 2006; Tajeddini, 2011).

The conception of sustainable economy has been developing recently alongside with increasing concern of scientists. Sustainable economy could be perceived as a new step in development of new dynamic sectors of economy. On the other hand, there could exist different theories extending the perception of „economic society", starting from agriculture, industry, services and knowledge based society and ending with sustainable society. It is also worth bearing in mind that when a new economy sector emerges, the old one functions alongside as well (Kraft, Kraftova, 2012; Ma, Tan & Ma, 2012; Nimrod, 2008).

Innovation remains the essential subject in these sectors. However, innovations of product and innovation of services are different. Innovation process (the manner the innovation is developed) and crucial manner of innovation could be more or less similar. It is important to be aware how successfully innovation activities are organised in each sector where they seem to be quite similar comparing a new sector with an old one. Thus, naturally many questions arise (Chai, Yap & Wang, 2011; Hassanien, Dale, 2012).

Why experience has become such a relevant issue and why innovation known in agriculture and industry has appeared so relevant in sustainability? Do some peculiarities exist in innovation experience distinguishing themselves from services innovations? Why exactly an innovation and other mechanisms of change e.g. critical art have become so essential to the society?

Shopping as one of active leisure forms follows certain experiences. The aim of service providing is customer's problems solving and sustainable industry has been looking for opportunities how to create such conditions for a customer that he could get appropriate service – sometimes it is named as trip for pleasure. „Sustainability" embodies entertainment - the margins of which could be related to ignorance of reality or active efforts in sports. Examples of sustainable activities could be sports, art, culture (theatre, films, music, TV etc.), museums, tourism, cooking, design, architecture, computer games, entertainment with smart phones, advertising. Sustainable surroundings embody activities specified as cultures (Du Gay & Pryke, 2002) and creative industries (Caves, 2000) concepts.

Growing demand of sustainable services in the society urges for certain theoretical background. Here, traditional economy theory foundations could be backed up defining sustainable economy as offering services up to customers' needs and experience, therefore such market becomes marketable as prices reflect how much of such services are needed and how they interact with market offer. From functional and social point of view, sustainability is an indicator where society's needs are directed to its own integration, to a certain power system or other structure (Tajeddini, 2011; Trott, 2008; Wang & Wang, 2012; Zach, 2012; 2013).

The extent of consuming enables to differentiate or to identify with others. For instance, adventurous tourism will belong to one group and opera to another, while soap operas to completely

different group. However, from functional and historical point of view such essential and universal everlasting explanations automatically could not be weighty and predict the future. A simplified explanation is that modern man is boring as life does not require great efforts from him. Sustainability should reduce boredom. Such preposition emphasises innovation as the essential index of sustainable economy. It could happen that this phase of life bustling and boredom suppression could be short. The next step will be looking for various activities and life meaning, shorter working hours, more environmentally safe products and services, much more informal interaction with family and relatives. From this point of view, organisations aiming to remain competitive will have to apply innovations actively in leisure services. It could be pointed out that greater demand for leisure activities is defined by several factors: social status, life meaning and psychological satisfaction when realising yourself. It is temporal as it is grounded on fundamental psychological needs and social factors of human's life (Alonso & Liu, 2012; Chai, Yap, and Wang, 2011; Hassanien, Dale, 2012; Hu, Horng & Sun, 2009; Lopez-Nicolas, Merono-Cerdan, 2011).

On the other hand, organisation's efforts to develop innovations are often related to its creativity in expressing actions. Here efforts of every single individual become essential. The real concern of the society manifests when sustainable development becomes concern of entrepreneurs themselves, in other words, an enormous effect is achieved when an innovation is massively organised and provided by many organisations, accordingly creativity becomes that distinctive indicator in innovation. Creativity is a provision implying various characteristics; it is an individual factor related to education and intelligence. Creativity was once analysed as organisational factor, collective process, more or less naturally functioning in an organisation when problems need solving; or as management object: beneficial factor which could be controlled. Creativity could be seen not only as functional organisation factor but also as a process creating meaningful feeling (Liechty, Yarnal & Kerstetter, 2012; Naranjo-Valencia, Jime´nez-Jime´nez & Sanz-Valle, 2011; LaPierre & Giroux, 2003).

Information technologies (IT) generally provide plenty of opportunities for sustainability of new types and innovations in leisure activities. Such types are associated with IT net where various tools could become a massive product or service when systemising innovation process, making it more efficient. Some technologies are old fashioned like radio, films, TV technologies. Others are new - computer games technologies, i-Pods, Internet and technologies of smart phones. New technologies open the way to massive services providing - it is called an innovative effort (LaPierre & Giroux, 2003; Sundbo, Orfila-Sintes & Sørensen, 2007; Podsakoff, MacKenzie & Podsakoff, 2012; Trott, 2008; Wang & Wang, 2012).

Social aspects of IT possibilities have specific character in sustainable economy as IT are used for virtual reality creation. For instance, the Second Life is virtual economy world where people trade, create companies, organisations, consume. They have artificial money and market. It is not a free game as to form a company or an organisation you need money and artificial money could be changed to real money. This is an indication that technological opportunities could create conditions for new social practices. Besides, it evidences that innovations could have several sources. Most of reality innovations are implemented by consumer groups and are implemented into formal economics. Such innovations could be characterised as social constructions, however, they are dependable on technological opportunities (Paget, Dimanche, & Mounet, 2010; Podsakoff, MacKenzie, & Podsakoff, 2012).

Issues related to „services and innovations" form a huge research field and undoubtedly that further research will obtain more and more significance here. That is the concern of European Commission and European Union countries.

While reading this article one can get an impression that everything and anything could be explained applying the definition of innovation. Particularly this has been a problem of nowadays researches. As plenty and variety of innovation types have been existed now, the research field is open for research and the problem related to various types of innovations has become even more evident. This evidence is fatal to researchers as they could be trapped when analysing innovations of clear evidence and ignoring other forms of innovations. A significant statistics problem exists that might be helpful in analysing ways of innovation research. It could be that recent insufficient statistical assessment of qualitative indexes would be effective in regions; while quantitative approach tends to focus on technical indexes of innovations (Hu, Horng, & Sun, 2009; Korotkov, McLean, & Hamilton, 2011; Kraft, Kraftova, 2012; LaPierre, & Giroux, 2003; Liechty, Yarnal, & Kerstetter, 2012; Masso, & Vahter, 2012; Nimrod, 2008; Nimrod, & Hutchinson, 2010; Sakarya, 2014; Salomo, Talke, & Strecker, 2008; Wang, & Wang, 2012).

One of the realistic opportunities to proper development of innovation research is related to integral approach. Such approach would not only be helpful in explaining an interaction between goods and services but also would provide an explanation on daily life and interaction between goods and services. Process innovation as well as technical innovation alternate and impact on current working experience of a customer.

Leisure service innovation is a new research object. Linguistic boundaries existing in Europe provide a background for emergence of new and generalised articles appearance where various ideas have to be perceived and successfully developed in joint European researches. Linguistic constructs partially explain differences arising in the conclusions of researchers from different European countries. These conclusions are often related to economic differences in the European Union countries.

In social sciences leisure services innovations imply some controversial features. It is not only a case – service innovation has established itself as a serious research field with its own theoretical and empirical literature. It is interesting to note that the most active scientists working in this filed are Europeans and their scientific potential is effectively developed.

4 Conclusions

Innovation is essential in perceiving production and reproduction processes in economy. The essence of innovation is characterised backing up on of the following constituents: creation of new or improving of existing product or service, perception of new product creation processes, creation of new markets to offer and new markets to sell, organisation's reorganisation and/or restructure.

Content of innovation system is composed of essential indexes embodying the entirety of the three elements: market demand, innovation efforts and technologies. Innovation system conception indicates a tool that a researcher could identify and a practitioner, considering its economic capacity, implement it and at the same time strengthening his position in the market. The following six indicators of innovation systems are identified: technical laboratory, artistic laboratory, internal entrepreneurship, external entrepreneurship, social net and storytelling. Indicators reflect certain constituent parts of innovations and tools which could help to develop innovation. Indicators are usually identified with tools and technological opportunities start innovation process.

Sustainable economy provides offer on the market considering customers' needs and experience, that why such market becomes marketable, as the price reflects how much and what services are needed and how they interact with market offer. Here, organisations that want to remain competitive will have to apply innovations in leisure services. Extended demand for leisure

services is characterised by several factors: social status, life meaning, and psychological satisfaction in self-realisation.

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THE LEVEL OF VOIVODESHIP DEVELOPMENT IN POLAND AND ITS IMPACT ON FINANCING THE SOCIAL ASSISTANCE SYSTEM

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Abstract: The goal of most countries in the world is to provide a high standard of living for their citizens. To achieve this goal, the social and economic development of a country is essential. Unfortunately, it does not take place evenly across the whole country, which necessitates a policy of territorially balanced development. Hence, there must be some mechanisms to support peripheral regions, such as social assistance. This article aims to determine whether the level of financing of cash benefits paid from the social assistance system is related to the development of individual regions in Poland in terms of demographic and labor market factors. The analyzes carried out indicate that in Poland, through cash benefits paid to the poorest, developed regions are supported more and peripheral regions less.

Keywords: financing of social benefits, Poland, regional development, social assistance scheme, voivodships

1 Introduction

The goal of most countries in the world, especially those with a capitalist system, is to ensure a high standard of living for their citizens. However, to achieve an adequate standard of living for the inhabitants of a given country, the socio-economic development of the country is necessary, which results in the improvement of living conditions and satisfying their necessary needs. The socio-economic development of territorial areas (e.g. countries, regions) has been the subject of analysis of economic and other social studies for a long time. In Poland, in the literature on the subject, many publications attempt to analyze the development of regions, poviats or smaller administrative units. The situation is similar in international literature. Interested readers can familiarise themselves with authors such as: Pike, Rodríguez-Pose, Tomaney, 2011; Pike, Rodríguez-Pose, Tomaney, 2016; Rietveld, 1989; Halkier, Danson, and Damborg 2002; Scott, Storper, 2005; Higgins, Savoie, 2017.

These publications, despite some conceptual differences, show an important premise that one of the basic features of contemporary development conditions is the existence of significant disproportions in the region potential, not only in Poland but also in the world (for more see, e.g., Kudłacz, Woźniak, 2009; Hausner, Kudłacz, Szlachta, 1998). This finding may constitute an important justification for continuous analyzes of regional development carried out within the framework of economic studies, or more broadly, social studies.

When attempts are made to analyze the socio-economic development in the regional perspective and the social welfare scheme, as was done in this article, it becomes necessary to define the basic concepts synthetically.

J. Parysek notices that the term socio-economic development is generally understood as the entirety of changes or transformations that both societies and the economy undergo. It is a complex and lengthy process (Parysek, 2018: 39). U. Ziemiańczyk defines socio-economic development differently, and divided this concept into two parts. The first part is economic development, which she describes as a process of internal, economic, and social transformation of the country leading to the emergence of a society seeking ways to improve its economic situation and organized in a way that enables and encourages citizens to invest in material, human and intellectual capital, necessary for its continuous accumulation. The second part of the term, on the other hand, has been associated with social development.

As socio-economic development is a complex and complicated process, it can be largely simplified that it is the geographical and natural conditions and the effects of heterogeneous socio-economic factors that make individual regions of the country characterized by a different economic situation, and thus a different level of management and development (Malina, 2020: 138). It is important as these processes translate directly into the living conditions and well-being of the inhabitants. Since socio-economic development is a complex process of quantitative and qualitative changes in the economic, social and cultural spheres, there is no single economic indicator that can be used to holistically describe the social and economic development of a region or a country. Hence, in scientific publications, researchers try to build an appropriate set of measurable economic or social indicators that would allow to determine the level of development of individual territories. An example is the set of economic development and growth indicators prepared by J. Paryska, who noticed that the indicators of economic development include, inter alia, gross domestic product, the volume and structure of exports, the level of urbanization, the structure of employment or the level of consumption. On the other hand, the indicators of economic growth were assigned i.a. to the budget deficit, interest rate, level of debt, level of investment, the standard of living, level of poverty, or level of scolarisation (Parysek, 2018). An example is the set of economic development and growth indicators prepared by J. Paryska, who noticed that the indicators of economic development include i.a. gross domestic product, the volume and structure of exports, the level of urbanization, the structure of employment or the level of consumption.

M. Stec presented a different approach in her publication, who, in an attempt to define the conditions for the development of voivodeships in Poland, sets as many as 55 indicators grouped in five areas: population and labor market; the level of entrepreneurship development; the level of industry and construction development, innovation and research development; the level of agricultural development; the level of sociotechnical infrastructure development (for more see Stec, 2011).

The literature on the subject also presents the view proposed by M. Kola-Bezka, who pointed out that economic growth is a condition for the economic and social development of the region, measured by the Gross Domestic Product (see Kola-Bezka, 2015). It seems, however, that such an approach is unjustified and constitutes an oversimplification that equates socio-economic development with economic development measured by the GDP value.

In recent years, a high rate of economic growth was assumed to be tantamount to the level of development of the country, and "until recently, in economics, only the concept of economic growth and economic development were distinguished, and both concepts were often equated with each other" (Kubiczek, 2014: 42). When the above-mentioned concepts were separated, there was a clear problem with estimating the development of states, because firstly it is not easy to identify all the wealth of a country, and secondly, even if it could be determined, there is a problem with their objective measurement. Then, the concept of sustainable development was introduced, which in Poland in the Great Encyclopedia of PWN was described as follows: sustainable development is meant to meet the needs of the present generation and unlimited opportunities for future generations to satisfy their needs (Wojnowski, 2005: 9).

As already mentioned, the process of socio-economic development is characterized by regional differentiation, distinguishing dynamically developing regions and regions lagging in development. Thus, differences in development between individual regions are a prerequisite for the creation and implementation of regional policies, which will result in positive changes (for more see Domański, 1997; Gawlikowska-Hueckel, 2003; Strzelecki, 2008). It is worth noting, however, that there is no single universal theory of regional development, and the diversity of theories of socio-economic development presented in the literature shows the complexity of this process. Development theories are made on the basis of diagnosed and

revalued known factors generating socio-economic changes and the identification of interactions between these factors and the socio-economic environment. Development factors should be considered not as separate components of the socio-economic system, but as a set of interactions in a given system, and these interactions are characterized by variability in time and space. Development factors should therefore be considered with the use of the theory of regional development. In addition, development factors are often diagnosed and described within specific development strategies and policies and these interactions are variable in time and space.

Contemporary development policies, including regional policy, are created in relation to regional socio-economic conditions with the use of the so-called space factor. The main premise for creating regional development policies are regional development disproportions, and they aim to focus on territorial alignment of diverse economic and social conditions for the functioning and development of areas, including rural areas.

Territoriality is a fundamental feature of regional development and concerns a specific geographical, economic, and social space (Jewtuchowicz, 2016: 224). In government and local government practice, special attention is paid to the place-based approach in programming local and regional development. Territorialization (place-based policy) as a paradigm of the new regional policy was presented by F. Barca in his report, in which he stated that regional (cohesion) policy in the European Union is ineffective and does not take into account the specificity of regions and their territorial development potential (Barca, 2009). A critical assessment of the functioning of regional policies at various territorial levels has resulted in the dissemination of a new paradigm of regional development policy. In the Treaty of Lisbon of 13 December 2007 in Art. 2 clause 3 states that the EU „supports economic, social and territorial cohesion as well as solidarity between member states" (EU, 2009). Particular attention should be paid to territorial factors and instruments that play an important role in the policy of shaping regional development. Territorialization of the regional policy takes into account both the diversified conditions of development and the optimal use of territorial capitals (endogenous potentials) in the process of regional development (Camagni, 2011).

Territorialization of the regional development policy is closely related to the implementation of the development strategy of a given territory along with territorial financial instruments managed, inter alia, by the provincial government bodies. The scope of the intervention must be adjusted to the state and needs of the region.

The EU cohesion policy for 2014-2020 and the policy assumptions for 2021-2027 are focused on the territorial dimension of public policies, defining the goals and scopes of territorial interventions, as well as areas of strategic intervention. These areas are characterized by a set of social, economic, or spatial conditions and features that determine the existence of barriers to development in their area or permanent, possible to activate development potentials (Obrebalski, 2020).

The importance of territorially balanced development in Poland is emphasized in the strategic development documents of the country „Strategy for Responsible Development" (Ministry of Development, 2017). The strategy emphasizes the territorial targeting of policies and activities aimed at stimulating internal development potentials and adapting interventions to the local situation. As part of the „National Strategy for Regional Development 2030", challenges for regional policy have been defined to counter territorial inequalities and spatial concentration of development problems and to eliminate crises in degraded areas (Ministry of Investment and Development, 2019).

The recapitulation of prior information allows, therefore, to conclude that within the framework of sustainable development, regions lagging in development should be more supported by the state than dynamically developing regions.

The second premise on which this text is based is the observation that disruptions in the course of socio-economic development may occur, which will block it and, consequently, will also limit the growth of citizens' welfare. The factors disrupting socio-economic development include social problems (for more see Schwartz, 1997: 278; see also Miś, 2007: 25-38; DeFronzo, Gill, 2019; Fuller, Myers, 1941: 15). The emerging social problems of „too high intensity" can effectively block the economic development and increase the welfare of citizens (for more see: Horodecka, 2011: 21; Helliwell, 2003; Hudson, 2006; Frey, Stutzer, 2002 and 2007). It is worth remembering that traditionally in economics, economic growth has been associated with investments and the dynamics of human capital and employment. Currently, more and more often, in scientific research, econometric models appear that attempt to describe the social aspects of the functioning of the economy (see Sztaudynger, 2007). The social factors of economic growth include i.a. such elements as income inequality, distrust of public authorities, unemployment, and crime. They can be treated as direct or indirect characteristics of the quality and cohesion of interpersonal bonds (social capital[1]). Undoubtedly, all of them, if their intensity is too high, significantly disrupts interpersonal relations and slow down the economic growth of countries. Moreover, some of these determinants can be attributed to two dangerous characteristics: self-perpetuation and inheritance, with poverty and income inequality being a good example. Therefore, it is in the interest of each state to solve acute social issues, not only to prevent the disintegration of social cohesion[2] society, but most of all to eliminate factors disturbing the country's economic growth. The accumulation of social problems may not only lead to a slowdown in economic growth but also act as an impulse to destabilize the state. Of course, the dominant capitalist system in most countries in the world is not self-destructive, but in the face of growing social problems, it should not be expected that „the system will reform itself" and lead, for example, to a fairer redistribution of income. It is the politicians or political parties that govern a given country that should undertake reforms in the face of too high an intensity of social problems in order to inhibit their development.

Due to the fact that the socio-economic development of territorial units is not uniform in every country, there must be support mechanisms aiding people who are deprived of income, do not participate in the labor market, or experience difficult situations that they cannot cope with without state support. Such mechanisms include the social welfare system in Poland. It is important, however, that this system should be adapted to the level of socio-economic development of individual regions.

In Poland, the issues of social assistance in Poland are regulated by the Act of 12 March 2004 on social assistance (Journal of Laws of 2018, item 1508, as amended). This legal act defines not only the institutional structure of the social assistance system but also its task dimension. Art. 2 of the Act on Social Assistance states that social assistance is an institution of the social policy of the state aimed at enabling individuals and families to overcome difficult life situations which they are unable to overcome using their powers, resources and possibilities. The first condition for assisting is a difficult situation, the second is the lack of self-sufficiency. This means that the person applying for assistance is obliged to overcome the difficult life situation on their own, and only then, when it is unable to do so, it may be granted assistance (Sierpowska, 2013: 13). Social assistance

[1] According to R. Putnam, social capital is a cultural phenomenon, it is the resource of the community, not the individuals who create it. It includes the civic attitude of members of the society, norms supporting cooperation as well as interpersonal trust and citizens' trust in public institutions. The basic element of social capital is trust, which guarantees the best solution to the prisoner's dilemma, although not necessarily the most beneficial for each of its members: maximizing the common good instead of - as in the case of human capital - maximizing the individual utility function (Putnam, 2003).

[2] Social cohesion - is of interest to many countries and international organizations. It is difficult to give an unequivocal definition of this term. This term appears in the achievements of many scientific disciplines, including economics, sociology, social policy or political science. According to one definition created by the Council of Europe, social cohesion is "society's ability to provide welfare to all its members, minimize disparities and prevent marginalization" (Council of Europe, 2008: 14; see also Jenson, 1998; Hulse, Stone, 2007).

supports the individual and the family in their efforts to meet the necessary needs.

The information presented earlier allows us to notice that in Poland it becomes important to determine whether the level of financing of cash benefits from the social welfare system, which is to support the poorest people, is related to the socio-economic development of individual regions. It is this problem that has been analyzed in this article. In the light of economic and social theories and activities undertaken by international entities, such as the European Union, related to the concepts of sustainable development or cohesion policy, it seems reasonable to say that poorer regions, with lower socio-economic potential, should have a higher level of financing cash benefits from the social welfare system than richer regions.

2 Materials and Methods

Measuring the socio-economic development of voivodships requires the selection of appropriate measures or indicators. Based on the literature on the subject, universal and generally recognized solutions in this area cannot be applied.

An important issue concerning the diversification of regional development is the choice of regional development factors. The set goal of the research and the research methodology used determine the selection of measures of regional development and are the result of data availability and arbitrary decisions of the researcher (Stanny, 2012). The most general groups of criteria for selecting factors for regional development include: content-related, formal, and statistical (Strahl, 2006: 33; Markowska, Sobczak, 2002).

The tool used in the research to compare voivodeships and their classification in the multidimensional space of features was the method of linear ordering by Z. Hellwig (1968). The synthetic measure of development (also known as the Hellwig development measure) is calculated by measuring the distance between the reference object and the observed objects and is used for the linear ordering of objects described by many diagnostic variables, which are replaced by one synthetic variable (Panek, Zwierzchowski, 2013).

In Hellwig's method, the distance of each element from the pattern is calculated according to the Euclidean metric:

$$d_{i0} = \sqrt{\sum_{j}^{m} (z_{ij} - z_{0j})^2} \quad (1)$$

where z_{ij} and z_{oj} are standardized values of diagnostic variables for the i-th object and the reference object (i = 1, ..., n; j = 1, ..., m). Standardization of features follows the formula:

$$z_{ij} = \frac{x_{ij} - \bar{x}_j}{s_j} \quad (2)$$

where:
z_{ij} - standardized value of the j-th variable for the i-th object,
x_{ij} - value of the j-th variable for the i-th object,
$\bar{x}_j$ - arithmetic mean of variable X_j,
s_j - standard deviation of the variable X_j.
As a result of this transformation, the variable Z_j was obtained with the mean value equal to 0 and the standard deviation equal to 1.

For each object, a synthetic measure of development s_j was calculated, according to the formula:

$$s_i = 1 - \frac{d_{i0}}{d_0} \quad (3)$$

wherein:

$$d_0 = \bar{d} + 2s_d \quad (4)$$

where đ is the arithmetic mean of the distance from the pattern, and s_j - the standard deviation of the distance between the objects and the average distance from the pattern.

The calculated measure of development s_i usually takes values in the interval [0, 1]. Gauge values close to value 1 indicate greater similarity to the reference object. For objects further away from the reference object, the value of the synthetic development measure takes lower values. In justified cases, when the object differs from the others in terms of development, the value of the development measure may exceed the range [0,1].

Based on the value of the taxonomic measure of s_i development calculated for all research objects, a ranking of provinces was created based on their ranking according to the value of this measure. The voivodeships with the highest value of the synthetic measure of development are characterized by a high level of development.

In the research, using the values of the development measure, objects were grouped into classes with a similar level of development. Objects (voivodships) were divided into four classes according to the rule based on the mean and standard deviation of the synthetic measure of development (see Nowak, 1990; Malina, 2004):
group I (the highest level of development): $s_i \geq s(avg) + s(s)$;
group II (high level of development): $s(avg) \leq s_i < s(avg) + s(s)$;
group III (average level of development): $s(avg) - s(s) \leq s_i < s(avg)$;
group IV (low level of development): $s_i < s(avg) - s(s)$.

For the purposes of this article, a study using the Hellwig method (1968) was carried out, which made it possible to evaluate changes in the development of individual provinces in Poland in 2007, 2015, and 2019. The research used statistical data from Statistic Poland - *Local Data Bank*, which took into account regional demographic and labor market conditions. To assess the spatial diversity of voivodships, the following features adopted for the study were taken into account:
1. Demography and the labor market
X1 -population per 1 km^2 of the area (S),
X2 -the balance of internal and foreign migrations for permanent residence per 1 thousand population (S),
X3 -the balance of inter-voivodeship migration for permanent residence (migration balance coefficient) (S),
X4 -natural increase per 1000 population by place of residence (S),
X5 -post-working age population per 100 people of pre-working age (D),
X6 -non-working age population (before and after working age) per 100 persons of working age (D),
X7 -working-age population as % of the total population (S),
X8 -total unemployment rate (Poland = 100) (D).

The next stage of the research was to analyze the general expenditure incurred by the state on the social welfare system in Poland in 2007, 2015, and 2019. For the purposes of the article, an analysis of the existing documents was carried out, i.e. legal acts that regulate expenditure from the state budget for the social welfare system and other tasks in the field of social policy (including the Ordinance of the Minister of Finance of March 2, 2010 on the detailed classification of income, expenses, revenues and expenses as well as funds from foreign sources and the Regulation of the Minister of Finance of July 25, 2016 amending the regulation on the detailed classification of income, expenses, revenues and expenses as well as funds from foreign sources). Statistical data were analyzed.

For scientific research, the main research hypothesis was formulated, which contained the statement that in Poland the level of financing cash benefits from the social welfare system is not related to the development of individual regions in terms of demographic factors and the labor market. This situation may be a significant obstacle in counteracting territorial inequalities in Poland. This hypothesis is part of the discussion in the scientific literature, in which some authors, when analyzing social problems, focus only on the scale of a given social phenomenon. Without questioning this position, it should be noted that the analysis and discussion of problematic social issues should take place rather in the context of the economic and social conditions

of a given country. The promoter of such a position was S.M Miller (1976: 4), who already in the 1970s indicated that it is not so much important to describe the size of individual social problems as to analyze them in the context of the economic and social conditions of a given country or region. The very existence of social problems in modern countries is not, after all, something „new" or „exceptional". What is important, however, is how a country is prepared to deal with social problems and whether „aid mechanisms" are adapted to economic and social conditions taking into account the country's level of regional development.

3 Results

During the analyzes for individual provinces in Poland, synthetic measures of Hellwig's development were calculated in terms of factors related to demography and the labor market for 2007, 2015, and 2019.

Tab. 1: Values of Hellwig's development measures for voivodeships in Poland in 2007, 2015, and 2019 by belonging to the development group and position among voivodeships

Voivodeship	2007			2015			2019		
	*A**	*B***	*C****	*A**	*B***	*C****	*A**	*B***	*C****
Lower Silesia	**0.372**	2	6	**0.458**	1	1	**0.452**	1	1
Kuyavian-Pomeranian Voivodeship	**0.324**	2	8	**0.166**	3	11	**0.144**	3	12
Lublin Province	**0.103**	4	15	**0.115**	3	13	**0.135**	3	13
Lubuskie	**0.326**	2	7	**0.185**	3	10	**0.168**	3	11
Lodzkie	**0.167**	3	12	**0.264**	2	7	**0.27**	2	7
Lesser Poland	**0.551**	1	1	**0.328**	2	5	**0.338**	2	4
Masovian Voivodeship	**0.467**	1	4	**0.376**	1	2	**0.421**	1	2
Opole Province	**0.175**	3	11	**0.261**	2	8	**0.247**	2	8
Podkarpackie Province	**0.267**	3	10	**0.165**	3	12	**0.196**	3	10
Podlasie	**0.143**	4	13	**0.094**	4	14	**0.117**	3	14
Pomeranian	**0.516**	1	3	**0.281**	2	6	**0.277**	2	6
Silesian	**0.377**	2	5	**0.338**	2	4	**0.332**	2	5
Świętokrzyskie Province	**0.1**	4	16	**0.082**	4	15	**0.077**	4	15
Warmia and Mazury	**0.133**	4	14	**0.033**	4	16	**0.037**	4	16
Greater Poland	**0.517**	1	2	**0.357**	1	3	**0.353**	2	3
West Pomeranian	**0.273**	3	9	**0.234**	2	9	**0.204**	3	9

Note: A* S_i- synthetic measure of Hellwig's development. B** belonging to a development group: group I the highest level of development; group II - high level of development; group III average level of development; group IV low level. The values of the ranges of individual groups in the analyzed period: 2007 group I: $S_i > = 0.458$, group II: $0.3036 <= S_i > 0.458$, group III: $0.303 <= S_i > 0.148$, group IV: $S_i < 0.148$; 2015 group I: $S_i > = 0.354$, group II: $0.234 <= S_i > 0.354$, group III: $0.234 <= S_i > 0.113$, group IV: $S_i < 0.113$; 2019 group I: $S_i > = 0.359$, group II: $0.238 <= S_i > 0.359$, group III: $0.238 <= S_i > 0.116$, group IV: $S_i < 0.116$.
C*** position among voivodships in Poland according to the measure of Hellwig's development
Source: Own study.

Based on the obtained results, it was found that in Poland there is a large spatial regional differentiation in terms of development related to demographic factors and the labor market. The highest level of development in this regard in the analyzed period was recorded in the following voivodeships: Małopolskie (2019 S_i = 0.338), Mazowieckie (2019 S_i = 0.421), Dolnośląskie (2019 S_i = 0.452) and Wielkopolskie (2019 S_i = 0.353). On the other hand, the lowest level of development was recorded in the following voivodeships: Warmińsko-Mazurskie (2019 S_i = 0.037), Świętokrzyskie (2019 S_i = 0.0777) and Podlaskie (2019 S_i = 0.117). This means that these regions were characterized by the best situation among voivodships in Poland, e.g. in terms of population density, net migration, birth rate, or unemployment. The conducted analyzes allowed us to notice that in Poland, despite the constant socio-economic development of the country, there are quite well-established differences in the field of regional development. This means that the country has voivodeships with an established position in terms of demographic development and the labor market, but some regions are characterized by a low pace of development measured with the use of Hellwig's taxonomic development measure. However, it is disturbing that the group of voivodships with the lowest development standard in terms of demographics and the labor market remained practically unchanged throughout the analyzed period. This may mean that the state policy pursued in Poland, which is aimed at minimizing spatial regional differentiation, is not very effective.

The next stage of the analyzes was to estimate the expenditure on cash benefits paid under the social assistance system, which were implemented in individual voivodeships in Poland.

Tab. 2. Expenditure on cash benefits[a] from social assistance schemes in Poland by voivodship in 2007, 2015, and 2019 (in PLN)

Voivodeship	2007				2015				2019			
	A*	B**	C ***	D ****	A*	B**	C ***	D ****	A*	B**	C ***	D ****
Lower Silesia	57 848	384 950	**89 676 107**	**4**	50 187	356 683	**139, 643 272**	**5**	34 038	253 459	**115 130 832**	**5**
Kuyavian-Pomeranian Voivodeship	65 863	451 547	**95 244 494**	**3**	61 745	436 375	**165 047 662**	**3**	40 137	288 315	**124 430 701**	**3**
Lublin Province	42 722	276 325	**67 035 850**	**11**	37 100	245 018	**99 044 127**	**12**	26 098	184 370	**86 702 687**	**10**
Lubuskie	32 593	209 636	**45 272 567**	**13**	27 955	193 568	**73 893 734**	**14**	18 811	135 883	**61 603 449**	**15**
Lodzkie	57 773	376 162	**87 138 030**	**5**	53 055	394 735	**141 809 210**	**4**	37 922	283 068	**122 124 568**	**4**
Lesser Poland	42 311	293 255	**75 472 527**	**6**	37 523	271 225	**103 271 950**	**10**	36 320	282 534	**115 086 623**	**6**
Masovian Voivodeship	70 875	478 236	**128 797 599**	**1**	60 066	439 176	**182 790 096**	**1**	46 686	360 189	**178 003 866**	**1**
Opole Province	16 579	116 518	**26 956 478**	**16**	17 176	128 938	**49 363 310**	**16**	11 908	91 592	**41 798 768**	**16**
Podkarpackie Province	36 136	239 284	**57 645 873**	**12**	38 144	266 517	**105 764 737**	**9**	26 115	192 085	**86 689 519**	**11**
Podlasie	28 295	188 605	**41 078 261**	**14**	30 834	220 633	**83 338 122**	**13**	20 969	157 127	**67 271 493**	**13**
Pomeranian	40 569	267 888	**71 427 826**	**9**	39 171	273 637	**110 903 943**	**8**	28 226	211 954	**104 003 197**	**9**
Silesian	80 538	531 867	**127 586 671**	**2**	71 172	498 481	**175 434 681**	**2**	47 125	337 882	**142 606 941**	**2**
Świętokrzyskie Province	27 743	162 805	**39 360 923**	**15**	24 619	176 866	**69 277 409**	**15**	18 024	135 285	**64 858 125**	**14**
Warmia-Masuria Province	50 558	319 610	**73 434 409**	**7**	51 046	358 878	**138 403 317**	**6**	33 655	235 631	**105 211 817**	**8**
Greater Poland	48 063	301 088	**72 011 042**	**8**	46 844	309 445	**119 801 929**	**7**	32 933	230 759	**107 029 117**	**7**
West Pomeranian	48 498	315 513	**71 071 871**	**10**	40 817	278 433	**102 587 751**	**11**	26 410	185 520	**83 074 698**	**12**
Together	746 964	4 913 289	**1 169 210 528**		687 454	4 848 608	**1 860 375 250**		485 377	3 565 653	**1 605 626 401**	

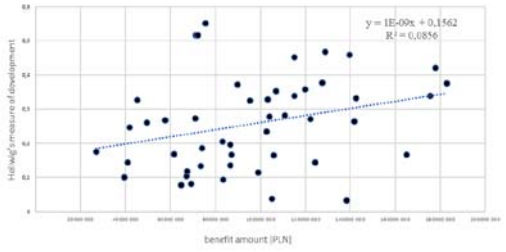
Note: [a]cash benefits - for the analysis, three main forms of cash benefits were selected, i.e. permanent benefit, periodic benefit, and specific benefit.
A* the number of people who were granted benefits in the form of permanent, periodical, or specific benefit
B** number of benefits
C*** the amount of benefits in PLN
D**** position among voivodeships in Poland according to the amount of expenditure in PLN (1 - the highest expenditure of a voivodship nationwide, 16 - the lowest expenditure)
Source: Own study.

The collected numerical data made it possible to determine the level of cash benefits paid in the social assistance scheme in Poland, the number of benefits paid, and the number of people who received these benefits in 2007, 2015, and 2019. In 2007, in Poland, under the social assistance scheme, cash benefits were paid out to a total of PLN 1 169 210 528 for 746 964 people. The largest amounts of benefits were paid in the Mazowieckie voivodship (PLN 128 797 599, for 70 875 people). The lowest expenses were recorded in the Opole region (PLN 26 956 478 for 16 579 people). The situation was similar in 2015 and 2019 when the largest amounts of money were allocated to cash benefits in the Mazowieckie voivodship (2015 - 182 790 096 PLN and 2019 - 178 003 866 PLN), despite the fact that the number of recipients of these benefits decreased in this region (2007 - 70 875 people; 2019 - 46 686 people). A similar tendency as in the Mazowieckie region was recorded throughout the country, where despite the decrease in the number of beneficiaries of social benefits (2007 - 746 964 people; 2019 - 485 377 people), an increase in the amounts allocated to social benefits can be noticed (2007 - PLN 1 169 210 528; 2019 - PLN 1 605 626 401). In turn, the lowest expenditure on cash benefits from social assistance scheme in the entire analyzed period was recorded in the Opolskie Voivodeship (2007 - PLN 26 956 478; 2019 - PLN 41 798 768). After analyzing the presented data, we can notice a disturbing phenomenon in which the highest

expenditure on cash benefits from the social welfare scheme was recorded in regions with a high level of development in terms of demographic factors and the labor market, based on the Hellwig's measure.

To determine whether in Poland the level of financing of cash benefits from the social welfare scheme is related to the level of development of individual regions, an analysis of the correlation between these factors was carried out.

Graph 1: Correlation analysis using the chi-square test of independence* for the variables: Hellwig's development measure in a voivodeship and expenditure on cash benefits from the social welfare scheme in 2007, 2015, and 2019 in the region



Note: *R^2- Pearson's r correlation coefficient
Source: Own calculations using Statistica 12.0.

The analysis of the correlation between the measure of Hellwig's development in individual provinces and the expenditure on cash benefits from the social welfare scheme in 2007, 2015, and 2019 in the region showed a weak correlation between these variables (R^2 = 0.0856). This means that in Poland there is no statistically significant correlation between the level of development of the voivodeship in terms of demographic factors and the labor market (i.e. population density, net migration, birth rate, post-working age population, unemployment rate) and the level of cash benefits paid under the social welfare scheme in individual regions.

4 Conclusion

The socio-economic development of territorial areas is of interest to many studies, including economics. One of the features of contemporary development conditions is the presence of significant disproportions in the potential of regions, not only in Poland but also in the world. The goal of each country should be to pursue a public policy that will reduce these disproportions and will lead to the sustainable development of the entire country. This means that regions with a lower development potential should be more supported by the state than dynamically developing regions.

In the course of socio-economic development, however, certain disruptions may appear, which will block it and limit the growth of citizens' welfare. One such factor is social problems, and the state plays an important role in limiting their scale. Therefore, it is in the interest of each state to solve acute „social issues" and to use support mechanisms for this purpose, such as the social welfare scheme. These activities, however, should be adapted to regional differences in socio-economic development.

The aim of the research was to determine whether the level of financing of cash benefits paid from the social assistance scheme is related to the development of individual regions in terms of factors related to demography and the labor market.
During the analyzes, it was found that in Poland in 2007, 2015, and 2019 there was a large spatial differentiation of regions in terms of the level of development. The highest level of development, measured by the Hellwig taxonomic index, was found in the Mazowieckie, Małopolskie, and Dolnośląskie voivodships. On the other hand, the lowest level of development was recorded in the Warmińsko-Mazurskie and Świętokrzyskie voivodships. It is disturbing that in Poland, despite the sustainable development policy, there were persistent differences in regional development, which indicates that public policy in this area is ineffective.

In Poland, the greatest amount of financial resources in the social welfare scheme was allocated to cash benefits in regions that had a high level of development in terms of demographic and labor market factors. It was also found that in Poland there is no statistically significant correlation between the development in terms of demographic factors and the labor market of individual voivodships, and the level of cash benefits paid out under the social welfare scheme. The conducted research and analyzes allow for the full confirmation of the main hypothesis of this article and at the same time indicate that the state, through the payments made to the poorest, supports more "developed" regions and, to a lesser extent, peripheral regions. This may be a significant barrier in eliminating the spatial differentiation in the development of voivodships in Poland.

The issues of demography and the labor market are one of the factors determining the level of development of the region and should be taken into account in the implemented regional policies. The research confirmed the authors' assumptions that the regional development policy should be aimed at improving the demographic situation of the region, stimulating the labor market in the regional perspective and effective distribution of social assistance. Moreover, the conducted research does not refer to intra-regional differences in the demographic situation and the labor market of voivodships, which are usually concentrated around large cities. Because of the above, when analyzing the problems of demography, the labor market and social welfare, research should be continued to broaden the scope of research and diagnose the occurrence of intra-regional differences in this respect.

It should be noted, however, that the analyzes carried out for the purposes of this article are not comprehensive. Only selected factors related to demographic conditions and the labor market were analyzed with the use of the Hellwig's measure. For example, factors related to economic development, entrepreneurship or innovation in individual regions in Poland were not analyzed. The presented article, however, may be a contribution to a further in-depth discussion on the development of regions in Poland and the use of schemes such as social assistance to reduce the differences in the standard of living of the population living in different parts of the country.

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Primary Paper Section: A

Secondary Paper Section: AD, AH, AO

INFLUENCER COMMUNICATION ON THE SOCIAL NETWORK INSTAGRAM

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Abstract: The topic of influencers has been a widely used word in recent years. It is a person who, through social media networks, influences the target groups of their followers. The aim of this paper is to analyze the communication of selected influencers on the social platform Instagram. Using classification analysis, data on individual influencers are presented. For the sake of interesting results and the proof that the success of an influencer does not only depend on how many followers they have on their profile, the influencers were selected with the help of respondents who assessed them independently. The data were obtained on the social platform Instagram and subsequently processed on the basis of the last five contributions as of April 3, 2020. This work is focused mainly on the number of responses to influencers in the form of likes or comments, furthermore we also calculate what share of their contributions is from 2020, mainly due to the fact that influencers on Instagram started to become known mostly in that year. The statistics of individual Instagram profiles and their subsequent comparison with each other are presented. The results show that it does not entirely depend on how many followers an influencer has, but that it depends more on the quality and impact of individual posts.

Keywords: social networks, Instagram, influencer, Instagram posts, communication

Introduction

Social networks, which arose as a result of the rapid development of modern telecommunications and information technologies, can be considered a phenomenon of the information society. In a short time, there has been a quantitative and qualitative growth of social networks, which have become commonplace in our lives (Bessarab et al. 2021). Social networks have completely redesigned the way people communicate with each other. Most importantly, these platforms play a major role in providing greater influence (Abdullah, 2020). Young people have found an ideal space in social networks for obtaining and relaying information (Martínez-Sanz and Gónzález-Fernández, 2018; Nadániová and Das, 2020).

Instagram has seen a remarkable increase worldwide over the past five years (Marauri-Castillo et al. 2021). Instagram posts have a positive impact on news credibility, access to advertising, or purchase intent (Lee and Kim, 2020).

Social networks are associated with the emergence of new types of personalities called influencers, who share their current experiences and ideas and often promote brands. Developing and maintaining a large community of followers is one of the most important goals of influencers (Balaban et al. 2020).

Although influencer marketing has attracted increased interest from marketing researchers in recent years, relatively little is known about the content and strategy of influencing influencers (Tafesse and Wood, 2021).

The aim of the work is to evaluate several of the most famous Czech influencers who work on the social platform Instagram. For this purpose, the following research questions were formulated:

RQ1: How many% of followers actively respond to the influencer's contributions using "likes?"

RQ2: How many% of followers actively respond to the influencer's contributions using "comments"?

RQ3: How many% of posts are from 2020?

1 Literature research

The main goal of the company management is set up on earnings management, but in the fact, sometimes are earnings deliberately overrated (Klieštik et al. 2020). Management has many ways to fill financial expectations. On of them is psychological influence via online social media (Nica, Gajanová and Kicová, 2019) or classic outdoor advertising (Zahrádka, Machová and Kučera, 2021). These methods are aimed on customers and finally at company performance, which is illustrated in sales (Vochozka, Rowland and Vrbka, 2016).

Influencer marketing represents a 10 billion USD industry in 2020 and is gaining in importance for many companies, especially those operating in a business-to-consumer environment. Several companies in the fashion, cosmetics, travel, food or beverage industries today run marketing campaigns that do not, at least in part, involve working with popular users on platforms such as Instagram and TikTok. However, many marketing managers still do not have sufficient knowledge of these platforms compared to their knowledge of more traditional media channels, and in this rapidly evolving environment, it is often difficult to make the right decision (Haenlein et al. 2020). The visual grasp of what a person represents is an increasingly important element for social media generation. This is especially true for fashion bloggers and "influencers" who make a living - or try to make a living - from their blogs or Instagram accounts. Creating a specific visual universe on these platforms seems to be a common and fundamental practice among these content producers (Eitzinger, 2019).

The influencer marketing literature has identified influencer opinion leadership and a para-social relationship with influencers as two central constructs influencing the shopping intentions of their followers; nevertheless, they are studied only in isolation. The results point to the importance of the social aspect of influencer marketing and inform influencer research and practice about "who says what" to improve communication efficiency (Farivar, Wang and Yuan, 2021). Based on the influencer literature, we argue that each influencer post (consisting of textual and visual information) is an example of stories in which there are main characters and storylines. To uncover the content strategies used by influential social media, we adopted the combined use of machine learning-based topic analysis and deep-learning image analysis to examine the content of captions and photographs contained in influencers' posts on Instagram. The results provided empirical information regarding the use of compelling stories by influencers (Feng, Chen and Kong, 2020).

In the US, Instagram was the best-rated platform for sharing information. Accounts should focus on one area or market, consistent and personal voice, and regular communication (new content at least three times a week) (Stock, 2020). One study sought to identify the keys to creating content and managing a social network that helps explain the results obtained by an influencer. Through a content analysis in the first half of 2019, which consisted of the publication of 164 activity reports on their account, it was found that adapting the language to the network algorithms, visualizing information with infographics and video, using references to popular culture and constructing a story with good and bad characters are some of the characteristics (Marauri-Castillo et al. 2021). Celebrities who use Instagram can influence their followers in many ways, such as influencing their perception of body image, adopting a healthy lifestyle, and persuading them to buy products or services supported by these celebrities (Shariffadeen and Manaf, 2019).

Social media usually relies on two types of accounts: official brand accounts and influencer accounts. The current study examines the relevant mechanisms that explain the effectiveness of Instagram posts in terms of account types (brand accounts on Instagram versus influencer accounts on Instagram) and content types. The survey found that Instagram posts promoted by influencers would have similar effects and social presence, even if they do not appear in branded content themselves. This research contributes to the understanding of effective predecessors of credibility in fashion marketing and the management of fashion brands based on social media. The types

of accounts and types of content on Instagram influence the extent to which communication on social media enables the creation of emotional bonds and the positive evaluation of a fashion brand (Jin, Ryu and Muqaddam, 2021).

Tafesse and Wood (2021) examine how content and strategies with influencer involvement on Instagram are measured both individually and interactively (i.e., number of followers, number of people following, volume of content, and domains of interest). The study uses unique Instagram influencer data to test its hypotheses. The findings suggest that the number of followers and the volume of content are negatively linked to the involvement of followers, while the number of accounts the influencer is following is positively linked to the involvement of followers. However, these main effects are modified by the influencer domains of interest. The findings contribute to the literature by shedding light on how elements of influencer content and strategies contribute to Instagram follower engagement. Weismuelleler et al. (2020) examines the impact of influencers' recommendations on social media on purchase intent, more specifically the impact of advertising and the credibility of the source in this process. The proposed framework argues that the publication of advertising has a significant impact on the form of sources of credibility, attractiveness and professionalism; partial dimensions that positively affect the consumer's purchasing intention. Empirical evidence based on 306 German Instagram users aged 18 to 34 reveals that the attractiveness of the source, the credibility of the source and the expertise of the source significantly increase the consumer's purchase intention; while the publication of an advertisement indirectly affects the intention of the consumer to purchase by affecting the attractiveness of the source. The results also show that the number of followers positively affects the attractiveness of the source, the credibility of the source and the purchase intention. Overall, this paper contributes uniquely to the product promotion literature, with evidence highlighting how influential social media and Instagram advertising can be used to effectively increase consumer purchase intent.

Most studies on influencer marketing techniques have focused on promoting unhealthy foods, while little is known about promoting healthier foods. This experimental study examined whether a real influencer versus a fictitious influencer is more successful in promoting healthy food products. In addition, we examined the role of para-social interaction as the basic mechanism for approving healthy foods. The results showed that the para-social interaction mediated the relationship between the type of influencer and the attitude to the product, as well as the purchase intention. Para-social interaction was higher in participants who were exposed to the popular real influencer compared to the fictitious influencer, which led to a higher prestige perception of the health food brand and the purchase intention of their followers in successfully promoting a healthy product. We suggest that the promotion of healthy foods could be more successful in the field of public health using popular influencers (Folkvord, Roes and Bevelander, 2020).

Perez (2019) analyze the copyright implications of using copyrighted content on Instagram "stories" as part of the Social Media Influencer (SMI) approval activities in the light of Colombian law. Social media brought an economic revolution, where SMIs found a way to make a living by producing advertising content on their social media accounts. Some of the key interactions used by these influencers come in the form of "Stories" used on the popular "Instagram" social media platform: posts in the form of photos and videos that constantly use copyrighted content and third-party copyrights. Overall, the Colombian copyright jurisdiction complies with the standard of protection set by international treaties with regard to the digital use of copyrighted works, such as those created in Instagram stories. However, the uncertainty of some provisions of the law could cause problems in interpreting these uses.

In order to achieve a deeper understanding of communication and sustainable tourism in urban and rural areas through the "eyes of users", the contribution identifies the different types of influencers on Instagram, and how they are linked to tourist destinations. From January 2012 to January 2019, social media focusing on the role of influencers in shaping the view of destinations analyzes posts using the hashtag #sustainabletourism. An approach based on a mixed method related to the content and typology of influencers was used to map the development of sustainable tourism. The results show that different types of influencers on Instagram generate involvement differently according to tourist destinations (Palazzo et al. 2021).

2 Data and methods

The base source of data will be the data from individual Instagram profiles, which we will analyze using classification analysis. For this research, we will leave the selection of Instagram profiles up to the respondents, to whom we will send a google questionnaire created in advance. The questionnaire will ask the following questions (Q):

Q1: Do you actively use the social platform Instagram?

Q2: Do you think "influencer" is a real job to be able to make a living from?

Q3: Are you impressionable by influencers?

Q4: According to what criteria do you choose influencers?

Q5: Which influencers, out of the 20 below, are you actively following?

The questionnaire will be set so that if the respondent answers "no" in Q1, the questionnaire will be closed for him, thus preventing false information. If the respondent states "yes" in Q1, he/she will continue the following questions. In Q5, individual pseudonyms of influencers will be listed, where respondents will choose which of them they actively follow. Based on the answers from Q5, we will select the 7 most followed influencers (according to the respondents) and then we will obtain data, which will be used to find answers to the research questions set out in the introduction.

The analysis itself will consist of the creation of tables, in which we will then record the data obtained from individual Instagram profiles. The data will relate to the number of followers, the total posts submitted during the existence of the Instagram profile, the number of posts submitted in 2020, the number of likes and comments for the last five posts. Subsequently, these data will be analyzed using an arithmetic mean and then expressed as a percentage.

In our analysis we will work with real influencers, therefore they will be further marked by placeholders (I1, I2, I3…, In).

3 Results

In the tables below (Tab. 1, Tab. 2, Tab. 3) individual data on selected influencers were presented, the analysis of which led to the answer to the research questions mentioned in the introduction, based on their last five posts as of April 3rd, 2021. As already mentioned in the methodology, influencers were selected with the help of respondents. However, according to Tab. 1 it is clear that the numbers of their followers are somewhat different, so there is a range of different categories of influencers, according to the number of followers. Individual Instagram profiles were established within the range of 2018-2019.

Tab. 1: general influencer data

Influencer	Number of followers	Total posts	Posts from 2020	Posts from 2020 (%)
I1	310,000	1,057	409	**39%**
I2	211,000	789	462	**59%**
I3	390,000	860	356	**41%**
I4	532,000	1,541	299	**19%**
I5	630,000	964	464	**48%**
I6	628,000	2,553	703	**28%**
I7	515,000	3,536	314	**9%**

Source: instagram.com (2021), own interpretation.

It is clear from the table (Tab. 1) that different influencers have very different data. At the same time, Tab. 1 shows the percentage of posts added in 2020. The data show that even though, for example, I7 has 515,000 followers and ranks 4th in this table, their posts from 2020 make up only 9% of all posts. In contrast, I2 has the lowest number of followers of the selected influencers and their posts from 2020 account for 59%. If we compare these two influencers (I7, I2), it is obvious that everything depends only on the personality of the influencer and their approach to individual posts.

Tab. 2: "like" statistics

Influencer	Individual "likes" on the last 5 posts	Average number of "likes" on the last 5 posts	Active responders - "like"
I1	30,871	15,538.75	**5%**
	21,869		
	18,658		
	15,298		
	6,330		
I2	12,562	18,313.75	**9%**
	20,570		
	23,644		
	12,328		
	16,713		
I3	12,253	24,240.25	**6%**
	18,336		
	28,734		
	12,849		
	37,042		
I4	27,255	42,248	**8%**
	31,768		
	20,233		
	66,876		
	50,115		
I5	50,915	44,902.75	**7%**
	69,098		
	36,264		
	38,071		
	36,178		
I6	11,199	38,762.50	**6%**
	23,028		
	38,691		
	47,508		
	45,823		
I7	8,806	7,942.75	**2%**
	6,708		
	11,113		
	7,076		
	6,874		

Source: instagram.com (2021), own interpretation.

From the following table (Tab. 2) we can see how many "likes" the individual influencers have on the last five posts, their averages and the subsequent expression in percentages with respect to the number of followers. From these data (Tab. 2) it is clear that "likes" are actually only given by a minimal number of followers. However, if we were to compare the data obtained, since I3 has 238,000 fewer followers, their percentage of "likes" compared to number of followers is the same.

Tab. 3: "comments" statistics

Influencer	Individual "comments" on the last 5 posts	Average number of "comments" on the last 5 posts	Active responders - "comments"
I1	1,748	513	**0.17%**
	365		
	166		
	198		
	90		
I2	36	63.8	**0.03%**
	76		
	79		
	94		
	34		
I3	63	52.8	**0.01%**
	35		
	67		
	75		
	24		
I4	62	66.4	**0.01%**
	84		
	95		
	35		
	56		
I5	73	66.6	**0.01%**
	64		
	85		
	38		
	73		
I6	48	45.2	**0.01%**
	42		
	78		
	26		
	32		
I7	73	56.8	**0.01%**
	46		
	62		
	24		
	79		

Source: instagram.com (2021), own interpretation.

From the table (Tab. 3) we can see how many "comments" the individual influencers have on the last five posts, their averages and the subsequent expression in percentages with respect to the number of followers. From Tab. 3, or rather from the percentual expression, it is clear that the "comments" below the posts are not very popular among followers. With regard to the number of followers, the value of comments did not exceed 1% for the 5 monitored posts.

Based on the presented data results, very different values of comments, likes, etc. were found. The results show that followers are often only inspired by the influencer, but only a small percentage of followers actively participate in the reactions to the published posts.

4 Discussion

It is evident that each influencer has a similar composition of their followers, which consists of:

a) their admirers,
b) their haters - followers who do not like them very much, but watch them out of interest/curiosity,
c) others - followers who are neither their admirers nor their haters.

Based on this, all data that are freely available on their individual Instagram profiles were presented, it should also be noted again that in this work, influencers were evaluated on the basis of their last five posts as of April 3, 202. If the analysis was done on a different date, the results will most likely be somewhat different, precisely because the influencers or statistics of their profiles are constantly growing in most cases.

Based on the obtained results, it is now possible to answer the research questions that were formulated for this purpose:

So how many% of followers actively respond to the influencer's contributions using "likes"? As was evident in the results, the data for each influencer are somewhat different. However, if we were to evaluate the results as a whole, the activity of followers in the area of "likes" ranges from 2% to 9% with respect to the total number of their followers.

So how many% of followers actively respond to the influencer's contributions with "comments"? This RQ2 is very closely related to RQ1, it is a very similar case with the difference that it is not an activity of "likes", but "comments". However, it was found that none of the monitored influencers recorded activity higher than 1% on the monitored posts in relation to the total number of their followers. The results show that the number of followers an influencer has is not so important, because the activity of "comments" is at the same level for everyone. However, if the influencers would like to record a higher incidence of comments under their posts, there is one fairly simple method, which is to create a post with any kind of contest, where they will require several conditions to participate, one of which will be, for example, to write "done" in the comments; in this case the comment statistics will increase very quickly.

What is the percentage of posts from 2020? In the case of this research question, the data range from 9% to 59%. Only one thing is evident from this; in the case of the activity of "likes" or "comments" the final data did not differ too much between individual influencers, or it did only slightly, but in the case of the percentage of posts in 2020 the resulting data are very different. As already mentioned in the results, it all depends on the personality of the influencer and their approach. Again, I consider it important to look at Tab. 1, where I2 has the lowest number of followers of the selected influencers and their posts from 2020 make up 59% of their total Instagram profile. Given that all Instagram profiles were established during the same year, it can be assumed that influencer activity could be somewhat similar, therefore this number is admirable.

Tafesse and Wood (2021) explored how content and strategies are measured with the involvement of influencers on Instagram (i.e., number of followers, number of people following, volume of content, and domains of interest), in regard to which I somewhat identify with them. Shariffadeen and Manaf (2019) argue that celebrities who use Instagram can influence their followers in many ways, and although this claim was made two years ago and still cannot be disagreed with.

There are a lot of questions about the topic of influencers, which is very broad. It would be very interesting to see the resulting data if this analysis was not carried out with only five posts, but with, for example, all that are available on the individual profiles. This topic can be analyzed from several directions, so in our opinion, a deeper examination is necessary.

Conclusion

The aim of the work was to analyze the communication of an influencer on the social network Instagram. The goal was met by means of classification analysis and subsequent evaluation of the results.

In the results chapter, the data were expressed in a table and then the percentual expression of "success" of a given influencer was calculated, in terms of the amount in which their followers respond to their posts using "likes" or "comments". The results were obtained on the basis of statistics from the last five posts of each influencer on the given date. It is obvious that if we did the same analysis on another day, the results will most likely be somewhat different, due to the fact that this concerns communication through a social network, where the activity is growing each day.

The results obtained inevitably lead to several questions, what would the results be if the analysis was based on posts throughout an entire year? How is it possible that influencer x, which has a lower number of followers, has more activity under their posts than an influencer, which has several times more followers? What is then the real basis of success of a given influencer? Based on the data collected for this research, it is not possible to answer these questions correctly at this time, but the last-mentioned question is worth noting, i.e., what is the real basis of success of a given influencer. Opinions may differ, but as has already been stated, it is probably more about the attitude of each influencer, the quality of their posts and communication towards their followers. However, as mentioned, it is only a probability statement, for a more definite specification of a successful influencer and the answer to these questions, it is necessary to conduct further, follow-up research that will answer the questions and identify this issue more accurately. Subsequently, these research papers will help to better understand the success of an influencer itself.

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Primary Paper Section: A

Secondary Paper Section: AE, AH

THE ROLE OF SOCIALIZATION, SOCIAL RELATION AND SENSATION FROM THE PERSPECTIVE OF TEACHER CANDIDATES

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Abstract: The study presents the results of a research that is part of the research of the Ratio Research Group of J. Selye University among teacher candidates. The research team is focused on exploring the circumstances of dropout. An integral part of this is searching about students' opinions, attitudes, abilities, and social relationships. The research is used several measuring tools. This paper analyzes the results of the Sensation Seeking Scale. A total of 161 teacher candidates were enrolled in this study (full-time 117, 44 correspondents). The questionnaire analyzes the student opinions in 4 dimensions: 1) Thrill and Adventure seeking (SSS-TAS) - searching for fast and dangerous sports, activities, 2) Experience seeking (SSS-ES) - longing for a new, non-conforming lifestyle with senses or unique vitality, 3) Disinhibition (SSS-DIS) - in which the strongest factor is a dive into drug and sex adventures, and 4) Boredom Susceptibility (SSS-BS) - avoidance of repetition, routine and dull people, intolerance of the tension of invariance. The results are shown: 1. How high is the degree of experience seeking, what is the intensity of experience seeking among the students? 2. Are there students who seek experiences more intensively than others? 3. In which dimension is the frequency of experience seeking most common? 4. Are there any prominent differences between each dimension?

Keywords: experiential pedagogy, teacher training, personality, research, sensation seeking scale, social relation

1 The antecedents of the research the sensation seeking scale

The study presented here and its results form part of the research among the students of the Faculty of Teacher Education of J. Selye University, which focuses on the study of the causes and background of a dropout.

Data collection is performed partly by standardized tests, questionnaires, and partly by self-developed tests. What has been achieved and received so far is pointing out students 'fears and expectations about university life. We carry out our longitudinal research with the help of eleven, partly self-developed and partly adapted measuring instruments, which we carry out in four Hungarian-language higher education institutions.[1]

The most important feature of our research strategy is that we examine dropout in a broader context, in addition to getting to know the students' personalities, we also analyze the characteristics of the social environment. We look for connections between background factors, logical thinking, emotional intelligence, attitudes (teacher career, teacher role), teacher competencies, stress tolerance, and learning style, among others. We continuously compare our results with the relevant indicators of the latest domestic and international studies.[2]

In the 2019/2020 academic year, we expanded our measurement tools with the Sensation Seeking Scale. We do this in order to obtain additional information about the students' personality profile, values, needs, expectations, and to achieve our objectives outlined above.

From our preliminary research results, the present study focuses on our findings on students' personality and mental state, which, in line with international results, show that students have significant mental and emotional problems (Twenge 2017; Robinson – Aronica 2016). They are insecure in themselves, they have fears about learning, their lack of abilities, they are anxious about the failure to complete their studies and their physical-mental-emotional-spiritual world is full of contradictions.[3]

In the academic year 2019/2020 we included the Sensation Seeking Scale as one of our measurement tools. The psychometric features of the questionnaire allow us to obtain data on the personality traits of the participants in the study aimed at gaining intense experiences and new, varied experiences.

1.1 The test sample

Candidates of the J. Selye University took part in the research. 27% of the students are full-time and 73% are correspondent (Figure 1).

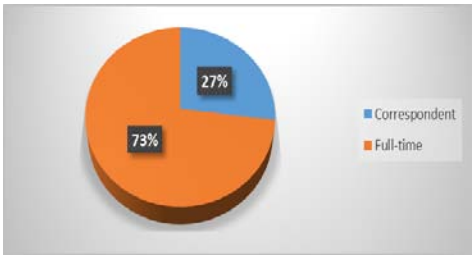


Figure 1: Distribution of the sample by type of training.

The data of the 161 students participating in the study were grouped according to further detailed background analysis (Table 1). N = 161, Cronbach's Alpha: 0.754 (Figure 2).

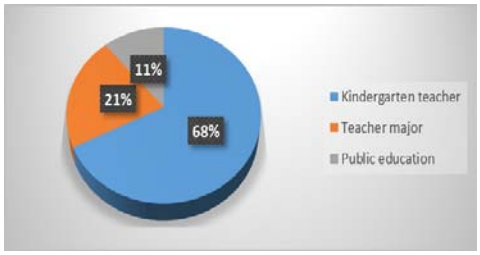


Figure 2: Distribution by specialties

1.2 Characteristics of sensation seeking scale

'Sensory search for experience is one of countless personality traits. Yet its presence or absence is not negligible, as it affects many areas of our lives. It affects what activities we prefer, what sports we choose, what foods we prefer, how we dress, or what kind of people we feel comfortable with' (Mayer et al. 2012: 298.) Sensory search for experience is a personality trait from which the risk of problematic behaviours such as excessive alcohol and other pleasure consumption, illegal substance use, unrestricted sexual behaviour, uncontrolled gambling etc (Andó et al. 2009).

Our research team used the most commonly used 40-item Sensation Seeking Scale, which has excellent reliability and validity indicators (Zuckerman 1978).

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[2] Csehi, A. – Kanczné Nagy, K. – Tóth-Bakos, A. 2020, Horváth, K. – Tóth, P. 2019, Kanczné Nagy, K. – Csehi, A. 2018, Kanczné Nagy, K. – Csehi, A. 2021, Kanczné Nagy, K. – Tóth, P. 2018, Nagy, M. et al 2018, Nagy, M. et al 2019, Tóth-Bakos, A. – Tóth, P. 2018, Faria, C. et al 2012, Frey, A. et al 2014, Jungerta, T. et al 2015, Robinson K. – Aronica L. 2016, Şahin, M. 2014, Stiburek, Š et al 2017, Twenge, J. M. 2017, Wudu M., Getahun F. 2009;

[3] As a result of our efforts to resolve the situation, we have included a personality development pedagogy course in the training of our students, which is an optional subject for the would-be kindergarten teacher and teacher students. The course uses the possibilities of activity- and experience-focused and experiential pedagogy that can be adapted in many ways. Our goal is to strengthen students' attachments to university and university studies, to help build different relationships (peer-to-peer and student-teacher), to help overcome learning insecurities and fears, and thus to contribute to the positive development of their personalities.

The questionnaire consists of 40 pairs of statements. For each statement pair, the person completing the questionnaire should decide which member of the statement pair he or she can best agree with.

The study was conducted along 4 dimensions:

1. Excitement and adventure, namely the extent to which the respondent is looking for fast and dangerous sports and activities.
2. Searching for experience, namely the degree of openness to new experiences that excite the senses or the mind, travel and non-conformal lifestyle.
3. The strongest factor in the dimension of unbridledness is immersion in drug and sex adventures.
4. And the boredom tolerance dimension examines the extent to which repetition, routine, the presence of boring people, and invariance create tension in the person.

Thus, determining the extent of the search for experience can provide important information for a more thorough understanding of the students' personality profile and the realization of our objectives outlined above.

1.3 Criterias of the investigation

The aspects of the study were as follows:

I. Intensity of sensation seeking.
II. Frequency of experience search.
III. Comparison of the results of the 4 dimensions.
IV. Students, who looking for experiences in an extreme way.

Formulated were 4 research questions:

1. How high is the degree of experience seeking, what is the intensity of experience seeking among the students?
2. Are there students who seek experiences more intensively than others?
3. In which dimension is the frequency of experience seeking most common?
4. Are there any prominent differences between each dimension?

The study was performed in two phases.

1.4 Results of the first phase: frequency and intensity of sensation

We began to examine the frequency of experience search in dimensions by summarizing students' responses. We then percentage the students' choices per dimension in each of the 10-10 statement pairs. In the following, we examined the choice rates of the experience-seeking statements. Quantitative categories of experience search frequency were determined in the following based on research methodological considerations. If the respondents chose the statement of the pair of statements expressing the search for a sensory experience to be less than 20%, the degree of search for experience is low, if the choice was more than 60%, the degree of search for experience is high. The distribution of the selection rate of 10-10 pairs of statements measured in four dimensions is illustrated in Figure 3.

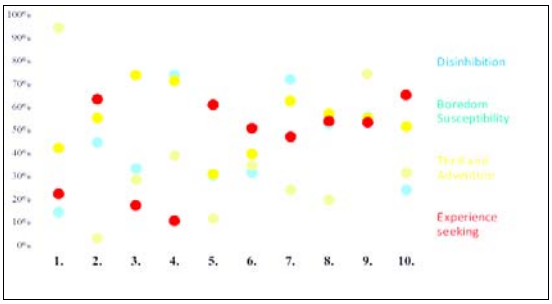


Figure 3: Distribution of the choice rates of the 10 question pairs belonging to each dimension

Based on the responses, it can be concluded that high frequency is present in a higher proportion among students than low frequency. High-frequency responses occur in all four dimensions, while low-frequency responses occur only in the Boredom Susceptibility and Experience seeking dimensions. Table 1 illustrates the percentages of high-frequency statements and their remarkable content.

Statements:	Dimension:	Choice rate:
'For the sake of the God, I would not even watch a movie I have seen before.'	Boredom Susceptibility	94,4%
'I love people who honestly state what they think even when it's sometimes hurtful.'	Boredom Susceptibility	74,50%
'I love having new, exciting experiences, even if they're a little scary, unusual, or illegal.'	Disinhibition	73,90%
'I would love to learn to water ski.'	Thrill and Adventure	73,90%
'It would be advisable for everyone to have the right amount of sexual experience before marriage.'	Disinhibition	72%
'I would love to try wind sailing.'	Thrill and Adventure	71,40%

Table 1: Incidence rate of high frequency responses

Based on the examination of the intensity of experience search, we can state that the proportion of students seeking sensation with high (22.36%) and low (19.25%) intensity is similar among our students. As a result of our analysis of the full range of intensive experience search indicators, we found that 3 students search for sensory experiences with extreme, almost extreme intensity.

From the results, we concluded that the exploration of the causes of intensity among students with a different opinion from the majority (58.39) requires further research.

The four dimensions - Thrill and Adventure seeking, Experience seeking, Disinhibition, Boredom Susceptibility - were analyzed separately. We calculated the proportion of students who represented their positions in a different way than the average, and analyzed the content of the statements they chose. 8.7% of students surveyed feel best when they've been drinking a little and love wild house parties where nothing is forbidden. 2.8% of them will be restless if they have to sit at home for a long time and get terribly bored when the host projects and shows travel photos or movies and thinks the main sin in social contact is when someone is boring. And the most extreme students (1.86%) would try mind-altering, hallucinatory drugs and had already smoked drug cigarettes or would like to smoke it.

Summarizing this part of the study, it can be concluded that high-frequency responses occur in all four dimensions, while low-frequency responses are present only in the Boredom Susceptibility and Experience Seeking dimensions.

The statement 'I wouldn't watch a movie I've seen once before' reached a significantly higher frequency (94.4%). Furthermore, above 70%, so exceptionally high values, the following two statements were produced: 'I love people who honestly state what they think even when it is sometimes hurtful'; 'I love

having new, exciting experiences, even if they are a little scary, unusual or illegal.'

Students' opinions are most different in the Thrill and Adventure seeking dimension. The greatest consensus among them is in the Boredom Susceptibility dimension. The enjoyment of extreme sports mostly shares their opinions (average rate: 55% & 45%). However, there is not always a consensus in the dimension of Boredom Susceptibility in the search for sensory experience. The security of the usual old friendly environment is important and not boring for 96.9% of the respondents. 80.1% like to spend time with friends.

These results support our preliminary research that interpersonal relationships play a very important role among students.

2 Comparison of dimensions

To examine each dimension, we revealed the differences in the choice rates between the members of the statement pairs (referring to experience search or refusing to search for experience). For each pair of statements, we calculated the difference between the members of the pairs in terms of the choice rate. The closer the difference is to zero, the more divided the respondents in judging the statement pairs, as this means that 50% of the respondents chose one member of the statement pair and 50% the other. The closer the difference is to 100, the greater the consensus among respondents, as this means that one member of the statement pair was chosen by no or very few, while the other member was (almost) chosen by everyone. The differences in the selection rate of the 40 pairs of statements in the four dimensions are illustrated in Figure 4. The figure shows well that students are most divided in the Thrill and Adventure seeking, and the greatest agreement among them is in the Boredom Susceptibility.



Figure 4: Differences in the choice rate of question pairs in the four dimensions examined

The degree of division and agreement was determined as follows: in the case of a difference of 0-15 percentage points, the division is strong, and between 50-100 percentage points there is an agreement, the strength of which increases to 100. We revealed the greatest division in the Thrill and Adventure seeking, as here 5 statements are below 15 percentage points, or around it. The pairs of statements that shared the students were as follows. 'I would love to try bungee jumping,' said 57.1% of teacher candidates. In contrast, 42.9% agreed with this statement: 'It repels the feeling of me jumping from a height. I don't even approach places like this.' 44.7% thought that 'Sensible people avoid dangerous activities.' The opposite was chosen by 55.3% of the respondents. 'Sometimes I like doing things that are a little scary.' The following statements made the biggest difference. 'Downhill skiing on a steep mountain slope is a great way to find yourself in plaster' (48.4%). 'I think I could really enjoy a quick descent down a steep mountain slope' (51.6%). There are yet two strongly divided pairs of statements in the Thrill and Adventure seeking dimension. 'I would love to be a climber' (42.2%). 'I can't understand why some risk their lives climbing' (57.8%). The next pair is 'It is reckless to sail far with a light small sailboat' (44.7%) and 'I would like to sail far into the sea with a light but well- built sailboat' (55.3%).

We found the greatest degree of agreement among respondents in the Boredom Susceptibility dimension. Here 6 statements are above 50 percentage points. However, in this dimensions, consensus there was not always in the sensory experience search (Table 2).

The statements of the sensory experience search	Statement of avoiding sensory experience
'I get bored when I have to see the same old faces' (3.1%).	'I like the comfortable acquaintance of old friends' (96.9%).
'For the sake of the world, I wouldn't even watch a movie I've seen before' (94.4%).	'There are movies that I like to watch twice or even three times' (5.6%).
'It is terribly boring when the hosts show travel pictures or movies to their guests' (11.8%).	'I enjoy watching photos or movies of my trip at home on Facebook or Instagram' (88.2%).
'The main sin in social contact is when someone is bored' (19.9%).	'The main sin in social contact is rudeness' (80.1%).
'I will be restless if I have to sit at home for a long time' (24.2%).	'I like spending my time at home in a familiar environment' (75.8%).
'I like people who honestly state what they think even when it is sometimes hurtful' (74.5%).	'I don't like people who take pleasure in hurting others' (24.8%).

Table 2: Agreed statement pairs in the Boredom Susceptibility dimension

3 Conclusion

Based on the responses, it can be stated that high-frequency responses occur in all four dimensions, while low-frequency responses occur only in the Boredom Susceptibility and Experience seeking dimensions.

The statements with the highest frequency are:

1. 'I would not watch a movie I have ever seen for the world.'
2. 'I love people who honestly say what they think ever when it is sometimes hurtful'
3. 'I love having new, exciting experiences, even if they are a little scary, unusual, or illegal.'

Students are most divided in the Thrill and Adventure seeking dimension.

The greatest agreement is in the Boredom Susceptibility dimension.

The enjoyment of extreme sports mostly shares their opinions - average rate: 55%; 45%.

In the dimension of Boredom Susceptibility, there is not always agreement on sensory experience seeking. The security of the usual old friendly environment is important and not boring for 96,9% of the respondents. 80.1% like to spend time with friends. These results support our preliminary research: interpersonal relationships play a very important role among students.

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EXAMINING THE RELATIONSHIP BETWEEN MORAL REASONING AND CRITICAL THINKING IN TEACHER STUDY PROGRAMMES IN SLOVAKIA

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The paper was developed with support of project: VEGA 1/0174/20 The integration of moral judgement and critical thinking into undergraduate teacher training.

Abstract: Introduction: Since both components critical thinking and moral reasoning are considered to be major phenomena, the development of which is a priority of all world education policies, they are paid a lot of attention in foreign countries. However, foreign studies have only made a little mention of examining their relationship and integrity as well as until recently, each dimension has been examined separately in Slovakia and there is no piece of evidence showing the relationship between them. Based on this, we have formulated the following scientific problem: Is there a relationship between critical thinking and moral reasoning? Methods and respondents: The basic measurement tool of our research was the *Watson-Glaser Critical Thinking Appraisal* used to determine the level of critical thinking. The level of moral reasoning was investigated by Lind´s *Moral Competence Test.* The examined sample consisted of the available selection of the 2nd and 3rd year teacher study programme students for lower and upper secondary education at the University of Prešov in Prešov (N = 241) and the testing itself was realized in the academic year 2020/2021. Results: Our research shows that the average value of the gross score in critical thinking of the teacher students is M = 43.26 (SD = 5.09) and the achieved average numeric value of moral judgment expressed by the C-score is M = 21.15 (SD = 12.88). Based on the Pearson Correlation results, we were discussing whether the calculated value of the correlation coefficient indicates the relationship between critical thinking and moral reasoning and whether there is a relationship between moral reasoning and individual cognitive components of critical thinking and the results of the research show interesting findings about the relationship between critical and moral reasoning of teacher students. Conclusion: The conclusions of the research lead us to redesign the undergraduate training of future teachers in the context of the World Economic Forum challenges and the support for minds of the future according to H. Gardner - critical, creative, disciplined, ethical and tolerant - as a critical and moral integrity.

Keywords: moral reasoning, critical thinking, relationship between both components and their integrity.

1 Introduction

The issue of critical thinking and moral judgment is very difficult. On the one hand, we have rationality as a set of rules of good reasoning and, on the other hand, morality as a set of rules of correct acting.

Critical thinking as one of the big topics is a relatively young and unexplored area in Slovak scientific field. Slovak experts began to focus on it just after the analyzes of OECD PISA international test measurements. This requirement mainly arose in 2003, when Slovakia participated in the international OECD PISA measurement for the first time. The results showed insufficient ability of 15-year-old Slovak students to think critically and think at the level of higher cognitive processes. This was followed by other unflattering findings from several groups in the educational environment, including teacher students and teachers in primary and secondary schools and universities. This prompted the efforts of many Slovak experts to delve deeper into the problem at the scientific level. Since recent years our country has embarked on a new era of education in the Slovak Republic, namely the integrity of critical thinking and character education. We are inspired by many effective Character Education Programmes from abroad. The Ministry of Education, Science, Research and Sports of the Slovak Republic has supported several grants in an effort to change mainly university teacher training. Our long-term goal is to change undergraduate teacher training with an orientation towards the quality of educational outcomes in the area of critical and moral thinking.

Until recently critical thinking and moral reasoning in Slovak professional field were dealt separately, although the connection between the two domains is implicitly indicated. The concept of critical thinking is based on the original definition of the Delphi Report, which defines cognitive abilities and affective dispositions [1] and conceived standards of a good critical thinker with the necessary intellectual virtues [2].

From the point of view of moral reasoning, we rely on Lind´s theory [3], who grasps Kohlberg and Habermas's definition and complements it with an element of conflict and dilemma (implicitly indicated by Kohlberg). We also find this integrity in Lajčiaková's [4] definition, who considers moral competence to be a kind of a bridge between moral attitudes or moral values on one hand and moral behavior on the other. It is the capability of an individual to reach moral judgments based on his or her internal principles and then to act in accordance with those judgments. This means that moral competence as a sign must be reflected not only in thinking but also acting. A morally competent person thus makes moral decisions and acts morally. Her or his thinking is reflected in her or his behavior. Lind suggests that moral competence includes, besides the ability to judge which action is correct in relation to a moral principle, the ability to solve dilemmas and conflicts between morally equal alternatives of action [3]. Kaliská, Kaliský and Čižmáriková [5] state that morally competent judgment means that both parties will try to resolve the conflict on the basis of general moral principles (e.g. the principle of justice, free expression, etc.) through thinking and discussion. Here we can see great space for the integrity of critical and moral reasoning, in which cognitive abilities, affective dispositions overlap with the virtues of a critically and morally responsible thinker.

The most concise integrating understanding of the critical and moral aspects can be registered with Paul [6]. Critical thinking understood as an individual skill separated from values, is often used to rationalize prejudice and interest. Moral integrity and responsible citizenship, only understood as a *good heart*, are themselves more likely to be manipulated by propaganda. Human mind, whether it is its conscious goodwill, is a subject of a strong, self-deceptive, unconscious egocentric mind. The full development of each characteristic – critical thinking, moral integrity and responsible citizenship - in its strong sense requires and develops other ones in a parallel strong sense. The three mentioned are only developed together in an atmosphere which encourages intellectual virtues: intellectual courage, intellectual empathy, intellectual goodwill or integrity, intellectual perseverance, intellectual justice and faith in reason. The intellectual and moral virtues themselves are interdependent.

At the theoretical level, we assume that the integrity of critical and moral thinking requires justification of the rationality of action by reference to the good or ethical principle by which this rationality tries to be achieved. At the empirical level will try to explain the relationship between critical thinking and moral reasoning based on the results of the research.

2 Methodology

The basic set of our research consisted of all students of bachelor's teacher study combinations of lower and upper secondary education. The first testing using the standardized WGCTA test (Watson and Glaser [7]) was attended by the 1st, 2nd and 3rd year students enrolled in full-time study. The testing took place in October of the academic year 2020/2021 during compulsory study subjects, where we assumed the compulsory participation of the student in the relevant subject N = 761 university students participated in this testing. The sample of n = 241 was an available selection of 2nd and 3rd year students who attended the seminars of the author of this study. During the seminars in October, they underwent further tests focusing on the components of critical thinking and moral reasoning. The testing was realized online in very demanding conditions. The

research involved male participants n = 83 (34.445) and female ones n = 158 (65.56%).

The critical thinking variable was measured by the *Watson-Glaser critical thinking test* (WGCTA; Watson and Glaser [7]), which consisted of five subtests: Judgment, Assumption Recognition, Deduction, Interpretation and Evaluation of Arguments. The partial score was 16 for each subtest and the gross score was 80 points for the whole test.

We measured the moral judgment variable by means of Lind's *The Moral Competence Test* (MCT; Lind, [8]). The standard version of MCT contains two stories - moral dilemmas. For each dilemma, the respondent has to consider twelve arguments. In the standard version, 24 arguments were evaluated. The dependent variable is represented by the judgment of the subject's behavior whose evaluation of arguments is on a scale from -4 to +4. The main value is the C-index, which measures the level of moral competence on a quantitative scale, and can take values from 1 to 100. The C-score must not be negative or higher than 100. The average C-score is usually somewhere between 0 and 40. Higher scores are possible but very rare.

3 Research results and discussion

First, we present the achieved average values of students in critical thinking and moral reasoning. In critical thinking the teacher students (n = 241) achieved an average value of M = 43.26 out of the total possible gross score of 80 points (SD = 5.06). In moral reasoning they achieved average score of C index expressed by M = 21.15 (SD = 12.88).

The basic objective of our research was to find out whether there is a relationship between critical thinking and moral considerations. Due to the confirmed normality of the data, we used the Pearson correlation coefficient to test the null hypotheses.

We have formulated this basic assumption:

H_0 The calculated value of the correlation coefficient does not indicate the relationship between critical thinking and moral reasoning. Thus, we claim that both variables are independent and that $r_p = 0$.

H_A The calculated value of the correlation coefficient indicates the relationship between critical thinking and moral reasoning ($r_p \neq 0$).

The results of testing the basic hypothesis are shown in Table 1.

Table 1. The relationship between critical thinking and moral reasoning

Correlation		Moral reasoning (C-index)	Critical thinking (WGCTA)
C-index	Pearson Correlation Coefficient	1	,885**
	Sig. (2-tailed)		0,000
	N	241	241
WGCTA HS celkom	Pearson Correlation	,885**	1
	Sig. (2-tailed)	0,000	
	N	241	241

Legenda: **. Correlation is significant at the 0.01 level (2-tailed).; *. Correlation is significant at the 0.05 level (2-tailed).

Pearson's correlation coefficient represents the value of $r_p = 0.885$ at the significance level $\alpha = 0.01$. We state that according to the approximate interpretation of the values of the correlation coefficient according to Chráska [9], this is a high positive dependence. We can state that the higher values achieved in critical thinking probably correspond to the higher values achieved in moral reasoning. Due to the results of hypothesis testing showing that there is a high positive relationship between critical thinking and moral reasoning, we *reject the* null hypothesis H_0 and *accept the alternative hypothesis H_A saying that the calculated value of the correlation coefficient indicates the relationship between critical thinking and moral reasoning ($r_p \neq 0$).*

The calculated value of the correlation coefficient of the dependence of critical thinking and moral reasoning ($r_p = 0.885$) is so high that we can discuss a statistically significant relationship. The integrity of critical thinking and moral reasoning (one of the important components of character) is a new issue in Slovakia. So far, there has not been realized a single research in our conditions which could help us confront the obtained information. Our starting point therefore will be based on several foreign theories proving the integrity of critical and moral reasoning.

We start with the theory of Paul [10], who emphasizes the integrity of the cognitive and affective dimension, so that we can behave as critically morally responsible individuals. Paul states that character qualities, such as justice, work ethic, devotion, responsibility, dedication, etc. all define individuals and play a large part in responsible decision making in one´s life. Critical thinking only as an instrument of rationality, separated from values, is used to rationalize one's own prejudices or egocentric tendencies. On the other hand, "having only a good heart" is prone to manipulate.

We assume that the intellectual standards used in the process of critical thinking also help to develop several kinds of virtues. Leaders in character education (particularly in the United States and the United Kingdom) distinguish four types of virtues: intellectual, moral, civic, and performance virtues. Integrating virtue is practical wisdom, which is considered meta-virtue (especially in the theory of ethics, virtues, MacIntyre [11]. Ruisel [12] states that the basis of our thinking is wisdom as disinterested contemplation that leads one to balance of the interests and promotes good life. In Ruiselová theory of wisdom critical thinking and moral reasoning are integrated. Comparing it with the theory of Facioni [1], it is basically:

1. cognitive components: interpretation, analysis, evaluation, reasoning, explanation, self-regulation;
2. affective dispositions: curiosity, systematicity, analyticity, searching for the truth, open mind, self-confidence, cognitive maturity, which helps to develop;
3. intellectual virtues – humility, integrity, perseverance, courage, autonomy, faith in reason, etc.

The result of the integrity of critical thinking and moral judgment is the virtues of performance, in which the individual acts as a critically thinking and morally responsible person.
Theoretical analysis has shown that there is a lot of researches abroad focused on critical thinking and moral reasoning. We find little information about their relationship. The second theory of the integrity of critical thinking and moral reasoning, we will rely on, is Lipman's theory [13]. He explains that effective moral education requires students to be actively involved in ethical research. Ethic examination in turn requires that students cultivate all aspects of their thinking. Cultivating higher-order thinking requires students to become critical, creative, and caring thinkers. Improving their critical thinking involves strengthening their logical and epistemological abilities as well as their evaluative abilities. Their creative thinking, including both discovery and invention, consists of all processes of inquiry, both artistic and scientific, and includes perception as a form of discovery. Careful thinking includes a wide range of types of thinking, including active thinking, affective thinking, and value thinking. It claims that only one discipline, which is philosophy, is able to support the normative application of a broad spectrum of modes of thinking. It is not a traditional academic philosophy of universities, but a philosophy-based narrative and discussion, which can be found in the approach known as the *Philosophy for Children* (P4C) programme. Lipman noted that children can

learn that ethical acts must have their reasons. He proposed ethics investigation method. Lipman stated that ethical reasoning is logically valid moral reasoning (reasoned above). These components in Slovakia are investigated by Pintes and Borisová [14].

Fasko [15] (1994, p. 3) also reflected on the problem of the relationship between critical and moral thinking and stated: "*Given the assumption that students should develop critical thinking and behave ethically, it is necessary to make a decision whether and how these two abilities relate. When considering the importance of both abilities, researchers recommend that children should be taught to think critically about values."*
Critical thinking cannot be taught without the values and virtues (intellectual and moral) which a critical thinker should have (Knapík, [16]; Lapko, [17]; Maturkanič et al. [18]; Ruisel, [12], etc.). Several authors state that the educational process should help learners to become moral individuals who have the ability of critical thinking and moral judgment (Knapík, [19]; Kučerková, [20].

4 Conclusions

The research results show that there is a high positive relationship between critical thinking and moral reasoning. We did not find a research with the similar focus in Slovakia, so it is necessary to do further testing. The achieved average score in the critical thinking and moral judgment of Slovak university students indicates that the development of these capabilities is not given much attention in the educational process. We have been observing this fact since the first international OECD PISA measurements, in which our country participated in 2003. Although we have already spotted significant experiments and changes, it is still necessary to set up the educational process focused on learning outcomes in these capabilities. We suggest a few recommendations for practice:

- As part of the process of new accreditation of universities in Slovakia, the University of Prešov in Prešov has prepared new information sheets for study subjects aimed at supporting critical and moral judgment. It is necessary for all information sheets of undergraduate training in the whole field of teaching to go through this process.
- To apply the development of the five minds of the future according to H. Gardner - a critical, creative, disciplined, ethical and tolerant mind in teaching.
- To involve students more in moral decisions that require quality critical thinking - discussion, workshop, organization of colloquia, preparation of scientific events.
- To support the development of moral reflection, which helps to build a person's healthy self-confidence and removes elements of the Duning-Kruger effect, i.e., not to overestimate their abilities.
- To stimulate those positive stimuli that support the altruistic nature and remove the deposit of egocentrism, which is the biggest obstacle of critical moral reasoning.
- To prepare professional development programmes to develop the necessary capabilities.
- To support research activities in Slovakia in this area; to deal with, e.g., the comparison of prosocial behavior or moral skills of students in relation to various variables (e.g., city/village) and thus deal with the impact of this behavior on academic results, etc.

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CONSUMER PERCEPTION OF PRODUCT FEATURES IN BUYING PROCESS OF WOODEN FURNITURE

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Abstract: Wood is the primary and most popular material for furniture manufacturing. As a construction material, wood is a renewable resource, promising in circular economy. The aim of our research is to identify the impact of selected criteria on consumer purchase of wooden furniture. To understand impact of various product features and identify the consumer buying process in a specific product category – a wooden coffee table, qualitative research was chosen with the format of an experiment. The results indicate the most influential factors being the appearance of the product, the material, the place of production and the price. Respondents who associate furniture design with the expression of the personal style or the expression of personality to a greater extent consider furniture design as more important as others. In the case of young couples, the price is crucial factor. In case of consumers in higher age groups, factors such as material, quality and price become decisive.

Keywords: appearance, buying process, consumer perception, product features, wooden coffee table, wooden furniture

1 Introduction

The benefits derived from wood are the key factors in the competition between wood and non-wood products. A wood product is composed of various attributes, and the consumers' choice is guided by their quality (Jošt et al., 2020). As a construction material, wood is the primary and most popular material for furniture manufacturing (Smardzewski, 2015). Wood is strong yet relatively easy to cut, carve, join, finish, and refinish. Furniture pieces made from wood are easily cared for, and if they are well constructed and carefully maintained, they may become better looking with age and last almost indefinitely.

According to Nielson and Taylor (2011) wood is a renewable resource that can be regenerated by reforestation or by planting seedlings to replace trees that have been cut down for lumber. However, the overall environmental footprint of a single piece of wooden furniture depends on many factors beyond the material itself. Due to its processes and product characteristics, the wood furniture sector undoubtedly plays an important role from an environmental point of view. The concept of circular economy, largely considered to be a promising instrument of implementing sustainable development goals, brings both opportunities and challenges to the furniture sector. The challenges that can limit companies of wood furniture sector in implementing the circular approach relate mainly to the quality of products, additional costs related to recycling or lack of support from government (Bravi et al, 2019). On the other hand, the global Forest Management certification (FSC certification) is becoming increasingly adopted. This set of global requirements for responsible forest management, aims to achieve responsible management of the forests worldwide, supporting biodiversity and shifting the global forest trend toward sustainable use, conservation and restoration. FSC certification ensures that products come from responsibly managed forests that provide environmental, social and economic benefits.

Contemporary digital way of life requires a compensation in the form of a natural, traditional environment. Natural materials, having an effect on all of our senses, provide great opportunity of creating a more natural and healthier interior through applications in the design of furniture pieces. The selection of materials is of key importance for our living environment, as natural materials are warm, elastic, pleasant to touch and able to regulate the micro-climate in the space (Lipková, 2016). Concerning psychological influences of the use of wood, it is perceived as a material that gives people pleasure and happiness and relaxes them mentally and emotionally (Guzel, 2020).

Beside direct, material-based health benefits another important aspect that closely relates to furniture made of wood, is product's place of origin as such. In fact, the place of the actual production as one of the later discussed competitive advantages of products on the global interior design market, receives recently increasing attention. Where the product is manufactured matters to the customers not only on behalf of the environmental footprint of the item, where issues as shipping, outsourcing of labour and exploitation of natural resources are taken into account, but as well as a matter of maintaining and cocreating local identity in the built environment and in the lifestyle. The idea of wellbeing as a part of the social sustainability is closely related to the concept of local identity, understood as the awareness of one's origin, roots and one's active participation in developing this phenomenon. The tradition and the culture, as shared knowledge and preferences is a part of both the conscious and the unconscious decision process (Kotradyová et al., 2020). Regional sensitivity of brands, expressed through designs of their products, conscious material choice and local manufacturing strategies are therefore not only a successful marketing strategy, but valuable tool of sustainable identity building in the first place.

1.1 Consumer perception of furniture

According to Smardzewski (2015) furniture is an object of applied art intended for mobile and permanent furnishing of residential interiors. Furniture can be used individually, in suites, or in sets. It serves for storage, work, eating, and sitting, lying down, sleeping, and relaxing.

Guzel (2020) in his study finds out that the individuals prefer wood usually as furniture (82.5%) and then as the form of decorative objects (7.2%). It was found that respondents used in houses furniture made of wood composite materials (71.8%), such as particleboard (sometimes known as chipboard) and medium density fiber board (MDF). This preference reflects that wood is an expensive material, as indicated by more than half of the respondents (57.8%). This indicates that price is important factor for consumers during furniture purchases.

Furniture selection should not be aiming only at affecting others; rather, it should reflect the lifestyle of those using the space and must offer the features that provide the comfort, peace and tranquillity that individuals seek at home (Faulkner et al., 1986; Kalınkara, 2006). To make informed furniture choices, individual buyers must have enough knowledge about the specification of the product. From design perspective, the value of a furniture product is reflected in factors such as its functionality, durable aesthetics, usability and value of investment (Burdurlu, İlçe and Ciritcioğlu, 2004).

The socio-demographic elements of consumers (income, residence, age, and educational level) and family size have a significant influence on their willingness to buy eco-friendly furniture (Chitra 2007). Andac and Guzel (2017) studied the general perspectives of parents with various demographic backgrounds toward eco-friendly design. The material that parents trust most is wood (70%). Well-educated and high-income parents prefer furniture that is not harmful to health and environment. However, the price of eco-friendly furniture is still an important factor that limits such purchases for other individuals.

According to Paluš et al. (2012) buyers in Poland and Slovakia prefer wooden windows, doors, flooring and wall facing to the competitive non-wood products, although most of the Slovak respondents (74%) would not prefer wooden joinery products because of their weak fire resistance. On the other hand, almost

half of Polish respondents consider wooden joinery products as fire resistant. Even if most of the respondents in Poland (95%) and in Slovakia (90%) would prefer wooden windows, doors and other joinery products for their health and safety properties, significant differences occurred in case of non-wood products. In preferences for wooden and non-wooden furniture in Slovakia and Poland respondents mentioned most frequently qualities such as versatility of product use, fire resistance, durability, endurance, firmness and uniqueness of material.

Similarly, a survey conducted in Slovenia and Croatia (Oblak et al. 2017) showed another regional difference in preferences of buyer in Europe - in Slovenia the quality of the products was the most important criterion in the furniture purchasing decision process, while in Croatia it was the price of the product. According to another study focused on consumer behaviour in Slovenia, 74 % of the prospective furniture buyers identified solid wood as the most preferred material for interior furniture in 2010, with even increased value of 81 % in 2019 (Jošt et al. 2020). At the same time, majority of the respondents (97 %) listed manufacturing quality as the most influential factor for their purchase decision, with product's design as the second most important attribute. According to Oblak's study, positive attitude toward design increased in 2019 from 71 % up to 91 %. Kusa et al. (2020) found out that the Slovak consumer prefers the quality of the products and they care about the origin. The price level is very important factor, because consumers prefer products that are financially advantageous.

Taking closer look at local purchasing behaviour in Slovakia, Olšiaková et al. (2016) monitored the changes in consumer requirements for wood products in the years 2004 and 2014. The study discovered that price was no longer the most important factor for Slovak consumers in 2014 because of the remarkable decrease (35%) of the dissatisfaction of consumers with the price of wood products, while the satisfaction with wood products quality increased (80%). Parobek et al. (2015) presented same findings, that Slovak consumers disregarded importance of price as a key criterion in their buying decision.

Interesting insights come from customer behaviour studies from the much larger North American market. Lihra et al. (2012) addressed the importance given by the customers in USA to "customization" while buying furniture. Customers are usually price-oriented (50%), moreover, women give importance to customization (Torsten et al. 2012). In his survey conducted in United States, Ponder (2013) discovered that respondents who have a spouse (71.6%) consult with their significant other before making a purchase decision. More than half of them (67.8%) say that their spouse takes an active role in acquisition of home interior items. Accordingly, females stated in their responses (57.6%) that their spouses take an active role in furniture shopping. The results say that females are more likely to have an interest in home furniture (68%, compared to 32% of males), but males are still likely to be included in the decision process. Interesting insight on overlaps of gender preferences was identified by Oztop and Erkal (2008), who state that the factor with high importance for both genders was the durability of the product, since furniture is generally considered an outstanding item of expenditure, that is not easy to replace and consumers have the tendency for its long-term use. Additionally, respondents with children (37.1%) say that their children influence their furniture buying decisions. At the beginning of the furniture buying process 75% of respondents consider the needs of entire family. What again confirms the importance of self-expression, is the fact that large number of respondents (72.7%) in Ponder's study agreed with the statement "The design of my furniture reflects my personality," and 67.0% of respondents confirmed that "A lot can be said about a person from the furniture s/he owns." More than half of the respondents (60.7%) stated that they express themselves with the furniture they buy.

Taking into account the importance of local production, the statement "I try to buy furniture only if it is made in the United States" was agreed with by 57.8% of the respondents, while the level of agreement differed mostly by the generational group and region of the country. 58.2% of respondents agreed with the statement "I am willing to pay more money if the furniture is made in the U.S.A", and agreement increased with age, as well as for Southerners and Midwesterners (Ponder, 2013). At the same time Ponder presents interesting insight into brand awareness in the furniture market segment. The survey showed that respondents are not loyal to specific furniture brands and respondents do not stick with just couple of brands. These findings are consistent with other research which found that online furniture buyers are undecided on brand, with only 8% of internet furniture buyers preferring specific brands during their purchasing process (Nickell 2013). On the other hand, strong criterion Ponder's study confirmed the importance of quality, with high willingness to pay more money for high quality furniture (80.8% of respondents). This finding is consistent with results from the 2008 furniture study (Ponder, 2013).

The appearance as the key external visual characteristic of each furniture piece always communicates a specific message. There are six different roles of product appearance - attention drawing, categorisation, function, ergonomics, aesthetics and symbolic. Troian (2011) also explained that the aesthetic and symbolic roles were mentioned most often, but the preferred shape, colour, or size were found to differ depending on the played role of the product appearance for consumer. This makes it difficult to optimize all roles. The starting point in the design of the product look should be the overall value of the item, which is most important for consumer during purchasing.

Troian's study (2011) analysed consumers' furniture choice in Italy and in different cultural environments. Making a strong point for the importance of the regional preferences, Troian claims that despite the fact of highly globalized markets, consumers based in different geographical locations express different behaviour patterns as a reaction to the local cultural contexts. This aspect is key to consider for any brand with ambitions of rapid entry in foreign markets. Furniture manufacturers therefore need to alter their product portfolio based on understanding of local cultural context and its influence on customer choices.

2 Materials and methods

The aim of our research was to identify the impact of selected criteria on consumer purchase of wooden furniture. To understand impact of various product features and identify the consumer buying process we have chosen qualitative research approach and a specific product category – a wooden coffee table.

We formulated the research questions based on a previous examination of the secondary data. Ponder (2013) concluded in his study that consumers with a spouse consult their purchase decision with him/her and more than half of them actively involve a spouse in the selection of a home interior item. Oztop and Erkal (2008) found that there are differences in purchases when there is a child in the family which influences furniture buying decisions.

A number of factors play a role in choosing furniture. Oblak et al. (2017) found that there are regional differences in purchasing preferences across Europe, with quality playing an important role. This is also confirmed by Ponder (2013), who in his study found a high willingness to pay extra for a quality product. Local production can play an important role in purchasing. It has been shown that consumers try to buy local products and are willing to pay extra for such a product (Ponder, 2013). Troian (2012) describes the appearance of a product as a key factor. Based on the findings of above mentioned studies on consumer behavior, several purchase criteria were selected for survey and further analysis of behavior of Slovak consumers when buying wooden coffee tables. We formulated following research questions:

1. What are consumer attitudes towards furniture and how do they differ with different life-situations?

2. What is the influence of selected criteria (appearance, material, storage space, variability, place of origin, brand and price) to the willingness to buy wooden coffee table?

We have decided to use the format of an experiment, mainly because of the ability to study the probability of a change in independent variable causing a change in another, dependent variable, which this form of research allows (Hakim, 2000). Experiment as a form of research owes much to the natural sciences, although it is often used in psychological and social sciences. It allows primary data collection, such as interviewing and observation. While interviewing allows us to uncover what the participants noticed and remembered during the experiment, or what impression they got through the guided conversation, observations tend to follow nonverbal reactions of the participants (Vokounová, 2019). Mertens (2005) defines the experiment as a decision about who will be influenced by the experiment, by what means and when.

For our survey we have chosen the form of the post-test experimental design. After-only design Vokounová (2019) characterised as the simplest form of experiment. It measures the effect on a dependent variable after a change in an independent variable is announced. The disadvantage is that no measurement is made before changing the independent variable, therefore the comparison of the results is not possible. The reason of choosing this method of the after-only design experiment in our research is that the results of the experiment will be further used as a basis for a follow-up survey.

During an experiment, internal and external validity is an important evaluation criterion. Internal validity represents the probability of drawing the correct conclusion about the action of an independent variable (Levine, Parkinson, 2014). External validity represents generalizations, so to which populations / groups, conditions and variables the observed effect can be generalized (Chen et al., 2011). In the classical laboratory experiment, the subjects perform some task or activity within a carefully controlled physical environment. This can help to reduce the number of extraneous variables – factors other than the independent variables being studied – that could be affecting the dependent variable (Ryals, Wilson, 2005). In the case of our experiment, the internal validity of the research was given more consideration than the external validity. One of the greatest external threats to the experimental design is the external validity such as less generalizability of the effect of the experimental variables to the population from which the subjects were selected.

Selected furniture pieces

The experiment examined four furniture pieces from the category of coffee table, as well referred to as “serving table” or in Slovakia as “conference table” category (Tab. 1). All products selected for the experiment are intended for the use in the living room setting, most often along with the lounge suite or other comfortable type of seating, used for non-formal social activities.

Tab. 1: Specification of selected furniture pieces

Feature	 Table A	 Table B	 Table C	 Table D
Distributor / Manufacturer	Marcury shop, s.r.o. (limited liability company)	Karpiš Nábytok s.r.o. (limited liability company)	JAVORINA, v.d. (production cooperative)	BRIK, a.s (stock company)
Origin	Poland	Slovakia	Slovakia	Slovakia
Brand	**Merkury Market**	**Karpiš**	**Javorina**	**Brik**
Product name	PRIMO	Nostalgia	BLOK	PUZZLE
Designer	N/A	Alojz Karpiš	Leo Čellár	Ivan Čobej
Material	laminated chipboard, laminated MDF	beech wood	oak wood, stainless steel	oak wood
FSC certified	N/A	Yes	Yes	N/A
Size (mm)	1070 x 670 x 460	900 x 725 x 510 708 x 559 x 345 430 x 380 x 330	900 x 900 x 360	1100 x 600 x 300
Weight	28 kg	N/A	78 kg	N/A
Storage	Yes	No	Yes	No
Variability	No	Yes (3 pieces)	No	Yes (4 pieces)
Price	84 €	570 €	838 €	705 €

Source: own processing

Table A is made in Poland and sold in Merkury Market, international distribution chain focused on interior furnishings and construction material (Figure 1). The table is made of chipboard with laminated surface imitating oak wood on the main body and matt white surface on the visible part of the drawer. Table A provides storage space, it offers a pull-out drawer and an open shelf. The table is made of one piece. The price of table A is 84 €.

Figure 1: Image of the table A.



Source: Merkury Market, 2019

Table B is made in Slovakia and was designed by Alojz Karpiš, founder of the company Karpiš Nábytok s.r.o., located in Prievidza, and the brand Karpiš (Figure 2.). The table is made of beech wood and it does not provide any storage space. The product, in fact a small collection, consists from three independent parts (stackable tables) and it allows wide range of use by altering their placement in the interior. The price of table B is 570 €.

Figure 2: Image of the table B



Source: Karpiš, 2018

Table C is made in Slovakia, designed by Leo Čellár for local and well-established furniture brand JAVORINA (Figure 3.). The product is made of solid oak wood with oiled surface and stainless-steel base, providing a large storage space accessible by sliding the top. Table C is made in one piece, weights 78 kg and does not provide the possibility to variable placement. The price of table C is 838 €.

Figure 3: Image of the table C



Source: JAVORINA, 2020

Table D is produced in Slovakia and was designed by Ivan Čobej for Brik, well-known local brand and company, which the author is at the same time co-owner of (Figure 4.). The table is made of oak wood and provides no storage space. Similarly, like table B, the product consists of several independent pieces, in this case four polyhedrons, that create a monolithic rectangular shape when pieced together. The price of table D is 705 €.

Figure 4: Image of the table D



Source: Brik, 2020

The Experiment

The whole experiment consisted of three parts, (1.) respondent survey, (2.) experiment, and (3.) interview. It took place in two

groups of participants on different days so that the groups could not influence each other.

1. part – survey

Survey was made in a form of a questionnaire. Respondents, the participants of the experiment, completed the questionnaire individually. They evaluated their level of agreement or disagreement with specific statements aimed to identify the respondents´ general attitude to furniture. Survey focused on search for the relationship between the personality and furniture design, involving the family members and family needs into purchase decision and respondents' demographics.

2. part - experiment

In the beginning of the experiment four selected coffee tables with assigned names (table A, table B, table C, and table D) were introduced to the respondents by means of computer presentation. Respondents could see the presented tables with assigned names in front of them throughout the experiment. They just saw the tables without any additional information. We gave information to respondents gradually. Respondents first evaluated their willingness to buy coffee table based on 1. appearance, then gradually, after receiving additional information about 2. material, 3. storage space, 4. variable placement, 5. place of origin, 6. brand and finally, 7. price of the coffee table. The willingness to buy products was evaluated at the scale. This study employed a Likert-type ten-point bipolar scale. The bipolar choices on the scale were "strongly unwilling to buy" and "strongly willing to buy" to indicate their purchase intentions.

Respondents wrote down their ratings on answer sheets, unable to discuss with each other until everyone had marked the answers. Subsequently, they commented on the information provided and discussed within the group. Everything took place under the guidance of the experiment moderator.

3. part – interview

The last part was focused on shedding more light on the purchasing process of the coffee table. The interview was moderated, and respondents were free to discuss within their group. The aim was to find out when does the need for the purchase of a coffee table arise, where do the respondents look for inspiration/information, and how their purchase decision is made.

The Sample

The experiment used a convenience sample. In the experiment were two experimental groups. First group with 5 respondents, and second with 6 respondents. In the sample were 5 males and 6 females (Tab. 2). Age of respondents was from 27 years to 68 years.

Tab. 2: Respondents' characteristics

Respondent	***F = Female/ M = Male, age***	***Family status***
1	M, 30	married under 35 age with children
2	F, 30	married under 35 age with children
3	M, 58	married over 35 age with children
4	F, 51	married over 35 age with children
5	F, 59	living alone since the age of 55
6	M, 49	married over 35 age with children
7	M, 27	person under 35 years not married/without children/ living with parents or grandparents
8	F, 68	living alone since the age of 55
9	F, 45	married over 35 age with children
10	F, 48	married over 35 age with children
11	M, 54	married over 35 age with children

Source: own processing

3 Results and discussion

The first step of the experiment was the short survey in a form of a questionnaire about consumer attitudes towards home furniture, followed by the experiment outlining the most influential factors and product features of a coffee table and the interview discussing the purchase process.

3.1 Consumer attitudes towards furniture

Respondents evaluated their general attitudes towards furniture by completing the questionnaire with specific statements.

6 respondents out of 11 agreed that they "*consider the needs of the whole family before buying the furniture"* and 4 respondents strongly agree with the statement. Almost all respondents take into account family opinion and try to meet the needs of all members before buying the furniture. The results are in line with the findings of the Ponder survey (2013), which claimed that most respondents consider the needs of the whole family before furniture acquisition.

At the same time, 6 respondents out of 11 slightly disagreed and 1 respondent disagreed with the statement that "*the opinion of their family and friends was important when buying the product"*. However, this does not necessarily mean that the respondents excluded family or friends from the shopping process. Based on the answers from the respondents, we know that the behaviour differs from age or marital status. A young couple with children takes more account of the family's opinion, showing a strong mother-daughter relationship. On the contrary, in the case of an older couple, the opinion of family or friends was important only as an advisory voice in situations where they cannot decide. A single respondent, in turn, decides mostly on his own.

A survey of European Values (2017) showed that the most important value for Slovaks is the family. Friends and acquaintances acquired the third place in the importance of selected areas of life. It may also reflect why more respondents consider their family's needs in the process of buying furniture, but fewer respondents take into account the views of friends.

2 respondents out of 11 agreed with the statement "*The design of my furniture reflects my personality*" and 2 respondents strongly agreed. Slight disagreement was expressed by 6 respondents. Our result differs slightly from the findings of the Ponder (2013) survey, in which 72.7% of respondents agreed with corresponding statement. Our discrepancy may be due to the current state of the furniture of the respondents who took part in the experiment and said that they would like to replace some pieces of furniture, as they already have furniture for a long time and consider it obsolete, or the furniture has worn out over time.
Only 3 respondents out of 11 agreed that "*Much can be said about a person from the furniture he/she owns*". 4 respondents expressed slight disagreement with this statement and 2 disagreed. This statement again showed a deviation from the Ponder survey (2013), in which 67% of respondents agreed with the statement. The reason may be the earlier mentioned dissatisfaction with the current state of the furniture. The deviation could also occur due to the marital status of the respondents, as more respondents have children and thus the furniture is adapted to the needs of the whole family and does not reflect the taste of only one person. Respondents who agreed with the statement that "*Much can be said about a person from the furniture he/she owns*", attributed later during the experiment a higher importance to design, regardless of personality characteristics or gender.

The next statement "*Most respondents are willing to pay extra money for the product they like/find appealing*" was agreed by 7 respondents and strongly agreed by 3. Here we can see that most respondents are willing to spend a higher amount of money to buy a product they find appealing. The results also correspond to the statements of the respondents recorded during the experiment. 10 respondents out of 11 agreed to "*consider all*

available alternatives before purchasing the furniture". Based on the experiment, we found out that respondents look for inspiration not only on the Internet, but as well in the brick-and-mortar stores and showrooms before buying - they want to experience the actual physical appearance and quality of the product in before buying.

3.2 Consumer perception of selected criteria in buying process of wooden coffee table

The Appearance
As the very first step of the experiment the respondents were asked to evaluate their willingness to buy selected coffee table solely based on the appearance of the product. The highest degree of willingness to buy the coffee table based on the appearance was given to the table D. The table C achieved a slightly lower willingness to buy. The willingness to buy the table B based on appearance was low and the lowest willingness to buy was given to the table A, which can be described as a reluctance to buy table A based on its appearance (Figure 5).

The majority of respondents were most interested in the table C and the table D for various reasons. A woman, 51 years old, liked the variable placing of the table D. A man, 30 years old, and a woman, 59-year-old, said they liked the design of the table D the most. The lowest ranking of the willingness to buy was assigned to table A. One of the male respondents, 30 years old, said: "*I could imagine A as a TV table, not as a coffee table."* Female 48 years old respondent considered table A *"horribly retro"*, reminding her of the furniture production from the time when Slovakia was under Communist rule. While the table A reminds respondents of production of the communist-era Czechoslovakia, the table C and the table D impress with their design. Based on these answers we can suggest that the respondents perceive the individual tables differently, depending on their individual taste.

The Material and the Quality
The material from which the tables are made affected the willingness to buy the item in all cases. The information that the table A was made of chipboard had a negative effect, causing a visible reduction in the degree of willingness to buy. A slight decrease of the willingness to buy was recorded in case of the table B produced from beech wood. For the tables C and D, the willingness to buy increased. The biggest impact of the material and thus the biggest increase of the willingness to buy, was recorded for the table C, which is made of solid oak wood from FSC certified sources (Figure 5).

The material can tell the respondents more than just what the furniture is made of. Some respondents were able to immediately evaluate the quality of the tables or expect the price. Female participant, 59 years old, based on information about what material the tables are made of, stated: *"C is made of those sustainable materials, and I think D is of the highest quality."* Another participant, 48 years old woman, on the other hand said: *"It didn't affect me, because I knew what material it was made of, according to the picture."* 27 years old male respondent commented the price of the table based on the material, similarly, estimating the price already: *"C will be more expensive in my opinion."*

The ability of respondents to determine quality or price based on the appearance and overall aesthetics of the product is an important insight. Based on the appearance of the furniture, consumers can assess also the other properties, which can arouse interest or disinterest at the outset. This insight could motivate retailers and manufacturers to pay more attention to the design of their furniture products and subsequently to the perception of them by the consumers.

The Storage Space
The storage space is available in only two of the selected tables - table A and table C. For table A, this caused the increase of willingness to buy, but for table C the level of willingness did not change (Figure 5). Table C provides storage space by sliding the upper part. 48 years old female respondent commented on table C and its storage space: "*I like C because it can be closed, and because the dust doesn't get there, it's ingenious."*

The test showed a significant reduction in the willingness to buy for table D after the information about the storage space was given to the respondents (Figure 5). Table D at first glance seems to offer the storage space, but in fact it does not. This factor can be the reason for this products' negative results during the test. After receiving the information about missing storage capacity of the piece, the man, 30 years old, said: *"I'm surprised that D doesn't have a storage space."*

Respondents' answers indicated that although storage space is not an essential part of a coffee table, it can provide added value, which was expressed by a 30 years old male respondent: *"Storage space is not decisive, but if it is available, it's nice."* A similar opinion was expressed by a 51 years old female participant, according to whom the storage space is not decisive, as the decision depends more on the needs or requirements that the consumer has: "*It's good to have storage space, but once I like the table as it is, I'll give up the storage space. It also depends on whether you need it or not. "*

The Variability
The variability of the arrangement of tables was possible in only two cases, namely for table B and table D, which consist of several independent parts. In both cases we can see that the willingness to buy increased slightly, and at the same time, on the contrary in the case of table A and table C, which cannot be variably arranged in space, the willingness to buy decreased (Figure 5). Based on the assessment of willingness to buy, it might seem that the variability of arrangement is important for the respondents, but that was not confirmed when expressing their opinions. The woman, 30 years said: *"It definitely is interesting that you can divide the table into several pieces. But I didn't like B at all, so I don't care if it can be decomposed or not."*

According to the responses, most of the participants do not consider the variability of the arrangement of tables as an important factor when deciding to buy a coffee table. However, the variability can be an important factor when buying other pieces of furniture, such as a dining table, as expressed by 30 years old male respondent: *"I don't think it's important for the coffee table, it would be important for the dining table."*

The Place of Production
Table A was the only item in the selection, which was not made locally. Being made in Poland had a negative impact on respondents (the convenience sample was composed by residents of Slovakia). Based on receiving the information about the place of origin, their willingness to buy table A decreased. The remaining tables were made in Slovakia, and the degree of willingness to buy after this information increased for all of them (Figure 5).

The experiment showed that the place of production had a positive effect on some respondents in the case of the Slovak products, and can positively affect the willingness to make the purchase. A woman, 51 years old, said: *"I prefer the Slovak products to the Polish ones."* Respondents stated that they prefer more Slovak products, they are even willing to consider a product that has not previously interested them, or in the case of two identical products, they choose the one made in locally. As it is clear from the statement of a man, 30 years old: *"I'd rather buy Slovak than Polish table. If I had two of the same things, I would rather buy Slovak, but here I dealt with the materials and design rather than where it is made."*

The Brand
The brand of the product had only a slight effect on the respondent reactions. For the table A, the willingness to buy increased slightly - the brand of this table is Merkury Market, which at the same time might have been a sign of a lower price for respondents. There was also a slight increase in the

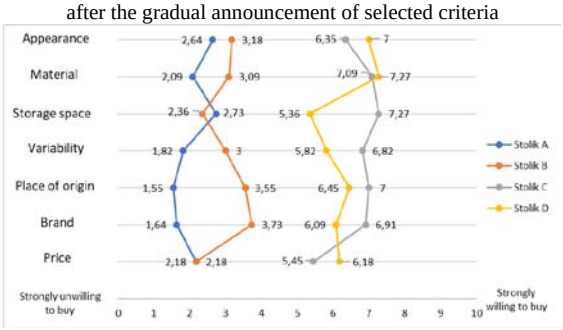
willingness to buy at table B, which could be due to the positive perception of the brand. On the other hand, table C and table D recorded a slight decrease in the willingness to buy (Figure 5).
If respondents know a brand and have positive experience with or even already a good relationship to it, their willingness to buy may increase. In the case of the brand Javorina, the respondents immediately imagined the notion of quality. This is also confirmed by a statement of a 27 years old male participant: *"Javorina increased for me. It is quality. But when we get to the price, my interest is likely to drop"* (the respondent refers to the possibility of the decrease of the willingness to buy because he was aware that products of Javorina are usually expensive).

The Brik brand evoked designer pieces. The woman, 51 years, said: *"I know also Javorina. Javorina makes only pure wooden furniture. Brik is more known for their designs."* In the case of the Merkury Market brand, respondents recalled cheap products, as a man of 30 years commented: *"If it was a table I like and from the materials they use in the Mercury Market, I don't mind at all. Mercury Market is known for having cheap stuff, so they probably won't have tables made of massive wood."*

The Price
The price had a significant effect on the respondents. The willingness to buy the table A with the lowest price increased and it reached the level of the willingness to buy the table B, which significantly decreased after the price information. There was also a significant reduction in willingness for table C, which had the highest price of all tables. The price had the smallest effect on the perception and subsequent willingness to buy the table D, which was second most expensive after table C (Figure 5).

In the case of table B, for which the willingness to buy was already relatively low at the beginning, the higher price caused an even lower willingness to buy (Figure 5). However, if the respondents have to decide between two tables that they like, but the price difference is not significant, they are willing to pay extra for the product. This is mentioned by a man, 30 years old: *"For me probably yes, (price is important), but that doesn't mean that I would buy A instead of C. If I had to decide only between C and D, I would pay the hundred more."*

Figure 5: Development of the willingness to buy the product after the gradual announcement of selected criteria



Source: own processing

3.3 Consumer buying process in product category wooden coffee table

The buying process begins with the identification of the problem, in the case of buying a coffee table, such a need can arise when changing the family situation, furnishing a household or when replacing an old coffee table with a new one.

The respondents reported they most often look for information on the Internet, through websites that offer furniture, or directly at the point of sale. The difference in the decision-making process occurs depending on the situation - weather respondents furnish a new apartment or just exchange an old piece of the furniture for a new one. In the case of a new apartment, the respondents stated that first one must have an idea of what kind of an apartment one wants to have and adjust their search accordingly. In the case of a product exchange, respondents already take more account of what kind of furniture they currently have in the apartment.
The search for possibilities is also different for different demographics and lifestyles. Young couples who are furnishing an apartment for the first time, are initially looking for a cheaper alternative, focusing on quality, material and price just later. Older couples or single people give higher focus on quality and material.

The evaluation of alternatives usually takes place after the respondents see the coffee table directly in the store and are therefore able to evaluate the real quality of the product. Some respondents also take into account the views of other family members when choosing a product. Older couples reported that their assessment and the final choice of the furniture is mostly made by the woman, who only verifies her decision with other family members. The young couples reported making the decision together, while consulting with other family members, taking into account also the needs of young children in the family. When it comes to choosing furniture, women tend to have a more dominant opinion.

In the case of the purchase decision making, we noticed different reactions during the experiment. If the respondents do not find a product that matches their ideas when replacing the old table with a new one, they will not buy the table at all and will stay with what they have at home, or they will have the table custom made by a carpenter. If the respondents find a suitable alternative, they buy the table directly at the point of sale.

Dissatisfaction may arise if the respondent did not find a suitable product and did not make a purchase. Dissatisfaction also occurs if the purchased table is damaged during delivery, which leads to the product return. Satisfaction occurred if the purchased product met the needs of the respondents.

4 Conclusions

In the experiment, we examined the influence of specific factors and product features on the purchasing decision in the case of a wooden coffee table to get better understanding of consumer decision making which may be a particular interest of furniture manufacturers and retailers. We could see how the individual factors gradually change the willingness to buy selected tables.
Based on our study, the most influential factors include the appearance of the product, the material, the place of production and the price. The material from which the tables are made can provide respondents with information they do not have, such as quality, price. For this reason, it is important to pay attention to the material processing and execution of the details of coffee tables.

The place of production can have a significant impact on consumers. Within the experiment, an increased willingness to buy the product in the case of local Slovak production was detected. Reactions of the respondents suggested, that in case of Slovak products, the place of production can be a decisive factor in the situation of choosing between two identical table variants.
Respondents who associate furniture design with the expression of the personal style or the expression of personality to a greater extent consider furniture design as important as others.

The price is an important factor in choosing a coffee table, but it is not always a decisive factor, as we found from respondents that the willingness to pay more for a product increases if the product has already appealed to their preferences.
Additional storage space in the coffee table can provide an added value, but it is not crucial factor for the respondents, or a product brand, which if familiar to the consumers, will provide them with more trust towards the item.

The purchase process for a wooden coffee table may vary slightly depending on the family status. In the case of young couples, the price is crucial factor. In case of consumers in higher age groups, factors such as material, quality and price

become decisive. As well, the decision to buy furniture, or more specifically a coffee table, is more up to the woman, trying to take into account the needs of children (in case of families with children), younger couples turn to family members for advice on the choice.

It may happen that consumers do not find the desired piece of a coffee table that meets their expectations and needs. In this case, they may decide not to make the purchase at all, or they may opt for the option of having the coffee table custom made. This decision may pose risk to retailers, who may lose potential customers as a result – or on the other hand create a new opportunity in the form of a personalized furniture adjustments service.

Based on the results of the experiment, several recommendations for furniture manufacturers and retailers can be made. First, it is important to understand the "lifecycle situation" of the customer to provide the appropriate solution to his/her family situation providing comfort time with family or friends and reacting to the values of specific generations and lifestyles and their specific decision-making. Second, the appearance of the product is the most influential factor which should be used in product marketing communication, directly on the shop floor or in on-line display to attract consumer attention and even trigger higher price as respondents indicated they would pay more money if they find the piece appealing. Third, the statement "made locally" may become a selling point for the furniture made in Slovakia, mainly for older consumer groups who are proud of local skills and want to support local economy. Fourth, for local manufacturers and retailers it would be beneficial to educate consumers on the quality of materials, the material processing, the finishing and the origin of material to enhance perceived quality and purchase decision.

The limitation of our research lies in the low external validity of the experiment, and therefore it is not possible to generalize the results to the whole population or specific segments. However, it is important to emphasize that the experiment provided a deeper insight into the purchasing process and customers' perception of the perceived factors when buying a wooden coffee table.

In our future research we want to build on the outcomes and insights of the experiment and test their external validity in quantitative survey using query method. Our next survey will focus on identifying the significance of selected factors and identifying differences based on segmentation criteria. The results would lead to the definition of consumer clusters based on their relationship to design, which is identified as a very important factor in choosing a wooden coffee table.

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INTERNATIONALISATION FOR MOBILITY AND HOME (IFMH) AS A CONCEPTUAL BASIS FOR REFORMING MUSIC EDUCATION OF CHINESE STUDENTS IN UKRAINIAN PEDAGOGICAL UNIVERSITIES

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Abstract: The article considers the problem of mutual influence of distant cultures – Eastern and Western – in the field of musical art, ways of its realisation in the Ukrainian pedagogical universities based on the development of ideas of education internationalisation. The aim of the article is to substantiate a special form of internationalisation in Ukrainian pedagogical music institutions defined by the authors of the article as Internationalisation for Mobility and Home (IfMH). The subject matter lies in the strategy of the education institution, which is to strengthen the prognostic and targeted focus of educational content, taking into account the national diversity of music and educational systems of different countries, developing mobility and competitiveness in the home country and within the global art space. Effectiveness of IfMH should be ensured by creating an appropriate educational environment that comprises formal and non-formal components. The main constituents of the formal component include curriculum, course of study (syllabus), self-directed and creative activities aimed at the development of professional competence and forms of quality control. The non-formal component is connected to enabling psychological support, the style of pedagogical interaction, inclusion of international students in the intercultural forms of concert music-making, and amateur student activities. The example of the art education organisation for international master's degree vocalists from China at Ukrainian higher education institutions based on the IfMH principles is presented.

Keywords: Internationalisation for Mobility and Home, Musical culture of East and West, vocal coach, education of students from China in Ukraine.

1 Introduction

The modern educational space witnesses a significant renewal of the educational system, which must meet the challenges of the time and solve the problems that arise in the context of the world space globalisation, the convergence of distant cultures, and the development of international contacts. These processes occur within the information society in close connection: intensification of the globalisation processes leads to the development and enrichment of the content and forms of higher education internationalisation, and the internationalisation of higher education, in turn, affects their qualitative characteristics (Knight, 2008). Against the background of significant political, economic, and socio-cultural changes, the internationalisation of education is seen as a way to intensify intercultural dialogue in the organisational and institutional context and improve personal position, mobility, quality of thinking, and action (Bart, 2018; De Wit, 2010).

The dynamic growth of the international market of educational services stimulates the support of internationalisation by reputable education institutions in different countries. It helps to enrich international, scientific, and interpersonal contacts, strengthens the process of educational integration, and intensifies cross-border exchange of professionals and knowledge. Increasing the number of students receiving education outside their country, intensifying contacts between the scientific and pedagogical community, and the exchange of achievements and innovative ideas contribute to the mutual enrichment of educational systems of different countries, and the rapprochement of distant cultures. Forms of realisation and ideas of international education are also enriched. These processes are actively studied in pedagogical science as those that meet the challenges of modern world community.

The internationalization of education started in the global space in the 80s – 90s of the last century, today it has become an integral part of the educational process in many countries around the world (Beine, Noel & Lionel, 2014). However, in the last century, as Jane Knight and Hans de Witt defined, "...emphasis was on scholarships for foreign students, international development projects, and area studies". Today, in their opinion, discussion of the new developments such as branding, international programs, and mobility providers, global citizenship, internationalisation at home, global rankings, world class universities, cultural homogenisation, franchising, and joint and double degree programs, has become especially relevant (Knight &Witt, 2018: 2).

According to scientists, internationalisation of the higher education system in the modern information society occurs in two main dimensions: home and cross-border. Cross-border internationalisation involves organisation of the university student exchange programs, development of inter-university cooperation, attracting foreign students to study in a particular institution, encouraging teachers and researchers from different countries to work together. Internationalisation at home refers to the improvement of the educational process taking into account the achievements of world science and practices (Altbach, Reisberg & Rumbley, 2009). The process of cross-border education internationalisation today is successfully implemented through diversification of sources to receive professionally relevant information, and channels of personal and professional communication, the export of educational services and research results, the convergence of professional experience of teachers from different countries, their participation in international projects, internships and training, etc. The importance of this fact is difficult to overestimate both in terms of strengthening intercultural ties, and in the course of "export" of national educational achievements into the experience of the global pedagogical community (Luhova, 2017; Novosad & Shapovalova, 2016).

A significant contribution to the enrichment of cross-border internationalisation forms is made through the Erasmus program, which aims to promote cross-border academic mobility of students within the European educational space. It will be recalled that student mobility is understood as individual or academic (within the framework of international academic exchange programs) temporary relocation of students. Through this process the student gets the opportunity for short-term study, internship, obtaining master's degree outside his country (Brenzovych & Nemesh, 2017). We should emphasize that the value of cross-border internationalisation is that students not only achieve professional competence per international standards but also enrich their worldview, knowledge about the uniqueness of other cultures, the specific nature of education in different socio-political and national cultural conditions, and the possibility of implementing valuable innovations in the educational practice of their society.

"Internationalisation at home" is defined as the one directly related to the activity of the education institution, its strategic goals and activities, and is carried out through international associations and institutions implementing guidelines, recommendations, global scientific and pedagogical innovations, and so on. Successful internationalisation at home improves the image and competitiveness of the institution in national and international markets, strengthens the ability of the national education system to meet the external and internal challenges of today (Leask, 2015: 9).

One of the effective ways to promote internationalisation at home was the Bologna Process, through which the European pedagogical community agreed to unify the two-tier structure of higher education; syllabus standardisation; orientation to a single system of credit units (ECTS European Credit Transfer and Accumulation System); development of final requirements for educational outcomes, mechanisms, criteria and methods of their evaluation; unified diplomas of higher education, etc. Instead, it is noted that the education of students within other cultures raises several problems related to the need for their social, personal and psychological, national and cultural adaptation as factors that significantly affect the quality of academic success and professional education, the solution of which requires

further improvement of the educational environment in institutions where foreign students study.

Note that teaching foreign students within the framework of other cultures actualizes a number of problems associated with the need for their social, personal-psychological, national and cultural adaptation as factors that significantly affect the quality of vocational education. The solution requires further improvement of the educational environment in institutions where foreign students study.

These problems are highlighted by J. Knight in her article "Five Myths about Internationalisation", where she describes the existence of a myth, a misconception about "…a long-standing myth is that more foreign students on campus will produce more internationalised institutional culture and curriculum. While this may be the expectation of universities, reality often draws a different picture. In many institutions, international students feel marginalised socially and academically and often experience ethnic or racial tensions". Besides, the author states that "frequently, domestic undergraduate students <...> at best to be neutral about undertaking joint academic projects or engaging socially with foreign students – unless specific programs are developed by the university or instructor" (Knight, 2011: 14).

J. Hudzik also warns that it is important for institutions not to lose the achievements of their own educational system along this way, to preserve their national and civilisation identity. As a result, research in this area emphasises the importance of the organic combination of focusing the content of education on international standards and national educational traditions (Hudzik, 2015). Thus, the process of internationalisation should take place systematically, covering a full range of heterogeneous and interconnected phenomena, and organically combine international educational standards and transnational achievements of scientists from different countries with the achievements of the national culture and country-specific educational challenges. This indicates that the process of internationalisation at home requires each university and professionals in various fields of education to find their way in the implementation of global trends and vectors to improve the content and forms of the educational process.

2 Methods

The study is based on the comparative methodology, the ideas of which stimulate the analysis of the relationship between social and educational processes, identify the specifics of their manifestation in a particular historical and sociocultural dimension, interpret the phenomena of pedagogical reality, promote a positive attitude to other cultures, etc.

According to the French scientist Henk Van Daele, comparative studies equips scientists with tools of comparison "… on the criteria of similarities and differences in different countries, regions, continents and in the world to better understand the uniqueness of the national education systems, and the optimal ways to improve them" (Van Daele, 1993: 16-17). The achievements of the comparative approach in recent years are especially important, due to the strengthening of academic mobility, global migration and transparency of international borders, enrichment of intercultural contacts and their impact on the development of national cultural traditions and art education systems. The use of comparative studies as a methodological basis for research contributes to the establishment of universal, national cultural values in their diversity and uniqueness and a better understanding between artists of different mentalities and traditions.

3 Results and Discussion

Scientists attribute the success of including internationalisation at home in the learning process of foreign students to the provision of a professionally oriented and comfortable educational environment and resource readiness of the education institution. The latter includes training of professionals who can creatively master subjectively new ways of organizing foreign students' educational activities and communication, the development of special methodological support that would facilitate the adaptation of foreign students and academic success within other culture, equipping the university with modern information and communication tools (Meng Yang, 2018).

The problems of providing a psychologically comfortable educational environment for foreign students were closely considered by B. Leaks (2015), who initiated the distinction of two aspects in their solution. First of them – formal – relates to curriculum, course of study (syllabus), orderly hours of instruction and teaching practice, variations of classroom, self-directed and creative activities aimed at the development of professional competence, forms of quality control per qualification standards. The second aspect of internationalisation at home concerns the non-formal component of the educational process, in particular, various forms of psychological support, style of pedagogical interaction, and ways of communication, attention to extracurricular cultural and entertainment activities of students. Due to this, the process of internationalisation of higher education acquires cultural and humanities content, implements the conceptual provisions of the student-centred approach, becoming a means not only to improve the quality of education but also to prepare a young person for life in a globalised world under the conditions of dynamic civilisation transformations. Education institution's achievement of internationalisation at home encourages foreign students to choose the given institution for professional education, increase their number of students enrolled, and strengthen its financial base, becomes an important factor in improving its international image and competitiveness.

Internationalisation of education in Ukrainian universities started only in 2005, i.e. since the country joined the Bologna Process. The importance of this process was associated with the need to improve the image of the national educational system, interest to the extension of international contacts of various fields of education, formation of the national pedagogical community self-awareness as a part of the global educational space. Thus, the process of internationalisation has become one of the leading directions in reforming and improving Ukrainian system of higher education.

An important consequence of the implementation of the ideas of Education Internationalisation was the increase in the number of foreign students studying in Ukrainian higher education institutions. At present, according to the Ministry of Education of Ukraine, about 80,000 foreign citizens from 15 countries study at 240 state universities. According to Zdioruk & Bohachevska (2014), Ukrainian higher education is most in demand in such regions of the world as the countries of East Asia, Africa, and the South Caucasus. One of the industries experiencing constant growth of foreign applicants is the art of music. Foreign students master various musical professions, both performing and pedagogical streams, in music academies and pedagogical universities of Kyiv, Odessa, Kharkiv, Lviv, Sumy, etc. At the same time, the body of international students consists mainly of students from China as well as a small proportion of students from Ecuador, Turkey, Kazakhstan, Moldova, and other countries (Yelkina, 2010). Today more than 4,000 students from China study in Ukraine; a significant proportion of whom get higher education at pedagogical universities and music academies of Kyiv, Odessa, Kharkiv, Lviv, Sumy and other cities.

This fact has led to defining the ways to implement the ideas of internationalisation of education in Ukrainian universities based on the example of providing educational services in the music field to international students from China. First of all, it should be noted that the success of this area of study among international students from China in Ukraine is due to the rapid growth of community interest in the Western musical culture in modern China. This interest is fully supported by the modern state policy of cultural openness and assimilation of world art. State support is manifested, in particular, through the fact that a

certificate of music school education gives students extra points when applying to specialized higher education institutions, and the attraction of talented young people to academic migration is stimulated by relevant laws and foundations that pay scholarships to the best students (Liu, 2009). The activity of Chinese students in obtaining higher music education in Ukrainian higher education institutions is connected to the fact that the Ukrainian art school is recognized around the world, as well as the fact that the vast majority of professionals trained in Ukraine work fruitfully in various fields, such as performing, musical pedagogical, and educational (Yaming, 2017).

The quality education of Chinese students is enhanced by the research of Ukrainian scientists on the problems that prospective professionals face on the path of musical-performing and musical-pedagogical education. This is, in particular, the influence of national worldview, aesthetic priorities, traditions of emotional and personal self-expression of Chinese students, which significantly affect their artistic mentality, ability to grasp the semantics and emotional content of works of different styles, and its presentation in various forms of music and educational-music activities. In this respect, the research of graduate and post-graduate international students from China studying in Ukrainian education institutions is also valuable. Their works substantiate and verify the author's methods devoted to improving the content of music education of Chinese students in Ukrainian education institutions, carry out a comparative analysis of folk art, musical art of the past and present, musical and educational achievements of Chinese and Ukrainian peoples (Meng, 2018; Rebrova, 2012; Liu, 2009). However, a set of issues that correspond to the content and features of the activities of future Chinese specialists in socio-cultural conditions different from the Ukrainian is currently left out of consideration. As a result, after returning home, Chinese graduates in most cases have to undergo additional education and only then get the opportunity to work.

This, in our opinion, indicates the relevancy of giving special attention to the development of those skills and personal qualities that international students, in particular students from China, lack to work successfully in their country and other countries. These considerations have led to the substantiation of a methodological approach that will allow to improve the system of international students' preparation for future professional activity, which is the subtype of internalisation that we suggest defining as the *Internationalisation for Mobility and Home (IfMH)*.

The peculiarity of the Internationalisation for Mobility and Home ideas (IfMH) lies in focusing of the content of education on the mobility of graduates, which will allow them to successfully realize their achievements in different socio-cultural conditions, gain competitiveness in different countries, and at the same time meet the expectations and current needs of society.

Implementation of IfMH ideas requires the education institution to restructure the strategy and content of education, to prepare appropriate resources and methodological support. The main idea of this process is considered to be creation of an educational international environment, which includes:

- prognostically oriented planning of the educational process focused on preparing foreign students for future professional activities in various socio-cultural conditions, and not least of all – in their home country;
- individualising the educational content, in particular creation of a flexible educational curriculum with a broad complex of elective subjects and special courses for students of different specialisations (musical instrument, vocals, choral conducting, music theory, etc.);
- the presence of a variable syllabus component for teaching students with different types of cognitive activity and specific features of their national musical professional training,
- knowledge of the program requirements of the modern Chinese school, ability to work with solo artists with no assistance of a concertmaster, which requires mastering the ability to make an easy translation of piano accompaniment to vocal works, the ability to play without visual contact with the keyboard, etc.
- peculiarities and styles of communication between a teacher and a student;
- preparing teaching staff to take into account typical for international students features of perception, ways of working with theoretical material, habitual ways of forming practical skills and their improvement in accordance with the requirements of the education institution;
- support for the speech development of international students, developing a set of techniques and methods to prevent the communication barrier through the use of modern communication technologies;
- attention to strengthening the positive personal and professional qualities of international students, ensuring their readiness for professional self-improvement throughout life, in particular – independence of thinking, creative activity, self-organization skills, reflective, evaluative, and self-corrective activities;
- promoting educational and creative forms of interaction between Ukrainian and international students to overcome their alienation, which often occurs between these categories while studying at universities (Knight, 2011).

Introduction of these features of the educational process organisation should contribute to the success of international students' study, as well as the ability to implement the acquired content of education in future professional activity and continuous professional self-improvement, their competitiveness, mobility and successful self-realisation in different national and cultural conditions. Addressing these issues by a particular education institution should increase the interest of foreign students in obtaining higher education there and thus help to expand the scope of providing them with educational services.

Among the most popular specialties that undergraduate and master's degree students from China are interested in are vocal performance and teaching singing, which is explained by the traditionally high interest of Chinese society in songs and singing. China was the country where the first schools of musical art in the world emerged in the fourth century. Strong methodological guidelines for teaching singing were formed in the depths of these schools and are closely related to the aesthetics of poetry and speech features of the Chinese language. However, this fact explains why involvement of the Chinese community in the musical art of Western orientation, initiated in the country under the policy of openness, proved to be the most difficult for those artistic genres that are related to the word, its semantics, artistic content of the poetic text, and its presentation through vocal-phonation intonation.

These features of the art of singing generate a number of specific tasks (concerning the works of an instrumental genre) of artistic semantic, performing-interpretive and phonation technological levels. Their solution is connected with sound formation, singing intonation technique, conveying the emotional and conceptual meaning of the art of singing phenomena to the listeners, embodying the syncretic unity of verbal poetic and intonation musical components of the vocal-artistic phenomenon. It should be added that the performance of works of another culture in the original language requires singers, firstly, to understand their artistic meaning, formed by the unity of verbal poetic and musical intonation components, and secondly, to master the appropriate technique of singing intonation of foreign texts, which requires special work on sound formation, articulation, vocal diction, phrasing, etc.

There are also significant differences between singers of different cultures from the perspective of communicative and stage properties and performing artistry. We mean the ability to visually communicate with the teacher, to reach a creative understanding with co-performers (concertmaster or other

singers in ensemble forms of music), to open up deeply and emotionally during a concert performance, achieving empathic and suggestive connection with listeners. Thus, there is a fairly wide field of personal and professional qualities, knowledge, and skills, the development of which in international students requires special attention of teachers, and efforts from the students themselves. To overcome them in working with Chinese singers, significant attention was paid to:

- providing a comfortable adaptive environment, which was carried out based on the organisation of group classes in two options: homogeneous national composition and mixed, international. Classes in the homogeneous Chinese groups allowed students to count on the help of those compatriots who knew the language of instruction better and helped others with translation and interpretation of unclear content, which allowed them to feel psychologically comfortable. Note that this sense of unity and mutual assistance is extremely important for students from China, due to their belonging to the collectivist type culture. Another type of group classes is in international groups, and is contributed to the enrichment of language and auditory practice of Chinese students, and the use of game activity forms allowed to include them in role-playing and creative communication with Ukrainian master's degree students;
- socio-cultural and psychological adaptation of international students from China was facilitated by their participation in vocal ensembles of international composition, involvement in concert activities with the performance of national songs and repertoire, participation in student cultural and entertainment activities, which stimulated creative activity and self-esteem;
- enriching the experience of perception of works of different styles and improving the ability to independent artistic thinking in the tasks of immersion in the artistic atmosphere of the era, comparative analysis, answers to artistic problems that do not have an unambiguous solution, independent interpretation – performing and verbal – of works of different styles;
- formation of singing-performing skills, which singers from China master according to the best traditions of the leading European schools of singing – Italian bel canto, Ukrainian lyricism, German culture of phrasing, French declamatory expressiveness, Russian sincerity and warmth of expression of emotions, etc.;
- overcoming the speech barrier through the development of vocabularies in international groups, providing international graduate students from China with concise lecture notes, seminar assignments in electronic format, dialogic style of communication and support for students' speech activity;
- developing the independence of thinking and creative activity of students from China in the process of including them in subjectively new forms of pedagogical communication, aimed at understanding the relationship between means of expression and ways of performing the artistic content of vocal works of different styles and creative directions.

Due to the applied set of educational activities, it is possible to achieve a significant increase in the dynamics of vocal and performance development of international students. The orientation of the pedagogical institution to implementing the ideas of Internationalisation for Mobility and Home stimulates the improvement of strategic plans, methodological, teaching and learning support of educational and cultural relations of different peoples, encourages the teaching staff to research and enrich pedagogical tools, stimulates deeper knowledge of educational and cultural traditions, national and artistic mentality of different peoples.

The deepening of cultural ties between countries is a characteristic feature of the globalisation process. In the field of education, these trends are realised through the internationalisation of content of higher education and developing academic mobility of students and teachers, some unification of study programs, syllabus, course credits and criteria for assessing the quality of education, which promotes academic mobility of students, their ability to study outside their country. Getting education in a different cultural environment attracts modern youth, allows acquiring guaranteed quality education, getting a deeper and more comprehensive preparation for future professional activity, but at the same time involves several problems of personal adaptation and opportunities for organic implementation of acquired education in their own educational and cultural environment. Education institutions aiming to improve the image and encourage international applicants to study join the global movement of internationalisation of education, search for their ways to implement it effectively while maintaining their own national achievements.

In Ukraine, the movement towards the internationalisation of education is actively developing in various directions, including, in particular, the field of art education. International students from China are the ones most active to use the music and educational services of Ukrainian music academies and pedagogical universities. The process of learning in a different cultural environment causes certain difficulties of psychological, communicative, and cognitive nature. In our opinion, institutions that aim to expand their educational services to international students should be more focused on their needs and achieve internationalisation, which will provide their mobility and enable application in their home country, which allows it to be recognized as IfMH.

Strategic planning aimed at implementing the guidelines of the IfMH approach is not a one-time act, but rather should be a renewable process that unfolds not linearly, but systematically, comprehensively, and involves continuous monitoring and improvement of ways to achieve the objectives. The measures applied in this direction should not contradict the traditional content of education but should supplement and enrich it, expand the methodological tools of the pedagogical staff of the education institution. Thus, the Internationalization for Mobility and Home has to promote an intercultural and educational dialogue of different countries, enrich the opportunities of education institutions, enhance graduates' ability to be competitive and professionally fulfilled in their own country and within the global art space.

The solution of this issue requires further improvement of the content and forms of socio-cultural adaptation of foreign students, taking into account the peculiarities of their mentality and prospects for the implementation of obtained education in other cultural conditions in their national environment.

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Primary Paper Section: A

Secondary Paper Section: AM

MUSICIAN-PERFORMER IN THE FIELD OF BIOETHICS: A MENTAL ACT

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Abstract: The secular value of the "natural right" of the person who makes music in the context of "ethical pluralism" provoked the emergence of various kinds of biomusical experiments in line with dehumanised naturalistic paradigm based on new data from neurobiology and cognitive sciences. This led to serious existential conflicts of the actor in the institutional infrastructure of musical performance as an affect of unconscious euphoria. The hope for their solution is given by a performer's intuitive acceptance of the healing ability of musical emotion to activate his mental inclinations to personal growth. Thus, the aim of the proposed article is to substantiate the pedagogical model of performing by a musician-performer of a mental act – maximum activation of mental resources for self-disclosure as a substantial self in the process of mental play. It is revealed in the concept of performative didactics, in which performance appears not only as a medium, but also as a method and form of learning. It implements the existential-phenomenological paradigm of art pedagogy, learning as an art. To predict the impact of a mental play technology, as an independent predictor variable, on the implementation of a mental act of a musician-performer, as a dependent criterion variable, we have analysed the linear regression algorithm. Qualitative and quantitative indicators for assessing the ability of students of the experimental and control groups to a mental act allowed to build a three-dimensional qualimetric scale for future clustering of the experimental data.

Keywords: musician-performer, biomusicology, performative didactics, mental act, mental play, art pedagogy, three-dimensional qualimetric scale, clustering.

1 Introduction

In today's cultural situation of unprecedented performative turn, the idiom of performativity is seen as "the last hope to understand who we are and at what stage of the world we have become what we are" (Pickering, 1994: 415). That is why a musical performance is defined as "a ritualised event that is forced to be repeated under the influence of prohibition and taboo" (Domanska, 2011: 228). For a musician-performer, such an event opens the possibility to realize the intention of auto-mythology, to present a self-portrait of the essential self (without a mask), thus creating a plastic project of one's own destiny. Moving against the established course of events, he immerses himself in the epigenetic memory and activates the drift of gene mutations that transform mental inclinations to develop the abilities of a new creative experience. In this way, to the process of musical action returns the ritual seriousness and weight of the archaic sacred gesture of "invented tradition" (Yuichiro, 2011: 268), which is "practiced and rehearsed" (Schechner, 2015: 28).

However, in one case it is a purposeful and meaningful gesture of the bearer of the voluntary feat of blissful madness (fool for Christ's sake, chan, malamatya), who creatively fooling around with his naivety and ignorance of social norms, realizes an unattainable mission for many – gives a person (recipient) hope for existential healing. Moreover, he does it out of love, for the sake of Salvation.

Otherwise, it is a spontaneous gesture of a cultural antihero, a trickster, who in the "institutional art world" (Dickie, 2000: 229), in constant interaction with other actors (even from the animal and plant world) to the new – superrationally, symbolically, and metaphorically – represents the existing objective reality as a microcosmic whole. With his unlimited freedom of dangerous flirtation with human nature, shamanic immersion in "controlled" death, he brings chaos and darkness of absolute nihile into the world.

Declared in the modern information space anthropological exodus – a new "subjectivity", fragments of which are associated with hardware and software, proposes to identify the specifics of a performer-trickster through a combination of "savagery" (incontinence, obsession, frenziness) associated with the cult of corporeality, biogenetics, and "innovation" (Lukov, 2013), which carries the energy potential of extreme, the thirst for amazing events and digital creativity. Since the 1960s, the trickster trolling has become a hallmark of fluxus – an art and noise-music movement. In the instinctive and atavistic level of their communications, human semantics gives way to naturalistic one.

In musicology, the ontological problem of performance dynamism, as a provocative practice, finds its solution in an attempt to explore the evolution of its deconstructive aesthetic field, the principle of playing with meanings through the collision of signs, symbols, meanings, phenomena and actions. The existential conflicts that arise in the institutional infrastructure of performance as a "revived tradition" have not yet been the subject of special research (Bezugla, 2020; Broadhurst & Machon, 2012; Fisher-Lihte, 2015; Giannachi & Kaye, 2011; Goldberg, 2018; Onuch & Baldyga, 2015; Patrick, 2017; Stanislavska, 2016; Wood, 2018).

The basis for the performance of the third wave – as the boundless aesthetic legitimization of the spontaneous meaningless "integrated spectacle" (Debord, 2008) – continue to be seen in the expansion of opportunities for freedom of artistic free creativity in a liberal society focused on perfect and physically focused sexual organization and mental health. Furthermore, the ontological interpretation of the genesis of performance as a mystical ritual act, almost a sacrament, is now explained not by the insight of the existential paradox, but by the sham conspiracy of the individual in the environment of all-encompassing secrecy and irresistible manipulation. That is why modern researchers of performance in their studies of the origin, structure and significance of the phenomenon, conclude that "its basic elements are time, place, body of the artist and presence of the viewer" (Komarnytska, 2015: 135).

Such reduction has bioethical causality. Neurological determinism (Martínez-Montes et al., 2016) has led to a sharpening of discussions around the problem of "bioethics and music" (Blain-Moraes et al., 2013), music therapy (de Witte et al., 2020; MacDonald et al., 2012; Monti & Austin, 2018), neuropsychology of music (Hassler, 2010). They have even resulted in the emergence and development of a new transdisciplinary scientific field – bio-musicology as a "biological study of musicality in all its forms" (Fitch, 2015). Its subject field includes evolutionary musicology, neuro-musicology and comparative musicology (Schyff & Schiavio, 2017; Cross, 2010), that is:

- adaptive and/or exaptive functions of music in anthropogenesis, in particular as a factor of human physical survival;
- ontogenesis of human musical abilities and musical skills; neural and cognitive processes of music making;
- the problem of implementing the principles of bioethics (autonomy; "do good"; "do no harm"; justice as a subjective fulfilment of the altruistic commandment "do not offend anyone") (Beauchamp & Childress, 2021) in music therapy and professional training.

Moreover, according to researchers, this problem refers to the type of poetic situations that "are beyond the rigorous notions of good and evil" (MacIntyre, 2007: 67). That is, bio-musicology as a scientific discipline claims to be not only a form of applied ethics, but also an apology of morality within the naturalistic

paradigm based on new data from neurobiology and cognitive sciences. According to another transhumanist philosopher Nick Bostrom, only in this way does a person realize the chance to use the "right to cognitive and morphological freedom of miracle-working" (Bostrom, 2019: 468).

Thus, traditional ethics is replaced by neuroethics, i.e. sacred morality is transformed into a subjective law of biotechnological cognitive improvement (Goldman, 2007). The desire to use his "natural right" encourages the performer to various kinds of bio-musical experiments. Among them is the soundtrack album for Roy Battersby's documentary The Body (1970), whose "music" (sounds of slaps, breathing, physiological processes, laughter, whispers against the sound of classical guitar, piano and string instruments) was written and performed in collaboration between Pink Floyd member Roger Waters and composer Ron Geesin. Other examples: the use of animals as backing vocalists by musicians Caninus, Hatebeak and Lil-B; and bats as mystical soloists in Stuart Hyatt's Field Recorder (Currin, 2020).

Unfortunately, in the phantasmagorical sensorium of our time, only the problem of the aesthetic status of such acoustic experiments is actively discussed. Therefore, it is not surprising that such a performative situation prompted the Waag Society ("weigh house") to organize an exhibition "Trust me, I am an artist" in Amsterdam (May 13 – June 25, 2017) to focus public attention on the feasibility of ethical nihilism of modern bio-art practitioners (Dumitriu, 2017). The danger of such a rewriting of morality on the legal model is obvious: the lack of opportunity to freely choose the good makes a person vulnerable in his right to self-identification, opens the way to control his person.

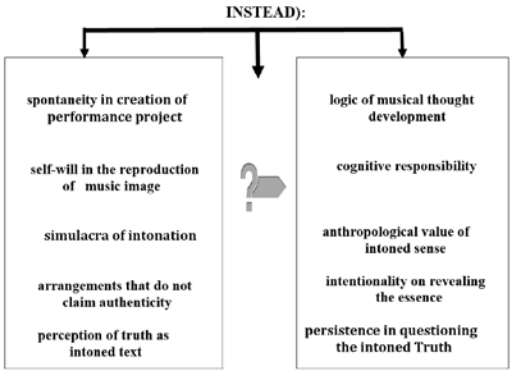
However, music, due to its hierophanic nature, exists (sounds) independently of man, and therefore can be neither created nor used. It can only become an event of its being. Moreover, it is a special, ontological being in intoned hierophany: as "like in like", as an essential coexistence of "pure in pure". The supranatural (spiritual) engrams of this being-likeness are stored in the emotional memory. This process finds its interpretation in the empathic-epistemological concept of M. Foucault (Árnason, 2018) as rivalry (dialogue) → analogy → just sympathy. Moreover, each of these types, according to the philosopher, can claim the status of the ontological horizon of improvement of the musician-performer, because he has the right to chaotically "sculpt" the substantial self from the intoned meanings of his multifaceted mental experience. An exception is not even the experience of mental automatisms in the form of pathological mental states – the result of the unconscious euphoria of the next mask of self, that is, a sketch of the archetypes of a man playing music at different stages of cultural segregation. That is, for the participation of a musician-performer in a hierophanic event, it is enough to partially realise mental resources at the level of performance assimilation of affective reactions and psychotherapeutic associations (dissociations) in the process of obtaining technical (motor-mechanical), analytical, interpretive, personal, ensemble, stage and social-personal (like bioethical) competences.

Researchers do not pay attention to the realization of the musician's ability to transform his conscience and heart for the sake of personal (Persönlichkeit – W. Stern) disclosure. After all, "all the burdens of time can fit in the soul of an artist and be overcome not just by creativity, but by creative innocence – only it leads to the light-bearing Truth" (Manovich, 2015: 13). That is why ontologically a performer-musician (as a sacrificer, a warrior) must stand above the categories of art. Creativity for him is a way of life, and performance is a way of elevation above the delimited individuality to the latent integrating personality. His semiological activity in articulating the dynamic impulses of his mental and bodily essence and nature is aimed at feeling the unmoving gaze of the substantial "Other-in-itself", "alter Ego" on the path of self-realization (until the achievement of harmony "self – not self") in love.

The ability to love remains predominant over all other abilities in the phylogeny of the human psyche, even given the imperative effect of violent sociocultural challenges on the regulation of the epigenetic rules of its cognitive system, and thus mental inclinations and behavior. New behavior is reinforced by a setting to imitate and learn new experiences, because a musician is not a machine for the survival of genes.

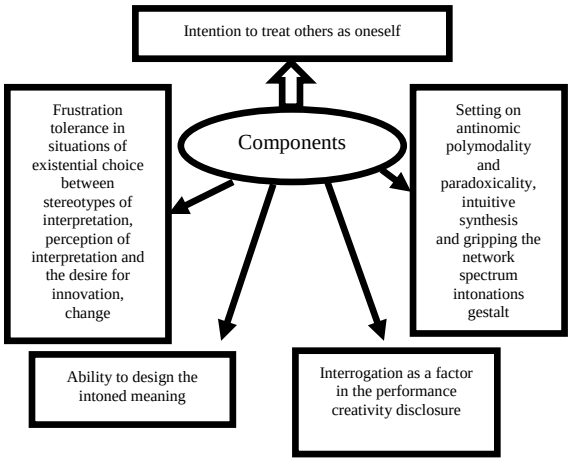
In view of the above, the purpose of this article is to substantiate the pedagogical model of self-disclosure of a musician-performer as a substantial self. The leading idea of our model, unlike existing ones (Meissner, 2021), is self-knowledge of a musician-performer in the process of perceiving the history of art as a creative practice. It involves activation of his mental experience – cognitive, proforical and practical euphoria – in order to assimilate by the consciousness of the gallery of anthropological types of a music-making human and insight into the personal pattern. The factor of such a super-situational activity of a musician is the metanoia strategy – his motivation to change his thinking (Figure 1).

Figure 1. The scheme of reorientation of a musician-performer's thinking



To implement this strategy, the technology of a "music mask" – mental, inner play (Gordon, 2010; Elina, 2012; Gallwey & Green, 2015) in a given style (trend, direction) is proposed. It is a process of imaginary "fitting" by a musician-performer of intoned "masks" such as: an impressionist (reporter of the moment of eternity) or a romantic (marginal – "white rook" or "Frankenstein with a blue rose"), an educator (ruler in the realm of spirits) or a classicist (author of a model of "ordered chaos"), a Renaissance perennialist or a Gothic scholastic layman, a carnival trickster or a Romanesque pious monk, an ancient Delphic Pythia or oracle, a druid or Tien Shi. This process of mental play (without notes and without any instrument) is based on the internal performance image-cluster, the content of which varies depending on the specialization of a musician (pianist, string instruments player, wind instruments player, conductor, vocalist). Such "anthropic immersion" affectively inspires not only the psychophysical but also the existential self-regulation of a musician-performer in revealing self-image. That is, he performs a real mental act. The basis of the component model of a mental act is presented in Figure 2. The individual components of the structure repeat the components of the act as such (Kondratska, 2019: 12). However, the proposed model corresponds to the essence of mentality, in particular artistic. The dominant component is the "intention to treat others as oneself".

Figure 2. The structure of the mental act of a musician-performer



We consider the art laboratory of self-learning as creativity to be the environment for effective realization of the set goal. Here, after lectures-performances, students get the opportunity to develop and substantiate the infinite variety of ways of intoned self-expression, based on their own expressive (drive), communicative and suggestive need to understand the difference between the "existing" and "present" world and themselves in it. Productivity of mastering the technique of The Inner Music Play is provided by:

- desire to fully trust oneself (Gallwey, 2015);
- contextual approach to the future performative project (understanding of the genre, style, performance manner, techniques; tonal-timbre setting);
- mastering the methods of aural modeling, auditory metaphorization, elenctics, heuristics and erothematics;
- alternation of different types of control (auditory, visual, kinesthetic);
- silence and full concentration.

Thus, the essence of the proposed pedagogical model is the concept of performative didactics, in which performance appears not only as a medium, but also as an educational process – a method and form of learning. That is, it implements the existential-phenomenological paradigm of art pedagogy, learning as an art, and is based on ontological laws:

- "antinomic interdependence of alternative and coevolutionary ways of development" of design thinking of a musician-performer and "… permanent acceleration of this process from the future" (Kondratska, 2019: 11);
- dissipation and diffusion as a factor in establishing the coherence of self – non-self relations;
- diversity of semasiological interaction of performance actions on the basis of different theories of truth (Kondratska, 2019: 11).

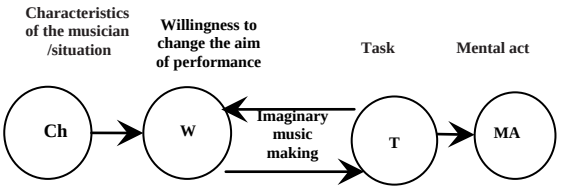
The implementation of these patterns is ensured by the principles of:

- attraction of creative thinking;
- paradoxes of the process of creative abilities development;
- dissipation (self-construction) of creative abilities;
- influence of the pace of creative abilities development of a frontman's and other performers;
- age sensitivity as a factor in creative abilities development;
- artistic modelling (inertia, i.e. consistency with the environment; simplicity and adequacy).

2 Methods

The exploratory methodology of our experimental study was determined by the anthropokinetic design of a mental act performance by a musician-performer (Figure 3).

Figure 3. Design of the didactic model of a mental act of a future musician-performer



To predict the impact of a mental play technology (MP), as an independent predictor variable (x), on the implementation of the mental act (MA) of a musician-performer, as a dependent criterion variable (y), we analysed the linear regression algorithm:

$y = a + bx$
where, a = constant,
b = regression coefficient.

The expediency of regression analysis was due to the high coefficient (0,84) of the previously correlated expert evaluations and self-assessments of the results of modular tasks – separately by students studying in the context of interactive digital education, and separately by students working in conditions of implementation of the performative didactics. Criteria variables of the ability of a musician-performer to a mental act were the levels of the competences' formation:

- mayevtic-contemplative;
- mental play;
- value-semantic;
- musical performance as a personal transformation.

2.1 Sample

The sample consisted of 128 students: 60 students studying in the context of interactive digital education (hereinafter – control group, CG) and 68 students studying in the conditions of performative didactics (experimental group, EG). The moulding experiment lasted during 2019-2021 (6 semesters of studying the disciplines "Musical Instrument", "History of Music", "Modern Music and New Performance Techniques", "Musical Anthropology").

2.2 Instruments and procedures

The following methods were used to diagnose a musician-performer's ability to perform a mental act: "Self-actualization test" (SAT) (Gozman et al., 1995), multiscale questionnaire "Style of Behaviour Self-Management" (SBSM) (Morosanova, 2019), Goldsmiths Musical Sophistication Index (Gold-MSI), developed by Goldsmith University psychologists to diagnose the level of human musical development (adapted by T. Knyazeva (2019)), diagnostic methodology of students' learning motivation (LMS) (Badmaeva, 2004), The Mehrabian Achieving Tendency Scale (MATS) – a test questionnaire to measure motivation to succeed (Fetiskin et al., 2004).

2.3 Algorithm of experimental research

1. Correlation assessment of the ability of musicians-performers to a mental act based on the results of accomplishing performative tasks of 4 levels of empathic-epistemological complexity.
2. Construction of a three-dimensional qualimetric scale on qualitative and quantitative indicators of intonation-semantic "expression" of students of the experimental and control groups for future clustering of the levels of their ability to a mental act for the subsequent ordering in rather homogeneous groups.
3. Creation of a correlation galaxy for visualisation of interrelations and differences concerning realisation of indicators of the investigated phenomenon by means of the

Graphviz program on the basis of the received correlation matrices.
4. Selection of 3 groups of students according to the level of ability to a mental act on the basis of cluster analysis (classification analysis or numerical taxonomy);
5. Visualization and regression analysis of the influence of mental play on the student's ability to a mental act in the future performative realisation in the conditions of modern precarious reality.

Thus, the levels of the Hierarchical Linear Model (HLM) of our study reflected a correlation galaxy of 28 indicators of five multifactorial techniques that had 21 positive and 7 negative relationships.

2.4 Data analysis

The software "INT" (ideographic and nomothetic testing) of the diagnostic complex (aerobatic variant) allowed to carry out flexible design of test tasks. During the mathematical processing of the results the indicators of descriptive statistics, methods of nominative data analysis (analysis of conjugacy tables, Pearson $\chi 2$ test), methods of correlation analysis (correlation coefficient (Pearson's r), nonparametric criteria for comparing samples (Mann-Whitney U-test, Kruskal-Wallis H-test), multidimensional methods of data analysis (cluster analysis ("Average Linkage") and factor analysis ("Analysis of principal components") were used. Statistical processing of results was carried out in the package SPSS 17.

3 Results and Discussion

Table 1: Comparison of the indicators of the level of students' self-discovery in the control (n = 60) and experimental (n = 68) groups, determined using the SAT test

Scale	Max. score	CG (n=60)		EG (n=68)		Significance of differences
		Scores	%	Scores	%	
Values (Love as courage)	17	8,43	49,6	10,08	59,3	U =3186***
Time orientation	20	12,66	63,3	12,89	64,5	
Flexibility, polymodality, paradoxicality of behaviour	24	12,72	53	14,21	59,2	U=3534***
Sensitivity	13	6,68	51,4	8,12	58,2	U =4033,5*
Spontaneity	14	7,86	56,1	7,03	50,4	
Self-acceptance	21	10,52	50,1	12,11	57,7	U =3698**
Synergism	7	3,94	56,3	4,07	58,1	
A look at human nature	16	7,77	48,6	8,47	55,9	U =3933,5*
Desire to create	20	10,58	52,9	11,40	57,08	
Cognition as recollection	11	5,61	51,06	10,50	70,21	U =4035,5*
Frustration tolerance	12	8,52	72,42	8,67	71,03	
SenSense of hierarchy	12	7,11	58,13	11,05	75,8	U =4065,5*

Note: the level of significance of differences: * – p<0,05; **– p<0,01; *** – p<0,001; U – Mann-Whitney U-test

Table 2: Comparison of the indicators of the level of students' musical development in the control (n = 60) and experimental (n = 68) group, determined using the method of Gold-MSI v. 1.0

Method		**EG (n=68)**		**CG (n=60)**		**Significance of differences U**
		M (SD)	**min-max**	**M (SD)**	**min-max**	
Question-naire scales	Musical involvement	41,52 (10,90)	9-63	36,82 (10,36)	14-59	0,020
	Musical-perceptive abilities	50,20 (7,86)	9-63	48,09 (8,04)	23-63	0,000
	Musical-performance experience	26,52 (11,44)	7-49	24,90 (11,61)	7- 48	0,000
	Musical improvisation	34,66 (5,04)	6-42	35,46 (4,73)	17-42	0,000
	Artistry and theatrical skill	31,67 (8,72)	7-49	29,36 (8,78)	10-47	0,000
	General musical development	81,58 (20,62)	18-126	74,79 (19,24)	35-112	0,026
Musical tests	Music memory	0,748 (0,161)	0,5-1	0,725 (0,138)	0,46-1	0,000
	Sense of metro-rhythm	0,789 (0,149)	0,5-1	0,780 (0,145)	0,47-1	0,000
	Tonal memory	0,785 (0,169)	0,5-1	0,780 (0,155)	0,55-1	0,000

Table 3: Indicators of students' self-regulation in the control (n = 60) and experimental (n = 68) groups, determined using the SBSM test

№	Scale	Max. score	CG		EG		Significance of differences
			Scores	%	Scores	%	
1	Designing	9	4,74	56	5,89	68	U=435, 5*
2	Improvisation	9	5,23	51,9	6,12	65,3	U=452, 5*
3	Self-esteem assessment	9	5,55	4,6	6,24	69,4	U= 388*
4	Independence	9	5,23	58,1	6,15	69,7	U= 430, 5*

Note: the level of significance of differences: * – p<0,05; ** – p<0,01; *** – p<0,001; U– Mann-Whitney U-test

Table 4: Comparison of the indicators of the level of students' learning motivation and motivation to achieve success in the control (n = 60) and experimental (n = 68) groups, determined using the methods of LMS and MATS

№	Types of motives	CG		EG		Significance of differences
		Scores	%	Scores	%	
1	Motivation for achievement	2,68	71, 2	3,54	78,1	U =9,136*
2	Motives for avoiding failure	1,95	39	1,98	39,3	-
3	Motives of prestige	2,40	48	2,24	44,8	-
4	Professional motives	3,64	72,8	3,73	74,6	-
5	Motives of creative fulfilment	3,19	63,8	3,23	64,6	
6	Communicative motives	3,22	64,4	3,32	67,1	

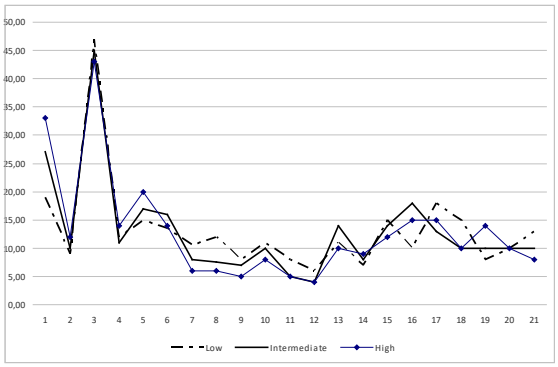
Note: the level of significance of differences: * – p<0,05; ** – p<0,01; *** – p<0,001; U – Mann-Whitney U-test

In order to determine the regression description of the influence of a mental play technology on a musician-performer's mental act, we have conducted a cluster analysis of the results of accomplishing by the respondents of the experimental and control groups of a series of creative tasks. According to the level of successful tasks accomplishing – low, intermediate and high – the samples were taken for clustering. Subsequently, based on the calculation of the values of the 21st indicator of mental resources of the subject of each sample, we tracked the characteristics by which the variables were evaluated, and the regression coefficient was determined.

Verification of the results of the cluster solution was conducted during iterative analysis by the method of k-means.

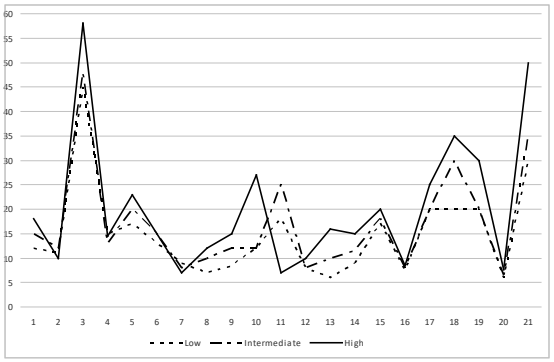
Below is a visualization of the levels of a musician-performer's ability to mental act on the example of CG clusters (Fig. 4) and, accordingly, EG clusters (Fig. 5):

Figure 4: Visualization of the levels of a musician-performer's ability to perform a mental act (based on the results of the performance experience of the CG students)



Note: 1. Time orientation. 2. Value orientations. 3. Self-regulation (designing, improvisation, self-esteem, assessment, independence). 4. Sensitivity. 5. Musical-perceptual abilities. 6. Motives of creative fulfilment. 7. Frustration tolerance. 8. Perceptions of human nature. 9. Motives of prestige. 10. Self-acceptance. 11. Motivation for achievement. 12. Communicative motives. 13. Music and performance experience. 14. Professional motives. 15. Sense of hierarchy. 16. Motives for avoiding failure. 17. Motivation for intense and sustained activity. 18. Synergism. 19. Cognition as recollection. 20. Spontaneity. 21. Behavioural flexibility.

Figure 5: Visualization of the levels of a musician-performer's ability to perform a mental act (based on the results of the performance experience of the EG students)



Note: 1. Time orientation. 2. Value orientations. 3. Self-regulation (designing, improvisation, self-esteem, assessment, independence). 4. Sensitivity. 5. Musical-perceptual abilities. 6. Motives of creative fulfilment. 7. Frustration tolerance. 8. Perceptions of human nature. 9. Motives of prestige. 10. Self-acceptance. 11. Motivation for achievement. 12. Communicative motives. 13. Music and performance experience. 14. Professional motives. 15. Sense of hierarchy. 16. Motives for avoiding failure. 17. Motivation for intense and sustained activity. 18. Synergism. 19. Cognition as recollection. 20. Spontaneity. 21. Behavioural flexibility.

While acknowledging E. Ilenkov's position on the connection between "universality" and "uncertainty" and, consequently, the unpredictability of individual human development (Ilenkov, 2009), one cannot agree with his theoretical extremism, which considers the natural premise of the human individual as a "tabula rasa", on which society can draw any "hieroglyph". Recent observations by paleoneurologists have shown that "the result of a long historical period of total conformism and social adaptation of the homo musicus was the process of his cerebral specialization, i.e. displacement of creative and self-thinking individuals" (Savelev, 2021). This was confirmed by the analysis of the performances carried out by the CG students. The lack of correlation between the performance plan and its practical implementation was the result of the reorientation of a musician-performer from systemic, design thinking (goal→ meaning → method), proposed by E. de Bono, to the collaborative iteration of the design project method. The reason for these negative trends is the "terror of musical communication" in the digital space.

The study has confirmed the idea that a musician-performer is not a gift, but a task. He must rediscover himself, meet himself as a personality. And not only as a new quality (form) of his consciousness and/or bodily life, but also as a life world in which this innovation must be inscribed due to a strong intention to self-expression in the interpretation of intoned meaning. This presupposes not so much ethical and legal rationing as creative, intonation-experimental transformation of the aesthetic-imaginative reality of one's self, which has a continuation already in the socio-cultural space in which a musician-performer performs certain functions inherent in art itself.

Every restoration of a musical image in the interpretation of a musician-performer, which is carried out based on a mental play program of behaviour in memory, more precisely – a mental act. That is why the EG students, who, thanks to the metanoia strategy, were encouraged to comprehend and intonationally and semantically reproduce the archetype of the human Image, have 14 scales higher than the CG students. We mean, first of all, the significance of differences in such indicators of the ability to a mental act as "Cognition as recollection" ($U = 4035.5^*$), "Self-regulation" ($U = 452.5^*$), "Motivation for achievement" ($U = 9.136^*$), "Musical-perceptual abilities" ($U = 0.026$) at $p<0.05$.

4 Conclusion

The didactic model of a mental act of a musician-performer is focused on inviting him to a tireless dialogue between self – non-self during the performance process as an initiation. The subject of this dialogue-discussion is the following provisions:

- naturalness and immediacy of life cannot be constructed by replacing it with imaginary perfect worlds;
- metaphysics of Beauty (on the semantic spectrum of pulcher, i.e. as a sacred space) and the practice of making music (as a space of music) – are incompatible things, because the meaning of the first is the Light of Perfect Joy, and the meaning of the second – just an attempt to affect "Messianic idols" (with impaired coordination of good and beauty), cunning flirtation with Him and, finally, denial; hence – simply the transformation of sound matter into a symbol of nihile;
- completeness of the formation and degree of design of the musical meaning as an antinomic triad of essence, its implicit presence and expression in intoned icons, indexes and symbols, due to the level of homo musicus austerity, in the postharms situation rhizomes of musical spaces completely loses its relevance;
- meeting (co-existence) of sound and meaning in the mind of a musician-performer requires concentration of his mental resources.

The short duration of performative interaction – an unexpected effect of concentrated self-understanding of the subject-participant during mental play – gives the experience of going beyond the horizon of intoned meanings. However, when repeated, this situation may have different options for development, depending on the moral and ethical responsibility of a musician-performer. And here it is important that the acquired experience of reconstructed reality is not just a multisequent hypertext, intoned metaphor of the "desert of the real", based on the principle of destruction of unambiguity, unidirectionality, one-dimensionality, immutability. A musician-performer must identify himself not with a fixed set of masks and roles, but with the very process of moving through them, the process of building a dynamic unity not as pure visibility, but as

pure authenticity. Given the above, the feasibility of classical music education is difficult to overestimate.

We hope that introduction of the model of performative didactics of a mental act in the process of professional training of future musicians, on the one hand, will prevent them from universal boredom and fatigue provoked by the realisation of non-compliance with high criteria of creativity and attempts to accommodate vast amounts of acoustic information, and on the other hand – will allow to avoid the imposed fashion for neurotechnological transformation of musical consciousness for the purpose of eternal aspiration to freedom of self-improvement.

Thus, its implementation can help a musician-performer to determine the situation of bioethical incidents and not rush to flirt with the evolution of the second order in the modern world-performance.

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Primary Paper Section: A

Secondary Paper Section: AM

EXPERIENCE WITH THE ACTION ART IN THE COURSE OF LIFE OF PERSON: FROM EXPERIENCE TO THERAPY

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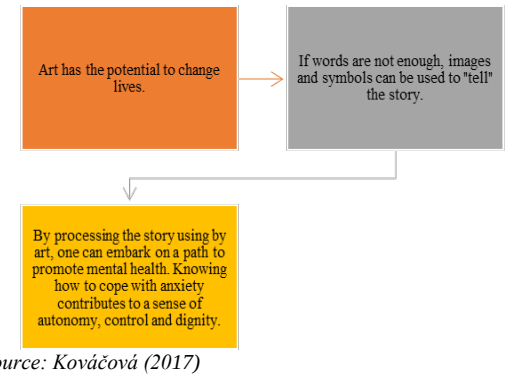
Abstract: The paper describes the real possibilities of using the action art in the course of one's life from an early age to the old age. The paper presents specific artistic outputs called situational-art-action-models designed for different age groups. These models prompt the participants themselves to action, in particular to tell (re-create) a story, regardless of whether the story was finished or not. The ways in which the participants express themselves are different, as are the different environments in which the art takes place. Unambiguous action art blurs the boundaries, breaks rules, and gives the participants the opportunity to present a person in different forms and looks. The paper is supplemented by photo documentation of art-action models.

Keywords: art action in life, space, processing, research,

1 On the role of action art in life

A person in the artistic space may face situations that at first glance carry an idea representing a consistent structure (in terms of internal logic with accompanying ways of expression in the context of emotions, activities), but in relation to the environment or another person these consistent structures may entail inconsistent ideas that are influenced by experience, or insights of a person, a group (compare Kováčová, 2020).
For this reason, art action is important in every stage of one's life, in particular with regard to creative and action individual and group artistic creation of situational-art-action models. Through art, one mediates what one does not know, cannot, and often (un)consciously refuses to express verbally in everyday communication. It is impossible to divide people into "good artists and bad artists" (Kováčová, 2011). It is necessary to take into account the fact that each person has specific narration options available to express what they have or will come across (Kováčová et al., 2019). People can express these experiences using any kind of art. It is an authentic and at the same time author's statement which is manifested non-verbally i.e. through the product itself, verbally, i.e. the statement itself and through a process, i.e. it creates the opportunity to communicate with a person throughout the whole process of creation.

Figure 1: Art in the life of a person



Source: Kováčová (2017)

With regard to art, situations may arise that at first glance carry an idea representing a consistent structure (in terms of internal logic with accompanying ways of expression in the context of emotions, activities), but in relation to the environment or another person these consistent structures may entail inconsistent ideas that are influenced by experience, or insights of a person, a group (Chanasová, 2019b; Kaščáková, 2019). For this reason, art action is important in every stage of one's life, in particular with regard to creative and action individual and group artistic creation of situational-art-action models. It is action art that allows the use of various forms of art, where the participant (or several participants) use live performance / playback / or re-create a specific situation (event, problem, experience) in order to integrate into the environment at a specific time and place.
Action art is the art of action. Geržová, Hrubaničová (1998, pp. 15-16) point out that a human being, regardless of age, experience, is a creative and active creature. An action which takes place in space, regardless of borders, creates individual and group images which, in turn, create reality. Geržová (1999) claims that the action itself is closely connected with the age and the very experience of the participant and their current experience. Perceived space in the art of action has many meanings. In the general context, it may be a place (area) that is not defined by specific dimensions. The authors of the paper also identify with the given definition because action art knows no boundaries, therefore the space is not strictly limited either. With regard to combining creativity and space, Biag et al. (2015) define three types of spaces in which programs for human during his developmental periods (using the art of action (Table 1) are being created.

Table 1: Division of space in the art of action

Division of space	Perception of space	Characteristics of space for human activity
Physical space for artistic creation	The given space can be perceived as an individual space in the action art space in which the boundaries are created by each participant. articipants construct their action (in the sense of holistic perception) in space on the basis of an idea which is processed individually in the context of artistic creation.	specific individual authentic delimited by the author
Space-time	The time space in terms of action art cannot be strictly defined. This is due to the fact that the action within the action art ends just when the participant decides that everything (on their part) has been said. For this reason, it is not possible to limit the process of action itself in situational-art-action models.	right here and now action boundless managed by the action itself
Intellectual space	In the context of action art and intellectual space, participants work with an idea that is alive and then "transform" the idea into the action. The given type of space can be characterized as open, lively and creative, focusing on a person in the process of creation. The space itself is created by the thoughts of a person or a group of people	dependent on one idea dependent on several ideas gradation alive creative open

Source: author's own work

In the course of the art of action, a person creates and subsequently interacts with the world or other participants using a graphic or plastic signs, which often becomes a means of authentic communication, connection or creation of a single line for communication as well as the search for solutions to a problem or stimulus (Kulka, 2008; Valachová, 2018; Kováčová et al., 2019, Chanasová, 2019b, Kaščáková, 2019, Chanasová, 2020). Art thus becomes a strategic tool for finding and discovering the answer to a placed question.

2 From experience to therapy

With regard to experience and therapy, art plays an important role in the life of human and society. By grouping several functions of art on the basis of a common feature, it is possible

to divide the functions of art into four functions, each of which has its own characteristics.

These are processed according to Spousta (1998) and at the same time offer an overview of how these functions can be perceived. Some of the functions merge and overlap with each other. For this reason, too, it is not possible to perceive any of them in their pure form (either as experience, or as therapy).

Table 2: Functions of art

Functions of art	
Basal function	**Formative function**
• value, • aesthetic, • magical, • communication, • informative, • cognitive, • retaining	• compensatory, • stimulating, • pedagogical, • humanizing
Therapeutic function	**Relaxing function**
• soothing, • psychotherapeutic, • cathartic, • solitary, • sociable, • relaxing	• hedonistic • fun

Source: Spousta (1998)

With regard to the aspect of the therapeutic function of art, the paper will present action art (as a possibility of prevention and / or intervention) with the aim to find parallels between action art and concrete younger age pupils (Table 3).

Table 3: Functions of art in relation to action art and younger age pupils

Art functions	Characteristics of art	Actions of a younger age pupil in relation to art
soothing function	This function of art helps human get rid of a negative mood and even depressive tendencies as a result of disappointment with aim to satisfy and encourage him.	For younger pupils, this means that art supports non-verbal expression in situational-action models (it is the use of body art or simple installations). Interpretation activities may also be part of these models.
psychotherapeutic function	The psychotherapeutic function of art comes to the forefront especially in stressful life situations, when the factual part helps heal the human psyche.	It is clear that action art can support and simulate a pupil at a younger age with certain specific needs in activities that are helpful in addressing the current manifesting "dificility".
cathartic function	History shows that the ability to reach catharsis through art helps regenerate mental powers, get rid of guilt and remorse, and relive conflict situations and were used by people with success. Pupils of younger age could greatly benefit from action art in this regard.	It is evident that participation in the experience can release tension, often offering a solution to situations that the child considers less attractive during this period, or even as stressful. Action art may help free one's mind and serve as an escape from situations one considers difficult.
relaxing function	Contact with art frees a person from everyday stress, helps forget about worries and unpleasant events, induces pleasant mood.	In the early days of action art implementation, the therapy may be perceived as a form of relaxation. Not only the space but also the motive of the action needs to take this into account.

Source: author's own work

3 From field research of situational-art-action modules

Art-based action research is usually used in the development projects of art education, applied visual art, and contemporary art (Jokela, Huhmarniemi, 2019). The orientations of action research in art-based action research have similar characteristics to design re-search (Heikkinen, Konttinen, & Häkkinen, 2006).

3.1 Situational-art-action modules

The purpose of action art as part of situational-art-action models is to bring closer an event or story that has a beginning and end, but does not have to be told in its entirety (Human Spider I-V.).

Figure 2: Human spider I.



Source: Kováčová (2019)

This fact depends on the protagonists themselves, on their experience and individual imagination and the like. There are quite a few factors that affect this. The plot present in the situational-action model (and subsequently mediated) takes place in time and space (interior, exterior) – the plot may be tied to a specific stimulus or follow freely.

Figure 3 Human spider II.



Source: Kováčová (2019)

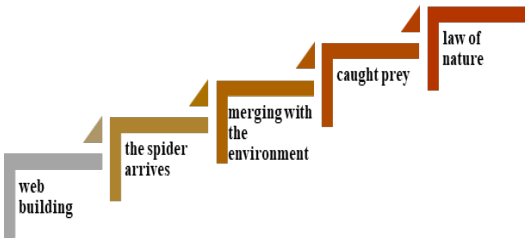
The boundaries are not set, which allows all participants to express themselves freely (authenticity and originality is green) and to keep in mind that the current situational-art-action model is flexible and supports creativity. The storyline or a section of the story does not have to serve as a basis for group action art (Chanasová, 2019a, Chanasová, 2020). There can be several short unrelated sequences which in their chaotic nature are important for the protagonists themselves, possibly also for the audience present.

It uses a story that is structured (but does not have to be), but told with the active participation of all involved. Creative expression is an essential component of a given situational—art-action model. Expression in all its forms forces its creator to reflect on essential facts, thoughts, perceptions, feelings. Expression has no boundaries, it is part of different environments (Fábry Lucká, 2018, Bergerová, 2021), it doesn't

have to be just a strictly artistic expression. With regard to art expression, Valachová (2018) claims that through art expression it is possible to know and get to know a child. As a creator, the child chooses what fits the pursued intention and strives for an appropriate form of expression (Kováčová, 2011). The choice is conditioned by the subjective reassessment and subsequent expression depends on creative (in the case of artistic expression also manual) abilities of the child. With regard to a specific situational-art-action model, imagination of pupils can also be stimulated through stories and narrations that children create (verbal expression). Expression in all its forms forces its creator to reflect on essential facts, thoughts, perceptions, feelings. The space for expression within situational-art-action models is thus a space for searching, internal definition, reassessment. The personality of the creator is deeply involved in the process of discovering both inner motives and unconscious drivers which often manifest themselves in the process of creation. Thanks to their own expression, the child has the opportunity to understand themselves more, awaken the joy of their own creativity and self-discovery.

To illustrate that, we will present a short-term situational-art-action model implemented with younger age pupils, the basis of which is the Latin “in medias res” (in media res means in the middle of the story, to the heart of the matter, without an introduction). The aim of the described short-term situational-art-action model is not a definitive artistic artifact, which Philips (2018) describes as intended, unchanging. On the contrary, the goal is the process of creation itself, which is presented in the paper through selected photos and visual material.

Figure 4: Graphic processing of action creation



Source: author’s own work

Commentary: the photos capture a *large spider* on the hunt for his prey − *a small fly*. The web (created by recycling) played an important role in the process of fly hunting. Its function was also declared verbally, "*move, move, jerk your legs dear lunch, nobody will release you and I will eat you, yummy, yummy ... ","I'm finally going to eat, I'm so hungry"* (from the dialogue of the spider and the fly).

Figure 5 Human spider III.



Source: Kováčová (2019)

Figure 6 Human spider IV.



Source: Kováčová (2019)

Figure 7: Human spider V.



Source: Kováčová (2019)

The protagonist's movement (the spider) played an important role here. The protagonist was more experienced (especially from his position as the fly in the first part of the second phase) and his actions were more thought through. He was not verbal in his actions but rather used the movements of the body as if in a ritual. He moved relatively slowly, his steps and movements to the sides were strategically chosen, he was completely concentrated on the given activity. During the observation, the spectator could notice that he was not pursuing the fly, but instead waited for the right moment. Fischer-Lichte (2011) describes and then separates the presence of the protagonist and his character (in our case a spider who plays according to his own scenario) from the real body of the protagonist (action and events in the process). What the audience saw was present there and then (lat. Hic et nunc). The author (2011) claims that the term presence befits the described phenomenon. “The Presence can lead to the transformation of the audience present. It offers a highly efficient possibility of transformation” (Fischer-Lichte, 2011, p. 136).

3.2 Art-action models: The Way of Man

The subsequent situational art-action models were implemented in the context of processes of individual and group action creation with emphasis on art as a value in the life of an individual. The process supported emotionality, awareness and the use of protective factors in artistic creation.

Table 2: Presented projects

Action: On the move	Movement is a fundamental life cycle phenomenon. Action art as a combination of life and art in motion.

design: N. Janeková, L. Kolenčíková	
Action: **Balloon of life**	Pouring and squirting paint is a gestural and expressionist way of depicting action, one's own form of expression (based on emotions). The event took place in cooperation with a group of elementary school pupils led by art students.
design: B. Danihelová, I. Bartošová, A. Sobinovská	
Action: **Labyrinth of life**	The theme of Ariadne's thread combines artistic and historical themes. The synthesis arouses interest in non-specific artistic activity, connects various forms of art and acquaintances pupils with current concepts of art.
design: Z. Gibláková, H. Dodoková	
Action: **Ordinary things**	The concept was inspired by the work of Juraj Bartusz. Ordinary things become not only a means but also a process and product of action art.
design: M. Hlavatý	

Source: Valachová, Kováčová (2020)

Using the catalogue, The Way of Man 2 (Valachová, Kováčová, 2020), the researchers of the project *Embodied Experience Using Art Action* aimed at presenting and explaining the implementation of situational-art-action models in younger age pupils. In this, the child acts as an individual or group actor. A key element in the above-mentioned action art is a live performance of the story, in which not only the actors but also the spectators themselves played an important role.

Each use of various artistic stimuli in action art will support expressive and receptive education in formal and informal environments and make it more effective. When implementing situational-art-action models, it is important that the material is engaging, stimulating and at the same time motivating (those present want to implement the action). The primary stimulus of situational art-action models was nature – nature functioned as the main motivating and contextual element.

Figure 8 The Way of Man 2



Source: Valachová, Kováčová (2020)

Each use of various artistic stimuli in action art will support expressive and receptive education in formal and informal environments and make it more effective. When implementing situational-art-action models, it is important that the material is engaging, stimulating and at the same time motivating (those present want to implement the action). The primary stimulus of situational art-action models was nature – nature functioned as the main motivating and contextual element. Of the extensive number of possible meta-motivational texts, only those that have been implemented in their entirety are presented. We let the nature guide us, because we are a part of it and it is a rich source of stimuli for action art. Suggestions included: stones, bark, leaves, flowers and water.

The catalogue The Way of Man 3 (Kováčová, Valachová, 2020) aimed at participants in the preschool age.

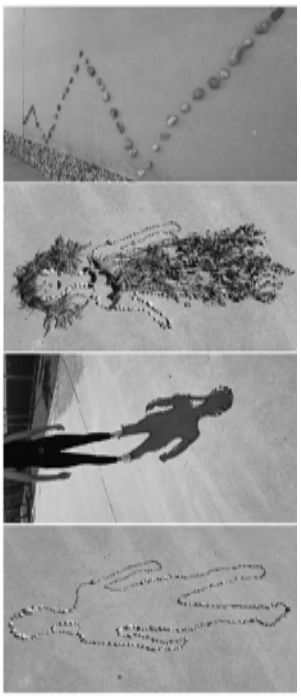
Figure 9: The Way of Man 3



Source: Kováčová, Valachová (2020)

The action art is capable of solving problems of a young people of today. Value orientation is a serious part of every person's life, more specifically, it can be said to be part of the quality of life (Danek, 2019).
The collage called “Staying at the Top of Things” presents the basic moments from the life of a young person who retold the life story (capturing specific moments) using fragments of natural origin with the participation of spectators (also young people). The number of images is not important. What is important is the final work that is created from these images as it brings the viewer a variety of life images and the experience of being.

Figure 10 Life Story of a Young Person



Source: author’s own work

Figure 11 Life Story of a Young Person II.

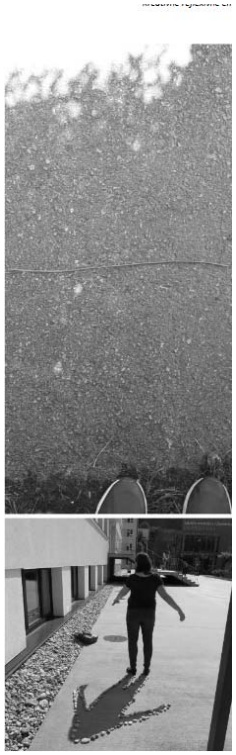


The whole work itself represents a synergy of three elements (body − movement − space) intersecting in the visual representation. *It is necessary to realize that the body is but a vessel for the soul, whether it is calm or not. After it disappears, only a shadow remains. Whether you want to or not, the shadow accompanies you all your life, ... sometimes hard, roaring, sometimes soft and ethereal ... life is exactly the same, once it's hard and cruel, other times it looks at you as you walk by, watches you on your journey from the place you are now to the place you are going* (from the monologue of the actor 1).

Creative activities for seniors have their own specifics. These specifics are not only related to the age of the participants. Getting old is a part of human life, it is a natural process. Old age and its quality depend on several factors. Art activities inspired by action art are a great activity for seniors. In artistic activities, the trust of seniors - participants in the lecturer who leads the activity is important. A humanistic approach should be employed, as the participants should feel accepted. Moreover, it also creates a positive and creative environment for artistic activities inspired by action art (Stadlerová, et al., 2013, Récka, 2018).

Activities create room for joint creation, which also supports the socialization of seniors. The most suitable activities for seniors include those which they can relate to - their everyday life, past activities, current activities. The artistic creation of seniors in the context of art-action is an inspiration for participants of all age categories as it has its specifics and reflects the lived experiences, impressions and opinions of seniors.

Figure 12 Life Story of a Young Person III.



Source: author's own work

The presented outputs are not marked by events which took place before the performance itself but rather they depict the story of the participant's life through the synergy of body - movement − space, which is completed by the action of all participants. The elements of nature are symbolic as they replace the image of a person, yet the presence of a person is still being felt (some images refer to the presence of people).

4 Conclusion

The space used in the art of action has no boundaries - it can be perceived as unusual and unique. It is specific in that it makes human activity visible in a different way than it is usually perceived. It raises the profile of the institution, the people and also the awareness of the art of action in a unique and unusual way. Perception: in front of us is a vivid picture with an original story without a written script. The script is being created directly in the space by everyone who is a part of it. Through the action of the participants (each individually and at the same time all together), the space is filled and gradually merges into one space, into the space of action art *hic et nunc* (present here and now).

Note from the authors of the paper: The photos that are part of the paper were taken within the experimental situational-art-action modules and their publication is in accordance with the conditions of the GDPR.

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THE TREND OF WORK FROM HOME AND ITS ADVANTAGES AND DISADVANTAGES DURING THE COVID-19 PANDEMIC: A COMPARATIVE STUDY

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Abstract: This paper focuses on working from home during the COVID-19 pandemic. It focuses mainly on the advantages and disadvantages of this way of working, as well as its impact on the psyche and performance of employees and, last but not least, its impact on a company's finances. It uses the synthesis of data found on the internet, from selected reliable sources dealing with the same or similar issues. From these sources it is evident that the effects of working from home are rather negative. The most frequently mentioned advantage is the saving of time, caused mainly by the absence of commuting to the office. The most frequently mentioned disadvantage is the absence of personal contact with co-workers. The disadvantage that a company could feel the most is the extension of the length of communication between employees, and thus the extension of work processes. At first glance, it might seem that a company will save money using this form of work, but the reality is that the company's costs may even increase. This is due to the fact that most companies have chosen to work from home only partly, so the costs of running the offices remain the same or slightly reduced at best, and legislation states that the company must reimburse workers for costs incurred by this form of work. It follows from this contribution that, if possible, workers and employers should avoid the practice of working from home, even though it has a positive effect on the pandemic. The potential for further research could be to compare the results of this work with the same research conducted outside of the pandemic.

Keywords: work from home, COVID-19, pandemic, psyche, finance, human resources

Introduction

Work from home, also known as home office or remote work (or teleworking) has been a trend for many years in an incredible number of companies of all fields and sizes. In the last year, however, this trend has increased dramatically, due to the current pandemic situation. There are many reasons for this increase, but this form of work also has its disadvantages. This topic is very current, and no one knows how long it will stay that way.

Even assuming that Covid-19 mainly affects people of retirement age, younger people are also a high-risk group, as they may not have a severe course of the disease, but they can function as so-called carriers of this virus. This is due to their contact with other people at work. Companies and the government are trying to prevent this spread.

Krastev (2020) mentions a worrying report from the US, which states that up to 52% of people under the age of 45 have lost their jobs, been sent on holiday or their working hours have been reduced as a result of a pandemic. This, of course, adversely affects the economic situation of households and thus the economy as a whole.

Most companies plan to keep the increased option to work from home in 2021, compared to the situation before the pandemic. The most common option is 50% remote work and 50% standard on-site work. Related to this is the fact that up to a fifth of employers have provided a subsidy to people working from home (Vojteková, 2020).

Working from home is not only caused by the pandemic situation, but it has existed for many years and many companies have offered and still offer this form of work. Previously, work from home was offered more as a bonus for employees, now it is a bonus for the company, employees and the whole nation. Previously, some employers offered the opportunity to work from home as a bonus for gaining new employees and their satisfaction.

The aim of this paper is to find and justify the advantages and disadvantages of home office in a pandemic situation. Furthermore, find out whether the home office is a good choice in terms of the psyche of employees and their performance. The next goal is to find out whether the work from home option can reduce a company's costs and whether it is possible that this reduction will help the company enough to avoid lay-offs.

To meet the aim of this paper, the following research questions have been identified.

RQ1: What are the advantages of work from home?

RQ2: What are the disadvantages of work from home?

RQ3: Can work from home save the company enough costs so that it does not have to lay off employees even in the current situation?

RQ4: What effect does work from home have on employees?

1 Literature research

The pandemic has caused millions of illnesses and deaths around the world, prevented children from going to school on a regular basis, forced workers to work from home, countless people have lost their jobs (especially in service sector) and countless businesses have closed. As a result, families have to take more care of children, older family members, and other loved ones, which takes a lot of time (King et al. 2021; Horák, Mlsová a Machová, 2021).

The spread of the disease was caused mainly by travel and human movement and contact in general, so the government sought to reduce these causes with the first measures against the spread of the coronavirus.

The initial rapid spread of the Covid-19 virus was mainly due to global human movement, and initial measures therefore focused mainly on limiting this movement. Reducing human contact by reducing the number of people in the workplace was therefore a good strategy to slow the spread of the virus (Shaaw et al. 2021). As a result, many employers have decided, in part or fully, to move from offices to working from home as part of the measure. For occupations where there was no such change, there may instead have been a reduction in the number of employees in the workplace. However, these measures were not effective enough, so we are still struggling with this pandemic a year later. Due to the long presence of this disease, and the associated measures against its spread, we must also deal with its consequences. The consequences mean not only the loss of loved ones or health complications, but also other consequences that are not so obvious at first glance. One of the consequences is the increase in "laziness" of the population. Thanks to the expansion of work from home and thus an increase in the number of days of working at home, the physical activity of people working from home has decreased. This is due to the increase in time spent at home at work and the absence of mild activity associated with traveling to work (Koohsari et al. 2021). However, the increase in time spent sitting does not only apply to those who have moved to working from home, but also to others. For people who still travel to work, this commute has remained practically the only way to exercise. The government's measures, which were sometimes beyond the sustainability of the rule of law, have either banned everything else or made them so unpleasant that people turn away from these possibilities (Vrtíková, 2020).

Restricting human contact and making most leisure activities virtually impossible has a slightly positive impact on the pandemic, but a negative impact on our mental health. A survey conducted in Spain, examining the effects of the pandemic on the mental health of adults, shows that women and young people reported an increase in anxiety, depression and conflicts between work and family relationships, while men on the other hand reported greater emotional stability. This survey further states that office work is mainly related to anxiety, while work from

home is mainly related to depression (Lopez-Nunez et al. 2021). However, mental health problems are not the only thing that can happen to us in this situation. A study in Turkey found that sleep quality also deteriorated during the pandemic, especially among women or those who lost their jobs during the pandemic (Duran and Erkin, 2021).

The fact that countless people have lost their jobs has not only psychological consequences and a deterioration in the quality of sleep, but also economic consequences. However, the economy is not only affected by the layoffs and the collapse of companies, but the pandemic in general affects the whole economy. Due to the economic impact of the Covid-19 pandemic, poverty in Uruguay has risen by more than 38%, specifically from 8.5% to 11.8%. Government assistance had a positive but limited effect on this increase (Brum and De Rosa, 2021).

But the economy is not everything. School closures due to the pandemic affect not only students but also their parents. Mothers whose children are in primary school are more likely to work remotely and their fathers less often, while parents who have children in closed secondary school are not affected at all. However, this situation inevitably increased inequality in childcare (Yamaamura and Tsustsui, 2021). However, this situation raises a much bigger problem. The Covid-19 pandemic may undermine the pursuit of gender equality between men and women, thanks to the unequal division of labor and thus the damage to women's living conditions. This is due to the unequal division of labor (domestic work, childcare, paid working time, personal time) during the lockdown period, when women take more care of the household and children, while men pay more attention to themselves and their work. In the fact, women's position is often even targeting by misogynistic practices at their workplaces (Waddell et al. 2021; Ranki et al. 2018; Lazaroiu, Rowland and Bartošová, 2018). However, the worst problem is the increase in domestic violence. Croda and Grossbard (2021) says that as a result of school closures, the introduction of work from home and massive layoffs/closures, there has been an increase in domestic violence. As a result, all the changes contributed to the traumatic states and were at the expense of mental health and general well-being.

The worse the mental state of an individual, the easier it is to manipulate or frighten him. All the aforementioned consequences can contribute to the mass hysteria caused by the constant supply of negative news from social media and information media (internet, television, radio, etc.). Mass hysteria caused by negative information disseminated by the media and social networks can cause governments to make mistakes. The larger the country, the worse the situation (Bagus, Pena-Ramos and Sanchez-Bayon, 2021; Lazaroiu, Horák and Valášková, 2020). The theory of conservation of resources could be a prevention against the emergence of mass hysteria. This theory assumes that proactive coping and focus on the future are crucial and affect the ability to adapt to stressful situations. This has a positive effect on perceived labor productivity during the pandemic, assuming the use of work from home (Chang, Chien and Shen, 2021).

As already mentioned above, many employers switched to work from home, mainly due to anti-pandemic measures. Jobs that at first glance do not have this option have also switched to this form of work. An example of this could be medicine, which has partially switched to so-called telemedicine (Record et al. 2021). Although it does not seem so, telemedicine (or telephone treatment) is a praised alternative to a doctor's visit. Of course, only simple cases, such as colds, etc., can be treated in this way. But even so, it was possible for doctors to save time in this way by diagnosing these simple cases. It could be said that doctors were allowed to partially move to work from home, when in fact this is not exactly true, thanks to their commitment to the fight against coronavirus.

But there is also one big catch. Work from home is not possible in all professions and not for everyone, due to insufficient internet connection, etc., and therefore this possibility of work is relatively unfair. However, it is a great opportunity to distance oneself from other people, but it is necessary to realize that there are professions when home office is not possible and at the same time workers are close to each other, so it is necessary to take this into account when creating anti-pandemic measures (Berniell and Fernandez, 2021). In addition, work from home has other advantages and disadvantages. Data from 29 European countries show that the main advantages of home office include a balance between personal life and work, higher work efficiency and better work supervision, while disadvantages include work restrictions, job insecurity and insufficient tools for work (Ipsen et al. 2021).

Work from home advantages also include flexible working hours. This flexibility lies in the fact that the worker can determine when he will work. This also has its rules, but it is a big bonus for the worker. Older students who are trained for fixed working hours will probably not appreciate this advantage, but on the contrary, younger students who are just starting to work or have been working for only a few years and have not yet become accustomed to it will appreciate this advantage. Young people in Hungary prefer partly flexible working hours and in Romania fully flexible working hours. At the same time, young people, regardless of the country, think that a compromise can be found between work and leisure, it is only a matter of perspective (Musinszki et al. 2020).

However, work from home is nothing new. It has existed for many years and has been used mainly as a bonus for employees. Now the view of this form of work has changed, thanks to the pandemic. Now work from home is almost a matter of course. Work from home also has a new form, so-called Work from anywhere. This form of work allows workers geographical flexibility in choosing a place to live. This form of work caused an increase in output of 4.4% compared to a traditional work from home, without increasing overwork (Choudhury, Foroughi and Larson, 2021). This new form of work allows workers to live almost any length of distance away from the office thanks to the fact that they do not commute to work, but only work from home. This fact also allows companies a wider selection when recruiting, as they are not limited by location.

2 Data and methods

The data needed to find answers to the research questions can be found on the Internet. We will select only reliable sources, i.e. from reliable websites that deal with this topic, or deal with topics such as economics, human resources, etc.

The Dittmann.cz website is the website of the Dittmann Consulting company, which deals with the transfer of psychological knowledge into practice in the field of human resource management. On this website we will find an article directly related to this topic, and other related articles. Jobs.com is known for finding vacancies but are less known for their HR articles. The Businessinfo.cz website is dedicated to business and exports, and one of its operators is the Ministry of Industry and Trade. www.bozpinfo.cz deals with the topic of safety and health at work. The E15 website deals with financial issues, specifically, the Finexpert magazine publishes articles here. The HRNews website brings together managers and specialists in the Czech Republic. It deals mainly with human resources and recruitment. It is a website that is part of Linkedin websites.

We will select the required information from these websites and synthesize them. The analyzed text must provide answers to the research questions we ask.

3 Results

A survey conducted by Dittmann.cz, conducted on a sample of respondents from a selection of different market segments, shows that almost 90% of respondents worked from home during the pandemic. 76% of respondents believe that the efficiency of their work from home was either the same or even higher than work in the office, only 21% believe that their

efficiency when working from home has decreased. 45% of the interviewed managers stated that their company did not have any new rules for employees working from home and the same percentage of managers stated that in their opinion work from home is not efficient enough for the company. 69% of the interviewed people were satisfied with working from home, the most common advantages were (in 90% of cases) time savings associated with commuting to the office (on average this saving is 60 minutes per day), then 80% stated the individual organization of work, and last but not least, not being distracted by co-workers or the absence of unnecessary meetings. The most common disadvantages were the absence of personal contact and precise boundaries of the workday (Dittmann, 2020).

According to a survey conducted by jobs-nn.cz, 16.5% of respondents were afraid of losing their job in the autumn of 2020, while at the beginning of spring 2020 it was 22.1%. People also prefer full time employment to self-employment, and the interest in part-time work and own projects is also declining, due to the coronavirus crisis (www.jobs-nn.cz, 2020).

Survival.com reports that before the Covid-19 pandemic, as many as 16% of respondents had no experience with working from home, 25% worked from home less than once a month, and only 11% worked from home full time. 64.6% of respondents are inclined to the fact that work from home satisfies them completely, only 3.5% are not satisfied at all. The answers to the question of whether respondents want to return to the office are very balanced. The vast majority of respondents stated that communication with colleagues is more difficult at this time if they are working from home. 67% of respondents state that they are better at using breaks, but most respondents (69%) stated that the biggest advantage for them is the absence of commuting to work. This survey also looks at a healthy lifestyle combined with work from home. As many as 69% of respondents working from home say they find time to get enough sleep, 56% try to eat healthily and 50% try to be outside and breathe fresh air. It was also stated that 95% of respondents eat at home, 22% of people have their food delivered, only 14% of people stated that they have not changed anything in their diet (www.survio.cz, 2020).

The benefits that are of the greatest interest among job seekers during the pandemic include, in particular, flexible working hours, bonuses or other financial benefits, 5 or more weeks of vacation and, in the case of blue-collar positions, also meal vouchers. In addition to these benefits, there is a growing effort to protect one's health, which is why there has been an increase in interest in work from home, sick leave, company cars and above-standard health care. The pandemic also led to a higher rate of providing sick days, or sick leave. In March 2020, this option was offered by 57% of so-called white-collar employers (office and managerial workers), in July 2020 it was already 65%. This benefit prevents employees with the first symptoms of illness from coming to the office and infecting other colleagues, so it can be expected that the offer of this bonus will continue to increase. Almost 90% of survey respondents from the ranks of the so-called blue-collar workers (laborers, etc.) and up to 95% of workers from the ranks of the so-called white-collar workers (Grafton Recruitment, 2020) are interested in this bonus.

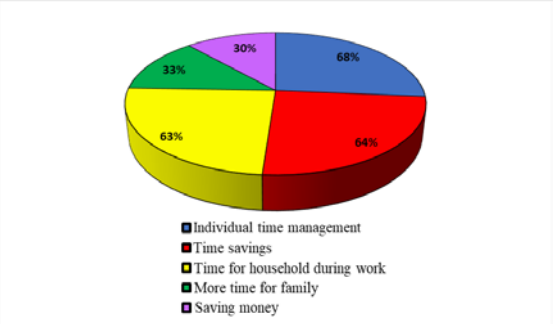
However, the legislation says that work from home cannot be enforced or ordered. It must be an agreement between the employer and the employee. However, employees must be reimbursed for the costs associated with work from home, so the employer should calculate these costs and include them in the work agreement for the work from home regime. Work from home employees may also be entitled to meal vouchers (Hrubá, 2020). As already mentioned, work from home brings costs to employees, such as heating, electricity or flushing. These costs amount to approximately 1,469 CZK per month (depending on the price of energy and water, etc.). Larger families, who are forced to be at home, will have higher costs, while the increase in their costs is almost impossible for single-person households (Poncarová, 2021).

However, work from home also has a negative effect on the creativity of employees. Conversations between employees, which took place, for example, in the office kitchenette, are not just a waste of time, they also bring creativity, spontaneous ideas and innovations. Loss of creativity can have a negative effect on the company and the psyche of employees (Gopas and Welcome to the Jungle, 2021).

The vast majority of workers commute to the workplace, but almost a third could utilize work from home if the employer allowed them to do so and provided them with the necessary equipment. Most employed people in the Czech Republic would appreciate the possibility of at least occasional work from home. At the same time, half of Czechs believe that their work from home option will remain even after dealing with the pandemic (Hájková, 2021).

In Graph No. 1 we see the most frequently mentioned advantages of work from home according to residents of the Czech Republic.

Graph 1 : Advantages of work from home

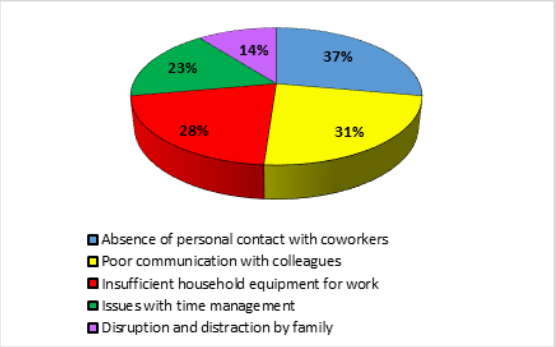


Source: www.hrnews.cz, own interpretation.

It is clear from this graph that the biggest advantage is the individual distribution of time for work and personal life (68%), which allows workers, for example, to have a sufficiently long sleep. Another great advantage is the saving of time (64%), caused mainly by the absence of commuting to work, the absence of having to do grooming and make-up, etc. In close connection is the possibility to take care of the household while "at work" (63%). Much less often mentioned is the benefit associated with more time for family (33%). Similarly, there is an advantage in the form of saving money, again caused by the absence of commuting (30%).

In Graph No. 2 we can see the most frequently mentioned disadvantages of work from home, mentioned by the citizens of the Czech Republic.

Graph 2 : Disadvantages of work from home



Source: www.hrnews.cz, own interpretation.

The biggest disadvantage for employees is the absence of contact with co-workers and generally less personal contact with people (37%). In second place is the poor communication with other co-workers (31%), which complicates the work. Another huge disadvantage and complication at work is insufficient household

equipment for work (28%), people most often lack better technology or faster internet. Poor organization of time can also be a common problem for employees (23%), when employees make it harder to distinguish between personal time off and working time. This can lead to a lack of personal time and related workaholism, or, conversely, insufficient discipline/motivation to work, the associated low efficiency and the possibility of losing the job. The least frequently mentioned, but no less serious problem is distraction by the family (14%), especially by children. This can lead to a lack of concentration on work, a higher incidence of errors, or a reduction in efficiency.

4 Discussion

At the beginning of this paper, we asked these research questions and then found answers to them.

RQ1: *What are the advantages of work from home?*

The most mentioned advantages of work from home can be found in Graph No. 1. Overall, various research shows that 69% of people who work in this way are satisfied with this form of work. The most common advantages are time savings, which employees can use, for example, for better rest. This advantage is mainly due to the absence of commuting to work, or the time saved by not having to get ready for work in an office (dressing, make-up, etc.). Even though most people working from home do not groom for their work duties, experts will tell you that personal adjustments (dressing well, make-up, etc.) can increase our productivity and work confidence. Other advantages were, for example, the possibility of planning one's own time - determining when one will work and when one will have personal time off. Less frequently mentioned advantages include saving money, time for household and family even during working hours or, for example, not being distracted by co-workers or the absence of unnecessary meetings. The pandemic caused an increase in interest in work from home due to greater interest in health protection.

RQ2: *What are the disadvantages of work from home?*

All the advantages of work from home are certainly attractive, but it is necessary to realize that this form of work also has its disadvantages. The most common of them can be seen in Graph 2. The most frequently mentioned disadvantages include poorer communication with co-workers, which can greatly complicate work and also cause work frustration for employees, as well as greater time consumption of work. However, the most frequently mentioned disadvantage is the absence of personal contact with people, whether with co-workers, clients or generally less contact with people, which can cause mental or social problems for workers. The most obvious disadvantage of work from home is undoubtedly the lack of household equipment for work. Households often lack sufficient quality technology or, for example, a fast enough internet connection. Probably the worst disadvantage is the problems with the organization of time, when workers make a harder distinction between working time and time off. This can cause workaholism or poor performance. A big disadvantage, especially for workers who have children, is distraction by family at work. The disadvantage that no one mentions, and probably does not even realize, is the increase in costs incurred by the worker. These costs amount to up to 1,469 CZK per month.

RQ3: *Can work from home save the company enough costs so that it does not have to lay off employees even in the current situation?*

Although work from home is a form of work that can save a company money by cutting the operation of offices, etc., most companies do not implement work from home for all 100%. They prefer a combination of office work with working from home. However, due to the epidemic, not all employees have work from home at once (the company works so that, for example, 50% of employees are working from home and the remaining 50% in the office), so that it does not happen that all employees are in the office at once, not even once a week. Thanks to this, the savings for the company are minimal to zero. In addition, the law states that in the case of work from home, the employer is to reimburse the employee for their costs of this form of work. These are, for example, greater consumption of water, electricity, heat, etc. These costs for employees amount to a little less than CZK 1,500 per month. In addition, complications caused by this form of work can reduce the quality of work and reduce employee productivity. It follows that work from home cannot save companies enough costs to prevent redundancies.

RQ4: *What effect does work from home have on employees?*

In general, most employees are satisfied with work from home, but there are also those (3.5%) who are absolutely dissatisfied with work from home. Although this form of work has a positive effect on the epidemic, it can cause workers relatively serious psychological problems such as workaholism, problems associated with a lack of social contact with other people, poorer sleep or insufficient motivation. The current situation also means that the number of people who are afraid of losing their job is still growing. Thanks to more time spent at home, the number of cases of domestic violence has also increased. In general, therefore, the combination of the current epidemiological situation, social distancing, distance learning of children and work from home is not ideal for workers and can cause them problems. On the other hand, some people decided to pay more attention to their lifestyle, for example, so that people started going out to nature regularly, exercising regularly or started cooking at home or cooking healthier. However, the disadvantages still prevail.

A newly raised question could be what effect it has on employees, for example, working in a bad team environment in the office compared to working in one from home. Alternatively, what effect would this form of work have on employees if the Covid-19 epidemic were not taking place in the world? Thanks to this epidemic, one more question should be asked, and that is the effect of the epidemic on workers whose work is not able to be done at home (e.g. sales clerks, some medical staff, or laborers) who are not covered by this contribution.

These results could help companies decide whether or not to provide the opportunity to work from home. They could also help employees decide whether or not to accept to this form of work.

Conclusion

The aim of this work was to find and justify the advantages and disadvantages of work from home in a pandemic situation, then to determine the impact of this style of work on the psyche and performance of employees and to determine the effects of this form of work on company finances. This goal was fulfilled within the scope of this paper.

In this article, we found the most frequently mentioned advantages and disadvantages of employees, but also those that most employees do not perceive. We also found that the impact of working from home with other anti-pandemic measures and the pandemic situation around us is rather negative. Not only can this situation affect people's psyche, but it can also affect physical health. Despite the fact that negative influences prevail, there are also those who, thanks to this situation, have decided to go towards a "healthier" way of life, such as starting to exercise, eating healthier, taking walks in nature or relaxing more. However, these advantages can also lead to a reduction in work ethic. This is not helped by the presence of children or other family members at the time when the employees decide to work. If we are to name the most serious negative influences of work from home, we should definitely mention a higher risk of workaholism or a higher risk of domestic violence. The more visible problems are mainly poor communication with co-workers and the resulting delay in work or, for example, the

absence of contact with co-workers, customers and other people in general. As for the influence of the working from home on the psyche of employees, it can be said that many surveys show that this influence is negative, but it is very individual, especially in the responses. The pandemics and other related facts often cause fear of the future, worse sleep or various mental illnesses, such as depression, etc.

As for the impact on employee performance, it is again a very individual matter. In general, however, employee performance is the same in most cases. However, it can happen that the work takes more time for employees, due to the emergence of technical problems, or due to the extension of communication between co-workers, due to the fact that they have to communicate electronically.

The influence of work from home on the company's finances is minimal. Allegedly, a company can save money on office maintenance, but the reality is different. Most companies have chosen the option of work from home combined with going to the office (e.g. 1 day a week in the office, the rest of the week work from home), and most often in such a way that there are only part of the office staff, which means that the offices are practically in the same mode of operation during the whole week, so the savings are minimal. This saving is practically zeroed by the fact that according to the legislation, the employer must pay the newly incurred costs to the employee, which are not exactly small (specifically, it is almost 1,500 CZK per month per employee). Therefore, it is not possible for a company to save a sufficient amount of money by setting up work from home, not having to lay off redundant employees if necessary.

To meet the goals of this work, we have used a number of studies, surveys and expert papers that deal with the same or similar topic.

The main limitations of this work would be the short-term nature of all the surveys, as the pandemic is a relatively "fresh" topic, so there is less evidence that all the impacts mentioned in this paper are actually caused by work from home.

The main complications included the difficulty of finding resources to meet the goals of this work. This was mainly due to the relative novelty of the topic. As a result, it was even more difficult to choose really good sources for this work.

As a potential for further research, we see the attractiveness of comparing the same data from outside the pandemic timeframe and this research. Alternatively, the impact of work from home outside the pandemic on employees in terms of mental health, performance or their approach to life management.

The lesson for employers from this work is that work from home has a positive effect against the spread of the disease, but a negative effect on employees and the speed of their work. For employees, on the other hand, that work from home should be avoided if possible.

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IS EMPLOYEE GRATIFICATION THE SAME AS EMPLOYEE ENGAGEMENT? - AN IN-DEPTH THEORY PERSPECTIVE

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Abstract: Employees play a critical role in the smooth operation of a business. They aid in the development of a competitive advantage in an ever-increasingly competitive corporate environment. Human resources management aids in the achievement of an organization's goals by increasing employee engagement and Gratification. Regardless of the fact that perhaps these notions are extensively use for organizations, there's some ambiguity about their significance, which limits their relevance in the sector. Through a literature framework, this study intends to provide a thorough appraisal of employee engagement in order to investigate the similarity, disparities, and relation with one another.

Keywords: Employee Gratification, Employee Engagement, Productivity and Organization Performance

1 Introduction

Employees are a company's backbone, and they are essential to the achievement of its goals and smooth operation. For decades, businesses have struggled with unproductive staff and the loss of essential talent, resulting in stalled growth. With the introduction of global competition, Human resources in companies have turn their attention to inspiring employees through increased involvement and Gratification levels in boosting employee retention (Jose, 2012).

Employee engagement is defined as the process of building a conducive and pleasant work environment in order to motivate people to perform at their best by increasing their efficiency and general well-being (Kaliannan & Adjovu, 2015). Employees that are engaged feel more valued and are expected to give their all at workplace, with a commitment to attaining the organisation's objectives as well as the necessary drive to ensure organizational success. Employee engagement plan has proven being a viable tool for the growth and development of human resources, by contributing to improved productivity and efficiency, work Gratification, increased customer Gratification, and lower employee turnover (Kumar & Pansari, 2015).

Employee Gratification, on the other hand, refers to the level of contentment, happiness, or Gratification demonstrated by employees with regard to their jobs, regardless of whether they like their nature of work or job profile within the organisation (Almatrooshi et al., 2016). Employees who are more satisfied with their jobs are likely to work to their full potential, that results in a greater workplace productivity and future organizational effectiveness, whereas dissatisfied employees are far less likely to be engaged and optimistic about their jobs, which results in lower workplace efficiency and increased employee turnover. Hence the employee Gratification is identified as a vital component of success for any organization.
Employee engagement and employee gratification are critical concepts for organizational success, but they are frequently used interchangeably due to their role in motivating employees. It has frequently been asked whether there is any difference in the meaning of the two measures. The consensus was divided between the concepts being similar and being related in some way (Robertson et al., 2012; Sinclair, 2020; Vorina et al., 2017). The various theoretical perspectives on employee engagement and gratification create confusion in the field of human resource management and its contribution to workforce productivity. As a result, there is a need to simplify this uncertainty and improve on both principles in order to work toward human resource well-being and long-term organizational performance. As a result, this research describes diverse approaches on employee engagement and employee gratification and conducts a critical evaluation of theoretical knowledge in attempt to face the conflict in the scope and meaning of two terms.

2 Distinct Analysis Discussion

The organisation and the employee relationship has transformed in recent years of many dynamic factors such as market contest, technology advances, and the desire for more work-life balance. As a result, there has been a dramatic increase in interest in the concepts of employee engagement and employee Gratification, which are critical to the long-term functioning of organizations. Both concepts have distinct meanings and aid in the regulation of the workforce. The following discussion offers a synthesis of the literature on the two concepts, followed by a critical examination of theoretical perspectives on their similarities.

2.1 Employee Involvement

Employee turnover has increased in recent years as a result of changing requirements and aspirations (Aguenza & Som, 2018; Al Mamun & Hasan, 2017; Iqbal, 2010). Employee turnover is harmful to a company because it raises costs and causes large-scale changes in organizational functioning. Improving employee engagement is viewed as a critical contributor to lowering turnover rates. It allows them to express themselves cognitively, emotionally, and physically while performing various roles within the organisation. Employees with perceived engagement can direct their energies simultaneously as they are a combination of physical, cognitive, and emotional energies.

As the relationship between employee and organisation strengthens, it engaged employees tend to accept the organization's values and goals and work toward their potential contribution to the organization's functioning (CDC, 2018; Patro, 2013; Tzvetana & Ivaylo, 2017). It motivates employees to willingly exert efforts on behalf of the organisation and to maintain a strong relationship with the organisation. Thus, employee engagement tends tostrengthen the bond between the employee and the organisation (Vallikat, 2021). Second, highly engaged employees are productive because they work actively to complete work on time (Chakraborty & Ganguly, 2019; Saad et al., 2018). It enables them seeing the larger picture and fosters a problem-solving mindset toward existing challenges, resulting in a positive work environment (S. L. Albrecht, 2010). Furthermore, employee engagement is a growth-oriented concept that enables organizations to assist employees in going far beyond prerequisites of their jobs (Neerja, 2019; Osborne & Hammoud, 2017). Engaged employees can contribute to the creation of an ingenious and constructive workplace with right leader (Saks & Gruman, 2011). The sense of belonging in the firm encourages them to participate actively in the job and work to create opportunities for improving organizational performance [69].Furthermore, an engaged employee prioritizes both personal and professional development (Sengupta et al., 2017). This encourages them to be more committed to the organisation, which leads to increased productivity and loyalty (CDC, 2018). As a result, it contributes to a more productive, growth-oriented, actively participating, development-focused, and connected workforce, making it an important aspect of organizational success. Other important benefits offered by employee engagement include promotion of sustainable organizational growth and gaining competitive edge, create happy employees, increase employee retention, productivity of employees, create more advocacy towards organization, promote self-efficacy among employees, improve organizational performance, leads to successful organizational change, and earn bottom line profit (Robinson et al., 2004). It helps in harnessing intellectual capacity thus bringing in creativity and innovation at the workplace resulting in maximizing the returns on human capital investment (S. L. Albrecht, 2010).

With time idea of worker commitment has developed, yet at the same time, a portion of the hypotheses like William Kahn's hypothesis and David Humdinger are among the most applicable speculations of examining representative commitment importance and degree (CDC, 2018). Willian Kahn has been the individual who acquainted with the world with worker commitment idea and characterized it by and large as an idea zeroing in on intellectual, physical, and enthusiastic energies of a person towards work. Then again, David Humdinger's 2009 hypothesis centers on building commitment from the beginning the center necessities of a representative. Underscoring the necessities like prosperity or breathe life into energy, the hypothesis model up to joining organization, supporting execution, and accomplishing results. As these hypotheses in current authoritative practices helps in the execution of prosperity techniques, creating dynamic learning the board program, and studios for supporting upsides of staff, they are especially pertinent in the present work environment to build representative commitment and Gratification (Bin, 2016; Kahn & Fellows, 2013; Ukil, 2016).

2.2 Employee fulfillment

To hold key ability in a serious firm, supporting them and boosting their fulfillment is basic as it prompts trustworthiness and responsibility towards improving position execution (Stoyanova & Iliev, 2017). Worker fulfillment could be characterized as the positive or pleasurable feeling condition of representative from the evaluation of professional training (Sila & Sirok, 2018). It portrays whether representatives are fought, satisfying their need and wants at work, and are glad or not (Samantaray & Sahu, 2018).

Associations with the target of getting and keeping up with their norm will quite often zero in on boosting worker fulfillment. Appreciation and acknowledgment at work addresses representatives' necessities, making a fulfilled workforce (Chapman & White, 2019). The situation of having openings of professional and self-improvement will more often than not make probability of having vocation advancement and up gradation of range of abilities making a worker happier with his work (Aziri, 2011). Accessibility of good authority rehearses helps in supporting working of worker along these lines making a good and satisfying working experience, job security which causes them to feel esteemed, clearing their potential profession improvement way (Mansour & Hassan, 2018). Having an adaptable workplace also assists managers with assimilating trust and responsibility from the representatives prompting a superior balance between serious and fun activities. Such, fulfilled representatives increment usefulness at work (Norgate & Cooper, 2020)[. Further, the character of a representative for example presence of suitability, openness to experience, extraversion, and principles portrays that worker is associated with organization and content with the current work in this manner contributing towards having fulfilled representatives. In conclusion, presence of solid inward relationship with different workers and boss foster a positive cooperation based climate in this way cultivating support and shared regard to encourage work fulfillment (Reynolds, 2016). Consequently, presence of fulfilled worker makes amicable work air which creates a positive vibe and expanded working environment usefulness possibility (Abun & Magallanez, 2019).

Keeping representatives glad and fulfilled labor force brings about lower work turnover and higher worker retention (Al Mamun & Hasan, 2017; Irabor & Okolie, 2019; Robertson-Smith & Markwick, 2009). Retaining ability prompts better efficiency and is financially savvy for the association as includes investment funds in preparing new employees. It makes an amicable work culture by working in relationship or collaboration, which thus prompts higher working environment usefulness. Indeed, even presence of flexibility nature in fulfilled representatives helps them in gathering changing business prerequisites, taking an interest in learning and advancement programs for updating their abilities, conveyance quality work, having work better under tension and taking care of testing circumstances helpfully. Further, fulfilled workers additionally lead to higher revenues and benefit opportunity for the organization alongside determining competitive advantage (Sageer et al., 2012).

The idea advanced in extension to be distinguished as multi-aspect perspective involving correspondence, incidental advantages, appreciation, associates, nature of work, work conditions, self-awareness, association, advancement openings, arrangements and strategy, oversight, security and acknowledgment angles (Sila &Sirok, 2018). Numerous scientists have characterized various speculations to clarify human fulfillment. Notwithstanding, among all hypotheses Maslow's Requirements Order hypothesis and Locke's Worth hypothesis are important for some most noticeable models. Maslow Need hypothesis is one of the main speculations in field of representative fulfillment which has expressed human requirements about enjoying as well as having a progressive pertinence put together necessities wherein based with respect to need and need a worker looks for their Gratification (Hassard et al., 2013). Locke model with beginning of hierarchical brain research zeroed in on understanding the point of view of a worker to decide individual’s valuation interaction of various work perspectives. The hypothesis helps in improving on the comprehension of representative fulfillment idea (Oliver, 2020). Henceforth, the two hypotheses support associations in assessing worker fulfillment alongside giving a multi-dimensional viewpoint that is pertinent in the present complex business environment.

2.3 Critical assessment of the connection between employee commitment and fulfillment

Disregarding the advancement made in the ideas of worker commitment and fulfillment in scholarly world, the points of view on their significance, degree, and pertinence face tremendous deviation. Numerous analysts because of their commitment in authoritative execution recognized them as same concepts (Barden, 2017; Hurduzeu, 2015). However, some different scientists have expressed the two ideas as totally unique for example worker fulfillment is single direction road with center around wants and need of representatives (Chandani et al., 2016) while worker commitment is two-way road with awareness about both business and employee (Abun & Magallanez, 2019). Some different analysts examined about connection between the ideas, expressing that representative fulfillment contributes in expanding worker engagement (Jones, 2018; Shamaa et al., 2016; Yoerger et al., 2015). These distinctions in assessment add disarray and forestall idea lucidity, accordingly, underneath area basically assess various specialists' point of view to figure a hypothetical base to representative commitment and worker fulfillment.

2.3.1 Similarities in Employee Commitment and Gratification

Contribution in expanding worker working environment responsibility: The primary way of thinking on the ideas addresses their likenesses. Numerous specialists accept that representatives who are locked in and fulfilled at their positions are more dedicated to have working strategy planned such that it upholds Gratification of more extensive objectives and targets of association (S. Albrecht et al., 2018; Mazeed et al., 2019) [70]. Author expressed that fulfilled or drew in representative’s prompts responsibility towards acknowledgment of normal association objectives, then, at that point, associations ought to bring out techniques to expand worker fulfillment prompting worker engagement (Bhuvanaiah, 2014). Kazimoto made the data deduction more exact by expressing that high worker commitment through appropriate task of occupations prompts higher worker commitment which thus empower ascend in work environment usefulness and association execution (Kazimoto, 2016). In any case, despite the fact that representative commitment and fulfillment as distinguished by Bhuvaniah and Kazimoto increment hierarchical responsibility, addressing commitment and fulfillment on same scale isn't correct.

Representative fulfillment is a piece of worker commitment wherein representatives' necessities or wants are satisfied however this doesn't ensure that they will work proficiently. Portion of work as talked about by Kazimoto however guarantee finishing of work yet it doesn't guarantee presence of eagerness to do it. Moreover, in (Zameer et al., 2018)author talked about that the two ideas are comparable concerning higher representative responsibility through quality administrations to customers. These angles bring about more prominent brand perceivability, buyer fulfillment, incomes and benefit for the organization guaranteeing ceaseless potential development foothold. However, being fulfilled and having responsibility towards work doesn't guarantee the presence of engagement (Chandani et al., 2016). A representative could be in a general sense content with the work and even help the working, yet it isn't required that individual will take assignments and work towards authoritative benefit by going additional mile. In this manner, representative fulfillment and worker commitment help in making labor force more dedicated however the two ideas are unique.

Support further developed Association Performance: One of the most widely recognized models dependent on which representative commitment and worker fulfillment is considered comparative is their commitment in further developing association execution (Bhuvanaiah, 2014)(Gupta & Sharma, 2017). Both upheld this perspective by expressing that a connected with or fulfilled labor force helps organizations further develop execution through expanded usefulness, lower work turnover, cost-proficiency and by acquiring strategic advantage over their friends. In any case, representative fulfillment is a single direction road that diminishes work turnover yet doesn't assist with acquiring an upper hand. Accordingly, despite the fact that representative fulfillment and worker commitment assist with working on hierarchical execution, the commitment of representative fulfillment is considerably less along these lines, restricting their closeness.
Helps in having Dedication and Common Trust presence: Strengthening of relationship is a significant component of both representative commitment and worker fulfillment which helps in bringing unwaveringness and shared trust; nonetheless, there is one significant distinction in the extent of the two ideas. For worker fulfillment the angle is restricted to inner relationship for example among colleagues and with manager, yet with worker engagement the attention is on working in the sensation of devotion towards association and having shared trust at each degree of the executives. The distinction in idea of worker commitment and representative fulfillment was overlooked as for scope and expressed that when representatives feel that when individual qualities are couple with the more extensive authoritative qualities, it prompts more fulfilled and drew in representatives who feel a more noteworthy feeling of responsibility, trust, and steadfastness for the organization helping the association over the long haul (Biswas & Bhatnagar, 2013). Essentially likewise overlooked extension contrast between the two ideas and expressed that guaranteeing manageable representative fulfillment and commitment is a ceaseless test looked by associations which could likewise hamper shared trust and proceeding with faithfulness to the association (de Beer & Tims, 2016). Results (Abbas & Karakoram, 2017) and (Biswas & Bhatnagar, 2013) are alike as they likewise analyzed the significance of fulfilled and drew in representatives in shared trust and faithfulness for the organization by expressing the two perspectives as comparable. They distinguished that with a utilization of the commitment model, the executives can endeavor to establish a favorable workplace where representatives are treated as accomplices and given a job in direction and are allowed to take up provokes prompting common trust and expanded unwaveringness towards the businesses. Every one of the examinations characterized that through compensation or contribution in independent direction based exercises would bring about making a feeling of unwaveringness and common trust among workers. However the facts really confirm that the two viewpoints have commitment in shared trust and devotion yet this commitment contrasts at the level for example representative commitment is more extensive field while worker fulfillment just by advancing shared trust with a director or other colleagues contributes in having only finish of work and presently significant association level dedication creation.

2.3.2 Difference in Employee Commitment and Fulfillment

Employee commitment and fulfillment may both identify with representative joy yet at the same time the two terms are not the equivalent. Representative commitment drivers incorporate importance and worth creation at work, potential vocation development, initiative capacities, work environment culture; though drivers for worker fulfillment incorporate appreciation at the particular employment, work adaptability, and employer stability. However both the ideas are well-informed and surprisingly famous at significant level in associations, the key inquiry remains if there any distinction in representative commitment and worker fulfillment. Fulfilled representatives will generally be more joyful and more energetic towards their jobs and obligations corresponding to the occupation available while drew in representatives are believed to work all the more extensively by having improvement in working environment effectiveness and efficiency with commitment in advancement based exercises or significant turns of events. Hence, zeroing in on this multitude of perspectives, beneath sub-segments would assess the contrast between representative commitment and worker fulfillment.

Employee fulfillment is vital to employee engagement: Employee fulfillment is the idea which revolves around worker sentiments for example how fulfilled or glad a representative is from working/business experience while worker commitment having center around both representative and managers will more often than not recognize how completely connected with representative by more noteworthy dependability, higher resolve, or progress in transporter support gain of boss through upper hand, decreased turnover, or authoritative achievement. Hence, have restricted reach and restricted appropriateness to simply significantly representatives, worker fulfillment is viewed as key to worker commitment. Author upheld the perspective by expressing that work fulfillment is the antecedent to representative commitment as elements which drive worker commitment are unique and various from the drivers of worker fulfillment underscoring that representative fulfillment is the underlying ground for worker commitment to develop (Abraham, 2012). Another additionally support Abraham results by talking about more extensive reach of connected representatives with intently inclusion in work by means of contributing a lot of time and energy on it (Gupta & Sharma, 2017). The past analyst discoveries were supported with by introducing a correlation of worker commitment and representative fulfillment of their idea level (Chandani et al., 2016). As representative commitment isn't something which is simply happy with the occupation related measures like compensation or adaptability yet have other significant works like advancement, higher maintenance, efficiency or quality upkeep work as well while fulfilled workers having representative level effect impact maintenance yet not significantly support association level exercises. The past analysts result were summed up by referencing representative fulfillment as the beginning measures for meeting the bigger prerequisites of worker commitment, which must be considered by associations while concocting representative fulfillment and commitment systems (Abun & Magallanez, 2019). Hence, representative fulfillment resembles a base section charge which should be paid for inferring the full connected with workers in an association.

Engaged workers guarantee higher usefulness than fulfilled representatives: Significantly efficiency is something which is viewed as related with fulfillment just as commitment of workers. Notwithstanding, in all actuality usefulness is an association level effect which couldn't be simply satisfied by having work fruition cheerfully however rather it would require considerably more exertion and eagerness or enthusiasm to have work. Analyzing this point not set in stone that connected with

representatives show high inspiration and energy, and anticipate return to chip away at a consistent schedule, going past their work liabilities to guarantee the organization's more extensive objectives and destinations are effectively met (Peris-Ortiz et al., 2015). Be that as it may, for fulfilled representatives, the situation is unique. Thus, condition of fulfillment of a representative simply portrays representatives want to work however not the readiness to have dynamic investment in each work. The restricted job was upheld of worker fulfillment (Abrahma, 2012) distinguished by (Peris-Ortiz et al., 2015) by expressing that administration might give the projects and cycles prompting worker fulfillment however this doesn't really consistently bring about higher efficiency, as fulfilled representatives might work as per the prerequisites relating to their specific occupation as it were. Further investigated the connectivity with based part of others and upheld their outcomes by referencing that connected with representatives will quite often be more centered around satisfying organization's goals and are more dedicated which thus prompts higher efficiency (Hanaysha, 2016; Peris-Ortiz et al., 2015). The past scientists' discoveries were summed up and supporting them expressed that organizations must pursue representative commitment upgrade through worker fulfillment for having useful work. In this way, worker fulfillment however has commitment in efficiency, yet its job is simply to help working wherein with engagement rise, expanded usefulness could be seen(Nazir & Islam, 2017).

2.3.3 Relationship between Employee Commitment and Fulfillment

With the assessment of the degree and which means of representative commitment and worker fulfillment, it is determined that the two ideas are not comparable yet all things being equal, worker fulfillment is the archetype of worker commitment. This viewpoint for understanding the effect of occupation fulfillment on worker commitment was analyzed(Abraham, 2012). Considering the variables like work, acknowledgment by bosses, and collaboration of worker fulfillment, not really settled the administration helps in making an amicable work culture dependent on trust, co-activity, and consolation of representatives. These all viewpoints as contributing decidedly too representative fulfillment accordingly, with an amicable climate and the expansion in the ability of workers to work, there is an ensuing ascent in worker engagement. Few contributors concurred with each other idea of establishing an agreeable workplace and added that alongside the workplace spotlight ought to be on giving satisfactory learning and improvement assets and valuable input for having fulfilled representatives as they would bring about having better worker commitment (Abraham, 2012; Abrahma, 2012; Shamaa et al., 2016). Some authors results were like past analysts as in this likewise representative commitment could be improved if worker fulfillment on an individual and occupation related front could be expanded through keeping representatives refreshed with regards to the association's qualities, mission, and goals(Yoerger et al., 2015). This would assist with inferring drew in workers who have added to the accomplishment of the association would uphold the general association's targets fulfillment in a superior way. A connection between representative commitments was additionally fabricated worker fulfillment by referencing that positive social changes brought about expanding fulfillment and representative commitment prompting higher usefulness and expanded productivity (Jones, 2018). A finishing up comment on the connection between representative commitment and worker fulfillment by considering perspectives like work fulfillment and turnover (Ibrahim et al., 2020). As representatives are more persuaded when they are glad and will generally be more connected because of this fulfillment, hence better work execution could be determined. Thus, representative fulfillment is a significant driver of an association supporting worker's exhibition yet adding to the advancement of representative commitment for effective authoritative working, useful outcomes, and strategic advantage induction.

3 Conclusion

Worker commitment is the entire part of representative contribution at the work environment prompting better work environment usefulness, productivity, and the worker's general prosperity though representative fulfillment is bliss and fulfillment which representatives have as for the finish of the particular work liabilities. A glad and roused worker who is fulfilled at their positions is known to be more drawn in at their specific employment prompting better work execution and usefulness. For workers to be propelled there ought to be constant positive associations from their bosses empowering them to invest better amounts of energy into execution. Managers ought to guarantee that representatives are valued for acceptable execution at their positions through remunerations and acknowledgment for them to be more fulfilled at the working environment. This would along these lines lead to them having more trust and trust in the upsides of the association adding more importance to their positions.

The terms representative commitment and worker fulfillment however, sound to be comparable and surprisingly commonly by scientists treated as an indistinguishable idea yet, the two terms are diverse in their extension. Being an uneven idea esteeming simply wants and needs of a representative, fulfillment level adds to individual alters in worker's point of view alongside only one commitment for association for example to decrease representative turnover. In any case, representative commitment is the a lot more extensive driver of an association portraying the ability of representatives to go additional mile for work and commitment to the association. Being a more comprehensive idea, worker commitment upholds representatives by acquiring a feeling of unwaveringness, higher resolve, or progress alongside setting out open doors for businesses and associations to have creative turns of events, decrease worker turnover, infer cost-effectiveness, have exceptionally useful working, and hierarchical achievement. Representative fulfillment can be said to supplement worker commitment, inferring the previous is required for the last option to function admirably. In this way, it becomes significant for associations to help their worker commitment through representative fulfillment by corresponding worker current positions with potential vocation advancement. Consequently, supporting the representative responsibility, hierarchical execution, and common trust determination; worker fulfillment helps in expanding the commitment level of workers which thus prompts the inference of upper hand by the association. Worker commitment is more inherent in nature and is identified with one's immediate Gratification of occupation related necessities giving an inside feeling of fulfillment and which means from the work. Then again, representative fulfillment is more outward situated and suggests more joy and fulfillment a worker gets via getting Gratification from variables and angles which are extraneous to the occupation however identified with the association's different measures which incorporate arrangements, methodology, advantages, group, and social climate that singular encounters and sees.

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Primary Section: A

Secondary Section: AE, AO

KALMYKS' IDEAS ABOUT THE OTHER WORLD

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Abstract: This article examines the ideas about the otherworld in the culture of the Kalmyks from an ethnolinguistic point of view. Such ideas about the otherworld often find parallels and have much in common with other peoples of Central Asia and Siberia. These ideas about the otherworld have a pronounced national and cultural characteristic as they are a reflection of the ethnolinguistic picture of the world. Attention, therefore, is focused on the interaction of language and culture, which makes it possible to reconstruct a linguistic picture of the world. This paper presents the main characteristics of the afterlife as perceived by the Kalmyks, reflecting the most common images represented in the Kalmyk culture. Important symbols of the Kalmyks' worldview are considered, such as a road, a door, a threshold, which are related to the journey to the world of the dead.

Keywords: the otherworld, that world, the afterlife, funeral rites, road, door, threshold, Kalmyks, Kalmyk culture.

1 Introduction

This article is devoted to the study of ideas about the otherworld as seen in the Kalmyks' culture from an ethnolinguistic point of view. Ideas about the otherworld have existed in the human consciousness since ancient times and are central as they are connected with the persistence of a person's soul after death, including the place where the souls of the deceased go and where the souls of their ancestors are located. The location of this world is very interesting, i.e. the topographic location, e.g. above (in the sky, on a mountain), below (underground), it can be located on different sides of the world. As a rule, among Central Asian and northern peoples, the otherworld can be located in the west or in the north[1]. However, various models of the otherworld exist and are no exception, where the afterlife may appear like the earthly world, or its opposite, i.e. everything happens the other way around[2]. All this is closely connected with funeral and memorial rites. This paper presents the main characteristics of the otherworld, reflecting the most common images in the Kalmyks' representations. Attention is also paid to entering the otherworld. The journey from life to the otherworld is associated with the concept of a road or a sendoff.

2 Problem statement

Ideas about the otherworld are important because they occupy an important place in traditional culture. They belong to interdisciplinary research and are at the junction of different fields of science, such as: ethnology, psychology, cultural studies, and linguistics. The study of this issue from the perspective of ethnolinguistics is relevant as the idea of the "otherworld" in a people's culture belongs to the most ancient complex of mythology. They are closely related to the funeral and funeral rites as they are directly related to the sendoff of the soul to the world of the dead. The key roles in the funeral rites are played by the road, a door, and a threshold. These elements perform important sacral and ritual functions, because they are symbols of borders, and their closure or destruction prevent the soul of the deceased from returning. Ideas about the otherworld, its location, and the road to the afterlife are among the most important sources for the reconstruction of the ethnic picture of the world. The relevance of this study lies in the fact that this issue has extremely low illumination, although it seems to be an important component of religious views and funeral rites of the pre-Buddhist era.

Ideas about the otherworld have a pronounced national and cultural characteristic as they are a reflection of the ethnolinguistic picture of the world. In this regard, it is necessary to focus attention on the fact that these ideas are influenced by religious beliefs and mythological stereotypes that exist in society. The ideas adequately and clearly convey stable forms of thinking and behavioral patterns of an ethnic group. Archaic myths about the ethnic structure of the world are projected in the ideas of the otherworld, which require correct interpretation that is done in accordance with established traditions.

3 Research Questions

The otherworld in the ideas of the Kalmyk people finds parallels and has much in common with other peoples of Central Asia and Siberia. Ideas about the afterlife are closely related to the mythology of the ethnos, which is "characterized by a multitude of ideas about the same object or phenomenon, which in modern logical thinking are perceived as figurative or metaphorical"[3].

The present work is devoted to the ethnolinguistic study of representations and funeral rites, which are based on the ideas of death as a transition to the otherworld. Moreover, the idea that the otherworld is located in a remote place, where it can only be entered after overcoming various obstacles. These representations are associated with the posthumous existence of the soul. Thus, it can be assumed that the path to the otherworld is a kind of liminal space and to overcome this space it is necessary to perform a correct number of ritual actions leading to the achievement of the goal, as well as to take certain measures in this earthly world. At the later stages of the development of the funeral and burial rites, the original meanings were lost, they began to weaken or be reconsidered, which led to the reduction of some representations about the afterlife and the road to the otherworld. There is currently no complete picture of the transition to the afterlife, and the full range of views of this process is blurred and only exists in fragments.

4 Purpose of the Study

The purpose of the study is to investigate the otherworldly space that occupies an important place in the culture of many people, which helps to understand and comprehend the worldview of these peoples. This issue is of interest and requires research as it can expand the existing knowledge and shed light on some little-known points. The relevance lies in the fact that such topics rarely become the object of special research and are on the periphery of scientific research in Mongolian studies. This is due largely to a lack of necessary material. It is also relevant to give the main characteristics of ideas about the otherworld, since they are ancient and are based on folklore and ethnographic elements.

5 Research Methods

The methodological basis of the study was systematic and complex, which involved a comprehensive study of the material related to certain every-day, ethnographic realities, including the study of facts and phenomena in all their diversity. This allows for a comprehensive study of the problem. The collected material was reviewed on the basis of the principle of a systematic approach.

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6 Findings

It is not possible to reconstruct a fully unified idea of the afterlife among the Kalmyks, as well as among other Mongolian peoples because there is no unified set of knowledge about a person's place of residence or his soul after death. In this regard, in order to restore a more complete picture, it is necessary to rely on the ideas of the afterlife of the neighboring Turkic and Tungus-Manchu peoples living next to the Mongols, whose worldview often has similar characteristics and parallels. The otherworld among the peoples of Central Asia and Siberia is often represented as either an underground world or a heaven. Less often there is another representation of the afterlife, that of a parallel existence. Thus, according to some ideas of the Mongolian peoples, which have similarities with the worldview of the Altai Turks, the otherworld or the underground kingdom of the dead is located below, where Erlik-khan is the main one[4]. Also, the afterlife can be located on a certain side of the world. As a rule, the east or the sunrise is associated with the world of the living people, while the west or the sunset is associated with the world of the dead. The Turkic peoples of Siberia may have the kingdom of the dead in the north or in the west in addition, they have a belief that good people ascend to Heaven, and sinners descend into the underworld[5]. According to the ideas of the Mongolian peoples, the north is also "endowed with a spectrum of negative meanings. This side of the sky is the residence of black, evil deities who send people all kinds of misfortune - diseases, bad weather, death"[6].

The spread of Buddhism among the Mongolian people did not exclude the parallel existence of the former religious ideas of the Kalmyks. For example, according to more archaic ideas, the kingdom of the dead may have nothing to do with the underworld, but is in a "different dimension" in direct proximity to the world of the living, and is its exact copy[7]. Ideas about the otherworld help to reconstruct the material of funeral and funerary rites, which are also an important source for analyzing ideas about the otherworld. Such rites often include certain elements of farewell to the deceased. Such elements can include items that are placed with the deceased as an escort, such as animals, etc.

The localization of the afterlife can be determined by funeral rites, as it can possess a specific character. For example, among the Mongolian peoples, "otherworld" and the road to it were presented quite definitely, "otherworld" can be located behind high mountains, rocks and mountain passes, deep rivers[8].
Among the Mongolian people, life did not end with death, it was perceived as a transition to the otherworld where life or existence could be eternal[9]. The Kalmyks believed that the soul of the deceased could be reborn in another body, or it continues to live in the afterlife. According to the speech etiquette of all Mongolian peoples, death was usually spoken of allegorically, using various paroemias. When a person died, it was usually said «sääγän hääž» '*found the best*', «cogcan hääž» '*changed the body*', «nasan nasž» '*lived the allotted year*'. The Kalmyks believed that only physical death had occurred and said: «ämn γarč» '*let out his breath*'»[10], or «sül ämshlän avh» '*to take his last breath*', «nasan avh» '*to take, take his age*', «nasan barh» '*to use up his age*' (to die of old age, about people who passed away in old age), or, for example, «neg sarin dund gemtäd öngrh» '*to die, having been ill for a month*'»[11], where the word «öngrh» is 'to die (in relation to people)', the basic semantics means 'to pass, to pass by; to hold out, to reach a certain limit'. Whereas the verb «ükh» 'to die', expressing a specific meaning, is used less often in the Kalmyk language to denote the death of a person, this lexeme is more often used in relation to animals, birds, insects, etc. If it is applied to a person, it has a contemptuous and pejorative character, such as, for example, 'dead' (like a dog).

The existence of the afterlife world in the Kalmyk language is also expressed allegorically: «säni ornd törh» '*to be reborn in a better world*', «burhn bolh» '*to become a deity*'. Buryats (related people to Kalmyks) are also expressed about the other world indirectly, for example: «hoito türelei tübi/oron/gazar» '*world/place/land of subsequent birth*', «daldyn oron tübi/oron/gazar» '*hidden world/place/land*', «zayanai gazar» '*the world of spirits*', «burhanai tübi/oron» '*the world/place of the gods*', «übge esegedei tübi/oron/gazar» '*the world/place/land of the ancestors*', etc.[12] The same thing is observed in the Mongolian language: «nögöö ertönts» '*the afterlife*' (*literal*. other world), «hoiš nas» 'afterlife' (*literal*. later years), etc.
After death, it is customary not to take out the body of the deceased through the doors, but several people lift the lattice of the yurt where the deceased is, put a basket under it, and through this hole under the lattice take out the deceased. They can also take the deceased out through the opening between the door and the wall of the yurt, in order to prevent the return of the deceased's soul[13].

The door and the threshold are semantically significant objects of the dwelling in the Kalmyks' ideas. They separate the residential and cultivated space from the surrounding undeveloped and wild space. They are the boundary of the outer and inner worlds. In ritual and ceremonial practice, these border objects are the place of magical actions aimed at protecting the inhabitants of the house and important moments in the life of members of the houseold (childbirth, wedding, death) and in everyday life. They symbolize the boundary of the living space through which communication with the outside world takes place. Kalmyks often hang amulets on or near the door to protect the yurt from unclean forces[14]. The door served as an object of various rituals. Buryats, going hunting, uttered the following words: «oron olzyn üüdiyg ongoilgož hairla/Garahad min ganzagatai/Garah gazryn üüdiyghaaž hairla/Orohod min olztoy yavuulž hairla» 'Open the doors of prey for me/When I leave with full toroks (a bag)/Close the doors of loss behind me/When I enter, give me the loot'[15].

An important border locus was the threshold. It was a place of family rituals, like a door it divided the space into "its own" and "someone else's" (due to its location at the exit of the dwelling) because people who come bring, carry away or spread prosperity, happiness, good luck, illness, etc.[16] In some cases, the deceased can be carried out through the door, but then the threshold or its substitute object should be destroyed, for example, a stick is placed on the threshold, which is broken after removal. It symbolizes its destruction and makes it impossible for the soul of the deceased to return[17]. Since the soul of the deceased must reach the designated place, it was necessary to organize a long journey for it properly. As the road in the afterlife world is unreal, it was necessary to make sure that the soul left the body. For this, ashes were usually sprinkled at the threshold, this is done in order to understand whether the soul has left the body or not: "the dead man himself does not realize," say the Kalmyks, "that he is dead, and to make sure whether he is alive or dead, he steps into the ashes of the hearth, and if there is no trace on the ashes, it means that he died"[18].

[4] Neklyudov S.Y. Movement and the road in folklore // Die Welt der Slaven: internationale Halbjahresschrift für Slavistik. P. 174.
[5] Eliade Mircea. Shamanism: Archaic Techniques of Ecstasy. P. 183.
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[7] Neklyudov S.Y. Mongol peoples' mythology // Myths of the peoples of the world. Vol. 2. P. 174.
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[9] Galdanova G.R. Pre-Lamaism beliefs of the Buryats. P. 54.
[10] Bordzhanova T.G. Magical poetry of the Kalmyks: Research and materials. P. 93.
[11] Todaeva B.H. Dictionary of the Oirat language of Xinjiang (according to the versions of the songs "Dzhangara" and the field notes of the author). P. 272.
[12] Tsydenova D.Ts. Journey to the other world in the traditional beliefs of the Buryats // Bulletin of the Novosibirsk State University. P. 280.
[13] Sodnompilova M.M. The way to next world in the mythological tradition … P. 73.
[14] Dushan U. D. Selected works. (Manuscript Orientalica). P. 244.
[15] Erdenebold L. Traditional beliefs of the Oirat-Mongols (late 19th - early 20th centuries). P. 107.
[16] Plotnikova A.A. Threshold // Slavic antiquities. Ethnolinguistic dictionary: In 5 vol. Vol. IV. P. 173.
[17] Sodnompilova M.M. The way to next world in the mythological tradition... P. 73.
[18] Zhitetsky I.A. Essays on the life of the Astrakhan Kalmyks (ethnographic observations, 1884-1886). P. 29.

This is due to the fact that relatives are afraid of the return of the deceased as the deceased does not accept his current way of existence and tries to return, for this «the funeral party take another road back from the cemetery to confuse the dead man, they hasten away from the grave and purify themselves as soon as they reach home; means of transportation (sled, cart, etc. — all of which will also serve the dead in their new country) are destroyed in the cemetery; finally the roads to the village are guarded for several nights and fires are lighted»[19].

According to Kalmyk beliefs, as well as other Mongolian and Turkic peoples, people dying, fall into the otherworld. The owner of the otherworld is Erlik, or Erlik Nomin-khan, the lord of the kingdom of the dead and the supreme judge in the afterlife. His possessions are underground, and according to the Kalmyks, his kingdom is located in the west, in another dimension[20]. Also, he has many assistants, there are clerks, judges, etc. There is a special staff of spirit messengers who go for the souls of the dead, take them to the realm of the dead and pronounce judgment on their souls. The owner of the otherworld can also send severe diseases, epidemics[21].

The name of the owner of the underworld is mentioned in everyday speech: «Erlg avg čamag» '*damn you*' (*literal*. let Erlik take you away), also the name of the lord of the other world is used to express death, for example: «Erlgn irž» '*death came to him*' (*literal*. the lord of the other world Erlik came), «Erlgin elč irvä» 'it's time to die' (*literal*. the messenger of Erlik-khan came), «Erlgin elčin irhd beln bääh» 'be ready to death' (*literal*. be ready for the arrival of Erlik-khan's messenger).

After death, the soul can stay near the body for a while, before going to Erlik Nomun-khan for trial[22]. However, to reach the kingdom of the dead, it is necessary to overcome certain requirements. The Kalmyks' ideas about the afterlife are connected with the sendoff of the soul after death to the otherworld. In order to appear before the court of Erlik Nomin-khan, the lord of the other world, it is necessary to complete the path. The Kalmyks believed that the path of the soul of the deceased to the lord of the kingdom of the dead lasted 49 days.

One of the basic elements and a key symbol of the worldview of many peoples is the "road". This is due to the fact that the road is closely connected with the entry of the soul into the otherworld and its journey to the "otherworld". In the mythology of many peoples, the ideas of the road are closely connected with funeral rites. With the help of these images the spheres of life and death are connected[23]. For many peoples a road has a sacred and ritual significance, as it is often associated with the path of life in the funeral and memorial rites, with the road in the afterlife, the farewell of the soul to the afterlife, etc. It is guiding or linking unreal objects in the other world. Ideas about the road occupy an important place in the life and culture of the peoples of Central Asia and Siberia. The road is a kind of border between "one's own" and "someone else's" space. In the ideas of many peoples, the road is a place of intersection of different worlds, the world of the living and the world of the dead. It symbolizes the habitable cultural space of a person and someone else's wild uninhabited space[24].

Kalmyks tried to ease a person's journey on the road to the afterlife, «nowadays, before burial, old people wear soft shoes, which is regarded as providing convenience on the way, and everyday worn shoes are put next to the coffin, having previously untied or removed the laces and unbuttoned the fasteners»[25]. It also says that «it is impossible to put new shoes on a deceased person, because in the world of the dead it will become completely old and fall apart (the ideas of the mirror image of the other world are reflected); ... new shoes will press the feet and hinder progress in the other world»[26]. To ease the way, «the deceased is dressed in prepared clothes, having previously unbuttoned or cut off all the buttons, untied or removed the laces from the shoes», all this is done so that it would not be difficult for the deceased in the next world and easier to get to the place[27].

There is fragmentary information about obstacles encountered on the way to the otherworld. For example, recorded by the Western Buryats, the path to Erlik-khan, the lord of the kingdom of the dead, is very distant and dangerous, there are high mountains, deep rivers, the road can be blocked by rocks, the path is not easy, it can be overcome by souls under the protection and accompaniment of their ancestors[28]. Similar ideas existed among the Kalmyks, so on the way to Erlik-khan, the human soul encounters various obstacles on its way, these may be forests, lakes, seas, wild animals, poisonous snakes, which cause great trouble and difficulties. In order to make the road easier, it is necessary to illuminate it, for which they maintain a fire in the caravan of the deceased every night for a certain period of time, placing a lamp in front of the gods-burkhans. Relatives should not cry, as tears turn into lakes and seas, which complicates the path further[29]. Among the Mongolian peoples, it is not recommended to mourn a deceased person much. It is believed that the deceased may have certain difficulties (see above), this can be noted among the Buryats: «one Buryat woman, after her husband's death, cried a lot about her late husband, who left her with young children. One day she saw her husband in a dream; both front hems of his coat were wet; the soul of the deceased barely walked under the weight of wet hems. Her husband angrily forbade his wife to cry, because from her tears the hem of his fur coat becomes heavy 'If you cry, he told her, I will take you to my place'. From that time on, this Buryat woman stopped crying about her dead husband, fearing to die»[30].

The Kalmyks have a saying: «haalg deer čolu üzgdhlä tüügäd bä, höönk haalgčn cagan bolna» [author's field materials] '*when you walk along the road, if you see a stone, you need to remove it, then the road will be successful* (*after death*)'. Such worries are obviously related to the fact that not all souls can reach the king of the dead Erlik Nomin-khan. This can happen for many reasons, according to the Kalmyks, the priests who served the memorial service did not know prayer well and could not properly direct the soul along the right path. According to the clergy, this may be due to the fact that relatives were mercantile and sacrificed poorly to the clergy. Such wandering souls were equated with evil spirits, as they do evil deeds, frighten people, etc.[31] It is also important to note that the road is the border between the world of the living and the dead, one of the common properties of the road is the specific quality of contact with the characters of the other world, characters with supernatural properties[32].

Funeral rites are based on the idea of death as a transition to the otherworld which located in a remote space, where it is necessary to overcome obstacles to reach the destination. The road in the Kalmyks' ideas is a kind of minimal space and to overcome it people should perform certain ritual actions leading to the achievement of the goal, as well as to take measures in the earthly world. Most of the rituals for the transition to the afterlife have not been preserved at present, and this problem is of interest and requires further research.

[19] Eliade Mircea. Shamanism: Archaic Techniques of Ecstasy. P. 207.
[20] Neklyudov S.Y. Erlik // Myths of the peoples of the world: Encyclopedia. Pp. 1123-1124.
[21] Mikhailov T. M. From the history of Buryat shamanism (from ancient times to the XVIII century). P. 168.
[22] Dushan U. D. Selected works. P. 224.
[23] Nevskaya L.G. Semantics of the road and related representations in the funeral rite // Text structure. P. 228.
[24] Levkievskaya, E.E. The road // Slavic antiquities. Ethnolinguistic Dictionary in five volumes. Vol. 2. P. 124.
[25] Sharaeva T.I. Funeral and funerary rites among the Kalmyks: preparation of the deceased for burial. Bulletin of KIGI RAS. P. 46.
[26] ibid.
[27] ibid. P. 47.
[28] Sodnompilova M.M. The way to next world in the mythological tradition… Pp. 77-78.
[29] Dushan U. D. Selected works. P. 225.
[30] Khangalov M. N. Balagansky collection. Fairy tales, beliefs and some rituals among northern Buryats. P. 237.
[31] Dushan U. D. Selected works. P. 225.
[32] Neklyudov S.Y. Movement and the road in folklore… P. 210.

A cave or a hole in the ground can serve as an entrance to the otherworld: “a certain person got into the underworld through a hole in the ground”[33]. Holes for the entrance to the afterlife world could serve as badger or fox holes, which often serve as an entrance to that world[34]. The hearth was also considered in the legends of the Altai peoples as one of the entrances and exits to the otherworld: “often in the legends the shaman goes to the underworld through the hearth, and returns from the otherworld, descending in the form of a bird through a smoke hole”[35]. In some cases, the entrance could be trees with a crooked trunk, so once a strongman “servants of Erlen Khan was held under a crooked tree inclined to the northeast, and he, becoming invisible, was able to go to another world to serve the ruler of the world of the dead”[36].

The ideas about the afterlife may differ among different ethnic groups, but often the otherworld in folk representations is a copy of the real world, the deceased live there in villages, work, hunt, marry, the landscape can also copy the realities of this world, “their” world[37]. According to popular ideas about the “other” world, existence is ordinary, resembles the real world in many ways: “descriptions of the existence of the deceased and their occupations (the latter in most cases is reported that the deceased in the "otherworld" continue to do the same things they did while alive - for example, a chauffeur, educator, stove maker and after death are engaged in their professional activities)” are quite stereotypical[38]. The otherworld seems similar to the earthly one, people or their souls retain the same needs as in earthly life, food, clothing, etc. So there is a custom to include with the dead things they need, food, greetings and messages about important events in family life. You can also make various offerings or give alms to the poor[39].

The Kalmyks believed that offerings should be made regularly, otherwise the souls of deceased ancestors would remind them themselves. Thus: “The souls of the dead need both food and clothing. Therefore, periodically they need to be supplied with everything necessary. If the surviving relatives do not guess, then the souls remind them about themselves. For the most part, souls let their relatives know about their need through dreams”. Otherwise, “the souls of the dead may get angry with their living relatives, especially if the relatives are disrespectful to them. In this case, they can even punish them, make them suffer. So, if women disrespect the memory of relatives, they send them difficult childbirth”[40].

In addition to helping beggars and the poor, Kalmyks have a practice of making offerings through priests or making gifts to Buddhist temples to meet the needs of the deceased, since Kalmyks believe that priests are intermediaries between the souls of the deceased and relatives and, thus, one can achieve the goal. Offerings were made in the form of tiled tea, pretzel, clothing or cloth, as well as in the form of expensive fur coats[41]. Animal sacrifices can be made to temples: sümnd esklä hurld bärc bolgad. Er kün ögrhlä – mörn ögnä, öngrsn küünä külgn boltha; emgtä kün ögrhlä – hurld bärc bolgad ükr ögnä, ter öngrsn kün saagad üsign uutha [author’s field materials] ‘if a man died, the temple or monastery offer the oblation. If a man died, then they made an offering in the form of a horse so that he could ride a horse (in the otherworld); if a woman, then they made an offering in the form of a cow so that a woman could milk and drink milk”[42].

If the offering is made in the temple, then, as a rule, on the day of commemoration, the name of the deceased is written on a piece of paper, i.e. to a specific person: neg halmg emgn kelžnə üksn küünd, caasnd hot ögdm bičhlä. Sedklärn hot ögčählä neg küünd bičäd, ter küünd ögdž. Oln küünd iigäd caasnd bičhlä, ter ögsn hot ter küünd kürdgoč. Tiigäd neg kögšn emgn kelnä. Madn bolhla, tiigäd hүүragan bičnävidn. Zergledän hörn kün bichäd... neg künd bičh kergtä. Madn odхүүradn nern bichnävidn. Ter hүүradn kürad uga bääžič. Hүүradn huvahla neg künd neg zalc, neg kampat kürnä ‘one Kalmyk woman said: to dead people - at one time, many people do not need to make offerings of food. If we want to do it, we need to write a name of one person on paper - the one we want. If a lot of people are written on paper, then the offering of food to that person will not get. That's what an old woman said. We're recording everyone. We put twenty people on the list... but he needs to do it personally. And on the memorial day, we begin to list all the other [deceased] there. And, it turns out, it doesn't reach everyone. Well, yes, try to divide, one sip each and one candy goes to everyone’[43].

There is also an idea that, being in the other world, dead people will find out who made the offering and on what day they are waiting for commemoration: Kezänä kökšüd iigäd kelvä. Kezänä ämts, kökšüd ashndan kelchädg bilä. Ednčn hүүrd, öngersn kün keldg bäänä «Ouch, nand endr hot öglä, nand öglä». Tiigž keldg bäächänä. Tiigčkäd mednä kemb öglä. Tiigäd medäldg bääž. Neg negänd kelnä: «nand endr mini kövün hot öglä. Däkäd nand dala elgn-sadn, ah-dü dala bäänä» giүäd keläd bädm. Iigäd üksn kün kelnä. Neg negän hoornd iigäd kelnä. Iräd suudžn iigäd, suudchadž hүүr, külänä hot ögsn ämts. Also, tedncn külägäd bääžič, hot ögdg ödr. Zul bolhla, Cagan bolhla, sar kezä үarhla, sän ödr boldžn, macg ödr boldžn, iigäd medäd ‘the old people have been talking for a long time. It's been a long time since people, old people, told this in the evenings. They gather, the dead, and say: «Ouch, they made an offering to me today, they gave it to me». That's what they say. They also know who made the offering. That's how they find out. They share: «My son brought me food today. I also have many relatives, many brothers», they say. That's how the dead talk. That's what they say among themselves. They come and sit like this, they sit together, waiting for those who commemorate them. They also wait for the days when they make an offering. When Zul (New Year's holiday) happens, when Tsagan-sar (Spring Festival) comes, when the month begins, when an auspicious day happens, the day of matzg [fasting] happens, everyone knows so’[44].

Some groups of Slavs have the idea that the rich remain rich in the “otherworld”, and the poor remain poor[45]. The same thing is noted among the Mongolian peoples: “the soul of a rich man rides on the good horse on which he was buried, he wears the same elegant attire, he has the same tools, he eats the same dishes, drinks the same wine that was given to the deceased at his funeral. The poor deceased and his second soul will live in a poor environment after his death”[46].

7. Conclusion

Thus, it is important to note that the ideas about the afterlife and the ways to the otherworld have been transformed, partially lost or reinterpreted. The Kalmyks have preserved only partial ideas about the otherworld and the way there, there is no complete picture of ideas, and only individual fragments are reconstructed that may contradict each other. Nevertheless, this article attempts to restore the ideas of the otherworld among the Kalmyks and other related Mongolian peoples, ideas which are archaic and have been preserved in parallel with the dominant Buddhist religious ideas. In the course of the study, only individual fragments of the Kalmyks’ afterlife were described and funeral

[33] Neklyudov S.Y., Novik E.S. Invisible and unwanted guest // Studies in linguistics and semiotics. P. 398.
[34] Sodnompilova M.M. World in the traditional worldview and practical activities of the Mongolian peoples. P. 137.
[35] Sagalaev A.M. Altai in the mirror of myth. P. 90.
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[37] Petrukhin V.Ya. The afterlife // Myths of the peoples of the world: Encyclopedia. P. 374.
[38] Safronov E. “Other world” in stories about dreams and a complex of ideas related to funeral and memorial rites of Russians // Dreams and visions in the Slavic and Jewish cultural tradition. P. 121.
[39] Vinogradova L.N., Tolstaya S.M. That light // Slavic antiquities. Ethnolinguistic Dictionary: Volume V. P. 299.
[40] Dushan U. D. Selected works. P. 229.
[41] ibid.
[42] Lidzhiev A.B. Prophetic dreams of the Kalmyks: images and symbols. P. 25.
[43] ibid. P. 26.
[44] ibid.
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[46] Khangalov M. N. Balagansky collection. Fairy tales, beliefs and some rituals among northern Buryats. P. 232.

rites, within which such border symbols as the road, door and threshold, which play an important role in the representations of the Kalmyks with the involvement of data from other Mongolian people were considered. It should be noted that there are no unified ideas about the otherworld, they are contradictory and diverse. Nevertheless, further research will allow us to reconstruct the ideas about the otherworld, identify local features and highlight common features not only among the Mongolian peoples but also among other peoples of Central Asia and Siberia. The commonality of the idea of the otherworld is manifested in the localization of the afterlife and funeral rites have many common features, the presence of common mythological ideas about the otherworld with neighboring peoples. All this testifies that there are deep and archaic ethno-cultural contacts and common views on the existing world. Therefore, research in this direction is of undoubted interest and leaves hope that many questions that remain open will be answered in the future.

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Primary Paper Section: A

Secondary Paper Section: AI, AC

EDUCATION AT SECOND CHANCE SCHOOLS DURING THE FIRST WAVE OF THE COVID-19 PANDEMIC IN SLOVAKIA – TOOLS, METHODS, EFFECTIVENESS

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This paper is the outcome of the project solving APVV-18-0018 Teaching at second chance schools from the perspective of a teacher and adult learner financed by the resources of of Ministry of Education, Science, Research and Sport of the Slovak Republic.

Abstract: The effectiveness of second chance education (SCE) analysis during the first wave of the COVID-19 pandemic in Slovakia was carried out by the research indicators: 1) organisation, 2) technology, 3) communication, 4) attitudes – emotions – assessment; on two levels of interaction: 1) teacher – student, 2) teacher – teacher (school), using an online questionnaire (135 participants – teachers), in location: 1) developed districts (DD), 2) underdeveloped districts (UDD). The effectiveness of education was significantly higher at schools in DD in comparison to UDD.

Keywords: Second chance education, vocational education, effectiveness of education, distance learning, education in a crisis, online education.

1 Introducion

The year 2020 has placed education systems worldwide in front of an unprecedented situation induced by the coronavirus pandemic, affecting all levels and types of schools which had to promptly respond to the suspension of face-to-face education. Schools, predominantly, responded to the new situation by transferring to distance forms of education, especially utilising online tools and information technologies (online learning). The transfer to the distance form of education brought about a whole series of issues, mainly connected to the technological equipment of education, digital competences of teachers and students, students' internet access and information and communication technology (ICT) equipment in the household, as well as the quality of education and possibilities of assessing the process and results of teaching (Alcazar et al., 2020). The question arose *whether present-day national education systems are able to guarantee a reduction of inequalities in education in the changed conditions, or whether these are likely to deepen* (Stanistreet, 2020; Andrew et al., 2020). According to a number of studies (Dietrich et al., 2020; Bonal, Gonzáles, 2020), closing schools has a potential to deepen social inequality regarding access to education. "Ensuring digital equity is crucial in this tough time" (Dhawan, 2020, p. 16). Issues regarding insufficient infrastructure emerged in less developed countries, as well as underdeveloped regions with a higher level of poverty (Di Pietro et al., 2020).

Vocational education is among the most affected types, as it combines theoretical studies with practical training, oftentimes in the environment of manufacturing companies. Vocational education and training (VET) is, on a long-term basis, considered a less attractive type of education, as evidenced by a 2017 CEDEFOP survey, according to which VET's image, albeit generally assessed in a positive way, is, in comparison to general secondary education, less favourable (Billett, 2014; Lovsin, 2014). In Slovakia, vocational education and training of adults at secondary vocational schools has not been specifically studied and even less is known about the ways in which studies were carried out in the distance form once face-to-face education was suspended. Digital skills of adults (especially senior citizens) are generally less developed; these people often have to manage their parental and work-related duties with their studies while the socio-economic background of those adults who are trying to get their first certificate also often plays a significant role. Adults entering second chance schools often come from lower-income environments with poorer technology, in many cases, they do not own a computer or have internet access. Slovakia is one of those countries where internet access varies greatly depending on the income and education of the parents (Di Pietro et al., 2020). In OECD countries, more than one in five adults has low skills (OECD, 2019a) and 56% of the adult population have no ICT skills (OECD, 2016). That was why we were interested in how schools and teachers coped with the education of this specific group of adult students, who, oftentimes, do not have sufficient digital skills that would allow them to easily transfer to a distance form of education.

2 Vocational education in the first wave of the COVID-19 pandemic – findings and initiatives so far

Several papers analysing the manifestations and impact of the coronavirus pandemic on education in general have been published; others focus on compulsory education, higher education, or university education (such as Di Pietro et al., 2020; Lassoued et al., 2020; Dhawan, 2020; George, 2020; Adedoyin, Soykan, 2020; Tria, 2020). Papers studying the attitudes of teachers towards the effectiveness of online education have also been issued (Todd, 2020; Yang, 2020; Song et al., 2020; Tzivinikou et al. 2020), however, there are much fewer papers specifically focused on VET (e.g Ndahi, 2020; Özer, 2020; Mulyanti et al., 2020). Due to the pandemic, several VET-related initiatives have been launched, whose progress and impact have been observed by the *European Commission* by means of an online questionnaire. It has been found out that the number of online courses and teaching modules has gradually reached a colossal number; however, a majority of them were not related to vocational education and training (European Commission, 2020).

Negative consequences of suspending lessons in vocational education have been pointed out in the area of educational outcomes, student motivation, increased risk of early termination of studies, etc. Whether one continues in their vocational studies depends, to a large extent, on their digital skills (as well as those of their teachers), their ability to react to the changed, crisis-induced, conditions, the reconstruction of the communication space, etc. (UNESCO, 202). One of the few studies presenting the current impact of the pandemic on VET indicates that, in Caribbean countries, as many 53% of students in vocational studies failed to join any form of online education, while the remaining 47% were involved in a limited extent (Ndahi, 2020).

Basic information regarding the ways individual European countries coped with the suspension of face-to-face teaching in vocational education were provided on the CEDEFOP website, where individual countries published their reports regarding the COVID-19 pandemic situation and presented the main measures they gradually implemented to guarantee continued vocational education and training (CEDEFOP, 2020b). OECD (2020a) provides more detailed information regarding various measures and tools that were to compensate for suspended face-to-face education. In the Netherlands, for instance, in was possible to maintain face-to-face education for small groups of students who did not have access to digital resources and technologies; in France, free online three-month VET courses were available; several countries implemented financial support for employers involved in work-based learning (Austria, Germany, Switzerland, and others), while some countries recognised the important role of VET in the crisis and post-crisis period and started to finance the sector in question on a much larger scale (Sweden, USA) (OECD, 2020a). From the information provided by CEDEFOP (2020a) regarding the situation of disadvantaged students of vocational education and training it follows that, under the influence of the crisis, the situation worsens even further and a higher level of dropouts can be expected (Cedefop, 2020a).

According to an OECD report (2020a), the most common problems of vocational education during the first wave of the pandemic were connected to the suspension of face-to-face

education as well as practical training (be it at school or in enterprises). Within some programmes, it is possible to teach theory online; however, it is impossible to effectively teach practical subjects due to insufficient access to tools, materials, and equipment. An OECD paper (2020b) focuses on adults and the potential of online forms of education during the pandemic and points to the need to address the issue of inclusion in a more thorough way so that all adults benefit from online education, including those with a lower level of digital skills and limited access to a computer and the internet, as well as adults with a lower level of self-motivation.

The use of ICT by teachers is a key factor in online education. Bergdahl and Nouri (2020) studied the readiness of teachers and schools for distance education, plans to deliver it, as well as teachers' experience when making this transition. Mynaříková and Novotný (2020) studied the barriers Czech secondary school teachers experienced when using ICT in teaching and found out that ICT was only used occasionally in teaching, which confirms the results Daniel et al. (2020) arrived at, i.e. that Czech teachers are not prepared to adequately teach their students in the distance form of education. According to the result of a 2018 TALIS survey, instructional computer technology was part of the initial preparation of just under 60% of teachers (OECD, 2019b). Teachers with a higher level of self-efficacy in the area of ICT who use the support of a supervisor tend to have a more positive approach to distance education (Košir et al., 2020).

3 Distinctive features of adult vocational education in Slovakia – developed districts (DD) and under-developed districts (UDD)

Based on the methodology of *Labour Force Survey*, only 3.6% of the adult population aged 25 to 64 were involved in education in the last four weeks of 2019 (Eurostat, 2019) and only 1% of the adult population is taking part in formal education in Slovakia. In 2019, Slovakia was among the six countries with the lowest level of adults participating in adult education across all EU member countries. Among the registered unemployed, applicants with incomplete primary education account for 5.1%, while applicants with primary education make up 23.3% (*Ústredie práce, sociálnych vecí a rodiny*, 2020). Among EU countries, Slovakia has the highest rate of unemployment people with a low level of education (29%), while the EU average is 14% (Hellebrandt et al., 2020, p. 9). This group of adults most usually lives in the least developed districts of Slovakia, while a significant portion of these live in marginalised Roma communities. The geographical distribution of the Roma population in Slovakia and the map of underdeveloped districts significantly overlap (cf. Hrabovská, 2020; Matlovičová et al., 2012). Consequently, insufficient inclusion in education is reflected in significant differences in a person establishing themselves in the labour market.

In Slovakia, there is no organised way of providing people with a low level of or no completed education with information and support towards their participation in vocational or general secondary education. Completing secondary vocational or general education in Slovakia is only possible in the network of secondary schools which offer simultaneous completion of primary education. Adults in secondary vocational schools in Slovakia can get education in both full-time and part-time form, the latter being most frequent, carried out by means of *evening, remote,* or *distance* form. 5,156 students completed part-time secondary education (ISCED 2C, 3C) in 2020. Based on the 2019 data, more than 66% of these had, at best, completed primary school education. As many as 48% of them completed study programmes with no vocational certificate (so called F-type programmes with specially adapted curriculum) in such areas where employment is hard to find (CVTI SR, 2020). These are, most frequently, adults from vulnerable groups.

The highest numbers of people lacking formal education, or with completed primary education, live in the Košice, Prešov, and Banská Bystrica regions (Vančíková, 2019), where the least developed districts are concentrated. The main criterion dictating whether a district is classified as underdeveloped is a rate of unemployment in at least nine consecutive quarters that is higher than 1.6 times the official average national unemployment rate for the same period (*Zákon č. 336/2015 Z. z. o podpore najmenej rozvinutých okresov*). At present, there are 20 (out of a total of 79) such districts which are, geographically, mainly concentrated in the south and east of Slovakia.

Tab.1: Indicators of the level of district development

INDICATOR	DD	UDD
Unemployment rate	low, average	above average
Level of poverty and social dependency	low	high
Job opportunities	sufficient	insufficient
Concentration of people without formal education or with completed primary education	low	extremely high
Concentration of marginalised Roma communities	low	extremely high
Student performance in international assessment (PISA)	average	below average

Source: Author´s own work.

4 Education during the pandemic in Slovak schools – research questions and framework

In Slovakia, data were collected from primary and secondary schools to find out how they coped with the transfer to the distance form of teaching (Ostertágová, Čokyna, 2020). The results of the survey pointed to several unfavourable matters. 7.2% of primary and secondary school students were not involved in distance education and 18.5% of the student population were not involved in online education. In online teaching, the asynchronous form, i.e. sending assignments by email, dominated. Online lessons were primarily used by only 20% of teachers (Ostertágová, Čokyna, 2020, pp. 1-2). At schools with high numbers of students from a socially disadvantaged environment, the ratio of students who were not involved in online education was several times higher in comparison to other schools. Among secondary schools with the highest number of students from socially disadvantaged environments, 13.9% were not involved in distance education, in comparison to 2.9% at secondary schools with the lowest numbers of such students. The highest ratios of students who did not participate in online education were recorded in the Prešov, Košice, and Banská Bystrica regions, where the number of the underdeveloped districts is the highest, together with the highest long-term unemployment rates, concentration of poverty, and socially excluded communities. At such schools, teachers claimed they perceived the identified problems in a more intense way, problems with distance education occurred more frequently, and they expressed the need for specific support more often. Teachers' responses in the questionnaire referred to the overall education process and did not differentiate between the full-time and part-time form of education. Based on the available data, it is, thus, impossible to derive information regarding the state of affairs within the distance form of adult education. The present research can, therefore, provide unique information regarding adult education at secondary vocational schools during the pandemic taking regard for the differences between developed and underdeveloped regions.

During the state of emergency declared on March 16th, 2020, face-to-face education was suspended throughout the whole country at all types of schools – from kindergartens to universities. From one day to another, schools, thus, made a shift to the distance form and face-to-face education was, at all schools (with the exception of universities), resumed in June 2020. The specific form of distance education was selected by each school and adapted to the school's (students' and teachers') capabilities and limitations. What was recommended by the Ministry of Education was online education (asynchronous – www.edupage.sk and synchronous), telephone and postal communication, or other forms of sending assignments to and receiving them from students. Schools were obliged to provide all students access to education according to their possibilities, respecting anti-epidemic measures.

The content of education at secondary schools was reduced to general-education subjects (languages, mathematics, Civics) and vocational subjects of the study programme in question. Since those subjects that could not be carried out in a distance form (such as laboratory work, practical subjects) were not to be assessed, the final evaluation only concerned general and vocational theoretical subjects. Teachers were to apply combined assessment (graded classification and written evaluation) mainly focused on projects, topic-based assignments, and individual practical work. The Ministry recommended that, when awarding grades at the completion of a study programme, secondary schools were to finalise the grades in an administrative way, i.e. calculate the average of the students' results in practical training.

The present research plan was inspired by a great number of questions connected to the specifics of education in a crisis: How was the part-time form of vocational education of adults carried out at cooperating schools during the first wave of the COVID-19 pandemic in Slovakia? What tools, techniques, and methods were used? In what way were (theoretical and practical) lessons carried out and to what effect? What were the specifics of teacher – student, teachers – teacher, and teacher – school communication? What are the characteristics of key instruments of education with regard to information technologies and their effectivity? How do teachers rate the effectiveness of education in the changed conditions? Did the new situation bring about any positives? What were the negatives? How is effectiveness of education measured in the changed conditions?

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4.1 Research objective, hypothesis

To find out the level of effectiveness of SCE in the first wave of the COVID-19 pandemic in Slovakia.

It is hypothesised that the effectiveness of SCE in the first wave of the COVID-19 pandemic in Slovakia regarding its organisation, technological support, communication, and attitudes-emotions-assessment varies depending on the locality (district) factor.

4.2 Participants

The participants of the present research were teachers at secondary vocational schools who, apart from students in the full-time form, also taught adult students in the part-time form. Teachers took standard training at Faculties of Education where they were trained to teach general-education or specialist/technical subjects, or they entered education as professionals who had studied a non-teaching programme and had to take a course in pedagogy in the form of a supplementary teaching programme. In Slovakia, no specific model of teacher training is in practice developing teachers' specific competences for groups of non-traditional adult students of various ages, life and work experience, motivation and expectations, oftentimes coming from a socially-disadvantaged environment (Pirohová, 2019; Temiaková, 2020), which could be the main source of mutual misunderstanding that could, according to Walker (1987, in: Ross, Gray, 2005), be minimised through the implementation of intercultural articulation.

In 2019, adults studied in the part-time form at 111 secondary vocational schools. By means of an online questionnaire, 29 selected secondary vocational schools were contacted that met the observed criteria – they were teaching adult students with no completed education or completed primary education in the part-time form. Out of these, 44.8% were situated in underdeveloped regions.

The online questionnaire was filled in by 135 teachers in cooperating schools, out of whom 44.19% were working at schools in UDD and 55.81% at schools in DD in Slovakia. To describe the target group, two identification features were used – gender and the length of their teaching experience. A dominant majority of the participants were female teachers (88.64%), with more (52.63%) working in DD than UDD (47.37%). The percentage of male teachers was significantly lower (11.63%); out of these 80% were working in DD and 20% in UDD. From these data, it follows that the teaching profession is more significantly feminised in UDD than in DD.

Most teachers in UDD (84.21%) stated they had been teaching for 10 or more years, while there were a lot fewer teachers (15.79%) who had been teaching longer than one but shorter than five years; none of the participants from UDD stated they had been teaching between six and 10 years (0.00%). A higher percentage of teachers from DD in the range of one to five years of teaching experience participated in the research (20.83%) than in UDD (15.79%), while there were fewer teachers with 10 years or more of teaching experience (75.00%) than in UDD (81.21%); 4.17% teachers from DD stated they had been teaching between six and 10 years (UDD – 0.00%). In total, most participants of the research were teachers with 10 or more years of experience (79.07%), while the number of those who had been teaching longer than one but shorter than five years was considerably lower (18.60%) and the lowest percentage of participants (2.33%) stated teaching experience of six to 10 years. According to the above data, with regard to teaching experience, the composition of participants from DD was slightly more balanced than that of UDD participants. As many as 100.00% of male teachers stated they had been teaching 10 or more years, which means that all the other categories based on the length of teaching experience were represented by female teachers only.

4.3 Data collection

To study the selected aspects of processes, techniques, and the effectiveness of SCE during the first wave of the COVID-19 lockdown, information acquired directly from cooperating schools was necessary. To collect empirical data, an online questionnaire, distributed by email, was used, with a return rate of 80%. The structure of the questionnaire followed research objectives in four dimensions, defined by indicators of education effectiveness: 1) organisation, 2) technological support, 3) communication, and 4) emotions-attitudes-assessment. Research within these dimensions had two levels, taking the nature of interaction into regard: 1) teacher – student, 2) teacher – teacher (school). The key differentiating factor was distinguishing between the districts based on their level of development: 1) underdeveloped districts (UDD), and 2) developed districts (DD). For further, more detailed, classification, the following identification characteristics were used – gender, and the length of teaching experience, as well as relevant variables within the set sub-dimensions.

Single-item (closed and open) and multi-item questions, tested by means of a set of items (Crombach's $\alpha = 0.72 – 0.90$) were used to measure the level of effectiveness of education and ranking the positives, or negatives, in teachers and students according to a 5-point scale: 1 – definitely effective (affirmative), 5 – definitely ineffective (dissenting).

To process the empirical data and a quantitative analysis, methods of descriptive statistics were used, as well as bi-variation analysis for discrete variables, reliability tests, and analysis of variance (ONEWAY) in order to test relevant

differences of continuous variables and tendencies in the influence of differentiating factors.

4.4 Results

The results of the statistical processing of empirical data point to many significant findings and allow for quantitative analysis of the effectiveness level of education with regard to the research framework, defined by indicators and the main differentiating factor.

The summary mean for the effectiveness of education in the teachers' evaluation is M=1.85. It signifies a evaluation of effectiveness in positive spectrum of the 5-point scale and points to the fact that, even in the conditions changed by lockdown measures, there was a great effort to take a responsible approach to necessary solutions and keep the education process as functional as possible. Taking a look at the results for individual dimensions, sub-dimensions, and levels allows for deeper understanding and defining a great number of specific features of their general effectiveness.

Tab. 2: Effectiveness of SCE during the first wave of the COVID-19 pandemic within defined dimensions and summary differences between districts, ONEWAY

DIMENSIONS	LEVELS	SUB-DIMENSIONS	F	P	M	
					UDD	DD
O*	Teacher – student	Effectiveness of working with students	19.73	0.00*	2.54	2.08
	Teacher – teacher (school)	Effectiveness of cooperation among teachers (with school)	0.04	0.85	1.42	1.44
ORG. SUMMARY			9.87	0.00*	1.98	1.76
TS*	Teacher – student	Effectiveness of teachers' (self-assessment) and students' digital skills and technological equipment	28.30	0.00*	2.59	2.17
	Teacher – teacher (school)	Effectiveness of other teachers' digital skills and technological equipment (school)	1.16	0.69	1.47	1.44
TECH. SUMMARY			13.09	0.00*	2.03	1.80
C*	Teacher – student	Effectiveness of communication with students	9.58	0.00*	2.53	2.23
	Teacher – teacher (school)	Effectiveness of communication among teachers (with school)	11.38	0.00*	1.16	1.35
COM SUMMARY			10.00	0.00*	1.16	1.35
AEA*	Teacher – student	Assessment of students' positives	10.21	0.00*	3.42	3.03
		Assessment of students' negatives	0.84	0.36	2.98	2.84
	Teacher – teacher (school)	Assessment of teachers' positives	0.12	0.73	1.77	1.74
		Assessment of teachers' negatives	23.65	0.00*	2.28	2.87
AEA POSITIVE SUMMARY			6.56	0.01*	2.60	2.38
AEA NEGATIVE SUMMARY			3.91	0.05*	2.63	2.85
EFFECTIVITY ORG + TECH + COM +AEA SUMMARY			9.33	0.00*	1.95	1.73

Sign: p≤0.05*
Organization* Technological support* Communication* Attitudes – emotions – assessment*
Source: Author´s own work.

4.4.1 Organizational dimension

The analysis of the character and effectiveness of SCE with regard to organisation is based on statistical processing of empirical data relating to the core information on the course, forms, techniques, and organisation of education in a crisis and data showing the effectiveness of organisation by teachers in relation to students and other teachers, or school. We were interested in whether, in the changed conditions, education continued, it what way, how the key instruments for its realisation were provided, especially the influence of the locality factor when this tendency was accompanied by some significant specific features in the internal mode of cooperating schools.

According to the obtained data, all participants, both in UDD and DD, transferred to the distance form. In total, 67.44% claimed that the content of the curriculum was not reduced, while 62.79% did not reduce the extent (lessons) of education either. Reduction was mainly pursued in carrying out practical subjects. Differences between UDD and DD point to the fact that reductions were more significant in schools in UDD, and the extent of education being reduced to a lesser degree (47.37%) than its content (42.11%). In contrast, as many as 75.00% of schools in DD avoided content reduction and 70.83% refrained from reducing the extent; put differently, only 25.00% reduced the content while 29.17% reduced the extent of the curriculum. Reduction mainly concerned the teaching of practical subjects, 41.46% of the entire research sample stated practical education was completely suspended while 31.71% continued to teach practical subjects in a reduced way. Only 7.32% of teachers claimed the practical part of education was carried out in an unchanged form. Out of the schools that continued practical education in an unchanged way, a great majority (66.67%) is located in DD, a minority (33.33%) in UDD. However, when looking at the options chosen by UDD and DD schools, it can be stated that complete suspension of practical education was more frequent in DD schools (43.48%), than in UDD schools (38.89%), the latter group striving, in spite of worse conditions, to maintain the teaching of practical subjects. In general, the number of schools who chose the least preferred variant – 'practical education in an unchanged form' – was slightly higher in DD (8.70%) than in UDD (5.56%). The practical education mode concerned the way in which the education of practical subjects was carried out, as well as the methods, techniques, and tools implemented. Out of all participating teachers, the largest group stated practical skills were acquired in the students' home environment (30.77%), this variant being primarily chosen by DD schools (50.00%), which makes it the dominant approach. The relatively low percentage (22.22%) of schools from UDD who chose this variant was also caused by the fact that, in comparison to DD schools, they also implemented such techniques that DD schools did not use at all – delivery by post (22.22%) and telephone consultations with a subsequent handing-in of the finished product (11.11%). Other methods, used by both UDD and DD schools, concerned individual assignments and projects as well as demonstrations of working procedures (such as videos) – in total, 23.08% – were implemented to a slightly higher extent at DD schools (25.00% equally for both techniques) than at UDD schools (22.22% equally for both techniques), suggesting minimal locality difference.

The obtained data in the ways and tools of alternative education of all taught subjects point to the fact that, in total, the most preferred combination was 'online teaching – email – telephone communication' (23.26%), followed by 'online teaching – email' (20.93%), while the combination 'email – delivery by post' was used least frequently (2.33%). Regarding the differences in the preferred available tools of alternative teaching by UDD and DD schools, it can be stated that, similarly to the data on the ways of practical teaching, delivery by post was exclusively used by UDD schools. This was, in combination with telephone communication, the most frequently used way of alternative teaching (31.58%), while it was used slightly less often in combination with email communication (15.79%). Online teaching was only exclusively used by 10.53% participants of the entire research sample. At DD schools, online education was the preferred instrument (in total, 71.83% schools), usually in combination with email communication (37.50%) and combination: online education - email - telephone communication (33.33%).

The selection of techniques for continuous and final assessment of the students in the final year of their studies was also part of the organisation of education. The forms of continuous assessment were selected according to the nature of the taught subject, while taking the study programme into consideration. In

total (regardless inter-district differences), the most preferred forms of continuous assessment were individual assignments (53.49%), followed by individual assignments in combination with online tests (32.56%). Online tests as the only form, or in combination with other forms, were used by as many as 54.17% of teachers from DD, while only 26.31% of teachers from UDD did so due to students' insufficient technological equipment, making individual assignments the preferred form in UDD (73.68%). The least frequently used form of continuous assessment was oral examination (DD – 5.23%, UDD – 4.17%), and even that only in combination with online tests or individual assignments. The forms of final exams were observed separately for theoretical and practical subjects. In both cases, the final grade calculated as the average of up-to-date evaluations and results dominated (theoretical subjects – 84.62%, practical subjects – 83.78% of the entire research sample). At UDD schools, this was the sole form of final evaluation. Schools in DD also occasionally used online exams (practical subjects – 10.00%, theoretical subjects – 14.29%) and face-to-face exams (practical subjects – 15.00%, theoretical subjects – 14.29%).

According to the summary score (without differentiation between the observed sub-dimensions), the ratings of the effectiveness organising education significantly differed with regard to the defined levels, where the total M for the 'teacher – student' level equalled 2.27 and M for the 'teacher – teacher (school)' level equalled 1.44. This means that, if there were any less effective aspects of organisation, they concerned especially of the sub-dimension 'effectiveness of working with students', where the overall differences between UDD and DD appeared to be much more considerable (F=19.73, p=0.00), working with students being rated as more effective in DD (M=2.08) than UDD (M=2.54). At the 'teacher – teacher (school)' level, the rating of effectiveness in the sub-dimension 'effectiveness of teacher – school cooperation', no statistically significant differences between UDD and DD were founded (F=0.04, p=0.85, M for NRO=1.42, M for RO=1.44). Therefore, if there are any summary statistically significant district-based differences in the rating of the effectiveness of organising education (F=9.87, p=0.00), they almost exclusively concerned cooperation with students and, according to the mean score, the organisation of education as slightly less effective in DD (M=1.76) than UDD (M=1.98), where the students' conditions were much less favourable.

The sub-dimension 'effectiveness of working with students' in the operationalisation was measured by six items: the frequency of working with students, implementation of teaching methods and techniques, forms of student assessment (choice of methods and tools), flexibility within the organisation of education, carrying out theoretical education, carrying out practical education. The most significant differences between UDD and DD were founded in carrying out theoretical education (F=25.24, p=0.00), when the mean scores point to greater effectiveness in DD (M=1.58) than UDD (M=2.21) where, among other things, the main problem was students' technological equipment. The participating teachers rated carrying out practical education as least effective, again, more considerably in UDD (M=3.58) than DD (M=3.04). Statistically significant differences (F=8.17, p=0.00) were also founded in the area of tools and techniques implemented in practical education. Apart from the effectiveness of teaching practical subjects, the teachers' ratings ranged from 1.83 (flexibility of education organisation) to 2.04 (frequency of working with students), while the teaching of theoretical subjects was rated as most effective (M=1.58). In the group of UDD teachers, the mean scores are higher in all items, from 2.22 (forms of student assessment) to 2.53 (frequency of working with students), while the teaching of theoretical subjects was, equally to DD, more effective (M=2.21). All tested differences are highly statistically significant.

The ratings of the effectiveness in the sub-dimension 'teacher – school cooperation' rather differed; this sub-dimension having been measured by items of: coordination of teaching activities among teachers, continuity of the taught activities, the level of free will in the used techniques of teaching, work from home, work from school, combining work from home and school, where only the differences in 'work from home' (F=4.20, p=0.04) were statistically significant. Other items of this sub-dimension do not manifest more significant differences between UDD and DD, suggesting a lower mean score (which means the effectiveness is higher) than in the sub-dimension 'rating working with students'. Work from home was rated as markedly most effective by UDD teachers (M=1.16), while work from school was considered least effective (M=1.58). The participating teachers from DD also considered work from home most effective (M=1.33), although to a lesser extent than in the case of the teachers from UDD; the continuity of teaching activities was rated as the least effective M=1.67). Still, the ratings are clearly placed in the positive spectrum of the 5-point scale.

With regard to the above results measuring organisation, it could be stated that the founded summary data comply with the assumption expressed in the research hypothesis, as certain differences were recorded between individual sub-dimensions and the findings only correspond with the assumption in the 'rating working with students' sub-dimension.

4.4.2 Technological dimension

Rating the effectiveness of education with regard to the technological equipment was observed within the levels: teacher – student, and teacher – teacher (school), which is, in the cross-section, further broken down to rating the quality of technological skills (teachers' and students' digital skills) and the level of technological equipment (teachers' and students' technological capabilities and limitations). Generally speaking, the technological side of education was rated as close to the average, summary M equalling 2.34; however, the internal structure of the findings points to some interesting specifics. The summary differences between UDD and DD are statistically significant (F=13.09, p=0.00), with the effectiveness (as expressed by the participants) slightly higher in DD (M=1.80) than in UDD (M=2.03). According to the data within the sub-dimension 'rating the skills and technological equipment of the participants and students', the least technologically effective is the students' space (for the entire research sample without differences: technological capabilities and equipment M=3.15, digital skills M=2.70), while the same parameters had better, albeit not the best, rating (for the entire research sample without differences: technological capabilities and equipment M=1.77, digital skills M=1.73). While no statistically significant differences were founded among the participating teachers in either the rating of their own digital skills or the rating of their technological equipment, highly significant differences were observed in the students, the UDD data pointing to lower than average effectiveness. Somewhat greater were the differences founded in the effectiveness of the digital skills of students (F=36.37, p=0.00, M for UDD =3.21, M for DD=2.33); smaller, but still highly significant, differences were observed in the technological capabilities and equipment of students (F=18.84, M for NRO=3.53, M for RO=2.92). According to the mean score, in the students, both observed parameters are problematic; it is; however, more considerable in the area of technological equipment than their actual skills. This is most significant in UDD students where the summary effectiveness of the IT environment (skills + technology) is only M=3.34 (M for RO=2.63).

The sub-dimension 'technology: teachers - school', measured by items of: teachers' digital skills, teachers' technological capabilities and equipment, school's IT equipment, school's readiness to provide necessary IT equipment, achieved an summary mean score M=1.45, which is quite a positive rating; no statistically significant differences between UDD and DD were founded. The only item where statistically significant differences between UDD and DD were observed was 'school's readiness to provide necessary equipment' (F=7.22, p=0.01), which is also an item rated, equally by teachers from UDD and DD, most positively among all the observed items. According to the mean score, the ratings of teachers from DD were superlative

(M=1.13), while the ratings of teachers from UDD were also positive, albeit slightly less so (M=1.37).

The above-mentioned observed results regarding the technological dimension comply with the assumption expressed in the research hypothesis summarily, as well as in individual sub-dimensions.

4.4.3 Communication dimension

Among the observed items was the extent of communication with students, where the most preferred choice throughout the entire research sample was 'any time necessary' (62.22%). As few as 4.44% of teachers only communicated with students during lessons, 8.89% provided consultations outside lessons.

The summary effectiveness of communication was founded at M=1.81, which is in the positive spectrum of the 5-point scale (albeit not markedly), while the differences between UDD and DD have a reverse tendency in contrast to the organisational and technological dimension and also in the rating of communication in UDD (M=1.85 compared to M=2.04 in DD); the differences being statistically significant (F=10.21, p=0.00). This summary result was mostly contributed to by the ratings of effectiveness in the sub-dimension 'effectiveness of teacher– teacher (school) communication'. This tendency is prominent in the mean score (M for UDD=1.16, M for DD=1.35, F=11.38, p=0.00), as well as all measured items: readiness to solve arising situations, mutual tolerance and respect, mutual support and understanding, ability to agree on the chosen techniques, willingness to look for adequate strategies. The only item where a slightly inverted tendency was founded is a lower level of effectiveness in UDD in 'availability of communication' (M for UDD=1.32, M for DD=1.21). Here, the mean for UDD was significantly higher in comparison to the other areas (M=between 1.11 and 1.16), while, in DD, the mean scores ranged from 1.29 to 1.50. All the differences between UDD and DD are statistically significant.

While the communication characteristics of teachers can be perceived as highly positively rated and effective, the results relating to the sub-dimension 'effectivity of communication with students' differ, which is also suggested by the summary score for this sub-dimension (M=2.36), in comparison to 'effectiveness of teacher – teacher (school) communication', with the mean score M=1.26. The tendency of differences between UDD and DD in communication with students also differed; unlike in communication among teachers, lower effectiveness was founded in UDD (the summery result for the sub-dimension being F=9.58, p=0.00, M for UDD=2.53, M for DD=2.23). The effectiveness of communication with students was measured by items of: the ability of students to work in the changed mode in the selected form, mediating relevant subject matter to students, understanding of the taught subject matter by students, activity of students during lessons, coordination of work with students, feedback from students, and the teacher's feedback to students. In almost all of the above items, statistically significant differences were found between UDD and DD while the tendency, according to the mean scores, seems to be identical – the rating of effectiveness of communication was lower in UDD than DD. The only exception was the rating of the effectiveness of teachers' feedback to students where no significant differences between UDD and DD were founded while, at the same time, the lowest mean scores were founded in the summary of dimension (M for NRO=1.84, M for RO=1.79). The most significant differences were founded in understanding the taught subject matter by students (F=18.42, p=0.00), where teachers rated the effectiveness of communication as significantly lower in UDD (M=2.79), compared to DD (M=2.29).

The results of the statistical processing of the obtained empirical data in the communication dimension comply with the assumption expressed in the research hypothesis in general as well as in individual sub-dimensions.

4.4.4 Attitudes – emotions – assessment´ dimension

The 'attitudes – emotions – assessment' dimension has a specific position in studying the nature of education in a crisis. Here, it was not the level of effectiveness that was measured, but rather the level of agreement with the presented positive and negative attributes in students, as evaluated by teachers, and in teachers themselves (self-reflection). Without the influence of a differentiating factor, it can be stated that, in general, a great difference was founded between assessing the positives in teachers (M=1.73) and students (M=3.18). The level of agreement with negative attributes was higher in (the self-reflection of) teachers (M=2.62) than in the evaluation of students (M=2.91); within the sub-dimension in question, the greatest differences between teachers from UDD and DD (F=23.65, p=0.00) were founded and a significantly greater level of agreement with the negative attributes was also observed in teachers from UDD (M=2.28), in comparison to DD (M=2.87), even though the score is close to the average values.

From among the following observed items within the 'assessment of negatives in teachers' sub-dimension: inappropriateness of the changed mode of education, problems with technical operation, a lack of a set daily routine, increased demands on the teacher's work, less free time, uncertainty regarding the used methods and outcomes, concerns regarding managing the new situation – the 'increased demands on the teacher's work' were rated as the most negative (F=4.03, p=0.05), more so by teachers from UDD (M=1.89), than DD (M=1.67). In contrast, 'concerns regarding managing the new situation' were rated as the least negative (F=12.72, p=0.00), which was more significant in UDD (M=3.50) than in DD (M=2.74).

The 'evaluating teacher's positives' sub-dimension, measured by items of: the opportunity to try and learn something new, the opportunity to try home office, the opportunity to organise one's work time, more free time, the opportunity to broaden one's knowledge in new ways, and the opportunity to implement one's creative potential, does not manifest summarily statistically significant differences between UDD and DD; among the individual items, only the differences in 'the opportunity to try and learn something new' (F=4.66, p=0.00) were significant, rated more positively by teachers from DD (M=1.17) than DD (M=1.37), which is, at the same time, the greatest positive in both groups of teachers. 'More free time' (M for UDD=3.21, M for DD=3.25) was rated as least positive.

'Assessment of negatives in students' by teachers was measured by items of: incommunicativeness, attempts to cheat and benefit from the situation, negligent and careless approach, lack of interest in education, concerns about managing the technology of education, decreased motivation, and lack of independence. The sub-dimension in question does not manifest any significant differences between UDD and DD, the average levels of agreement of teachers with negative attributes ranged between M=2.74 and M=3.21, while a majority of items in DD had a negative tendency. It was interesting to find out that the only significant differences occurred in 'attempts to cheat and benefit from the situation' (F=4.36, p=0.04, M for UDD=3.21, M for RO=2.75) and 'negligent and careless approach' (F=5.51, p=0.02, M for UDD=2.95, M for DD=2.50), as these negatives were much more pronounced in students from DD than in those from UDD.

The 'assessing positives in students' sub-dimension was measured by items of: increased interest in education, increased activity, more intense communication, joy, enthusiasm, more accommodating relationship towards the teacher, and more frequent initiative and creativity. Significant summery differences between UDD and DD (F=10.21, p=0.00) point to a considerably decreased intensity of positives, in comparison to negatives, which was more obvious in students from UDD (M=3.42) than in those from DD (M=3.03). Differences between UDD and DD are significant in all items and have a similar tendency – fewer positives in students from UDD. The greatest

differences were observed in 'more accommodating relationship towards the teacher' (F=16.00, p=0.00, M for UDD=3.32, M for DD=2.71) where, at the same time, the highest (in UDD) and lowest (in DD) average values for the research sample were founded in comparison to the other measured items.

The above results point to significant differences founded in the 'assessing negatives in teachers' and 'assessing positives in students' sub-dimensions, which complies with the research hypothesis. It does not, however, apply to the 'assessing positives in teachers' and 'assessing negatives in students' sub-dimensions.

5 Discussion and conclusion

The research into the nature of SCE in a crisis provides an opportunity to explore the specific conditions of a so-far uncharted environment, which is why the efforts to compare and contrast the findings of other research studies are marked by less identifiable intersections and similarities. The main line of the present research plan was determined by the selection of the differentiating factor – locality – and the findings point to significant differences. The nature of differences between DD and UDD across the selected dimensions and sub-dimensions and the observed levels suggests a higher level of effectiveness of education at schools in DD in comparison to UDD. This means that the conditions in the crisis made the topic of weaker and stronger links in education much more pronounced and pointed to the need for a specific system of techniques to be implemented in education in order to prevent inequalities regarding the opportunity to acquire education and find one's place in the labour market deepening any further.

According to the above results of the analysis, effectiveness of education in the crisis was rated mostly in positive spectrum on a 5-point scale, in some areas nearing the average. Great effort and thoughtful and responsible work on the part of teachers who, in these extraordinary and unexpected conditions, mobilised their potential to preserve the continuity of education in spite of multiple obstacles was the main contributor to the results. These findings conform to a study carried out by Song et al. (2020), where a majority of school directors and teachers manifested a high level of psychological and mental flexibility and quickly adapted their way of thinking to proactively face the new challenges. This is in line with Todd's study (2020) in which people assessed many problems related to the transfer of education to the online environment serious; however, they quickly found such solutions as spreading the lessons over several shorter blocks. More than a half of the teachers participating in the present research stated that they reduced neither the content, nor the extent of the curriculum, and if they did, this mostly concerned practical subjects that are near impossible to carry out outside the appropriate environment and without necessary teaching supplies. At the same time, the curriculum at second chance schools is usually less extensive and organised differently to regular schools (Meo, Tarabini, 2020). Teachers from UDD especially manifest a significant level of mutual professional assistance, support, and cooperation aimed at shared goals. The present findings point to considerably more demanding conditions for teachers from UDD who, more so than those from DD, experienced the negative aspects of working in changed circumstances, even though they rated the opportunity 'to learn something new' in a highly positive way, which corresponds to Yang's findings (2020). The available tools to carry out education were of paramount importance and determined the level of its effectiveness. They were, to a decisive extent, based on work in a digital environment, which means that anywhere that such tools, for various reasons (such as a low digital literacy and insufficient technological equipment), lacked necessary functionality, the effectiveness of education was considerably lower in all the observed dimensions and sub-dimensions. Similarly, Kulal and Nayak (2020) consider technical issues as the major problem for the effectiveness of online classes. Equally in DD and UDD, teachers rated technological equipment more positively than digital skills, which is why any relevant initiatives to increase their level of digital skills are more than appropriate and, possibly, effective, which is something teachers themselves agree with (Ostertágová, Čokyna, 2020). It is not surprising there is a strong correlation between the teachers' attitudes towards ICT and the frequency with which they use it (Li & Ni, 2010). The most frequently used online tool was the official asynchronous platform Edupage (DD – 38.46%, UDD – only 14.29%). Online conferences were used by 30.77% of teachers from DD, while not at all by teachers from UDD. None of the teachers from either observed area claimed they had used an interactive form of online teaching (such as Q&A) while these were the interactive tools most frequently used by teachers in China in Song et al.'s research (2020). These differences might evidence a dissimilar level of digital competences of teachers in various countries concerning teachers' training for online education.

In UDD, other available means were also used to preserve the quality of education, such as delivery by post or telephone communication, while teachers participating in a Slovak national survey (Ostertágová, Čokyna, 2020) considered this form of offline teaching the least effective. Based on this, it could be stated that the level of quality and availability of digital equipment affected the effectiveness of education most significantly. It not only concerns the facilitation of the subject matter by teachers and feedback from students for the purposes of assessment but also the necessary support in direct communication and sufficient space to motivate students, building mutual understanding in live interactions and the possibility of flexible corrections at the operational as well as human level. Even when online education took place, the level to which the students understood the subject matter was much lower (more significantly in UDD than DD). In Todd's research (2020), teachers labelled evaluating students, feedback and appropriately stimulating activities as ongoing problems of online education. This is a significant indicator of the digital age bringing about many improvements, creating new possibilities and opportunities; however, it is in these conditions that require most support in order to mitigate inequalities that lead to the most powerful effect of those factors that determine the formation of a marginalised space, as the potential of technologies to decrease social inequalities and sustain development is only possible if everyone has access to them (United Nations, 2020). The target groups who need a helping hand most face even deeper unfavourable conditions than before, both in their personal lives and society-wide context. This is also confirmed by several other studies that observed a decline in learning due to the summer break (Downey et al., 2018; Alexander et al., 2007; Ready, 2010; Bonal, Gonzáles, 2020).

Research findings unambiguously confirm concerns regarding deepening social inequalities (Dhawan 2020) due to the inability of the education system to guarantee a reduction of inequalities in education in the changed conditions (Stanistreet, 2020; Bonal, Gonzáles, 2020), especially with regard to such (practical) subjects, which cannot be taught online (Cedefop 2020a). The quality and effectiveness of those subjects that can be taught online is significantly influenced by the level of digital skills, especially in students from UDD, in combination with insufficient infrastructure and worse equipment in the area of digital technologies (Alcazar et al. 2020). In this way, the crisis mode helped reveal the key risks of ever-strengthening trends of digitalisation in all areas of human life and the related priorities of the labour market towards further deepening of inequalities. What is, at present, categorised as 'risk' will manifest in the future as an ill-conceived strategy with its own consequences (UNESCO 2020). To what extent the risks will become active depends on those involved (Cournoyer, Fournier, Masdonati, 2017) when, in the Slovak Republic, the greatest significance is to be born by the approach of individual schools, mainly teachers. The results of the present analysis point to the key role of individual teachers who are to guarantee the continuation of education (or prevent its suspension), including the effort to sustain the necessary quality and effectiveness, even though closing schools caused (also in teachers) a higher level of stress connected with greater pressure on their flexibility, initiative, and blurring the borders between work and family life (Košir et

al., 2020). It seems the case that, with the goal of preventing deepening social differences between better and worse digitally and economically endowed adult students, it will be necessary to introduce several measures at the level of schools, self-governing regions, as well as the Ministry of Education, regarding improved technological school infrastructure, digital skills of teachers, as well as searching for and testing suitable alternatives to practical education, or measures directed at increasing digital skills of adult students and their technological facilities at home.

A more complex image of the effectiveness of the distance form of education would be gained from data regarding its course and effectiveness provided by adult students themselves, as well as from comparative research into other forms of education, or other specific features of education in a crisis. The present analysis provided a great number of answers to topical questions and also created space for further, more in-depth, areas, especially related to the status of students in SCE. Within the project *Teaching at second chance schools from the perspective of a teacher and adult learner*, other findings will be presented and placed into a broader context, including a proposal of systemic measures to increase the effectiveness of education.

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RESURRECTION OF EVOLUTIONARY PSYCHOLOGY IN GAMING: HOW CAN OLD PRINCIPLES CONTRIBUTE A NEW DOMAIN

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The study is a partial outcome of the scientific project supported by Cultural and Educational Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic (KEGA) No. 023UCM-4/2020, titled 'The development of digital game studies and design'.

Abstract: The multidisciplinary character of game studies enables the implementation of knowledge from various study fields, and so explores games in different terms. However, not all approaches have so far gained sufficient attention. This study introduces the meaning of evolutionary psychology as well as points out its significance and certain neglect in relation to present digital games research. The exploratory study aims to contribute to the creation of a theoretical framework for the research of digital games from the perspective of evolutionary psychology. Partial goals include summarization, characteristics, and applications within the gaming discourse illustrating far-reaching ways in which evolutionary theory could potentially advance digital games research and hence enrich the game studies in general.

Keywords: digital games, evolution, evolutionary psychology, game studies, gender differences, supernormal stimuli.

1 Introduction

Game studies, a more general term including the academic study of digital games and related phenomena are defined as an interdisciplinary or multidisciplinary field of study that interconnects knowledge from computer science, anthropology, sociology, philosophy, art, literature, media, and communication studies with theory based on traditional game concepts and game design. [1,2] Considering the defining aspect of digital games is the interaction of players, the implementation of knowledge from psychology is also notably important in the study and research of games. However, several areas of psychology have been rather neglected, which should change in order to extend comprehensive knowledge and opportunities for their research. One of such approaches is *evolutionary psychology*.

Evolutionary psychology is a psychological approach applying principles from the field of evolutionary biology particularly from a widely – known theory of natural selection proposed by Charles Darwin in 1859 [3] to the research of human brain and behaviour. Evolution conveys means by which organisms are changing over time and so is changing its understanding. Theories of evolution proceeding the one of Charles Darwin were described before, e.g., Jean Babtiste Lamarc's or George Léopold Chrétien Frédérick Dagobert Cuvier's and also afterwards, such as William D. Hamilton's. [4] A simplified explanation of Darwin's theory addresses accidental inherited changes within the competition of survival and reproduction. Changes in organisms that aid survival and reproduction continue, while those who limit survival and reproduction disappear. [5] The core principles of Darwin's theory of natural selection include: variation, inheritance (evolutionary theory focuses only on inherited variations) and differential reproductive success meaning possessing variants that increase or decrease chances of survival and reproduction. [5] Except from, the theory of natural selection Darwin later proposed the theory of sexual selection so *"there are two general evolutionary processes that create adaptations: natural selection and sexual selection"*. [6 p4] While natural selection pays attention to adaptations as a result of successful survival, sexual selection focuses on adaptations as a result of successful mating and could manifest either as intrasexual competition or intersexual competition. Meanwhile, variation and selection act as opposing mechanisms – mutations and recombinations increase genetic variation, natural selection decreases it. [7]

Darwin's work considers not only physical characteristics but also behaviour. Thus, as stated for example by Buss [6] limiting evolutionary psychology to mating and sex differences is insufficient since it has a potential to shed light onto all sorts of human behaviour including social interactions, language, morality, learning, motivation or emotions – all topics heavily in the focal point of the psychology of digital games as well. In terms of the topics conveyed by evolutionary psychology we can distinguish four universal and innate Darwinian modules that emerged as a reaction to specific survival problems: reproductive module including issues of attractiveness, courtship, partner selection, survival module including for example competition, selection of shelter and living environment or feeding habits, kin selection module regarding the order and relations of siblings and reciprocation module including social aspects such as gift-giving behaviour and means of fostering relationships. [8]

2 Applications of evolutionary psychology in digital games

Evolutionary psychology is being mostly overlooked by the domain of digital games. Currently, with the gaming practice turning more and more towards the insights from the psychology, this topic surely has a potential to grow. It can benefit designers (e.g., subjects of competition, evolutionary background of emotion, attention or preferences), researchers (e.g., gender specific insights) and gamers themselves (e.g., the topic of gaming addiction and signalling). With the majority of the research in social sciences focusing on so called proximal causes with standard social science model ignoring innate differences and favouring social learning [6], evolutionary psychology turns to ultimate causes of individual behaviour. Proximate causes are trying to inform us how an effect works and ultimate causes ask why it even exists. In the context of digital games this distinction projects into the debate of play as *a cultural artefact*[1] vs. play as *a biologically rooted phenomenon*.[2] It is essential to note that these two approaches doesn't have to exclude one another, but they together can and even should explain nuances of human behaviour. Evolutionary psychology aims to fill in the gaps within applied psychology research (with psychology as a discipline fairly fractured between various approaches and schools of knowledge) with the ambition to be unifying and more universal.

Taking into account the richness and strong theoretical background of the presented areas, in the following sections, the paper introduces a condensed general overview of the applications and potential of evolutionary psychology in gaming in an effort to raise general awareness of this topic and, where appropriate, also its consideration in relation to further research.

2.1 The nature of gaming itself

The process of evolution produces either adaptations, by-products of adaptation or random effects/noise. [4] There exist an ongoing debate whether video games as a cultural product are grounded in certain adaptive process (digital games as an adaptation bringing certain advantage) or whether they just might serve as a by-product. Huskey et al. [12] elaborate on two types of play considered as adaptations: rough-and-tumble play originally defined as a physical form of mammalian play including chasing and fighting and pretend play.

According to Mendenhall et al. [13] we might have evolved the capacity to play as a mean of addressing specific evolutionarily relevant problems. They furthermore outline a perspective that gaming helps us acquire "artificial" fitness in virtual world (e.g., sports or shooting abilities) instead of the real fitness in the real world and suggest that some might argue that video game playing not offering real fitness benefits is therefore maladaptive. [13] On the other side, there is the notion of the Training for the

[1] Huizinga [9] defines a game as a phenomenon older than culture, in which the culture is born. According to Durkin [10], a game is a cultural artefact that can be studied regardless of medium.
[2] Žbirková [11] says that man encounters a game at all ages and stages of development, but its content, forms, and tasks change with age.

unexpected hypothesis. Described predominantly in relation to animal behaviour, Training for the unexpected hypothesis focuses on one particular function of play – to rehearse behaviour. A safe context of play (which we can easily apply to playing digital games) provides an opportunity to experiment with a behaviour in a safe environment leading to novel and possibly adaptive responses. [14]

Niko Tinbergen – a Nobel Prize laureate in Biology – used dummies to elicit (nurturing, mating or fighting) responses in animals and found out that some of the dummies elicit even stronger responses than those occurring naturally. [15] He coined the term supernormal stimuli for *"exaggerated, often artificial or simulated versions of natural stimuli, for which evolved responses exist, thereby provoking naturalistic or even stronger reactions by the recipient"*. [16 p55] Supernormal stimuli (in popular culture for example junk food or pornography) are often preferred to natural ones (because they activate reward pathways in our brains more in comparison to stimuli for which these systems were originally intended) [17] making them prone to excessive consumption and a precursor of an addiction. A thorough work regarding the evolutionary roots of addiction is presented by Van Staaden et al. [18], nonetheless, links specifically to gaming addiction are not so far sufficiently examined in academia. In the context of digital games a supernormal stimulus can be any feature that is more "hyper" in pretty much any sense of the term: more attention grabbing, in forms of exaggerated visual features – cutest, sexiest, more horrifying, in a form of an exaggerated sense of progression in game or a variety of similar exaggerated features at once described in Naomi Alderman's [19] article about *Candy Crush Saga* (King, 2012). The promotion of digital games often utilizes particularly exaggerated female shapes (through partially exposed décolletages, revealing clothing, etc.) as marketing appeals, e.g., ads for game series *Dead or Alive* (Team Ninja, 1996-2019). Currently, this strategy is also applied to mobile games, but while in the game *Kiss of War* (tap4fun, 2019), luscious women from ads are also a part of the game, many other games use sexuality just within so-called *fake-ads* or *fake-gameplay-ads*, i.e., the gameplay itself is completely different from the game's ads. [20]

2.2 Games as a learning tool about evolution

Additionally, evolution in relation to digital games can act not only as a theoretical or research base, but also as a main topic in a narrative. This notion can occur in either entertainment or serious game titles. Perhaps the best known depiction of evolutionary content in digital games is a game *Spore* (Maxis, 2008) as a single player evolution simulation game (where a player takes care of a being from a single cell stage up to an intergalactic life form) sparked a debate about the accuracy of this playable version of evolution process and its pros and cons as a potential learning tool. *Spore* is considered an interesting learning tool facilitating the overall interest in the topic of evolution [21] while at the same time is being criticized for scientific misconceptions regarding evolution: need-based causality, operating on individuals rather than populations, lacking randomness and variation of evolution, not being able to observe genetic variability over time or within a particular specimen, reinforcing a notion that evolution is caused by an external force (the player), changing body parts or behaviour in order to meet in game goals forgetting functions are the result of random mutations and natural selection, abrupt transition from creature stage into human-like form or giving the process of evolution a clear goal it naturally does not have.

Hereby we can observe the everlasting and so far unsolved discussion within the field of digital games about the "fun" (in order to motivate and engage) versus educational goals. Other games relevant to this topic are *Defender: Natural Selection* (National Geographic, 2021) targeted at a more narrowly defined audience of grades 5-8 students created primarily for educational purpose and board-game based strategy game *Evolution* (North Star Games, 2019). Assessing each title's accuracy in terms of evolutionary psychology would require an absolute knowledge of each of this games and game's commitment to scientific rigor is certainly a subject of opinion based on whether the game is marketed as entertainment or edutainment one. In our point of view each game has the ability to serve as a learning tool. And each and every existing tool has its limitations therefore using such game in educational setting requires additional explanations and guidance (from a lecturer) including the confutation of potential inaccuracies. All in all, even after many years of interest digital games are still challenged by the lack of general guidelines for educational purposes, general character of resources concerning game-based learning, a vague link between particular game mechanics and educational purposes and Limited transfer of training hypothesis suggesting the unknown adaptability of skills acquired in digital games to real-life setting.

2.3 Gender aspects and physical attractiveness

Evolutionary psychology pays a great deal of attention to gender differences because it believes men and women are facing different adaptive problems leading to the implementation of different adaptive strategies. [22] Evolutionary psychology approach is a fruitful addition to research adopting *Social cognitive theory of Gender differentiation*. Typically, academic literature supports the notion of gender differences in gaming. Male gamers prefer achievement-oriented, competitive, aggressive and warfare games to a greater extent than female gamers. [13,23,24] Men also manifest more positive attitudes towards first person shooter games and real-time strategy games. Women evaluate party games, life simulators, and platformers more positively. [13] Market research company Quantic Foundry has been mapping gamer motivation in a large-scale study since 2014. In their research report female gamers' primary motivations are more often Design, Fantasy, Story, Completion and male gamers are more likely to be driven by Competition, Destruction, Challenge, Excitement, and Strategy. Yee [25] from Quantic Foundry calls attention to the moderating role of age in this context – e.g., gender difference in competition tends to disappear with age. With the everlasting inflow of new game titles, gender research within digital games is a topic that will never be outworn. Since gender is quite a strong predeterminant in gaming, we should count for it as a moderating variable also in cases when our research is focused on other topics than gender itself. With the areas of gender differences in gaming motivation and genre preferences covered in academia at least to some extent, we find it interesting to change the direction of research interest towards gender differences regarding game mechanics and objectives with the acknowledgement of its evolutionary appeal.

As mentioned in the introduction, the key part of the theory of natural selection is reproduction. According to Li et al. [26] the function of attraction is to *"direct one's attention and energy towards pursuing, mating with, and retaining individuals who display traits that contribute to greater survival and reproductive success"*. Individual can experience two types of benefits from his/her mate's physical attractiveness, both important from evolutionary perspective: direct benefits for the perceiver of such attractiveness and indirect benefits for perceiver's offsprings. [27] The purpose of the attractiveness signals is to enhance mating success by attracting mates or intimidating rivals. [28] We try to asses reproductive value of potential partners and then compete for high quality mates and signal our own reproductive value, all at the same time. In digital environment it is an imperative to know the evolution-based principles of attraction perception from the point of avatar design, both for developers trying to address certain audience and players trying to impress other players or reflect their own personality within their avatars. According to the research of Rusňáková [29] during the avatar creation process the vast majority of players take into account and apply mainstream beauty standards (attractive, strong, young, with an athletic body, etc.) at least to some extent. The choice of appearance reflects their desires for a better and more enjoyable life, and most of them at least once created an avatar that represented an idealized version of their physical appearance.

Overall, as attractive are perceived biological indicators of health and fertility (evolutionary psychologists refer in this context to the concept of reproductive value) such as youth, healthy hair

and teeth, clear skin, pink cheeks, clear eyes and average and symmetrical facial characteristics. Nonetheless, Perret et al. [28 p417] adds that "*exceptionally attractive faces deviate from the average, and averaging the highly attractive faces produces a composite that is more attractive than the average of the entire population"*. Reproductive value of women is judged mainly based on physical attractiveness and is more dependent on age (women are considered the most attractive at an age of their highest reproductive value so it is reasonable that they oftentimes employ beauty means by which they lower their perceived age). [28] Another attractiveness indicator is waist-to-hip ratio whereby the ratio perceived as the most attractive for women across cultures is approximately 0,7 [3,30], according to Barber [28] the range perceived as attractive lies between 0.67-0.80 for women and around 0.85-0.95 for men. According to Beck et al. and Gitter et al. [28] both sexes perceive "hourglass shape" as desired for women. More than that, slim waist is also an indicator of youth because older women and men tend to gain fat around the abdomen. [28] Interestingly, the ratio itself is independent from the weight a person has. A character heavily criticized for the inaccurate and distorted representation of female body (waist-to-hi-ratio) was *Lara Croft*. [31] Wells and Nicholls [32] analysed relationships between weight, size and body compositions in real and fantasy women. They calculated that Lara Croft had presumably a Body Mass Index comparable to women with anorexia. However, the depiction of Lara Croft has changed throughout the years and particular versions of the game and we were not able to determine which version of Lara Wells and Nicholls analysed.

Moving towards male signs of attractiveness, the reproductive value of men is hardbound to social status and dominance. [6] Also in games, men prefer avatars that reflect these aspects. [13] Women also notice in men shoulder width or shoulder-waist ratio and upper-body strength that is from the evolutionary perspective interpreted as an adaptation for hunting or fighting, as well as other signs of physical strength (representing the ability to protect). [28] We should not omit psychological aspects of attractiveness such as agreeableness or intelligence that has served as an adaptive advantage for both sexes. [33]

In terms of facial attractiveness specifically, attractive are in general features signalling the absence of parasites, abnormalities or sickness, symmetry, averageness (resemblance of a face to the majority of other faces within a population linked to genetic diversity), secondary sexual characteristics/dimorphic shape cues (meaning feminine features in women and masculine features in men), skin color/texture related to good health a marginally also age, weight, eye and hair color, facial hair and makeup [27] The topic of the face attractiveness signals is linked to psychological effect called the Baby-Face bias or more in line with the language of evolutionary theory the perception of the neotenous bodily traits. As neotenous body traits are considered large eyes, tiny nose, large forehead, round cheeks, round face, tiny chin, indistinctive cheek bones, hairless skin, fair complexion and hair. [30] These features encourage nurturant responses and parents' engagement in caring and protecting their kin. In contrast, prominent cheekbones or large chin are perceived as mature and suggest social dominance and competence. In this respect we tend to perceive people and things with baby-faced features as owners of childish characteristics such as naivete, helplessness, honesty, innocence, incompetence. [30] In certain situation we can prosper from baby-face bias (for example, we could be perceived as more honest), in other it can be the opposite (e.g., manager with neotenous traits is perceived as less competent). In games, we can observe this exaggerated baby schema characters in the first (non-evolved) stages of *Pokémon*, several characters of *Super Mario* universe, and, especially, (not only) women in manga-style animation, like the *Final Fantasy* (Square Enix, 1987-2021) series.

Another research-worth application of baby-face bias and other phenomena linked to the perception of human attractiveness can be seen within the realm of so-called Proteus effect defined by Yee and Bailenson [34] as a behaviour that reflects our digital self-representation regardless of how that representation is perceived by others. Therefore, our in-game behaviour will be in line with the adorable or fighter appearance of our avatar. Not only are we altering our avatar, but our avatar (especially its physical appearance) is shaping us to certain extent.

2.4 Signalling

Signalling theory represents a theoretical framework regarding communication between individuals based on the study of animal communication. The aim of signalling is to communicate an underlying quality – e.g., to impress a potential mate, demonstrate fitness, build alliances, gain reputation or intimidate rivals. Evolutionary signalling theory presume that signal is beneficial both to sender and receiver. [35] Signalling is in close relation to the concept of competition. Evolutionary biology pays attention to the competition between species or within a certain specimen. Competition ascends in relation to insufficiency or demand. [36] The more important the need for survival, the more protrusive the competition. [36] Signals may be honest or dishonest (deceptive).

Simultaneously, competition, or *agon* [37], is one of the basic game principles that occur in modern games [28]. Various challenges related to competition are present in both singleplayer (comparison of high scores, online leaderboards, etc.) and multiplayer games (eSport, etc.), but whereas multiplayer games are primarily based on mutual player interactions, competition is more obvious here on several levels. [39] Massive multiplayer online games enable signalling of the player's status in various ways: symbolic (high level, rank in leaderboards, position in guild/clan, etc.), visual (customization of avatar appearance, skins, owning legendary items – weapons, armour, companion, etc.), in behaviour (dominance, superiority, etc.). For example, in multiplayer online battle arena *Fortnite Battle Royale* (Epic Games, 2017), currently one of the most popular digital games, more exclusive purchased skins of avatars reflect the more experienced level of the player, thus the basic appearance of an avatar indicates game rookies, "noobs".

2.5 Evolutionary roots of preferences

Preferences as subjective evaluations of alternatives are crucial determinants of choice and decision-making process. They facilitate the design of particular alternatives and the prediction of the final decision. The knowledge about target group preferences is an imperative for the design of any kind of communication. The research of preferences is in general precarious for the reason of mostly implicit nature of preferences and their uncertain stability in time.

Evolutionary psychology deals with food preferences (food rich for calories being important for survival), colour preferences (solely in the context of blue usually being the favourite due to innate preferences for clear water and sky) and most important in our context the preferences of certain physical environment that established because certain environments are more suitable for survival and reproduction than others offering more resources, possibilities for a shelter, better weather conditions and less pathogens or predators. [13,40] Overall, from the point of evolutionary psychology we incline towards: natural scenery as compared to artificial environments, clear flowing water in comparison to still water, grassy scenery with scattered trees compared to a dry landscape without trees, mountains in the background in comparison to even terrain. We distinguish so-called savanna preference as a "*tendency to prefer savanna-like environments to other types of environments"*. [30 p212] According to Lynn et al. [5] this preference is stronger in case of younger individuals who are less influenced by experience. In games, an ecologically harsh environment may be sometimes utilized in order to create a compelling fear-inducing ambiance. [13]

In the context of digital games, the reflection of this principle is intricate due to the complexity of the game design process, but on the other hand, it provides more creative opportunities for further research. At first, concerning the aforementioned preferences of

the environment, the digital-gaming environment is artificial in every way, so it rather depends on its processing and the extent of the players' immersion during gameplay. The character of the digital-game environment and its subsequent perception by players is then strongly influenced by the overall visual style of the game (e.g., photorealism, caricaturism, abstractionism) and audiovisual elements of game environments like dimension, point of perception (perspective), visual outlook, and others. [41] In summary, preferences of the environment are primarily based on evolutionary psychology, but secondary affected by the nature of the game design. A separate category within the environmental preferences should probably be sand-box games, like *Garry's Mod* (Facepunch Studios, 2006) or *Minecraft* (Mojang Studios, 2011), allowing players to control the environment, create most of its aspects, or even create their own worlds.

However, it still applies that game progress or success is directly related to the knowledge and understanding of the game environment. It is oftentimes the essential condition for beating the game. According to Liboriussen [42], improving our chances of survival by knowing the environment in a particular game is not only a question of evolutionary past influencing landscape perception, but it holds a literal sense of survival within a game. An interesting example is the game *Control* (Remedy Entertainment, 2019). The game environment is represented by the interior of the Federal Bureau of Control building which is cross-dimensionally shape-shifted by the reality-corrupting entity. Throughout the game, the player restores the interior to its original state – from geometrically creative but dreadful to the boring, sterile, but (potentially) safer.

2.6 Evolutionary background of emotions

Emotions are represented either as an emotional value of a stimulus (e.g., fear-evoking) or as an emotional state of an individual. Emotions play a central role in information processing with its selectivity as well as decision-making process. From the evolutionary optics, distinct emotions established as a reaction to specific adaptation problems of our ancestors meaning that those who manifested particular emotion were having an advantage in terms of survival. Essentially, emotions serve a purpose of avoiding danger and direct organism towards prospect or reward. [43] Each emotion has its distinctive purpose and this notion applies also to emotions we tend to pinpoint as negative. The evolutionary purpose of fear is the activation of defence mechanisms and preparation for fight, flight or freeze. In psychology, there is an ongoing debate about the optimal level of evoked fear. Knowledge from evolutionary psychology supports the general idea that the level of evoked fear should be neither too low (will not provoke an adaptive reaction) nor too high (will be paralyzing). [3] Overall, stimuli associated with high fitness costs generate higher level of fear response and subsequently may lead to more significant changes in attitudes and/or behaviour. At the same time, fitness costs are moderated by gender, therefore reactions to fear will probably manifest gender differences and this notion is not always taken into the consideration. Evolutionary background of anger describes its purpose as a preparation for another plausible aggression, aid in defending ourselves, maintaining an advantage over rivals, building certain status, discouraging rivals from aggression or even discouraging partner from infidelity. [3] Function of grief is to shut away and regain strength or to call for help, the purpose of joy is to direct goal-oriented behaviour or motivate. [44]

Fear-evoking elements belong to the most common design features in digital games as a result of the general preference of the horror genre across the entire pop-culture. Digital games have been implementing the horror genre since the very first titles. This genre is particularly suitable for minimalist game storytelling, presenting a familiar world with disturbing content and twisted topics to make it seem special. In addition to the practical benefits of this genre for game development, it enables manipulation of certain key emotions, like tension and fear, and pride. [45] Currently, elements of a horror genre are a secondary but important genre aspect of many games, including action games or blockbuster games with extensive storytelling, like *Control* (Remedy Entertainment, 2019). According to Clement [46], in 2020, 24.5% of gamers worldwide preferred to play digital games, in which horror and survival genres dominated, e.g., *Resident Evil* series (Capcom, 1996-2021), one of the highest-grossing horror franchises.[3]

Aside from the general preference of fear-evoking genres, the same emotions can also be observed as ludic experiences, thus the result of the player's interaction with the game design. For example, the fear of losing or failing in reaching game goals is present in non-horror and even non-narrative games as well. [48] The same applies to violent digital games, which overall reach the same, if not greater, popularity as horror games. Needless to say that violence is not necessarily a game-required behaviour. Digital games like role-playing games with open-world provide options to act violently or not, or to use violence in situations that do not require it. [49] Further applications within the domain of digital games include design of facial emotional expressions of avatars [50], emotion regulation [51], frustration as an important determinant of game's individual evaluation [52] or evolutionary origin of empathy and emotional contagion [53] leading to further social contexts.

3 Conclusion

To properly understand gamers' behaviour, we should look at both ultimate and proximate explanations. So far, proximate explanations are dominant in related academic work and evolutionary psychology within the domain of digital games is in a phase when it generates more questions than it proposes answers. We have to remember, evolutionary psychology is not the sole explanation for phenomena of gaming, digital games are a cultural phenomenon subjected to very individual psychological effects, but its evolutionary background should not be overlooked because it has a potential to fill in the gaps of dominant research approaches within the field.

The presented exploratory study aimed to briefly introduce the general overview of the vast array of applications from the rich biologically informed field of evolutionary psychology into the design and research of digital games. At the beginning, we outlined opinions regarding the evolutionary background of gaming as an activity with the notion of supernormal stimuli within games. We proceeded to discuss games as a learning tool about evolution with particular examples, common inaccuracies about the process of evolution and broader discourse about the problematic areas of serious games design in general. Talking about evolutionary psychology, we had to pay attention to gender differences in preferences and motives and importantly for the design of avatars we focused a bit more on aspects of physical attractiveness. Later we very briefly outlined signalling theory and its relatedness to competition, evolutionary roots of preferences, especially those of the physical environment and we ended our efforts with evolutionary background of emotions and their adaptive meaning with the emphasis on fear-evoking elements.

The main limitation of the study was, understandably, an excessive range of selected topics, therefore we were not able to cover this comprehensive issue in-depth (e.g., the concept of costly signalling or dishonest signalling) and we even had to omit socially oriented topics such as gift giving or cooperation. Due to the negligence of the presented topic in academic literature, there exist many prospective areas for potential future research related to digital games discourse worth further insight: i.a. gaming environment preferences, dishonest signals in games, attention grabbing potential of supernormal stimuli in games, the evolutionary background of the preference for particular game mechanics differentiated by gender, perception of avatar attractiveness.

[3] This does not include cross- and multi-genre games containing fear-evoking features and elements of the horror genre, but not to the extent to determine the genre of the game, e.g., *The Last of Us* (Naughty Dog, 2013). Therrien [47] mentions certain disagreements on the thematic elements defining the horror genre. Many famous digital games can be, therefore, associated with various versions of horror like the uncanny, marvelous, or fantastic.

We believe this study can contribute to the extension of the theoretical background of game studies and its research and inspire further interest in the topic. All of the aforementioned areas of evolutionary psychology have vast application potential also within the domain of marketing communication and with the promotion of digital games having its specifics, it would be interesting to later move this research focus towards that direction.

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Primary Paper Section: A

Secondary Paper Section: AJ, AN

DECISION-MAKING FACTORS IN CONSUMER BEHAVIOUR ON THE MARKET WITH DECORATIVE COSMETICS

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Abstract: The article explores major decision-making factors in consumer behaviour when purchasing decorative cosmetics. The employed methods involve brainstorming and structured interviews. The most powerful internal stimuli are body care and looking good. On the other hand, a desire to try a new cosmetic product plays a rather subordinate role. The main external purchasing factors involve a recommendation from a friend or relative. On the contrary, aspects such as vegan composition of the product or its packaging do not attract much attention. However, research conclusions cannot apply on the long-term basis given to the rapid development of new technologies and marketing strategies in this branch. It is therefore imperative to monitor the current market trends.

Keywords: consumer behavior, marketing, brainstorming, Word of Mouth, influencering

Introduction

Consumer behavior has always been a burning marketing issue. Companies examine hidden motives that influence customer's decision-making. These purchasing stimuli help organizations develop more effective marketing strategies to break into the competitive market. The huge challenge for all businessmen is thereby to attract consumers to buy their products or services. It involves a deep psychological insight into consumer's mind, thinking, feeling, arguments and decision between available alternatives. What also needs to be considered is consumer's immediate environment such as culture, family and influencing media. All these aspects are imperative to launch a vigorous marketing campaign aiming at consumers (Stankevich, Akhunjonov and Obrenovic, 2017; Kicová, 2020).

Consumers nowadays have an infinite number of opportunities what to purchase. In view of the fact that products are very similar and with no significant differences in quality or price, the choice depends on more than 'traditional' variables (Willman-Iivarinen, 2017; Nadányiová, Klieštiková and Olah, 2019).

All people are consumers but, at the same time, they consider different factors that influence their purchasing behavior. A reasonable consumer is rational, seeking the maximum use of the product, involving material possession and related services. The determining aspects include consumer's financial resources, availability of the product, overall company supply and customer marketing communication. These criteria comprise marketing mix 4P (Novotný and Duspiva, 2014).

The article intends to evaluate consumer behavior when purchasing decorative cosmetics based on specific decision-making factors.

RQ1: Which and how internal motives prompt a customer to buy decorative cosmetics?

RQ2: Which and how external factors prompt a customer to buy decorative cosmetics?

RQ3: What is the difference in consumer behavior on the market with decorative cosmetics throughout age categories?

1 Literature research

Looking through shelves, a consumer can see up to 300 different products per minute. Such a gargantuan bulk of merchandise effectively prevents brands from capturing his attention. The competition within such an exorbitantly stimulated environment is extremely fierce and engaging packaging appears to be the best weapon. The significance of marketing product encapsulating was subjected to a careful examination revealing that not only package neatness, safeness, convenience and product commercialization, but also brand identity, attractiveness and explicit category can win the battle. Moreover, a type of packaging is imperative for product added value and consumer behavior. Some previous researches on product packages emphasized multi-functionality, while others compared different package types and their influence on consumer behavior (color, shape, size, pictures etc.). Most studies confirmed that product coverings are essential in consumer's decision-making, as attractive containers may hugely encourage the purchase. Appealing wrappers are not thereby only a powerful competition tool, but also a strategic instrument to identify and decide between products by breaking away from a rivalling chaotic selection in a shop or supermarket (Moya, García-Madariaga and Blasco, 2020).

There was a time when scientists formulated general theories within the framework of consumer behavior. Modern science focuses more on specific determinants and relations, effectively dealing with interdisciplinary issues such as neuroscience. This penetration gave the grounds to other academic spheres, e.g. neuromarketing. This new branch explores functioning of human brain and responds to marketing stimuli using neuroscientific principles. (Stankevich, Akhunjonov and Obrenovic, 2017). Neuromarketing presents a field of study that applies neuroscientific methods to analyze and understand human behavior relating to marketing (Bočková, Škrabánková, Hanák, 2021). These techniques only supplement and develop other methodologies of consumer behavior, for example observation, surveys and questionnaires (Maynard et al. 2019).

The rapid development of the internet and smart technologies effected dramatic changes in human lives in the last two or three decades. This abrupt technological transition had a profound impact on culture and social trends, and consumer behavior was not an exception. Irrespective of great technological boom, it is assumed that consumer behavior has not been significantly affected; however, there was a drastic change in exploiting resources. Rapid technological development, social trends, varied selection of goods and services and economic boom factor in a sudden twist in purchasing behavior on the market. Marketing managers have to adapt to the changing lifestyle and consumer behavior (Žák and Hasprová, 2020; Král et al. 2020). Social networks and online marketing present another crucial aspect to consider. Shrewd businessmen seek cooperation with influential people, instead of chasing after potential purchasers. Prominent personalities promote products with the view to persuading consumers to a purchase. The personages are chosen by their popularity, reputation or professional knowledge. This type of marketing is called WOM (word-of-mouth marketing).

Branding (using celebrities to promote a product) has become increasingly popular not only with bloggers, but also common users who have great influence on others. Influencer marketing is the most successful strategy for addressing new consumers by online media. A lot of influencers are also bloggers – people who share experience, stories or interests with wider internet community. Many of them had not been regular influencers and only had pursued their scope of interests. These people involve sportsmen, actors, adventurers or mothers on the maternity leave. Each of them can aim at a specific group of people and promote a different product. The innermost core of influencer marketing consists in a good product promotion, which means that the influencer must identify with the advertised goods to eliminate doubts about his/her experience or, even, knowledge about the commodity (Žák and Hasprová, 2020; Slabá, 2019). Social media also allow entrepreneurs to maintain an enduring relationship with customers and respond promptly to growing demands. This represents another critical element involved in consumer behavior (Mazeed et al. 2019). On the other hand,

these communication channels could be for some types of people addictive and dangerous (Porter et al. 2020).

Word-of-mouth (WOM) communication presents a different convenient method of controlling consumer behavior. WOM may be defined as "informal verbal communication established either face-to-face, or by phone, e-mail, addressee register or another communication technique". WOM is an invaluable data source created by individuals or businessmen through which the acquired information is forwarded to other users. WOM's main goal is to make consumers highly knowledgeable about products or services before the commodity or service is used. WOM communication content brings positive or negative information about providers, products or services. Positive or negative data stored on WOM and observing purchase of other consumers have a deep impact on individual's purchasing behavior (Wang and Yu, 2017).

Enterprises should also maintain a close relationship with customers to inspire intense loyalty a consumer displays to a specific product or services. Above all, it involves direct communication and keeping customers satisfied (Sun, 2020). Customer Relationship Management (CRM) is an effective tool to build up long-standing relationships including loyalty, performance or incentive bonuses, which also control consumer behavior. These benefits offer discounts or points traded for products or services provided by the company to win stakeholders' loyalty (Filipe, Marques and Salgueiro, 2017; Žilinská, Vrbka and Kalinová, 2021).

Marketing solely aims at addressing consumers at the moment of making a decision – they are suspectible to controlling (so called 'breaking points' or 'contact points'). These very moments are much sought after (Stankevich, Akhunjonov and Obrenovic, 2017).

The data on consumers are acquired and processed through a structured interview with a subsequent evaluation of factors dramatically influencing consumer behavior on the market with decorative cosmetics.

2 Data and methods

The relevant data were amassed through brainstorming and structured interview with customers. Pertinent questions included in the interview aimed at capturing data from respondents which were further analyzed and evaluated according to the set objectives and research questions, all relating to consumer behavior on the market with decorative cosmetics.

We started with brainstorming when respondents answered research questions concerning internal motives, and external stimulating factors leading to the purchase. This extensive mass of data collected from respondents gave sufficient grounds to a structured interview which took place in České Budějovice in the Czech Republic in April 2020. The systematic survey primarily covered women throughout age categories which commonly use decorative cosmetics – 15 respondents in total. The first question concerned whether the consumer is suitable for the research. If so, selected respondents were further divided into age categories as follows: less than 25 years, 26-40 years and 41 and more years. Each group involved five respondents who provided data on their consumer behavior in specific age groups. The next part contains the rated answers.

Four selected respondents engaged in brainstorming aiming at internal motives and external stimulating factors for purchasing decorative cosmetics. The acquired data comprise statistical tables showing inner stimuli and external aspects for buying decorative cosmetics. The information from the graph contributed to the structured interviews.

Firstly, all respondents were confronted with the introductory question: "Do you buy decorative cosmetics?" If the woman answered 'yes', we could hold the interview. What followed were inquiries on age by which we could compare differences in consumer behavior depending on the age. Compiled graphs contained alternatives evaluated on a scale 0-10 according to the importance (0-no influence, 10-great influence). The gathered and examined data gave grounds to the arithmetic mean of individual motives and factors relating to consumer behavior. Drawn-up pie graphs illustrate the structure of internal motives and external factors of respondents' consumer behavior with a subsequent comparison of differences between separate age categories.

3 Results

Brainstorming and collected data constitute two tables used in the follow-up conversation. Table 1 refers to the most frequent internal motives for buying decorative cosmetics scaling from 0 to 10.

Table 1: The most frequent internal motives for the decorative cosmetics purchase

Internal motives	Rating										
	0	1	2	3	4	5	6	7	8	9	10
Pleasure											
Body care											
Feeling good											
Looking good for myself											
Looking good for others											
Need for purchase											
Desire to try a new product											

Source: Authors.

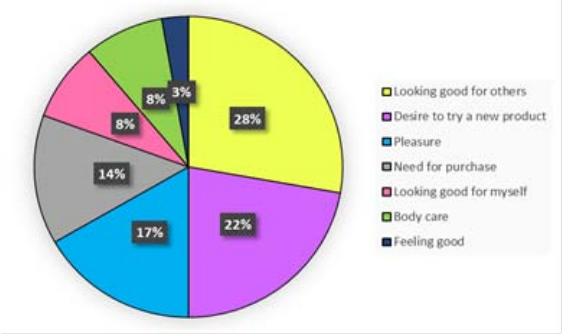
Table 2 concerns information on the external factors gathered from brainstorming. Table 2 shows the most frequent internal motives for buying decorative cosmetics scaling from 0 to 10.

Table 2: The most frequent external stimuli for purchasing decorative cosmetics
Source: Authors.

External factor	Rating										
	0	1	2	3	4	5	6	7	8	9	10
Advertisement											
Price											
Packaging											
Brand											
Influencer											
Special offer/loyalty club											
Review											
Friend/family recommendation											
No animal testing											
Vegan cosmetics											
Materials used											

The following pie graphs of separate age categories were compiled according to interviews and rating of internal motives and external factors. Graph 1 shows the most and least frequent internal stimuli for the age up to 25 years. The research revealed that the need for looking good for others is the strongest motivation, followed by the desire to try a new product or give pleasure. The average frequency was marked in a need for a purchase, while the last place was taken by the entry feeling good. What was also met with a negligible significance was body care and the need for looking good to myself.

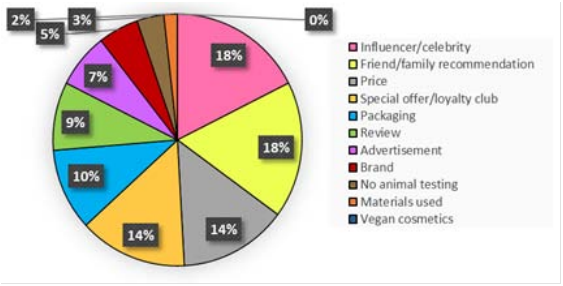
Graph 1: Internal motives of respondents up to 25 years



Source: Authors.

Graph 2 indicates the most and least significant external factors that prompt respondents in the age up to 25 years to buying decorative cosmetics. The survey revealed a product promoted by an influencer or celebrity and a recommendation from a friend or family as the most relevant factors. These two aspects were awarded 10 points by most respondents. Price, special offers or loyalty club shared the second place within the same category. The average influence on consumer behavior was exerted by product packaging, internet reviews and advertisement. Of minor significance is a specific brand where interviewees emphasized their overall satisfaction with the product rather than a particular brand. On the other hand, the respondents completely disregarded factors such as no testing on animals, materials used or vegan cosmetics, asserting no interest in looking for this information.

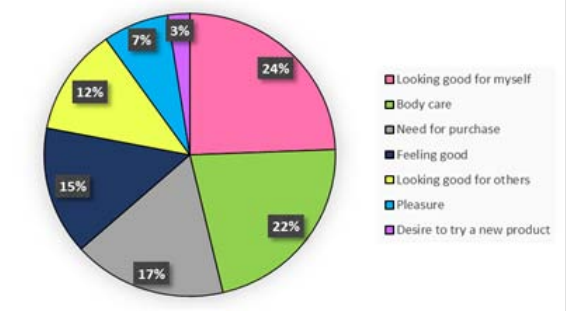
Graph 2: External factors of respondents up to 25 years



Source: Authors.

Graph 3 refers to internal motives involved in consumer behavior of respondents in the age between 26 and 40 years. Women within this category mostly emphasize entries such as looking good for myself and body care. The second place is occupied by the need for a purchase of decorative cosmetics and feeling good. On the other hand, interviewees do not pay special attention to looking good for others. The last position is held by taking pleasure from the purchase of a cosmetic commodity and the desire to try a new product.

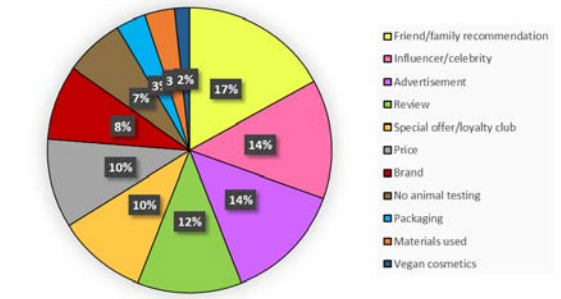
Graph 3: Internal motives of respondents between 26 and 40 years



Source: Authors.

Graph 4 suggests external factors influencing consumer behavior within the category in question. The interviewed women marked recommendation from a friend or family and promotion of an influencer or celebrity as the most frequent decisive determinants, mostly scaling with 8-10 points. Other crucial external stimuli involve internet reviews, special offers, loyalty clubs or price. Aspects with only a subtle effect include a brand and no animal testing. On the other hand, criteria such as packaging, materials used and vegan cosmetics are of negligible or no effect at all.

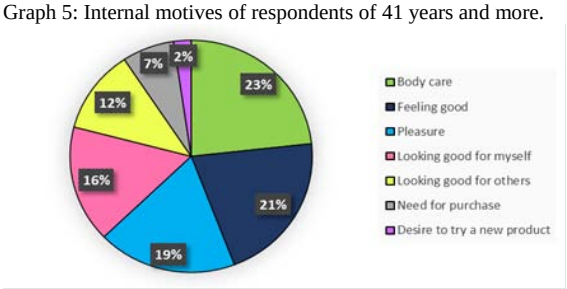
Graph 4: External factors of respondents between 26 and 40 years



Source: Authors.

Graph 5 suggests the results of the strongest internal motives from the last examined group – respondents from 41 years and more. The questioned women go mostly after body care and feeling good. The second highest motivation is to take pleasure, followed by looking good for myself. On the other hand, the women do not pay special attention to looking good for others. The absence of any motivation was detected in the need for a purchase and desire to try a new product, both scaling with rates 1 or 2.

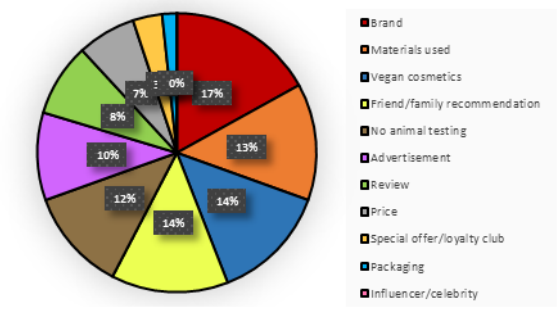
Graph 5: Internal motives of respondents of 41 years and more.



Source: Authors.

The last diagram, Graph 6, refers to external factors influencing the purchase of decorative cosmetics in the category of 41 years and more. The survey showed that the respondents feel the strongest inclination to a specific brand. The second rank is held by the materials used in the product, vegan commodities, recommendation from a friend or family and whether the products had been tested on animals. On the other hand, the questioned women showed only a slight tendency for acting upon advertisement, internet reviews or price. Of negligible significance is a special offer, loyalty club or product packaging, whereas the entry concerning influencers or celebrities promoting a product scaled down to zero.

Graph 6: External factors of respondents from 41 years and more



Source: Authors.

4 Discussion

The achieved results provided answers for the formulated research questions.

RQ1: *What and how internal stimuli motivate customers to purchase decorative cosmetics?*

The most frequent internal motives persuading respondents into the purchase of decorative cosmetics are as follows: body care, need of looking good for myself, need of looking good for others, feeling good, desire to try a new products, need for a purchase and take pleasure from the bargain. Although individual respondents have various priorities, their motives for a purchase may vary on the day-to-day basis. Women also mentioned incentives not involved in the survey, such as reaping the rewards for hard work, when shopping satisfactorily does the trick. Sometimes, they only want to address the material need for the product, or they just wish to raise a spirit and feel good. The gathered data were compared with the results of other authors. Hamplová (2017) in her survey on the same topic received similar answers. For example, the category of internal stimuli involved hands-on experience with the purchase, which ranked very high. The highest rated internal motives encouraging respondents' consumer behavior were body care and looking good for myself, whereas the least frequent stimulus fell on the desire to try a new product.

RQ2: *Which and how external factors stimulate a customer to purchase decorative cosmetics?*

The research revealed that respondents put heavier emphasis on external factors than on internal motives when buying decorative cosmetics. Most women even admitted to not planning to buy a cosmetic product, but a special offer or another external stimulus often persuades them into the bargain. The most frequent external factors involve: brand, price, friend's or family's recommendation, reviews, a product promoted by an influencer or celebrity, materials used, package, no animal testing, vegan cosmetics, special offer/loyalty club and advertisement. Recommendation from a friend or family scored the highest rating, which is in compliance with questionnaire results achieved by Hamplová (2017). On the other hand, factors such as package, special offer or advertisement do not play any role, which is in conflict with the obtained results. The interviews proved these factors imperative, while the questionnaire ranked them as completely insignificant. It again depends on diverse priorities of the respondents, whose consumer behavior is influenced by different factors and different information about the purchased product. Other external stimuli included in the questionnaire are product quality, country of origin, magazine or expert's opinion (e.g. beauticians). The recommendation from a friend or family member was the most decisive external factor in interviews, whereas vegan cosmetics, product packaging and materials used scaled with the lowest values.

RQ3: *What is the difference in consumer behavior on the market with decorative cosmetics throughout age categories?*

Firstly, a detailed analysis examined the differences in the internal motives inducing respondents to a purchase. The sharpest contrasts appeared in entry 'looking good for others'. Women up to 25 years rated the incentive as very important, while other age categories did not seem motivated by this stimulus at all. The next internal motive inconsistent in overall rating is feeling good. This aspect is considered essential in the category of 41 years and more, whereas respondents up to 25 years did not assign this incentive any significance. Other huge discrepancies occurred in entry 'desire to try a new product', which is again meaningful only to the youngest category. Other age groups do not find this factor very attractive. Although the decision-making process of individual respondents showed substantial differences, there was an internal consistency within particular age groups in motives encouraging the purchase in question

What follows is a closer look on distinctions in consumer behavior depending on external stimulating factors. A marked inequality was spotted in seeking the information on materials used in a product, whether a commodity was tested on animals or if vegan merchandise is to be dealt with. The stimuli at issue were crucial neither for the category up to 25 years, nor the group of 26-40 years. On the other hand, respondents in the age of 41 and more give this factor the top priority and actively pursue this information. Another disparity occurred in a product promoted by an influencer or celebrity, where the situation is completely opposite. The age categories up to 25 years and 26-40 years take this factor into serious consideration, whereas respondents of 41 years and more give this aspect no attention whatsoever.

The analysis suggested marked differences in purchasing decorative cosmetics throughout age groups caused by internal motives and external stimuli. The decisive factor always depends on individual consumers with the biggest differences predominating in the youngest category.

Conclusion

The submitted article aimed at decision-making factors of consumer behavior in purchasing decorative cosmetics by analyzing internal motives and external stimuli to encourage the purchase.

The research objective was fulfilled. The information from the interviews provided us with findings about the most frequent internal motives and external factors involved in the purchase of decorative cosmetics. We were thereby able to answer the formulated research questions. The classification into separate age groups allowed more accurate results thanks to which we could identify substantial differences in the purchase behavior. Component pie graphs illustrate the most frequent incentives and external stimuli encouraging customers of individual age categories to the purchase. The research revealed that it is essential to precisely determine the group of customers the company wants to aim at, as different categories succumb to different factors.

All the same, the obtained results cannot be valid for a long time, as external influencing factors are subject to rapid changes. The outer stimuli largely depend on the technological and marketing development. Namely influencering represents a very popular and effective factor. Although this type of marketing had not been an exception before, modern social networks attached profound significance to this kind of persuasion. It is thereby imperative to incessantly monitor the market and new technological development to permanently restore the supply according to the most persuasive factors.

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GENESIS OF THE «WOMAN'S» WAR IN CREATIVITY OF SVETLANA ALEXIEVICH (BASED ON THE MATERIAL OF THE NOVELS «THE UNWOMANLY FACE OF WAR» AND «ZINKY BOYS»)

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Abstract: The article examines the features of a fiction-documentary comprehension of the German-Soviet and Soviet-Afghan wars in the novels of Svetlana Alexievich «The unwomanly face of war» and «Zinky Boys». It occurs through the perception of a woman as a direct participant in the war, a mother, wife, whose war took away the most expensive – son, husband, father. The presence of archetypal images to combine separate chapters is common in both novels.
In both her novels, S. Alexievich gave the archetypal image of a woman-keeper of modern sound, individual features, convincing the reader that this image is always relevant because each talented artist revealed not only its original meaning, but also created something new that was close to the man of each century.

Keywords: images-archetypes, woman-mother, German-Soviet war, Soviet-Afghan war, Soviet propaganda.

1 Introduction

Many famous writers worked in the genre of literary journalism (or non-fiction). Among them are the American journalist John Silas Reed, the author of a series of reports on the Mexican revolution (published in 1914 under the title «Insurgent Mexico») and the book «Ten Days that Shook the World» (1919), devoted to the events in Petrograd in October 1917. Nobel laureate Ernest Hemingway paid considerable attention to literary journalism. Traveling the world, he described his impressions in the books «Death in the Afternoon» (1932), «Green Hills of Africa» (1935), «A Moveable Feast» (1964), etc. It is worth mentioning in this context the Czechoslovak journalist Julius Fučík as the author of «Reports Written Under the Noose» (1945), written in 1942 in Nazi torture chambers. A characteristic feature of these works was a strong and uncompromising position of the author.

A notable milestone in the development of fiction was the novel of Truman Capote «In Cold Blood» (1966). In this work the writer managed to hide his voice with the help of stylistic means and maximize the objectification of the story.

The traditions of factual literature were continued in the works of the Nobel Prize winner in literature Belarusian writer Svetlana Alexievich – author of fiction and documentary novels «The unwomanly face of war» (1984), «Last Witnesses. Unchildlike Stories» (1985), «Zinky Boys» (1989), «Enchanted with Death» (1993), «Chernobyl Prayer» (1997), «Secondhand Time» (2013). In modern Ukrainian literature, a literary experiment in the field of non-fiction, performed by O. Mykhed in the work «I will mix your blood with coal. How to understand the Ukrainian East» dedicated to the conflict in Donbass can be considered creative style of the Belarusian author.

The works of S. Alexievich are based on the memories of the participants of the events or their relatives (for example, the mothers of those who did not return from the war in Afghanistan). They distinguished by polyphony. The author consciously stays behind the scenes, giving the narrators the opportunity to express their thoughts freely, involving them in the creation of the text. S. Alexievich defines her text as a «history of feelings» (Usmanova 1998), while literary critics tend to consider it in the context of the «genre of voices» (Ihnativ 2018), «the genre of testimony» (Lugarić Vukas 2014).

2 Literature Review

The literary heritage of S. Alexievich is constantly in the spotlight of researchers, especially after the writer was awarded the Nobel Prize. Scientific interest confirmed by a number of publications. Among them – K. Górska «"The unwomanly face of war" of S. Alexievich as a cyclic documentary-fictional prose: structure and poetics». In this article, among other things, the author reveals issues related to the archetype of the mother, in particular, the mother who accompanies her daughter to the front and who is willing to sacrifice her child's life for victory (Górska 2018).

In this context, could be mentioned the PhD thesis of the same author – «Fictional-Documentary Prose by Svetlana Alexievich (problems of poetics)» (Górska 2019) – where the subject of research was the novels «Zinky Boys» and «Secondhand Time». However, if in K. Górska research «The unwomanly face of war» by S. Alexievich as a cyclic documentary-fictional prose: structure and poetics» the issues revealed by or research did not receive a deep and comprehensive analysis, in the above-mentioned PhD thesis they do not correlate with each other at all.

In the article of B. Waligórska-Olejniczak «On feminine myths and images in Svetlana Alexievich's prose» (Waligórska-Olejniczak 2016), the poetics of S. Alexievich is analyzed on the example of works «The unwomanly face of war», «Chernobyl Prayer», «Secondhand Time», the images of women are interpreted through the prism of female myth, which is the basis of Russian culture.

D. Lugarić Vukas in the work «Witnessing the Unspeakable: On Testimony and Trauma in Svetlana Alexievich's The War's Unwomanly Face and Zinky Boys» (Lugarić Vukas 2014) on the example of two works of the Belarusian writer considered the «genre of testimony», identified features of narrative traumatic experience in testimony collected by S. Alexievich.

J. Rodgers in research «Making space for a new picture of the world: Boys in Zinc and Chernobyl Prayer by Svitlana Alexievich» (Rodgers 2019) studied the genre-compositional specifics of Alexievich's work, considered the writer's innovation in using interview recordings, the correlation of elitist and non-elitist voices, the place of the author's voice in the works, etc.

Thus, the vision of the war essence and its impact on the human being through the prism of women's consciousness, the definition of archetypal female images in the works of S Alexievich has not yet been the subject of a scientific research.

The aim of the article: to study the features of fiction and documentary comprehension of the German-Soviet and Soviet-Afghan wars in Svetlana Alexievich's novels «The unwomanly face of war» and «Zinky Boys» through the perception of a woman as a direct participant of the war, a mother, a wife who lost the most important persons – son, husband, father – in the war.

3 Material and research methods

The research is devoted to the analysis and interpretation of S. Alexievich works «The unwomanly face of war» and «Zinky boys». The structure of archetypal female images of *a woman-mother* and *a woman-wife* is revealed through the confessions of the narrators, which are actualized and creatively reproduced in the novels of the Nobel laureate. In addition to the analysis, methods of generalization of the obtained results, cultural-historical, partly – psychoanalysis and archetypal criticism were used. The theoretical studies of C. Jung are the theoretical and methodological basis of the work.

4 The unwomanly face of war

The documentary novel «The unwomanly face of war» as other works by S. Alexievich, is based on interviews. The author's

attention is focused on the peculiarities of the perception of war through woman's eyes, as a direct participant in those terrible events. According to writer's viewpoint, World War II has been written about much earlier, but since the authors of these works were men, the idea of war was one-sided. In fact, the tendency to interpret war as a man's business was inherent in the memories of women veterans. The notion of «male» but not «female» war corresponded to established ideological canons. The special frankness of former nurses, snipers, anti-aircraft gunners, machine gunners, pilots, tank women, and partisans in an informal setting was striking. Such memories followed by a completely different war, and unknown to the public (Alexievich 2016a, 9-10). In straight talk, the women focused on their own feelings, details of life, mentioned the harassment of men, as well as inconveniences related to physiology, hygiene, etc. (BBC News Ukraine 2015). However, after some time, after such candid memories, many of them naturally had a «hangover», and, lost the desire to publish their «atypical» thoughts. This decision dictated not only by fear of the authorities. In part, the veterans did not want to ruin themselves in the eyes of their children, grandchildren, acquaintances, to destroy the myth of their heroic past. «I am a heroine for my son. Deity! What will he think of me after that?» (Alexievich 2016a, 133) – one of the veterans was looking for an excuse. Self-monitoring, as an internal filter, did not allow «substandard» material. The women veterans carefully edited their memories, deliberately removed details related to the immediate impressions of the difficult everyday life on the front. The living story replaced with clippings from newspapers and magazines, and notes, subjected to severe Soviet censorship. As a result, the war was generalized, it did not seem terrible (Alexievich 2016a, 133). Under such conditions, S. Alexievich set herself the goal of writing a history of a real, unrefined «women's» war.

The stories of the heroines of «The unwomanly face of war», of course, did not much correlate with the official interpretation of the war, where the obligatory elements were heroism, feats, unconditional loyalty to the «socialist homeland», the leading role of the «native» Communist Party. These memories were striking in their frankness, due to the terrible difficulties that a woman (and these were usually 18-20-year-old girls) always faced at the front. It is not only about cold, hunger, mud, blood, death – the characteristic attributes that accompanied any participant in the war – but also, as already noted, about specific women's problems: unsuited to such tests, the female psyche (woman shot, killed, constantly saw death, fell under bombs, was in other extreme situations for a long time), colossal physical activity (had to lift heavy shells, make long marches, including in bad weather, constantly malnourished and sleep deprived), inability to be alone in the male team, men's uniforms, and, as a rule, much larger in size and so on. «I was ready for a feat, but I was not ready to put on a size forty-two instead of the thirty-fifth» (Alexievich 2016a, 96), – recalled the former anti-aircraft gunner Nona Smirnova. During the war, a woman was deprived of almost her most important female attributes – braids, dresses and even lingerie (Alexievich 2016a, 108). All these led to the fact that a woman stopped feeling like a woman, including physiologically. For a while, she even loses the ability to get pregnant, she had no female desires, her body seemed dead (Alexievich 2016a, 13).

The novel «The unwomanly face of war» lacks a clear structure, and a stable plot. To systematize the material (the work included more than 200 memoirs), the author divided it into 17 chapters (chapters), some of which have subsections. The first chapter – «A man bigger than war (From a diary-book)» – became the foreword of the writer, included in the 2004 edition. The author narrated about the difficulties she faced during the preparation of the book for publication in the Soviet era. Additionally, the section includes interviews that have not been published before. The names of the divisions became eloquent: «Seventeen years later», «From what the censorship threw out», «From what I threw away myself». The titles of other sections are self-explanatory: «I don't want to remember…», «Grow up, girls… you are still young…», «Only I returned to my mother», «We didn't shoot…», «A soldier was needed ... but I also wanted to be beautiful . . . », «Young ladies! Do you know: the sapper platoon commander lives only two months», etc.

5 Zinky Boys

The novel «Zinky Boys» (1989), dedicated to the memory of those who returned from the Soviet-Afghan war in the zinc coffins, agrees with the suffering of their mothers and widows, who could not accept the loss of their sons and husbands. This novel is similar in structure (consists of six separate chapters) and in the form of material presentation (interviews with people affected by this war) to the novel «The unwomanly face of war». Common to both novels are the presence of archetypal images, which primarily serve as a combination of separate chapters.

6 The archetype of a woman-mother (wife) in the novels of S. Alexievich

The concept of archetype was introduced into scientific circulation in the twentieth century by swiss psychiatrist, educator and philosopher Carl Jung. According to the scientist, the archetype is the initial, oldest image embedded in the collective memory, which is manifested and transmitted over a long time (Jung 1991, 98-99).

The archetype of woman-mother (woman-wife) found its expression in the fiction and documentary novels «The unwomanly face of war» and «Zinky Boys».

As you know, the cult of the Great Mother played a major role in the history of different peoples. According to Greek mythology, both the whole world and the immortal gods, in particular the Earth-Gaia, arose from the boundless Chaos. Gaia gave life to everything. She gave birth to the blue Sky, the high Mountains, and the eternally noisy Sea – to everything (Kun 1993, 7-8).

In work «Psychological aspects of the archetype of the mother» Carl Jung emphasized its typical forms: «mother or grandmother of a particular person, godmother or mother-in-law, any woman with whom a person has some relationship, as well as a foster-mother and nurse; it can be the ancestor or representative of the white race – in the highest, figurative sense – a goddess, especially the mother of a God, a Virgin (for example, Demeter or Cora), Sophia (as a beloved mother…)» (Jung 1996, 217).

The image of the mother in world literature is one of the traditional images. In Ukrainian, Russian and Belarusian literature, it became threefold: the image of the mother – the image of the Mother of God – the image of the Motherland. Being common in the mind of the reader, it creates an archetypal paradigm.

The novel «The unwomanly face of war» often describes an image of suffering mother accompanying her daughter to war. She does not want to let her go, but is forced to accept the terrible reality because she understands that the Motherland, which is in mortal danger, needs protection. «They did not cry, our mothers, who accompanied their daughters, they screamed» (Alexievich 2016a, 64), – says Eugene Sapronova, a former sergeant, a specialist in aircraft mechanics. The daughters run away from home to the war against the will of their mothers, as in the case with the former nurse Lidia Butko: «She cried, I also cried at night. However, ran away from home… Wrote to my mother from the military base. She could not bring me back from there…» (Alexievich 2016a, 63).

The average suffering mother consciously risked the life of her child for the sake of saving the Motherland because she understood that without her sacrifice it was impossible to perform an important combat mission. In the mass consciousness, such behavior of a woman-mother justified by the well-learnt ideological attitude of that time, due to the appropriate upbringing in the family, kindergarten, school: «Motherland and we are one and the same» (Alexievich 2016a, 91-92). In this context, it is clear why the memories of the former partisan courier that she had to carry medicine and

bandages for the wounded in the diapers of her baby from the city to the forest many times do not cause any dissonance (Alexievich 2016a, 84). It was perilous, as she could be arrested at any time by the Nazi or the police, who usually seriously checked things, stuff, items, property, personal effects, personal belongings who entering and leaving the city. «When we pass the checkpoint, I will reach the forest, crying, crying. I'm screaming! – the woman shares her memories. – I feel sorry for baby. And in a day or two I will go again... » (Alexievich 2016a, 85). And another mother (an underground worker) carried her little daughter through the Nazi checkpoints, with body wrapped in postcards under the little dress (Alexievich 2016a, 91). It was striking when pregnant women carried mines «sidewise near the beating heart of the unborn child» (Alexievich 2016a, 91-92).

However, risking the life of her baby, such a mother still hoped for a happy end, unlike a woman who was forced to take her own child for the sake of the Motherland. She was pushed to take such a step by the desire to avoid or prevent more casualties. One of the heroines of the novel «The unwomanly face of war» recalls a horrible case in a partisan unit, when a radio operator had to drown her baby in a swamp do not attract the attention of the punitive expeditioners to the cry of a hungry child.

The grief of this mother is boundless, but her deed also fits perfectly into the paradigm of the then communist upbringing: both the woman herself and those who expected such a sacrifice from her. Although under those conditions, it was impossible to find another way out: «Punitive expeditioners are nearby. With dogs. If the dog scented, we will all die. The whole unit consists of thirty persons.< …> The commander decides… No one dares to give an order to the mother, but she understood what to do» (Alexievich 2016a, 30).

The image of the Mother Keeper, which is associated with the Mother of God, cannot be ignored. She is a mother who is ready to protect, to give the warmth of her great soul not only to her own, but also to other people's children – defenders of the Motherland. Former nurse Olena Varyukhina tells how in 1942, in the bitter cold, the head of the hospital decided to organize a horse-drawn carriage to evacuate the wounded. «In the morning the carriage came. Only women rode horses. Home-woven blankets, covers, and pillows lay on the carriage, and some even had featherbeds. <…> Each woman chose her wounded, began to prepare for the trip and quietly shouted: «My dear son!» «Well, my darling», «Well, my pretty one!». Each brought some homemade food, even warm potatoes. They wrapped the wounded in their household items and carefully put them on carriage. I still have this prayer in my ears, it is a quiet female cry…» (Alexievich 2016a, 260-261).

The grief of a woman who lost her dearest in the war was also boundless. Many such mothers and widows did not want to believe the terrible truth and continued to wait for their son or daughter for the rest of their lives. However, even worse were women whose relatives or friends were «missing». They both did not receive any assistance from the state and were suspected that their husband or father had become a traitor. One of the interviewees shared her memories with the author of the novel «The unwomanly face of war». It was not until forty years after the war that the woman got know that her father had died heroically in battle, and that her mother had died with the label «enemy of the people» (Alexievich 2016a, 38-39) without waiting for the true information about her husband.

An important place occupied by the archetype of the mother, the wife-keeper and in the documentary fiction novel «Zinky Boys», in which the author told the story about the tragic pages of the unjustly silenced, misinterpreted Afghan war, which was twice as long as the World War II.

The «spirit of time» reflects through the disclosure of human psychology in «Zinky Boys». One review stated that «the material collected by the writer recreates a true epic of the Afghan war – a chorus of voices that tell the truth about the tragedy» (Howard 1992, 236).

Unlike the novel «The unwomanly face of war», where the interviewers are mostly personalized, in «Zinky Boys» the names of narrators remain unnamed. The heroes of the novel are not only the young soldiers mentioned in the metaphorically formulated title, yesterday's boys, whose actions directed by absurd Soviet orders, ideology, but they died in Afghanistan in bloody clashes with those who defended their land and returned to their homeland in zinc coffins. Along with them, in the pages of the novel, the author presents women's images, which highlighted the problem of the trials that befell women during the war and in the postwar period. In the annotation to the book S. Alexievich translated into Ukrainian emphasizes that the novel «… Described the grief of "Zinky Boys" mothers who tried knowing the truth about how and for what their sons fought and died in Afghanistan» (Alexievich 2016b, 2).

Women in the works of S. Alexievich characterized by contradiction, self-sufficiency and inner strength due to difficult life experience (Waligórska-Olejniczak 2016, 98).

In «Zinky Boys», the writer revealed not only the images of suffering mothers and wives who tried in vain to find answers to the questions for which ideals their sons/husbands died and what were the factors of moral damage to the survivors. The novel also includes images of self-sacrificing doctors, nurses, and servicemen in Afghanistan, who, like soldiers, were haunted by a feeling of uselessness and redundancy in society after returning from a «foreign» war. J. Rodgers highlights, «the world which Alexievich describes is one in which everything was changing. That which was valued before, that which was trusted, was disappearing» (Rodgers 2019, 9).

The perspective of the events in the novel is through the subjective prism of their narrators. Peculiarities of women's texts were specific emotionality, disclosure of personal feelings, confessional tone. Most of them are mothers' confessions, which intertwine touching and tragic themes. In «Zinky Boys», the archetypal image of the mother is associated with care, protection, kindness, wisdom, spirituality, and higher justice.

However, in the analyzed text we do not consider it expedient drawing a parallel between the image of a Soviet mother and the macroimage of the Motherland, as in the book «The unwomanly face of war» because mothers gave birth to sons, gave them life, and the Motherland doomed them to death for elusive ideals, for a war «that no one needed» (Alexievich 2016b, 118). It is no coincidence that one of the narrators, a former soldier, called the Afghan war a "mothers" war: «Whose war was it? Mothers' war, they fought. They nursed, prayed for our souls. However, all the people did not suffer. The people do not know…» (Alexievich 2016b, 143). After all, mothers who were the personification of spirituality for the children were first to realize the injustice of the state system, which had sported away their sons, making them partners in the crime.

The confirmation is available in several mothers' confessions, which testify to the fact of deep emotional trauma in the narrator. One of the mothers, a teacher, a socially and politically conscious person, desperately accuses the authorities: «I was proud of him… Additionally, now they say: a fatal mistake, no one needed it – neither we nor the Afghans. I used to hate those who killed Sasha. Now I hate the state that sent him there…» (Alexievich 2016b, 98).

The narrator-mother in the fiction-documentary novel «Zinky Boys» combines selfless love for sons, motherly prayer for them, hard awareness of loss, desire to keep the memory of children, as well as unspeakable pain and uncontrollable desire to know the truth about their death, feelings of resentment for their children. The fact that over time their sons ceased to be considered heroes, and instead, unlike World War II veterans, they were called victims of political error caused pain.

The archetypal image of the mother in the novel by S. Alexievich primarily is based on the texts narrated by the «voices» of women mothers. We can identify various variations, models in the described life experiences, emotional experiences, associations, feelings, moral and psychological characteristics associated with life before and after the war as follows: happy mother, sufferer mother, mother-prophetess, mother-rescuer, mother-keeper, etc. They associated with motives for happy motherhood, pride and, conversely, shame for the child, unrecognizable son, enlightenment, mother's prayer, anticipation of death, waiting for a son/daughter, refusal to believe in his / her death, the motive of petrification of the mother's soul, her alienation from society, the search for truth, feelings of love for another's child. Let us consider in more detail the archetypal image of the mother, its possible variations and related motives in the fiction-documentary novel by S. Alexievich «Zinky Boys».

The prologue of the book describes an impressive story about the suffering mother whose son, a veteran of the war in Afghanistan, committed murder after returning to the Soviet Union (Alexievich 2016b, 4-11). The author begins the synthetic biography of suffering mothers from the image of this mother, her image appears both close and at the same time opposed to others. The tragedy that occurred in the woman's family reflects the damaging effect of the war on the mental state of man, which consequences provoke moral degradation, and at the same time allows the writer to reveal the special essence of the image of the mother.

The binary opposition «son – murderer» does not fit into the mind of a woman who did not teach her child to kill. The antithesis of the image of the son before and after the war sounds the most tragic in the confession of this mother. The young man, who was fond of ballroom dancing, learned to kill during the war, and after that he applied this skill in a peaceful life. S. Alexievich deeply revealed the psychology of a mother through details: her kitchen hatchet is an instrument of murder, dog barking is an association with the prison, where the son was, a dream that foretold separation, the singing of night birds as an alternative to human voices, which a mother who was ashamed of her murderous son was hard to hear.

The drama of this suffering mother intensified by the tragic gap between her desire to send her son to the army, despite the postponement, dreams of seeing him mature and cruel reality in which she eventually did not recognize her own child: «Another person was returned to me… It was not my son» (Alexievich 2016b, 7).

The grief of a woman takes on a different hue than the misery of mothers who lost their sons in the war. She suffers from the moral death of her child. The inability to come to terms with the terrible crime of the dearest person and the reaction to this act of society or the desire to remove the murderous son from his own living space makes her even jealous of those mothers whose children died. The woman wishes herself «happiness», which is a heavy grief for others: to sit near her son's grave, to carry flowers to the cemetery.

In subsequent motherly confessions, which evoke the strongest feelings, the pre-war past or the past, not associated with a sense of imminent war, the mortal danger that awaits their children, is contrasted with modern life, permeated with the unspeakable pain of loss.

The image of a happy mother emerges from the memories. Often mothers'confessions in «Zinky Boys» begin with mentions of the fact of the birth of a son for a happy life, which, unfortunately, ended early. Women remember the smallest details related to the childhood and adolescence of their sons, their first achievements, successes (motif of happy motherhood), repeatedly emphasize the tenderness of temperament, unpreparedness for brutal war of their children, future soldiers, one of whom, for example, feared childhood spider, the second loved to dance and collect stamps, the third – a fragile boy – played with girls. It was hard for mothers who themselves embodied peace, mercy, and great love, who knew their children were homely and affectionate, that they were capable of killing «He was not for war. We loved him very much, cherished him» (Alexievich 2016b, 168).

The image of a single suffering mother who, without male support, sacrificing her personal life, raising her son and losing him in Afghanistan, is the most dramatic. A refrain in one of the confessions of single mothers is the address to the deceased son: «You are my sun!», which emphasizes the great maternal sacrificial love and tenderness, hope for the child as a support in life and loneliness of a woman for whom the only son was the center of the Universe and his loss made her life senseless.

The motive of maternal selfishness, possessive attitude to the child in some stories of single mothers became an expression of ambivalence, mental state of dichotomy: «Probably because we loved each other so much that we had no one else. I do not know how I would give him to the wife. I would not have survived…» (Alexievich 2016b, 136-137). The coexistence of opposing feelings, in this case, maternal sacrifice and selfishness, is perceived in this narrative as a woman's search for peace of mind in thinking about a probable but already impossible future.

The archetype of Mother Keeper is conceptualized in the work of S. Alexievich in the images of mothers who patiently waited for their children, created home comfort for them, worried about house chores («he had a month left until the end of the service. I bought shirts, scarves, shoes. They are still in the wardrobe» (Alexievich 2016b, 81)). And at a time when the Motherland has dishonored the names of their sons, they have become their defenders (Alexievich 2016b, 338) and keepers of the historical memory of Afghan soldiers.

The image of the mother keeper, who was kneeling in front of the military enlistment office, kneeling in front of the military commissar, begging not to send her single son, not ready for military service, Afghanistan, but never waiting for humanity and mercy, echoes the image of the Mother of God who was always afraid for the life of her Son. Like the Mother of God, the mothers of the perished young men carried their cross with dignity, bravely overcoming their grief, telling about the lives of their sons, praying for them.

«Tears and prayers are typical female means of counteracting evil and violence» (Yacenko 2013, 187). However, as S. Alexievich convinces with the life tragedies revealed in the book, in the conditions of state dictatorship and war, they did not save soldiers from death. In today's mercantile world, a mother, forgetting everything but her child, «did not understand that money should save her son, <…> saved him by soul» (Alexievich 2016b, 186).

The image of the mother-prophetess should be revealed in S. Alexievich's novel «Zinky Boys» who is associated with the mythical Cassandra, who foretells misfortune, becomes a harbinger of truth. An educated woman, a librarian, this heroine S. Alexievich taught her son spirituality, raised him on ideal patriotic artistic images, but when she learned about going to Afghanistan, she uttered prophetic words: «You will be killed there not for the homeland, you will be killed for no reason. … Just for nothing. Can the motherland send its best sons to their deaths without a big idea» (Alexievich 2016b, 53). However, the ideology imposed on the Soviet youth, the upbringing in a patriotic spirit, guided the young man's path to the Afghan war, contrary to the tragic truth revealed to him by his mother.

The image of another woman, whose son was not trained in the army and died in the first month of service in Afghanistan, has a motive of insight: «To whom did I give my son? Who did I entrust he to? Didn't they even make him a soldier?» (Alexievich 2016b, 171).

Common to the confessions of suffering mothers in the book «Zinky Boys» were the motive of anticipation of child death.

One of the narrators, watering the flowers every morning, dropped the pots, which broke, and the house smelled of damp earth (Alexievich 2016b, 171); the second took off her earrings and ring on the day of her son's death (Alexievich 2016b, 171), and the third, not yet aware of the tragic news, could not wear a light dress going to work (Alexievich 2016b, 272).

Maternal premonition of tragedy is expressed not only at the level of the conscious (in thoughts, actions), but also the subconscious – in dreams, which acquire not only psychological but also philosophical and symbolic meaning – eternal separation from the dearest person: «On March 4 I had a dream ... A large field, and white flashes all over the field. Something explodes ... And long white ribbons stretch ... My Sasha runs, runs ... Rushes ... There is no place for him to hide ... And there it broke out ... And there ... I run after him. I want to overtake him. I want me to be ahead, and he is behind me ... <…> But I did not catch up with him...» (Alexievich 2016b, 98).

Expressive in the confessions of the narrators were the transition from a restrained tone in the list of real life facts to dramatic speech that conveys tense scenes: the arrival of the mother of the military with terrible news, the funeral, the existence of a woman after losing a child. These scenes are etched in the minds of the narrators forever, leaving an incurable psychological trauma.

Each mother, due to individual psychological characteristics, perceived the news of the child's death differently. The woman first tried to escape, to escape the «truth» brought to her by the military, to postpone the irreparable tragic message, and realizing what she heard, like the mythical Fury, she shouted at the person she considered the first offender, the personification of grief – the military commissar, recently indifferent to her pleas, and now openly sympathetic to her: «You are all in the blood of my son! You are all in my son's blood!» (Alexievich 2016b, 188). A strong-minded mother, like the Mother of God, went out to meet the bearers of irreparable disaster with the words: «Do not say! Do not tell me anything! I hate you! Give me only the body of my son…» (Alexievich 2016b, 172). The woman who represented the mother-keeper, in her sacrifice «was once again ready to give them one son to save another» (Alexievich 2016b, 54).

The image of a mother burned and angry in her misfortune is presented through the prism of the consciousness of a gray-haired major, battalion commander. The woman he met in the cemetery near the «Afghan» graves seemed annoyed to him that he had survived. Instead, her young son has never shaved and will never do so again.

The death of children deprived mothers of dreams of the future, took away the desire to live. With their irreparable grief and his inner experience, which led to external changes, women in the book of S. Alexievich associated with the image known in Roman mythology and world literature Niobium, who after the death of their own children turned to stone. Thus, the motive of petrification of the mother's soul, her alienation from society, unable to deeply comprehend personal tragedy, is present in the confession of a woman who lost her single daughter-nurse in the war: «My soul is closed… I do not want to see people. I prefer to be alone» (Alexievich 2016b, 231).

Authorities' interference in the funeral rites, the inability of mothers to see for the last time children whose bodies had returned home in zinc coffins, deepened the psychological trauma: «I could not kiss him one last time. Stroke his hair. I didn't even see what he was dressed» (Alexievich 2016b, 140). Zinc coffins and non-disclosure of military details of the soldiers' deaths caused alienation, self-deception, hope for a mistake in reporting the death of a son / daughter and further mental torture of suffering women in vain waiting for the return of children: «It seems to me that I buried an iron box and my son is alive somewhere…» (Alexievich 2016b, 134). The writer recorded the suffering of mothers after the burial of children. They are comfortable near graves, where they communicate with children as if they were alive.

Weaker physically but stronger spiritually, women were forced to support their husbands, who could not always overcome the feeling of loss and ended their lives by suicide. Instead, burned mothers had no right to weak-mindedness, as they remained the Keepers of their families, preserving the memory of their dead children. Someone's emotional wounds healed by love for an adopted child, similar to his own. Thanks to this love, the woman regained her lost happy motherhood and protected it from possible encroachments: «We have regained our son ... Do you understand me? But I swore and forced my husband to swear that he would never be a soldier . . . Never !!» (Alexievich 2016b, 99). The most painful for mothers, as confirmed by the memoirs collected by S. Alexievich, was the lack of confidence that the death of their children was not senseless, as well as the futility of finding the true answer, whether their children were really heroes and why they died (Alexievich 2016b, 249).

The writer did not miss the images of Afghan women, suffering mothers, whose children were dying, became innocent victims of the armed conflict. The episode of a young Afghan woman crying over a murdered child was impressive (Alexievich 2016b, 19). Afghan women are given much less attention in the pages of the work, they appear only in episodic memoirs of soldiers, nurses, the author herself, who visited Afghanistan and saw their suffering with her own eyes. However, the book states that every mother gives birth to a child for a happy and peaceful life, so they all deserve deep respect and compassion for their irreparable grief.

According to S. Alexievich in her work «Zinky Boys», a difficult fate befell not only the men who fought. Many trials befell their wives, who accompanied their husbands to imminent death, faithfully waited for them, prayed for their lives and salvation, took care of their children, parents, and so on. These are archetypal images of a woman-keeper, suffering woman, who in the work «Zinky Boys» is represented through the images of wives who accompany men to war, but later receive news of their death, live alone for the rest of their lives, remaining faithful to their dead husbands. These patriarchal images symbolize the traditional «weakness» of a woman whose fate is specifically female.

One of the women-wives mentioned that her husband «was a man loyal to the army», did not discuss the orders and did not hesitate to go to Afghanistan, leaving his young wife with a child. She devotedly waited for her husband's return, raised a daughter and wrote three or four letters a day. She desperately pushed the servicemen who brought her the news of his death out of the apartment, did not believe in her husband's death, that his body lay in a zinc coffin. In desperation she cried: «What for? What have you done wrong to anyone?» (Alexievich 2016b, 165). This «incomprehensible» war for the fallen soldiers ended, and for their wives and children it continued: «Our children are the most unhappy, they will be responsible for everything» (Alexievich 2016b, 167).

Wives were not even told where their military husbands had been sent. One such woman told her story to S. Alexievich. Fate presented to her only five years of happy marriage, and then a military husband was sent to Afghanistan. His wife learned to wait, prayed, kissed his letters. During one of his vacations, she recalled, he said: «I do not want to die for another's motherland» (Alexievich 2016b, 254). When the news of her husband's death came, she did not believe, did not say this fact aloud, hoping for a mistake. The horrible thing, according to the woman, was then – «to get used to the idea that you do not have to wait, there is no one to wait for ...». Remaining a widow at the age of twenty-four, she never married, raised a daughter herself, and had no place or time in the house for the holiday. The woman sadly mentions that she «loved the dead for eight years» (Alexievich 2016b, 255).

7 Conclusion

Thus, in her documentary novels «The unwomanly face of war» and «Zinky Boys» S. Alexievich through the prism of the women perception represented two wars in which the former Soviet Union participated at different times: the German-Soviet and Soviet-Afghan. These wars separated more than three decades, but on the one hand, they were in many ways similar (the crippled psyche of the women who took part in them, the emotional pain of mothers and wives due to the loss of a loved one, the absurdity of war as the fact that for many centuries people have not learned to resolve conflicts peacefully), and on the other – had a significant difference. This difference is primarily because participation in the German-Soviet war, which in the Soviet Union was called the Great Patriotic War, was usually perceived as a sacred civic duty related to the protection of the Motherland, while participation in the Soviet-Afghan military conflict was forced and in some places provided for the solution by its participants of their own problems of a material or personal nature.

Thanks to the organic combination of realistic details with deep reproduction of impressions, the most subtle feelings of the interviewers, the writer conveyed the idea of a strong-minded, treacherous woman-keeper (mother, wife) about the dead.

It is worth noting that in both novels – «The unwomanly face of war» and «Zinky Boys» – S. Alexievich gave archetypal image of a woman-keeper of modern sound, individual features, convincing the reader that this image is always relevant, because every talented artist revealed not only its original meaning, but also created something new that was close to the man of each era.

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MULTILATERAL VIEW OF SHOAH EVENTS THROUGH LITERARY TEXTS

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Abstract: The paper presents the potential of literary texts with the theme of Shoah in the field of forming the desired profile of citizens of a democratic society. After the introduction, we briefly focus on the anchoring of the Shoah in Czech curricular documents focusing on the educational field of Czech Language and Literature, then we deal with the possibilities of Literary Education in the presentation of Shoah events and then the importance of multilateral perspective on the Shoah and its educational and axiological potential. We demonstrate various multilateral views on the issue of the Shoah with artistic narratives in which one line of events of the Second World War is viewed from another or from different angles.

Keywords: multilateralism, Shoah, Holocaust, literary texts, Literary Education.

1 Introduction

The warnings presented to us by the Shoah phenomenon are still very topical (see Abrams, 1997; Jacoby, 2016). In particular, the challenges that draw attention to various forms of ostracism, persecution, intolerance or hatred. The urgency of the issue is underlined by various researches, the center of which is the finding of perceptions of anti-Semitic sentiments in society. Some of the research surveys were conducted with respondents from among the Jews themselves, which in our opinion makes their results more urgent, relevant and more informative (for example, *Antisemitic Violence in Europe, 2005–2015. Exposure and Perpetrators in France, UK, Germany, Sweden, Norway, Denmark and Russia* (Due Enstad, 2017). The term Shoah in the article refers to the experience of one line of World War II events by Jews as a religious group or as an ethnic group (see Mémorial de la Shoah, 2017; Arndt, 2020).

Holý (2016, p. 573; compare Holý et al., 2011) emphasizes the need to present the events of one line of World War II through various media, which to some extent connotes multilateralism in our defined area: "The Holocaust as a historical event, let us perceive it and evaluate in any way, has become a breakthrough in the development of modern European civilization. It is the subject of an examination of history and other humanities, but also a challenge for literature and other media, especially film".

Pohl (2020, p. 133) said "that the role of Holocaust studies for societies is very distinct has to cope with different contexts, though its main asset should remain a methodological and conceptual rigor as well as an openness to new and even more unpleasant findings. It can deliver the basis for societal discourses that transcend rituals of memorialization (…). Holocaust research can also identify and evaluate examples of help and rescue, of international intervention. Finally, the most important pursuit for our understanding of the Holocaust and the lessons to be drawn from it should be an apprehension and analysis of the destruction of democratic order or of any order based on a law-abiding state".

Sydnor (1987 in Lindquist, 2010) summarizes the importance of the issue for today´s society in the sense that the Holocaust is a standard with which people compare the importance of 20th century events, while recalling a phenomenon we must not forget because of its uniqueness. Anker (2004 in Lindquist, 2010) puts it in a similar way, arguing that in today´s relativized world, in which the boundaries between good and evil are clearly outlined, one thing can be agreed upon, and that is the yardstick for absolute evil.

2 Anchoring the term of the Shoah in Czech curricular documents

Citizens of the Czech Republic are acquainted with various aspects related to Shoah events within the framework of institutional education in various educational fields. The most fundamental in this area is the educational field of History, which is predestined by its focus on the presentation of various events embedded in history. In this course, Czech students are introduced to the manifestations of the Second World War due to the chronological order of the curriculum in the ninth grade (see Jeřábek et al., 2017). It is not our goal to argue with the importance of some historical stages for a citizen living in the twenty-first century: here we come across a situation where students are relatively familiar with prehistoric times in the sixth grade, but the events of the second half of the twentieth century are introduced very thoroughly because there is no time left for these.

Very often, the term Shoah is synonymously confused with the term Holocaust (for a definition of the Holocaust, see Grech, 2000).. We do not consider the synonymizing of naming specific aspects of the Second World War to be an insufficient precondition for the implementation of these events into teaching or for their curricular (non)anchoring. From a terminological point of view, we see the importance of explicitly expressing the view from which the issue is viewed and, depending on the chosen focus, use common names (Mašát, 2018). Carrier et al. (2015, p. 5): comment on the indistinguishability of terminology in the field of world curricular documents: "In general, the term 'Holocaust' is used. A smaller number of curricula use the term 'Shoah' or both. In some cases, the curricula completely avoid the terms 'Holocaust' and 'Shoah'. Instead, they use alternative terms such as 'extermination' or 'Jewish genocide' and refer indirectly to the event itself (using terms such as 'concentration camp' or 'final solution'). It is worth noting that significant differences can be observed in the field of integration of the mentioned topic between schools located in Western Europe and the countries of the former Soviet Union. In schools that were under Soviet influence until the early 1990s, the issue of the Shoah, with all its connotations, is ignored or downplayed (Carrier et al., 2015). Differences can also be traced between schools within Israel, between private, state and Jewish educational institutions (see Cohen, 2016; Porat, 2004). The Israeli educational system is a model in the field of integration of the Shoah phenomenon into curricular documents. We believe that the Jewish state curriculum can be inspired by some methods or procedures of implementing a given phenomenon into a curriculum applied at various levels of institutional education.

The integration of the Shoah (Holocaust) into teaching in the Czech Republic is in the autonomy of individual schools. That autonomy results from the existence of *School Educational Programs*, which educational institutions create themselves, based on profiling about geographical or demographic aspects and the like. Rýdl & Šmelová (2014, p. 15 in Mašát & Sladová, 2019, p. 457) notes: "In the spring of 1999, the Czech government adopted a fundamental document on a new concept of the Czech education system, which was specified in the form of the so-called White book (…). A significant change is the draft three-step curriculum consisting of a national curriculum, which defines the general objectives developed by the framework educational programs for individual levels of education". *Framework Educational Programs* in the Czech Republic define the boundaries of *School Educational Programs*, for the same level of education and broadly determine what, how and when to be taught.

The topic of the Shoah should be part of the teaching at primary schools not only regarding the aspects outlined above. As already mentioned, the term Shoah is not found in the *Framework Educational Program for Basic Education*, the term

Holocaust is encountered only in the curriculum of History (see Jeřábek et al., 2017, p. 56), which, for example, given the definition of the field of Citizenship Education has a somewhat startling impression, of the given educational field with events connoting the Shoah or the Holocaust.

It is surprising that with the amount of information about the dimensions that the Shoah acquired, especially in the years 1942–1945 (see Nadler, 2011), this phenomenon was not implemented in curricular documents. We do not find the term Shoah in cross-sectional topics, which with their expected outputs (especially in the field of attitudes and values) directly encourage the integration of this topic (see Mašát, 2017; Mašát, 2018; Mašát, 2019b; compare Kreislová, 2006).

3 The potential of literary education in the context of the presentation of Shoah events to pupils and students

We believe that literary texts have considerable potential for presenting Shoah or Holocaust events to pupils and students at all levels of institutional education (see Jordan, 2004; Oliveira, 2017; Russel, 1997).

The results of a sound research survey, which ascertained the level of reception and interpretation of three selected texts, at the core of which is the issue of the Shoah, show that lower-secondary school pupils are largely interested in this area of literature, they are able to understand it and they are also able to interpret it - within the framework of their current factual knowledge about the period of the Second World War and depending on their cognitive development and reading experience (Mašát, 2019d; Mašát & Šmakalová, 2020). As part of research focused on the reception of selected Shoah-texts by lower-secondary school pupils, we found, for example, that a sample from the *Diary of Wilm Hosenfeld* (in Szpilman, 2006), a member of the Nazi party, attracted young readers, they were able to understand it and at the same time, through an excerpt, they were acquainted with a different view of the events than what is overwhelmingly presented to them. As part of their research, Jindráček and his team (2011) concluded that activities that enrich Literary Education with a historical and cultural context are among the pupils´ most popular activities (compare Hník, 2012).

A considerable number of intentional Shoah texts are currently being written (Yudin, 2019). We are of the opinion that teachers of Literary Education should choose books on the Shoah very judiciously, because not all publications, although intended for children and young people, are suitable for reception by children and teenagers living in the twenty-first century (especially the language component of narratives, possible the intentional nature of some narratives or the application of schematic techniques in certain artistic narratives). Objective reception and subsequent reflection of texts can lead to the selection of appropriate literature. This area of literature seeks to connect different narrative traditions, writing about history and the biographical area of literature with intentional literary work (Kokkola, 2003). It is important to realize that the desired educational effect can be achieved by presenting less quality literature on the Shoah than a large amount of literature that does not reach an enough artistic level. We believe that literary texts on the Shoah have the potential to attract primary school pupils, stimulate their interest, and thus influence young recipients appropriately in the field of axiological values, of course, subject to several conditions (see Esi, 2012)

The research survey, in the center of which was to find out the opinions of Czech Language and Literature teachers on the implementation of the Shoah in the teaching of Literary Education, showed that most teachers in the field of education when choosing texts (examples) from the content composition of reading-books (see Mašát, 2019b; Mašát, 2019c). As part of the analyzes of these teaching aids, which took place in 2017 and in 2020, we found that the representation of examples thematizing one line of events of the Second World War is relatively small (Mašát, 2019a; Mašát, 2017). Although there has been some progress in the positive direction over the past three years, we believe that the proportion of excerpts on the subject still does not match the message these events give to citizens living in today´s global society (for example associated with a high level of xenophobic manifestations or certain forms of persecution of certain sections of the population).

4 A multilateral view of Shoah events through selected artistic narratives

Readers who are presented with Shoah-themed texts in order to form their desired axiological values (see Hník, 2017; Jordan, 2004; Jindráček et al., 2011; Kokkola, 2003; Oliveira, 2017) to build their moral integrity or to is to acquaint with this historical epoch through artistic narratives (compare Sladová et al., 2016) in our opinion they should be acquainted with different views on the issue. We do not want to deny the suffering of Jews, which stems from the fact that the Shoah was directed primarily against this group of people; on the other hand, we dare to say that the events taking place in today´s world, at the same time, are to some extent considering the different views and arguments at the level of the actions of the various stakeholders. From the artistic literature, this work can include, for example, the work *Shop on the Bark* (*Obchod na korze* - in parentheses is the title of the publication in the language in which the book was written; if the original text was written in English, then we state only the original title), in which the Aryanization of Jewish trade is thematized, while the events connected with this process are viewed primarily from the focus of the Aryanizer. Another publication that can be included in this area is the book *Puppet boy of Warsaw*, which deals with the suffering of the inhabitants of the Jewish ghetto from the point of view of the interaction between a Jewish boy and a Nazi soldier. The symptomatic work falling into this area is *Sunflower. A narrative of guilt and forgiveness* (*Sonnenblume*), in which various persons comment on the question of whether a persecuted Jew has the right to forgive his German tormentor. The work *Book thief* is exhibited on the confrontation of experiencing one line of events of the Second World War between a Jew hiding with a German couple and their adoptive daughter. In *The Storyteller*, the author confronts a daughter whose mother was murdered in an extermination camp with a man who was a member of the SS during World War II.

A multilateral view of defined events can be presented through Shoah-texts from the focus of the non-Jewish population. The application of this procedure can to some extent increase the interest of recipients in texts on a given topic and possibly in the Second World War as such. The field of this literature includes, for example, the work *Woman in Berlin* (*Frau in Berlin*), which to some extent reverses the perspective of the suffering of people affected in some way by some line of World War II. In *My Dad, Auschwitz Commander: The True Story of a Girl Who Grew Up as Auschwitz Commander´s Daughter* (*Mon père le commandant*), daughter of the commander of the extermination camp portrays a view of life. The publication *Orphan monster spy* deals with the impact of the headless decline of Nazi ideology and its effects on the next generation. The book *Farewell to Sidonia* (*Abschied von Sidonie*) presents the hitherto considerably neglected Roma Holocaust. The publications *The Commander in Auschwitz* (*Kommandant in Auschwitz*) and *Death are my craft* (*Mort est mon métier*) give readers an insight into the process of the most mass extermination of certain groups in history from the focus of its architects. Our thesis is based on the belief that everything new is interesting in a way and at least for some time we will be more interested. It is also based on the results of analyzes of reading-books (see above), which showed that the small representation of texts with the theme of Shoah is mainly represented by examples from works centered on demonstrations of the suffering of persons of Jewish nationality before World War II and World War II.

Unfortunately, texts that thematize the fate of Jews after returning from concentration or extermination camps, i.e. their post-war destinies, are largely delayed. Among the most recently published, we can mention, for example, the work *Cilka's*

journey, in which the author develops the fate of one of the supporting characters of the work *Tattooist of Auschwitz*. After returning from the concentration camps, Cilka experiences another tyranny, this time by the communist regime. In the works *Salt to the sea* and *Between shades of gray*, the author explains the same events through different characters (different focalization). We believe that even these facts in a way fall into a multilateral view of one line of events of the World War II.

When presenting texts that show the Shoah from a different point of view than the one in the consensus, the role of the teacher in leading the lesson in which these texts are presented to the pupils is undoubtedly important. It is essential that the pedagogue masters the basic facts related to the World War II (at this point, those who have approval for the educational field of History have a somewhat simplified position), so that there are no undesirable interpretations of the presented texts artistic narratives (see Lindquist, 2008) The teacher must take into account a significant number of aspects related to the target group (see Lindquist, 2010). Fundamental discrepancies can be expressed at the level of the teacher´s personal interest in a defined phenomenon. In the article titled *In Teaching the Representation of the Holocaust* (2004), Hirsch and Kacandes argue that the subject of the Holocaust permeates many educational disciplines (such as History, Literary Education and Psychology), with the defined phenomenon being a key part of liberal education for many teachers and students.

The multilateral view of Shoah events can also be applied at the level of comparison of various totalitarian forms of government. At this point, we will not forgive ourselves for the sip that pupils are (albeit to a small extent) acquainted in some way with literary portrayal of the Shoah phenomenon, but artistic texts in the center of which are the impacts of the communist regime on citizens or society as a whole are not in Czech reading-books for lower-secondary schools. It is not our goal to assess the extent to which the communist regime and Nazism (fascism) are similar, however, for the purposes of the impact of reading these narratives on pupils at the axiological, moral and ethical level, it does not matter to which extent we choose to adopt desirable values.

5 Conclusion

In our opinion, the multilateral view of the Shoah´s events are far behind in Literary Education at the second stage of primary schools. The question is whether teachers are afraid of the unwanted sound of these texts, whether in terms of their distorted interpretation or the reaction of the family or school management to the fact that students are acquainted with the diary of a Nazi soldier in institutional education. However, young recipients should be acquainted with different views of the world, they should learn to look at its problems from different perspectives, they should learn to critically evaluate the information that is presented to them to a large extent in today´s world, they should be able to critically and, last but not least, they should learn to argue their views. It is a different view of the issue of the Shoah (not only) through literary narratives, it is possible to teach pupils and students at various levels of institutional education these skills and abilities.

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Primary Paper Section: A

Secondary Paper Section: AM

INTERNATIONAL COMMERCIAL ARBITRATION WITH DISPUTE RESOLUTION STRATEGIES THAT ARE USED ACROSS CULTURAL AND VARIOUS MULTIPLE STATES: CRITICAL SURVEY STUDY

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Abstract: International arbitration is sometimes called a hybrid form of international dispute resolution, because it blends elements of civil law and common law proceedings, with the opportunity for the parties to design the arbitral procedure under which their dispute will be resolved. International arbitration can be used to resolve any dispute considered "arbitrable," a term whose scope varies from country to country, but includes most commercial disputes. Companies often include international arbitration agreements in their commercial contracts with other companies, so that if a dispute arises in connection with the agreement, they are obligated to arbitration rather than pursue traditional litigation. Arbitration may also be used by two parties to resolve a dispute through a Submission Agreement, which is simply an arbitration agreement signed after a dispute has already arisen.International Commercial arbitration is a mechanism that is implemented by parties that are in dispute over business entities and any procedure that is business related. While the mechanism is not a new phenomenon, it is a part of the wider subject of Alternative Dispute Resolution. Many countries and business entities have adopted the method of conflict resolution as it is more peaceful and levels to produce amicable solutions to conflict that do not cause defamation and broken relationships. This article highlights the need for international commercial arbitration while covering its principles, basic components, advantages of using the method of dispute resolution as well as other important attributes. The paper extensively addresses various differences and similarity of international commercial arbitration with other dispute resolution strategies that are used cross cultural and in multiple states.

Keywords: CIA, ADR, Arbitration, Arbitrators and Legal Authority

1 Introduction

A dispute is a common phenomenon that is bound to happen due to man's disagreement with each other. It takes various forms and gets manifested in different forms as well. The whole idea of conflict is less pleasant and for that reason, people often try to resolve it so as to live as normally as possible. The process of conflict or dispute resolution is always undertaken so as to reduce the impact of the difference. Arbitration is sought by those in dispute as a way of a more agreeable and peaceful resolution of conflict. It is only natural that people will seek arbitration as a way to solve their differences as a way to eliminate any bad feelings and to maximize on restoring the previous relationship to the situation feel off for the parties. Since conflict often creates an undesired effect.

1.1 What is Arbitration

Arbitration is an Alternative Dispute Resolution (ADR) strategy that is adopted by opposing parties. ADR has used as opposed to undertaking the dispute through normal court proceedings due to many factors including limited time for conflict resolution, the need for privacy and the need to retain the relationship and image of the opposing parties. Arbitration involves parties who are in dispute and they often assign the role of arbitration to either a single party or a tribunal made of two or more members. Many tribunals are made up of three people or an odd number of people so as to break even. Commercial arbitration involves the process of arbitration in the resolving of the commercial case that goes beyond the jurisdiction of one country or administrative region. The process of international commercial arbitration is unique as the parties have the will to choose an arbitrator from people they know and trust who have expertise in commerce or particular subject of dispute (Menkel-Meadow, 2015)

1.2 Why conduct arbitration and other ADRs

There are numerous justifications that people give when choosing to adopt arbitration as opposed to other forms of conflict resolution methods. Among them is that arbitration works in the sense that it is done at the comfort of the two opposing parties. Novovic (2015) states that litigation is tough on schedule and rarely do hearings and proceedings get scheduled at the convenience of anyone other than the legal counsel. The nature of litigation processes may destroy and never restore a relationship once it is destroyed. The process is full of scrutiny and the intention of such proceedings is rarely to get a relationship restored instead to its there to serve justice to however deserves it. The close nature of arbitration and the constant involvement in agreement formation at almost all stages are the key factors that make the process close knit and a tool in relationship restoration (Strong, 2012a). Other than that arbitration offers a host of other advantages that promote its application to disputes of all kinds including the international commercial disputes among business enterprises.

1.3 Key characteristics to arbitration

Arbitration is consensual in nature. The step by step proceedings of the arbitration process is agreed upon at all stages. The parties are not required to submit and arbitration dispute without an agreement to offer it. Additionally, all steps are critical in arbitration, and all process must be agreed upon by the opposing parties (Strong, 2012b). Without arbitration agreement, there is no chance of the arbitration taking place.

The other characteristic is that decisions made from the arbitration process are final and binding awards. In the international commercial arbitration, the results of the process are often those that should be implemented to eliminate the dispute. According to the Federal Justice Center (2012), the decisions do not take on the characteristic of being advisory. Instead, they are final and implementation of the decisions is on an immediate effect basis. Besides the awards being final they can also be enforced coercively upon agreement.

Either often selects the arbitrator by the disputing parties. The selection must be consensual so as to make it viable. On the other hand, the arbitrator may be chosen for the parties by an external party including the decision of a court and other arbitral institutions. The basis of this selection is to establish the fairest arbitrator that there can be to come to an agreement (Strong, 2012a). Impartial proceedings characterize the adjudicatory procedure. Arbitration is fair and bias-free, it is intended to give the parties an equal opportunity for the opposing parties to present their case and get a fair settlement as possible. According to Udoh & Sanni (2015), an arbitrator is often a liberal person with knowledge of the issue under the dispute in theinternational commercial dispute.

2 Advantages and Disadvantages of Using Adr

Opting to take in arbitration as a dispute resolution strategy has associated advantages to it. For example, the process of arbitration is less costly in the end as opposed to a typical court hearing and judgment. The cost of paying an arbitrator is often slightly higher than that of a regular advocate and other claims. In as much as this is the case, the arbitration process only has fees weighed on the payment of the arbitrators and the fees may be cost-shared among those in dispute (FJC, 2012). On the other hand, a normal court hearing has more costs that are linked to the process. The panel of judges, the advocates, members of the jury and all legal fees are higher than in the case of arbitration.

Secondly, arbitration is quite efficient for those who are in dispute. First of all, this is seen in the confidentiality associated with the process. Arthur (2013) states that the media together with the members of the public are not involved in the dispute resolution process and would be the case in a normal court session. The time and date of the meeting are at the convenience of the parties in conflict as opposed to being at the convenience of the court. They both enjoy the pleasure of

choosing when and how they want their meetings to take place. Unlike a normal litigation procedure, an arbitration process enjoys the liberty of having an expert make the decision (Blake, Browne & Sime, 2016). Court proceedings may not be biased, but the members of the jury often lack the knowledge of the case and purely base their decision on the laws they know, evidence given and intuition. Parties in a dispute often chose an arbitrator that they believe serve the purpose and have adequate knowledge on the subject of controversy. This, therefore, ensures that the decisions made are based on expertise and experience. With this being the case, an arbitration proceeding is likely to lead to a fairer and agreeable decision than litigation would result into. It is also significant to understand that arbitration has some disadvantages over court proceedings. For instance, arbitration does not enjoy the right to appeal a decision made by the arbitrator (Blake et al., 2016). The only circumstance that a person can file for an appeal is if there is evidence of fraud or corruption in the process. Other than that the decision is usually final and the parties have o agree to the terms and conditions as well as the action taken by the arbitrator. This has a negative impact especially if the loser feels as though the decision made did not entirely favor him.

Menkel-Meadow (2015), states that arbitration leads to the narcotic effect and a chilling effect. This is the effects that are associated with the opposing parties taking on two extreme sides and are unwilling to barge to come to a consensus. This makes the process even longer and more tedious to meet the demands of the two parties. The narcotic effect is the over-reliance on arbitration to settle a dispute. It is measured by a number of disputes presented for negotiation and the spillover that is left for arbitration. According to FSJ (2012), this effect oftenleads to the parties being unwilling to negotiate and come to an agreement. For an international commercial arbitration, this can have negative impacts on the business as there is a possibility that while the parties are at it, critical aspects of the business may suffer the consequences as they may be kept on hold as the dispute is solved.

3 When Arbitration Is Considered International

There is an evident difference in the way commercial and international disputes are handled and thus necessitates the differentiation between international and commercial arbitration. The definition of international arbitration is located within the UNICTRAL MODEL LAW established in 1985 amended and adopted in 2006 (FSJ, 2012). It states that arbitration is international if it meets the following characteristics;

i. During the time of signing of the contract, the two parties who have signed the contract are located in two separate states. The places of business must be located in two separate states at the time that the two parties agree on the terms and conditions of the contract. This is only made effective if the contract is formalized and signed by the parties.
ii. If the subject matter of the arbitration agreement is related to one or more countries. This must also be expressly agreed upon by the parties.
iii. Finally, arbitration is international if the country of arbitration if predetermined by the parties and pursuant to the arbitration agreement. Additionally, if the place of the commercial relationship is placed or performed in a different deemed for to be an international location.

4 Legal Definition Of Commercial

This is an agreement that is transactions that are entered into by separate entities in the course of their business activity. The definition of commercial under an agreement is strictly based on business operations and thereby excludes aspects of inheritance, private and family laws. International Commercial Arbitration, therefore, covers the wide angle of businesses being performed beyond one state and by different companies or business enterprises. All other entities and agreements outside the scope are left out of the definition of international commercial area (Chun, 2015). International commercial arbitration is, therefore, an agreement to settle a dispute out of court by business entities that have their area of service outside one common state.

5 The Legal Framework In International Commercial Arbitration

The legal framework of the international commercial arbitration is a system which governs and regulates the decision-making process, agreements and laws within the system. According to Kitagawa (2016), the legal framework of any institution acts as a critical guideline that is used to guide the operations of the entire system. The first element within the legal framework for this form of arbitration is the presences of an arbitration agreement. As mentioned earlier, the agreement is a binding contract that defines what happens in the process of arbitration. The agreement is based on the statements within the contract. An agreement of any kind must have a body and basis. Both of them are provided for in the business contract signed by the twoopposing parties.

There must be institutional rules within the arbitration agreement. Once again these are drafted in the contract, sealed with signatures from both parties and act as an extension of the agreement that is between the two parties (Arthur, 2013).

The third element of the legal framework is the national legislation. International businesses have the mandate to operate within the state laws in which the business exists (FSJ, 2012). The legislative of the business or international entity must fit into the legislation of the present and existing countries for it to hold any value whatsoever. Models such as the UNICTRAL Model are used by business entities to come up with its legislation so as to meet the basic requirement and limit the possibility of disagreements occurring. These are the mandatory rules of arbitration that the opposing parties cannot deviate from in allcircumstances.

Finally, international convention is the next element of the framework that must be present within the arbitration agreement. This acts as instruments that guide the process of arbitration once again in a legislative manner. Of all the instruments, the New York Convention is the most significant instrument. It acknowledges, identifies and enforces the arbitral awards that are foreign. The four components of the legal framework are necessary to arbitration and all international arbitrations often consider these essential elements to make it relevant and viable. The ultimate rule, however, is recognition and agreement from all the parties that are in dispute at the time (Moses, 2012).

One more critical attribute of an arbitration agreement is that of separability. It means that the arbitration agreement is stand alone and is treated separately from a signed contract (Moses, 2012). The requirement of a commercial contract does not have an influence over the agreement. Secondly, the validity of the arbitration agreement is not affected by the validity or life of the contract. Separating these important elements is vital so as to improve the validity and strength of the arbitration agreement.

6 Ny Convection, The Uncitral And Relationships To Cia

This convention is often associated with the success of implementation of international arbitration among states as it acts on two areas namely recognizing and effecting arbitration agreements and recognizing and enforcing international arbitral awards. The Model Law (the United Nations Commission on International Trade Law Model Law) is the other instrument with significant influence on international commercial arbitration. It relies on other legislations such as the NYC to determine the arbitration cases (In-house counsel practical guide, 2013).

6.1 Lexi Arbitri

Lex causa and ad hoc, These are important terminologies in international commercial arbitration. Lex arbitri means seat or terms of the arbitration, lex causa which mean the law that will determine the dispute and ad hoc arbitration which means an arbitration that is overseen by a non-institution.

6.2 Arbitrability

Cases that must be taken through court, It is important that before requesting for arbitration, there is need to know if the case is under the category of those that can be arbitrated. Different cases and various courts have their laws, and for individual countries, one issue may be settled through arbitration while the same issue may not be resolved through the same process in a different country. For the various disputes and countries, there are many factors that limit or encourage arbitration. One such factor is the penalty associated with defying a law related to the conflict. For a dispute to be solved through arbitration, the tribunal must go through all the legal documentation and oversee that the issuein dispute qualifies to settle out of court. The court of a country also reserves the right to determine if a difference should be taken to arbitration or not. These are bound by national laws. With this in mind, some cases must be decided by a court of law (Moses, 2012). These surpass the autonomy of the parties.
Such cases include but are not limited to disputes that are linked to insolvency, all criminal proceedings including fraud & corruption, patent or land registration and distribution and issues surrounding divorce. In as much as divorce falls under this category, a divorce settlement can, however, be agreed upon outside of court. Other cases are often largely determined by thenature of the dispute and the consequences of the conflict as well as the national impact of the procedure and countries. Strong (2012a) further agrees that no one state has the right to be defamed in the process of international commercial arbitration.

7 Arbitration Rules and Laws

These are a unique set of laws that are established to control the proceedings of an arbitration phase. They guide what should be done and by who. The rules are also formulated to facilitate the process of arbitration. In reality, these rules are often used to enable an understanding between the two parties. The agreement is necessary so as to accomplish the intention of arbitrations. The rules for the proceedings are crucial as they limit behavior and encourage agreement. The rules of arbitration are often indicated in an arbitration clause and they are agreed upon. What this implies is that the rules are made after a consensus and not just one sided. They are used throughout the process and are consistently referred to by both the arbitrators and the parties in dispute. They are commonly employed if a dispute arises between the two opposing parties while arbitration (Strong, 2012b).

It is recommended that arbitration clauses be made from arbitration institutions on international stages. These include ACCA, the ICC and the LCIA in Australia. These organizations recommend that the arbitration clauses be made about the rules of these institutions. On the contrary of the parties present an ad hoc arbitration, there may be the adoption of the UNICTRAL arbitration rules which are universal in nature. It should be noted however that the parties have the freedom to choose which particular rules they want to go by. All this is made only possible if the parties comply with the set standards. In international commercial arbitration, the failure to live up to the rules written down leads to automatic dismissal by the arbitrators and consequent adoption of any rules that largely depend on the particular lex arbitri (Blake et al., 2016).

8 Arbitration Clause

The arbitration agreement is a clause that is located within the larger contract of the international commercial contract. An arbitration clause can be a simple agreement by the two organizations on how they would settle a disagreement out of court in the event that a dispute arose. They could be simple things such as settling unfair treatment, faulty products or failure to meet the agreement as expected. The clause is binding in nature and cannot be reversed once the parties have both agreed and signed to it (Novovic, 2015). A good clause must be time bound, must identify the place for conflict resolution and must specify the number of arbitrators to be used in the occurrence of a dispute.

9 Procedure and Evidence of Arbitration

The typical process of arbitration is primarily made up of nine main steps. The number of steps and detour from the nine steps is often made at the discretion of the parties and that of the arbitrator to suit their specific needs.

The first step is the reference by one party to initiate arbitration. The initiation process often comes after numerous attempts through negotiation to reach to an agreement about a dispute (Kitagawa, 2016). The disputing parties then agree to set up an appointment with the arbitrator.

In international commercial arbitration, the arbitrator is appointed in three ways. The disputing parties can pick their arbitrator after assessing their needs in relation to their skills and expertise on the issue. The second way is through a tribunal. The tribunal comprises of an arbitrator for each disputing party. These arbitrators agree and appoint a third arbitrator who acts as the balance between the two sides. Finally, an arbitrator may be appointed by the use ofan external party who is either nominated by a court or the individuals in the dispute (Strong, 2012b). The second step is the preliminary meeting held by the arbitrator to go over the case and the seek clarity from the opposing sides. The meeting is usually made up of the arbitrator(s), the disputing parties and their legal counsel. The meeting is held with the sole purpose of coming up with a timetable and the appropriate procedure that will be undertaken to reach to a solution of the problem. The statement of response and claim is the summary that is used to summarize the problem. In it, there is the matter in dispute and the solutions that the parties are seeking. Pleadings can be sought by the disputing parties so as to clarify the dispute terms and conditions. The objective of these pleadings is to avoid surprises and lay out all the facts forconflict resolution.

The next step is the discovery and inspection stage. Here the legal team goes through the background information of the problem guided by the disputing parties. According to Moses (2012), all relevant documents are thus listed down of which they are in control of. Inspection isthen carried out and here the presented documents are viewed to ascertain association with the case and their use in the dispute resolution process.

After inspection, the next step is the interchange of evidence. The arbitrator is handed with the written evidence before the hearing takes place (Menkel-Meadow, 2015). The arbitrator is expected to go through the document to familiarize him with all the angles of the dispute through the evidence presented.

The next step is the hearing. This is not a necessarily a compulsory step as it can be avoided if the decision can be made by viewing the documented evidence alone. Failure to do so leads to the parties giving their witness accounts, clarification of information by them and the witnesses and questioning of witnesses are an important part of the hearing. While the hearing takes place, it is possible for either the parties to be present at the hearing as they are entitled to do so (Udoh&Sanni, 2015).

Legal submission then takes place. In this step, the legal counsel gives their summaries to the arbitrator. The summary contains their evidence and applicable laws. Legal submissions take two forms, that is, they are either presented through writing or orally. Oral presentations are done at the hearing while those in writing can be submitted soon after the hearing ends.

The final step in the procedure is the award. The award is the decision made by the arbitrator, the justification for his decision. It is the summary of the proceedings in written form and it is often final.

10 Court Supervision and Support Intervention

While arbitration's sole purpose is to settle a dispute out of court, there are exceptional times when there is need for a court intervention. These are covered under the domestic uniform Commercial Arbitration Acts (CAA) which is carved in the Model Law. This indicates that the court will offer assistance in instances where situation is made necessary in the clause under the Model Law.

The first of such a situation is if there is a request for the court to refer the matter to arbitration. This is when the case or dispute is first taken to court and the disputing parties seek arbitration as an alternative to conflict resolution. In such a case the court is mandated to offer the request to the parties. This is captured under the s. 8 (Model Law, Art 7). Under the Model Law Art 11 (s. 11) the law is mandated to intervene in a dispute if the parties fail to come to an agreement even with the issues of choosing the arbitrator. The court may make the necessary appointment and establish an arbitrator for the opposing parties to facilitate the process of arbitration (FSJ, 2012).

Under the Modal Law, Art 13 (s. 13), the court can be requested by the parties to the international commercial arbitration to break even and decide onthe challenge. This often takes place in the event that the arbitrator fails to rule on the challenge entirely. Within the Model Law, Art 14 (s. 14), a party may take in a request to the court to terminate the mandate of the arbitrator if he is not satisfied with the way things are carried out. The court enforces theidentification and enforcement of interim measures issued by the tribunal under the Model Law, Art 17H. In addition to recognition and compliance, the court is mandated to intervene on the issue interim measures which are related to the arbitration proceedings (FSJ, 2012).

According to In-house Counsel practical guide (2013), the court with the approval of the tribunal may intervene and assist in taking of evidence. A party may also make the formal request for the assistance with the adoption of the international commercial court of arbitration. This is captured in the Model Law, Art 27 (s. 27).

The court may step in to demand evidence and documentation of a party that fails to do so before the tribunal (FSJ, 2012). If one party refuses to take an oath before the proceedings or does not oblige to answering questions that would facilitate the decision-making process. On the same note, the court may also intervene in deciding which questions may be asked in the tribunal hearing.

11 Improving the Efficiency of Arbitration

Due to recent issues that have seen to it that international commercial arbitration becomes lessconvenient, there has been a need to counter the problem by coming up with ways through which arbitration can be improved. These strategies evolve from the parties to the process to the award system. The first is that there is need to hasten the process by choosing a tribunal within the shortest time possible. This can be done by confirming the availability of the arbitrator and agreeing to use the least number of arbitrators as possible in smaller cases (Novovic, 2015). This, in turn, ensures that the process is initiated faster and the least amountof resources is used in the intervention process. Other measures include using technology such as video conferencing for hearings and testimonies for those who are very far away.

The number of witnesses can also be limited so as to avoid dragging of the case and over repetition of an old stated fact. Finally, there can be the use of consolidation when it comes to hearings and other procedures. This is important to limit the number of proceedings that are similar from running separately. More resources are thus saved from the original proceedings. The logic behind these moves is that arbitration should be a dispute resolution method that is convenient, cost effective and saves on other resources including time for the commercial enterprises. For an effective commercial arbitration process, therefore, the process needs to adopt the most relevant tools including the adoption of technology (Arthur, 2013).

12 In Selecting Arbitration Location – Examples of Countries

A host of countries has adopted the legislation based on the UNICTRAL Model as pertaining international commercial arbitration passed in 1985 and enacted in 2010. These countries have taken the initiative to do so for them to reach a more methodological way to solve their international commercial disputes through a uniform and agreeable arbitration process. Examples of countries that comply with this model are Australia, Canada, Cambodia, China, Germany, USA, Kenya, the UK and Singapore. It is important to note that the adoption dates vary from country to country and that the changes made to the model may have directly influenced the decision of the states to adopt the model to settle international commercial disputes. Varying dates vary from the initial document of 1985 to those adopted after the amendments to the legislation in 2010 through to 2012. These countries extend to cover the UK Great Britain and the Northern Ireland as well as other overseas territories that comply with the old and revised models. In these countries, the priority is to establish a consensus on dispute resolution no matter the continent or area (FJC, 2012).

13 Factors to Consider when Choosing an Arbitration Institution

According to Onyema (2015), an arbitration institution is an institution that takes up the responsibility of finding a solution to a conflict through arbitration. It takes up and spearheads the process of arbitration. The arbitrator facilitates arbitration through the institution. Decisions made are solely those of the arbitrator and are not in any way influenced by the institution that he belongs to. Using an institution to intervene in international commercial arbitration is advantageous as there exists pre-established rules. This minimizes the stress of formulating new sets of rules that may consume too much time. Institutions which are reputable offer the arbitration process with a wealth of expertise making the search process foran expert less tedious. Of the organizations that are known these are the most common; International Chamber of Commerce (ICC), American Arbitration Association (AAA), London Court of International Arbitration (LCIA) and the International Centre for Settlement of Investment Disputes (ICSID).

In choosing arbitration institutions, there are factors that must be considered. The institution must elude permanency. This implies that the case that is brought before it should be old enough to cover its years of operation. This is particularly a requirement for major project agreements and long-term contracts. The institution should be present at the time that the dispute arises (Chun, 2015).

Secondly, the arbitration institution must have qualified staff to perform the work of arbitration. Most of the mentioned institutions have a good reputation of having qualified staff that is conversant with international disputes. According to Menkel-Meadow (2015), without such expertise, it is unrealistic to employ the services of an institution in international commercial disputes resolution.An institution must be up to date with the changing rules and laws that define arbitration, as well as the times, changes so do the rules and requirement for arbitration. A good institution will adopt these

changes as they occur so as to be up to datewith the relevant rules in their cases.

Finally, the aspect of money is a critical one. The desired institution should be able to charge a realistic fee for the process of arbitration. Fees often vary per institution with some summing up their costs to include the administrative fees in conjunction with the time spent in the arbitration process. Other institutions assess the fees by adding the administrative fees with reference the amount of money in dispute. For the international commercial arbitration, this is an important factor to consider as the process could be too expensive and lead to major lossesif not appropriately implemented.

14 The Arbitrators

After all, factors have been considered, and both parties have agreed to have arbitration as a way of dispute resolution, they must come up with the person who controls the proceedings, and this is known as the arbitrator. The opposing parties often choose the arbitrator and in most cases, it is recommended that the two sides chose the arbitrator as it will help them gain a sense of representation. Having chosen their arbitrators also improves their sense of ownership of the process. In a multicultural, international commercial dispute, it is important that each party has its representation so as to limit the extension of conflict into cultures and language differences (Kitagawa, 2016).

A good arbitrator is one who is conversant with the laws of the country in which the dispute is being solved. While choosing an arbitrator, the parties are often advised to choose a number of arbitrators that are odd in number so as to reduce the possibility of a tie in decision making. An odd number also facilitates neutrality. On the other hand, if the amount in dispute is small, then just one arbitrator is recommended. When picking three arbitrators, the disputing parties select the primary arbitrators. The two arbitrators then select the third arbitrator to break even. In case there is the intervention of the institution, the arbitrators are selected by the institution depending on the expertise and experience.

While the institution may offer a better chance of providing expertise than hand-picked arbitrators, it is, therefore, important that when looking at the qualifications of the arbitrator, experience, and expertise in the area of conflict be a prime component to consider. A good arbitrator will make the case and a bad one will break a dispute (Novovic, 2015). With this in mind it is critical that when settling international commercial disputes, there be careful consideration of the people to be charged with that task.

15 The Arbitral Award

These are the consequences of the international dispute the parties are accused and charged with. Unlike a court, the arbitrator does not have the authority to impose fines and send a party to prison to serve time for the crime. Instead, the arbitrators offer awards to the parties or either of them that is found in fault of the contract agreement. It should be noted that the powers of the arbitrator in the awarding process are different in different countries (Moses, 2015).

In matters of punitive matters, different states have a different opinion of the same. While in America punitive damage is recognized, the European nations and Germany do not have regard for it. In these countries the punitive damages are not recoverable. Such issues, therefore, put the powers of the arbitrary tribunal on the spot. Such information should, therefore, be considered when making an arbitration agreement among states when speaking of matters that present varying opinions. Important to note is that the Model Law states that the parties can refuse recognition of punitive damages if it violates public policy. The other issue that often leaves room for contention is that of discovery. The law of the jurisdiction is the one that often determines the availability of development. Things such as technology have also made the process of discovery pretty difficult as the process demands for an exchange of numerous documents that may be tedious to deliver through email communication.

An award can also take the form of a cost award. Strong (2012a) states that there are two broad categories of cost award that are the arbitration cost and party cost. The arbitrations costs are often the administrative costs that are paid to the administrative, traveling costs, expenses related to the tribunal and additional experts that were used to settle the dispute in the arbitration process. On the other hand, expenses of the parties are the individual costs of the proceeding in presentation of the case, lawyer representation, witnesses and experts such as accountants, communications disbursement are all included in the parties' legal costs.

16 Challenging An Arbitrary Award

In most instances, the ruling is often final, and the award cannot be appealed. In the case where the party feels as though justice was not served however can establish an appeal and challenge the awards. The reason for challenging an award is for the purpose of making modification in whole or in part to depict fairness and neutrality. Challenging most awards is often done before courts and each law has its procedure of carrying out a challenge. There are three grounds for challenging an award. The first is that it can be challenged base on jurisdictional grounds. This happens when there is none existence of a binding clause within the international commercial agreement. The other is that an award can be challenged on procedural grounds. This is the failure to follow the recommended procedure as stated in the arbitration agreement. An example of such is the inability to notice of a meeting or hearing appointment. Finally, an award can be challenged based on substantive grounds. These require that there must be evidence of error on the side of the arbitral tribunal in decision-making process while conducting the arbitration process (Udoh&Sanni, 2015).

When an award has been successfully challenged, it is considered and given to a new tribunal to look at the dispute. Once this is done, the tribunal is expected to make a final award that is also given a specific timeline. The decision of the second tribunal often carries the day, and the results are enforced immediately by the opposing parties.

17 Recognition And Enforcement Of Arbitrary Award

In addition to challenging the arbitration awards can be enforced by the losing party if he failsto comply. It is viewed as easy for enforcement to be applied in a foreign/national court as opposed to the other court systems. Arbitration is conclusive and most laws of states hold that the terms of the arbitration results should be applied immediately. Failure to do this, the court can be used to intervene. Here the winning party can take up a suit for compliance of the agreement. Upon the submission of the necessary documentation, the court is set to grant recognition and enforcement of the awards. There are however incidences when the court may refuse to give recognition and enforcement. According to FJC (2012), the reasons are provided for in the New York Convention under Article V.

These grounds are:

i. The award is not yet a binding action for the two opposing parties.
ii. Matters dealt with in the arbitration and award is beyond the scope of arbitration submission.
iii. The tribunal or the arbitral proceedings were not in compliance with the arbitration agreement signed by the two parties.
iv. The law to which the two parties have been subjected to is in conflict with the arbitration agreement.

v. Finally, there could be rejection based on negligence in giving important notices to the party whom an award was invoked.

18 Sources Of Legal Authority For Arbitration

International commercial arbitration draws upon a diverse mix of legal authorities. Some of these authorities are promulgated by various state entities and are thus "public," while other authorities arise from the agreement of the parties and are thus "private." Both forms of authority are central to the arbitration process and must be taken into consideration by both judges and arbitrators. However, not every type of authority is relevant to every issue (Novovic,2015).

International commercial arbitration also involves a number of legal authorities that are not used in litigation. Some materials that are familiar with litigation may be utilized differently in proceedings related to international arbitration. Strong (2012b) states that this unique approach to legal authorities arises not only because of the high degree of party autonomy in arbitration, but also because of the specific way in which international commercial arbitration combines practices and procedures found in both the common and civil law. Below is a summary section of the legal materials that are employed in international arbitration. It also includes insights into the fundamental principles of international commercial arbitration.

i. Substantive law Arbitration and litigation – this address the substance of legal disputes in very similar ways. Arbitral tribunals use the law or legal principle that is chosen by the parties or, in the absence of side agreement, the law or legal principle that the tribunal determines to be appropriate, typically through the application of standard choice of law (i.e., conflict of law) analyses. In this respect, tribunals' actions are very similar to those of courts. International commercial arbitration however differs from other forms of adjudication (Arthur, 2013). International business arbitration allows the parties or the arbitrators to decide that the substance of the dispute is not to be governed by the law of a particular country but instead by reference to general principles of law. An example of such are those found in the lexmercatoria or encompassed in the International Institute for the Unification of Private Law (UNIDROIT) Principles of International Commercial Contracts.
The in-house counsel practical guide (2013) state that substantive disputes also may be governed by the United Nations Convention on Contracts for the International Sale of Goods (sometimes known as the Vienna Convention for the International Sale of Goods, but more commonly referred to as the CISG), which is a self-executing treaty under U.S. law that applies automatically to transactions involving the international sale of goods between parties who reside in contracting states. Although parties can opt out of the CISG, some do not. This can lead to surprises, since the CISG differs in several key regards from Article 2 of the Uniform Commercial Code (UCC), the provision that governs domestic sales of goods and that is often (erroneously) assumed to apply in international matters.
Because parties usually want their disputes to be determined in accordance with international commercial protocols, it is not uncommon for one of these internationally oriented legal regimes (i.e., the UNIDROIT Principles or the CISG) to apply. In such cases, courts have very limited ability to review the arbitrators' determinations regarding the choice of substantive law, since matters involving choice of law are for the arbitral tribunal to decide (FJC, 2012).
Applying general or transnational principles of law should not be confused with deciding a matter primarily by reference to certain equitable principles. Most arbitral rules and statutes now forbid arbitrators to decide a dispute on this basis except with the express permission of the parties. Absent this express authority, arbitral tribunals follow the governing legal principles, although those principles may, of course, involve equitable considerations. Different substantive laws may apply to different aspects of an arbitral proceeding (Blake et al., 2016). For example, the law that governs the issue of the validity of an arbitration agreement might be different from the law that governs the merits of the dispute. It is, therefore, important to distinguish between the different legal issues under discussion and apply the law that is appropriate to each of those issues.

ii. Procedural law - Identifying and applying the appropriate procedural law is a much harder task in international commercial arbitration than it is in international litigation. There is a wide variety of legal authorities from which to choose, and it can be difficult to determine which authority governs which procedural issue. The process is further complicated by the fact that some procedures are entirely internal to the arbitration itself and some procedures that involve interactions between the arbitral tribunal and the court.

No single law governs all of these issues, nor can a single interpretive rule be followed in all instances. Instead, it is often best to consider procedural disputes on a motion-by-motion basis. Courts and arbitrators rely on seven different types of authority to determine matters of procedure in international commercial arbitration. They include arbitrary awards, agreement between the parties, case law, federal statutes on arbitration, arbitral rules, treaties, scholarly articles and monographs (Chun, 2015).

19 Concluded Comments

ADR through international commercial arbitration has proven quite successful in the past couple of years to settle commercial disputes that are global in nature. The success of international business arbitration has been realized over the past couple of years due to its meticulous formation, rules and events that surround the process of arbitration. In the trend of globalization, the dispute resolution method enables the society to look at differences from a different yet realistic angle. Many factors are being put into place by the process and the involvement of experts to make the method not only short but also the most sought form of arbitration practice when it comes to settling commercial disputes internationally. That said, the numerous advantages make international commercial arbitration the best way to resolve international disputes. On the other hand, the challenges associated with the method of ADR all work in collaboration with its positive side to effectively handle the issues of conflict resolution interstates.

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STRESS AND BURDEN IN THE CONTEXT OF THEIR COPING

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Abstract: The current society puts pressure on each of us. More and more stressors appear to have their source in the environment and work in our everyday lives. People`s reactions to these stressors vary a lot. In our article, we do not aim to uncover stress more deeply in the context of its theoretical definition nor to analyse stressors and their consequences. We focused on the elementary perception of coping with stress using various coping strategies.

Keywords: adaptation, defence mechanism, problem, stress, stressor, burden, coping strategies, coping style

1 Introduction

In the specialised literature and everyday life, we meet with the concepts of adaptation and coping when dealing with requirements placed on us. The concept of coping describes conscious and purposeful effort, which includes all attempts to deal with stress, the behavioural and cognitive effort to reduce the impact of extremely high requirements in demanding situations (Lazarus, Folkmann, 1984, Urbanovská, 2010) or conscious adaptation to stressors (Čáp, Mareš, 2001, Urbanovská, 2010). According to Čáp, Mareš (2001) and Mareš (2013), the possible aim of coping is, primarily, to control and lead the environment (the effort to adapt the surrounding environment to the required form). Moreover, the secondary aim is to control and lead oneself (to adapt to the forces that impact the individuals). Čáp and Mareš (2001) say that, in principle, we can react to stress in two possible ways: with a defence reaction (also called stress reaction) or with a coping reaction. On the contrary to the concept of adaptation which describes dealing with average or increased burden, coping is defined as a superior concept helping in dealing with border or extreme burden (Bratská, 2001). Erickson and her colleagues (Čáp, Mareš, 2001) elaborated a thorough overview of shared and different characteristic features of defence and coping reactions (Table 1 and Table 2).

Table 1: Shared characteristic features of defence and coping reactions (modified according to Erickson et al., 1991, in: Čáp, Mareš, 2001, p. 532)

Defence and coping reactions
• they reduce distress • they guide emotions • they have a dynamic character • they are potentially reversible • it is possible to differ specific parts in them • they develop with the age

Table 2: Shared characteristic features of defence and coping reactions (modified according to .Erickson et al., 1991, in: Čáp, Mareš, 2001, p. 532)

Defence reactions	Coping reactions
• they contain implicit operations • they are activated intrapsychically • they are more intricately observable • individuals are not conscious of them • individuals do not manage them with their will • they are determined with personal characteristic features • their basis is an instictive behaviour • there is no previous evaluation of the situation • their result is automatic behaviour	• they contain explicit operations • they are activated in the specific environment and circumstances • they are more readily observable • individuals are conscious of them • individuals manage them with their will • they are determined with personal characteristic features but also with the situation itself • their basis lies in cognitive processes • there is previous evaluation of the situation and proper possibilities • their result is deliberate behaviour

In the following part, we will deal with the analysis of both stress reactions mentioned above. First, we will describe the adaptation process and, subsequently, focus on the process of coping.

2 Adaptation process and defence mechanisms

Although every person, as a unique and unrepeatable personality, comes through the adaptation process to the stressful situation individually, it is usually possible to describe several phases. Ďurný, Šlepecký and Praško (2001) mention the following five phases of adaptation:

1. The first phase – shock:
The first phase follows immediately after the influence of an intense stressor, e.i. after experiencing too much stress, such as loss of work, the death of a close person, a severe illness. The first reaction is the tendency not to believe what has just happened. There can also appear tempestuous emotional expressions, such as crying, shouting, fury or aggression to other people. Another form can be the repression of emotions into the proper interior, which reflects in passivity, crippling or inability to do any activity or to have good reactions. As this process is running, individuals will gradually accept what has happened after several days or weeks.

2. The second phase – optimism:
After the phase of shock, there often comes the feeling of relief or release. The stressful situation has apparently finished, and individuals can start planning their „new lives“ and set their new goals. For example, people who have lost their work positively accept sufficient free time. They actively look for a new job and think it will take only a few days until they get it. They focus on their hobbies and, therefore, they are short of time.

3. The third phase – blaming of others or even fight:
If individuals are not successful in reaching the new goals, they have more negative experiences from their failure. There begins the phase of looking for the guilty one. The characteristic feature of this phase is the tendency to blame other people for the given situation and make them responsible for the failure in reaching their goals. During this phase, the other people in their surroundings often suffer a lot, and their reactions gradually worsen. For this reason, proper individuals suffer a lot as well.

4. The fourth phase – self-blaming or even depression:
This phase leads to pessimism, self-underestimation, and the loss of self-confidence begin to be more evident. Individuals revise the meaning of their existence and life. They have increased expressions of self-pity or even depression and reduced hope and activity. The given individuals are aware of the severity of their situation, and they blame themselves. They re-evaluate their previous activities with a strong tendency to focus on their negatives and weak points, blaming themselves for their own failures.

5. The fifth phase – the decisive phase in the adaptation process:
The fifth phase is utterly crucial from the individual`s long-term orientation view. It can lead to the mobilisation of efforts and realisation of the new forms of active solving of the given situation (problem), which represent the way to later success. They result in finding new options and more efficient ways of proper functioning.

On the contrary, this phase can also lead to passive adaptation to the given situation. Subsequently, there follows the phase of resignation or even fatalism.

6. The phase of resignation or fatalism – nothing will help me:
In this phase, individuals resign and adapt themselves to the adverse situation. They lose the initiative in solving this situation and their belief in possible change. This situation leads to worsened physical and mental strength. The escape from this unpleasant state can be excessive alcohol drinking, abuse of other addictive substances or other undesirable phenomena.

It is possible to observe the course of the adaptation process in various burdensome situations. People usually experience the same phases also in stress caused by severe life events. However, the mentioned phases do not have to follow consecutively, and the length of these phases can also vary in particular individuals. It is not seldom that people who go through these phases can also return to the previous phase. For example, individuals in the self-blaming phase can return to blaming others due to the influence of their surroundings. These returns to the previous phases prolong the overall adaptation process, and they can make the active approach to constructive problem solving of the given situation more complicated. According to Ďurný, Šlepecký and Praško (2001), the so-called „closing in a case" is not a rare solution. In this approach, individuals remain for a long time (sometimes, even for the rest of their lives) in the position of blaming other people or blaming themselves.

Several factors have an impact on the process of natural coping with demanding situations. However, all individuals can influence this process with their active approach, activity, contacts with other people, or professional help.

Regarding stress, it is essential to be aware of the individual variability in perceiving stressful impulses. A situation can be stressful for some people, but it does not have to be burdensome for others. The evaluation of the given situation analyses its consequences for the future. It also focuses on its impact on the individual`s integrity and keeping. The possibilities of keeping this integrity are related to the use of coping mechanisms, which individuals have at their disposal, and to their defence (Heretik, Heretik et al., 2007). Zigmund Freud used the concept of defence mechanisms concerning *„the strategies used in coping with mostly unconscious anxieties."* (Atkinson et al., 2003). The defence mechanisms can change the way individuals perceive stressful situations and how they think about them. Thus, all defence mechanisms include the element of self-delusion. We mention the primary defence mechanisms and their brief characteristic features in the following Table 3.

Table 3: Main defence mechanisms (Atkinson et al., 2003, p. 513)

Defence mechanism	Characteristic features
Crowding-out:	Exclusion of too threatening or painful impulses or memories from the conscience.
Rationalisation:	Attribution of logical or socially desirable motives to our activities so that they give a rational impression.
Reactive formation:	Non-acceptable tendencies are suppressed or substituted with the opposite tendencies.
Projection:	Ascribing own undesirable qualities to other people in an excessive form.
Intellectualisation:	An effort to be separated from the stressful situation with the use of abstract, intellectual expressions.
Denial:	Denying the existence of unpleasant reality.
Transfer:	Motives that cannot be satisfied in a specific form are transferred to the substitutional goal.

Naturally, each of us sometimes uses defence mechanisms. They help us overcome unpleasant situations until we can cope with them directly. The defence mechanisms are expressions of inadequate adaptation when they become a dominant way of reacting to problems (Atkinson et al., 2003). Defence and coping mutually complement each other when people cope with requirements laid on them, often overpass their limits in stressful situations (Heretik, Heretik et al., 2007). In the following part, we will deal with the coping processes. As we have already mentioned above, one difference between defence and coping strategies is that defence mechanisms are unconscious processes, whereas coping strategies are often conscious processes.

3 Coping processes

The term „coping" is derived from the Greek word *„kolaphos"*, which means a punch a person strikes to his rival in boxing (a direct punch on the ear). In the metaphoric meaning, a person who gets in a complicated life situation strikes this punch. In English, coping is an ability to overcome and deal with a problematic or almost unmanageable situation. We also use the English word „coping" in Slovak. We translate this concept as managing or dealing with burden and stress (Křivohlavý, 2009).
In literature, there is not a complete concordance in defining the concept of coping with a burden. Lazarus and Folkman, 1988, (Melgosa, 1998) are authors of the classic theory of coping with stress. They define coping as a cognitive effort of an individual to solve the given problem and, at the same time, also the negative emotional response it provokes. A frequently quoted definition of coping is also the definition by Lazarus, Folkman (1984, in: Bratská, 2001), which defines coping as a set of cognitive and behavioural efforts aimed to cope, tolerate or reduce outer and inner requirements which threaten or even overpass the psychological sources of an individual. Similarly, Křivohlavý (2009) also says that coping is a process of managing external and internal factors the individual evaluates as threatening ones in the given situation. Čanigová (2001) defines coping as a set of cognitive and behavioural efforts to cope with inner and outer requirements that threaten or overpass people's possibilities or sources. Lately, the spectrum of demanding situations includes significant, severe and traumatic situations and minor, ordinary, daily unpleasant events, the so-called daily hassles. For this reason, a more suitable definition of coping is a newer definition by Kohn (1996, in: Čáp, Mareš, 2007), who defines coping as a conscious adaptation to a stressor. In this way, coping differs from the unconscious defence reaction.

The process of coping with difficulties is also denoted as *„stress management"* in the expert literature. It describes the management of acting whose aim is to change the unpleasant and unfavourable state of stress.

Hartl and Hartlová (2000) define stress management as a procedure where it is possible to cope with stress by focusing on a specific problem or situation which appeared. Subsequently, it is necessary to find a way to change this situation or avoid it next time (e.g. learning a new skill). At the same time, people have to focus on calming or alleviating emotions that the stress reaction provokes even if there does not change the given situation (e.g., reducing fear with relaxation). In the expert literature, we can meet with several approaches to the issue of coping. Most frequently, we meet with two approaches. The first approach considers coping as a dispositive characteristic feature, and, on the contrary, the second approach investigates the issue of coping as a specific activity in various situations. Lazarus (1966, in: Křivohlavý, 2009) explains coping as a dynamic process involving a mutual interaction between a person and a stressful situation. Within this process, he differentiates efforts to tolerate and reduce the inner and outer requirements laid on the person and the coping reactions, which are congenital and automatic. We agree with the opinions of Křivohlavý (2009), who thinks that, in coping with stress, personal characteristic features of individuals fighting with stress, coping styles and strategies, as well as coping techniques play a significant role, and it is possible to learn them. Similarly, Bratská (2001) says

that coping is not a stable personal feature because the ways people perceive, evaluate, solve, experience and act in stressful situations change according to the requirements of the given situation and the efficiency of necessary strategies.

Several factors are included in the variables determining coping. To the most known conceptions of personal stress mediators, Heretik, sr. (2007) includes the *sense of coherence (SOC)* by Antonovský (1979), *hardiness* by Kobasová, *self-efficacy* by Bandura, *learnt optimism-pessimism* by Seligman. Reactions to stress impulses are running automatically and unconsciously. These reactions are, primarily, the biological, physiological adaptation and defence mechanisms. People also cope with stress through conscious psychological and behavioural processes denoted as coping processes, which lead to factual solving of the stressful situation, and these processes run mainly at the conscious level (Křivohlavý, 2001). According to Urbanovská (2010), we can divide coping strategies into strategies focused on the problem or strategies focused on emotions depending on whether there is an effort to change or manage the environmental factors or an effort to deal with own unpleasant emotions. Regarding the obtained effect, coping strategies can be positive strategies (an active approach to solve the problem) and negative strategies (strategies of distraction and escape) (Janke, Erdmanová, 2003). People`s gender and age determine the choice of coping strategies. Women are more sensitive to stressful situations, and they cope with them using social support, have more escaping and resigning strategies, and deal with the problem incessantly. With their growing age, women change their coping strategies applying active independent problem solving more frequently (Urbanovská, 2010).

We can consider two basic preventive procedures to be the primary principle of prevention:

1. to reduce stressors (risk factors),
2. to strengthen supportive factors.

The basis is to restore the disrupted balance, to alleviate the burden and, at the same time, to strengthen the individual`s resistance in external conditions (institution, social environment, e.i. creation of favourable working conditions from the physical view, organisation of work and working activities during labour days, enough motivational impulses, rewards, evaluation of working performance, measures for increasing workers` and employees` resistance. It is also crucial to support their resistance at the individual level. For example, we can reduce possible stressors at the personal level with excellent professional preparation, purposeful increasing of resistance against stress, and elimination of unsuitable thinking patterns and life attitudes. We can also seek a sense of life, suppress undesirable behaviour, have a healthy diet and lifestyle, respect the natural rhythm of work and relax, acquire time management principles, and use available relaxing methods. At the level of social environment, it is crucial to create a social network that provides safety, emotional support, help, feedback and impulses for further work and personal development. Professional supervision becomes significant support for workers of helping professions because it helps to increase the quality of all participating workers and employees. It also helps find solutions for severe problems with clients and interpersonal conflicts arising at the workplace (Škobrtal, Urbanovská, 2012, Koukola, Urbanovská, 2017).

Choosing the right strategy of coping with stress, we have to respect the thoughts, emotions and behaviour of an individual who has decided on the given strategy (Křivohlavý, 1994). In the cognitive area, it is the thinking solution and coping with a stressful situation. While deciding, individuals think about what would probably happen if they acted in a specific way. The emotional area includes everything connected with the participants` emotions. In stressful situations, negative emotions are often present related to worries, threats, fear, and anxiety. The elimination or alleviation of their intensity is significant here. In behaviour, at the beginning is a decision and thinking activity. Subsequently, we have to manage the following steps with self-controlling (Křivohlavý, 1994). Cohen, Lazarus (in: Křivohlavý, 1994) describe five strategies of coping with stress:

1. To increase people`s awareness about what is happening with them. We have to inform them about what is happening in their surroundings, which is related to them. People have to know how they can change the course of events or alleviate the impact of a stressor with the chosen strategy.
2. Direct activity – whatever action which people start to fight with stress. This action can be an impulse from their initiative, or a stressor can provoke it.
3. Inhibition or reduction of certain activities could worsen the given situation, or it could make people weaker.
4. Intrapsychological (inner) processes of self-speaking where people try to re-evaluate the given situation, change their value hierarchy and find other solutions.
5. Asking other people for help, e.g. professional advice, consolation, reassurance and social support.

Lazarus (1966, in: Křivohlavý, 1994) emphasises that the situation does not change if we fight with a stressor. Coping with stress is not a one-off event but a whole set of actions that follow up. For this reason, it is crucial to know what has changed with the chosen strategy so that we could choose the next strategy more efficiently. According to Křivohlavý (1994), when evaluating the efficiency of adaptation efforts and strategies of coping with stress, we have to differentiate two aspects with an efficiency determined by a stressor:

1. An aspect of the current efficiency,
2. An aspect of a long-term perspective.

The variability of coping strategies with stress enables us to choose the most efficient strategy in that situation, bringing expected results. These expectations should be realistic. A simple scheme could help us solve the given problem. In the following part, we offer an example of this scheme. Particular steps of the coping strategy with stress are answers to the questions about the initiator, circumstances of stress, self-management and assessment (Praško, Prašková, 2001):

1) Definition of a problem: *What do you want to solve? What do you want to change?*
2) Aim: *How should the problem look after the change?*
3) Specification of the problem: *How does this problem look?* Describe it thoroughly.
a) Circumstances of the problem: *Which outer circumstances impact the given problem? Which of your inner attitudes have a link to this problem? Which behaviour is related to the problem?* Try to be aware of everything from the outer circumstances, your inner characteristic features and stereotypes in your behaviour which can influence the stress you experience.
b) Stress initiators: *What is happening before arising of stress? When, where does the stress appear? With who?* Initiators are typical situations that initiate the experiencing of stress. Some of them are unique, they appear only occasionally in particular situations, and probably, they will not represent the main problem. Problematic are those situations, which repeat regularly, and they lead to the experiencing of stress.
c) Expressions of stress: *Write all ideas, emotions, behaviour and body reactions that appear in stress.* Stress subjectively reflects in thoughts, emotions, behaviour and body reactions. All these subjective expressions are mutually related, and they create a vicious circle of stress.
d) Consequences of stress: *What positive and negative consequences can your behaviour in stress have?* Consequences of whatever behaviour or experiencing can be positive, negative or neutral. Positive consequences often lead to keeping the given behaviour. It is hard to be aware that stress can also have positive consequences related to non-constructive behaviour. They are usually short-term and hardly noticeable. They are important because they lead to a stereotyped repetition of our reactions, although we do not desire it consciously.
e) Modifying factors: *What is modifying the course of stress?* Describe the factors which influence whether you

experience stress more strongly or weakly. Modifying factors are factors that impact our experiencing of stress – they can strengthen or weaken it. We can plan and manage some of these factors (e.g. we can decide whom we will or will not meet with). Other factors are independent of our will (e.g. women`s menstruation).

4) Problem-solving strategies: *What methods and strategies will you apply so that the situation changes?* In this stage, we choose the best and most efficient ways to solve the given stressful situation. We consider all strategies we can carry on and think about their chance to solve our problem. We assess whether they are in concordance with our long-term orientation.

a) Change of circumstances: *How will you change the circumstances related to stress?* If we successfully change the circumstances related to stress, we often change and sometimes even eliminate the given problem. The change of circumstances usually changes also the whole atmosphere that is in the background of stressful problems. These circumstances can be related to your personality (your value hierarchy, behaviour, communication). However, they also depend on solving practical issues that worsen life, such as lack of time for relaxing, boredom, or financial problems.

b) Control of initiators: *How will you start controlling what initiates stress?* You have to focus on controlling those initiators – stressors that appear repeatedly, and they lead to stress. We can control initiators in many ways: prepare for them in advance, avoid them, or change how we evaluate them. We can also change the way we will react to them.

c) Control of stress expressions: *How will you change your thoughts, emotions and behaviour in stress?* The control of stress expressions consists of the control of thoughts, emotions and behaviour. To control subjective expressions of stress is more complicated than to change the circumstances and control the initiators.

d) Change of stress consequences: *How can you substitute or reduce the positive stress consequences related to stress?* Positive but very short-term consequences of stress mostly lead to the strengthening of the stress reaction. When we are worried, and somebody is hugging us and helping us alleviate the given activity, we will probably worry longer. On one side, we can perceive this alleviation as a confirmation of our bad condition, and, on the other side, these alleviating actions are pleasant themselves. When we criticise somebody, we can feel our increased self-confidence and relief of tension for a short time what is a short-term positive benefit. It is usually enough to repeat our verbal aggression the next time, even though the long-term consequences are usually negative – worsening our relationship with the given person. When we avoid a specific situation we are afraid of or a particular activity where we have a reduced motivation, we feel a short-term relief – a short-term positive consequence. A long-term avoiding behaviour leads to the cumulation of stress. Despite its general long-term disadvantage, a short-term relief as a positive consequence is enough to repeat this avoiding behaviour. The control of stress consequences focuses mainly on preventing the short-term positive consequences.

e) Control of modifying factors: *How can you control what is alleviating or worsening stress?* The control of factors that strengthen or weaken stress can sometimes help us a lot. For example, we can postpone the most difficult tasks to that part of a day when we have the most significant performance.

5) Timetable of using chosen strategies: *What do you have to do first? What is possible to do later? What speed is it possible to continue?* It is not enough to choose strategies. You have to plan their use, including their timetable and rewarding yourself after fulfilling particular goals. The most important task is to have all steps marked in the calendar.

6) Evaluation of the problem-solving process: *Are you successful? What have you already achieved?* Assess particular problem-solving strategies (4a-4e), and say whether you have successfully applied the set changes.

7) Self-rewarding: *What do you deserve when you have achieved it?* It is necessary to reward immediately and adequately every difficult step and every achieved success.

Now you can pay your attention to a mentioned example of a plan to cope with stress prepared by a man in young adulthood.

A man is at the age of 24 years, single, childless, without any commitments. Besides his work, he studies at the university. Since his school age, he feels insecure in social situations and social interactions because he is worried about his failure. This man is afraid that he will be rejected and negatively evaluated by others. He feels fear, anxiety and anger. At the same time, the man is emotionally deprived and exhausted; he fulfils his studying and working tasks with the maximum possible effort. The man feels safe at home, and he is aware of the stress and burden he experiences. He is critical and strict to himself.

The plan of overcoming stress

1. **DEFINITION OF A PROBLEM:** „I feel anxiety when I have to present something in front of my colleagues at the seminar. The result is that I am afraid of the verbal expression also in a situation when I know that there is no danger threatening me."
2. **AIM:** „I want to present my work in front of my colleagues without stress, extreme insecurity, and negative thoughts such as I will not be able to do it, or I will embarrass myself."
3. **SPECIFICATION OF THE PROBLEM:**

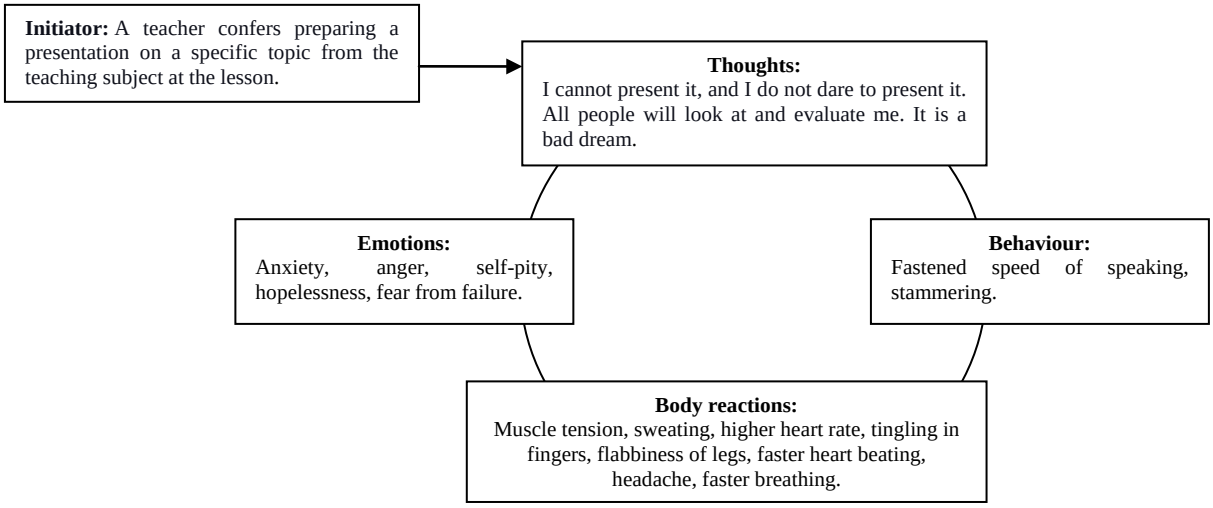
a) Circumstances of the problem:

a1	I hate presenting in front of the audience. I feel hopeless and insuperable fear. I often think that I will embarrass myself and that my life is meaningless. I feel unable to do it. I am often angry at the person who conferred me this task of presenting and refused to fulfil my requirements without this presenting to avoid this task. However, I know that this person is supporting me and has not done it on purpose.
a2	I am a person who likes a quiet and calm environment. I do not like many people around me (more than two people), and I prefer written communication. I do not like speaking in front of other people.
a3	I cannot evaluate and motivate myself, nor I can reward myself. I do not expect rewards or appraisals from others because I often think I do not deserve them.

b) Initiators of stress:

b1	When I have to present my work in front of my colleagues, regardless of the number of participants.
b2	Whenever I have to present something verbally in front of more people, sometimes even one person
b3	When I meet with a person who does not know me, this person expects my verbal expression.

c) Expressions of stress:



d) Consequences of stress:

	positive	**negative**
short-term	If I avoid presenting, I experience short-term relief, and I can relax for a while.	Unpleasant emotions, tension, hopelessness, life is not meaningful.
longterm	Postponing of elaborating the set tasks.	A bad habit of avoiding situations that provoke my stress and anxiety.

e) Modifying factors: stress is getting stronger one day before the planned presentation, before the given presentation in front of the audience and just before its beginning. It is also worse during a planned meeting with an unknown person or a person I do not know very well. The stress is stronger one day before the given meeting when there will be more than two people.

4. **PROBLEM SOLVING STRATEGIES:**

A) Change of circumstances:

a1	I do not like presenting in front of an audience. I feel hopelessness and insuperable fear. I often think that I will embarrass myself. I am often angry at the person who conferred met the task of presenting and refused to fulfil my requirements without this presenting.	To practise my speech at home in the known environment.
a2	I am a person who likes a quiet and calm environment. I do not like many people around me (more than two people). I do not like speaking in front of other people.	I am an introverted person. I like a quiet and calm environment, and I like being alone. I will let everything run naturally.

a3	I cannot evaluate and motivate myself, nor I can reward myself. I do not expect rewards or appraisals from others because I often think I do not deserve them.	I will start with regular self-evaluating, self-rewarding after every presented task. Maybe I will buy something small for myself to realise how well I have coped with it. I will prepare a list of rewards and a list of successful presentations. Every day I will practise breathing exercises for thirty minutes as my psychologist has recommended to me.

b) Control of initiators:

b1	When I have to present my work in front of my colleagues, regardless of the number of participants.	In advance, I will prepare the plan of presenting. In colours, I will mark sentences that I want to read. I will try to keep calm and think that I will manage it.
b2	Whenever I have to present something verbally in front of more people, sometimes even one person.	I will think about something I like and what makes me calm
b3	When I meet with a person who does not know me, this person expects my verbal expression.	I will be calm. I will clarify what is waiting for me, and I will prepare my answers to possible questions. I will also come to the agreed place earlier.

c) Control of stress expressions:

Control of thoughts:

Negative thoughts	Re-framing
I will not be able to present it.	„What does not kill you will make you stronger" – it is unpleasant, but I will try, and I will manage it. Maybe not all people will like my speech, but that is all right.
I do not dare to present it.	I have support from my parents and colleagues that I will manage my presentation. I have already managed it in the past. I am skilful, successful in my study and I have good written preparation.
Everybody will look at me, and they will evaluate my speech.	Now I am exaggerating; not everybody will look at me. I will concentrate on my presentation, and I will aim to provide my colleagues with new information.

Control of emotions: I can control my emotions indirectly through the control of my thoughts. Another way I can use is relaxation.
Control of behaviour: In the short term, I will concentrate on the speed and tone of my voice, gestures, and slow speaking. In the long term, I will focus on assertiveness training to reduce my fear of being criticised.
Body reactions: I will control the body reactions by controlling my thoughts, behaviour and emotions.

d) Change of the consequences of stress:

d1	Avoiding presentation, a short-term relief.	I want to create higher self-confidence. I want to be brave and fearless.
d2	Postponing of elaborating the set tasks	As a priority, I will make a space for fulfilling essential tasks in my daily plan. I will prepare a weekly plan.
d3	Negative emotions, hopelessness.	I want to have at least thirty minutes a day for relaxation through exercising, walking in nature and reading motivational literature.

e) Control of modifying factors:

e1	Strengthening of stress one day before presenting / meeting.	I will speak with parents and friends about unpleasant things, and I will practise presenting at home in a safe environment to prepare better. I will focus more on people and their needs than on what impressions I provoke in them.
e2	Presence of a higher number of people.	It is unpleasant, but it is not a tragedy. I know my colleagues well, and we respect each other as we are.

5. TIMETABLE OF USING CHOSEN STRATEGIES:

A-plan: control of circumstances and initiators:

Record daily if there occurred	Mon	Tue	Wed	Thu	Fri	Sat	Sun
a1) exaggerated irrational thoughts and their re-structuralisation							
a2) self-rewarding, self-appraisal							
a3) control of a weekly plan							
a4) relaxation							

B-plan: control of stress expressions and their consequences:

Practise	Specify when and with who
a1)	Every day
Practice of the speech at home.	At least three or four days before presenting.
a3) thirty-minute breathing exercises	Seven days a week, before and after the presentation in front of colleagues, before and after the agreed meeting.
b)1 Plan of presenting	One week before the presentation.
d)2 Elaboration of a weekly plan	Always on Sunday evening.

6. **EVALUATION OF THE PROBLEM-SOLVING PROCESS:** evaluation of the progress once a week, and if necessary, more times a week.
7. **SELF-REWARDING:** motivation, appraisal, self-esteem.

4 Two primary forms of coping with burden, strategies and style

Emotions and physiological activation caused by stressful situations are quite unpleasant for individuals and, thus, they are motivated to do "something" to eliminate or, at least, alleviate this state (Atkinson et al., 2003).

According to Kohn (in: Čáp, Mareš, 2001), coping can have two primary forms. It includes the reaction to the direct stressor (coping strategy) or the consistent way how people cope with stressors acting in different forms and situations (coping style). Researchers investigated the transactional approach emphasising the coping strategies as specific features of the coping process for a longer time (Lazarus, Folkmanová, 1984, in: Čáp, Mareš, 2001). Other authors investigate the coping style, which is more determined by personal specific features, people`s predispositions, and it acquires the character of an individual`s way of behaving.

It is necessary to respect the difference between the coping strategies and styles in choosing a suitable diagnostic method and research interpretation, mainly in dealing with diagnostic findings (Čáp, Mareš, 2001). According to Křivohlavý (2009), coping styles represent a specific approach to stress, and coping strategies are even more specific ways of approaching stress. Ruiselová et al. (2006, p. 11) say that specific coping strategies group into more general styles, defining them as "*more general ways of behaving in various types of demanding situations.*" Paulík (2010) explains that the concept of a coping style generalises the characteristic and relatively invariable patterns of individuals` behaving and experiencing in demanding situations and their tendencies to evaluate this situation in a specific way. Compared to coping styles, coping strategies are less general, and they are more determined with the specification of acts themselves. Concerning coping styles, we can understand coping strategies as a means of realisation that considers individuals' current psychosomatic state and the external situational conditions.

Čáp and Mareš (2001) compare various characteristic features of coping strategies and styles in the following table (Table 4).

Table 4: Comparing of coping strategies and coping styles (Čáp, Mareš, 2001, p. 534)

Compared characteristic feature	Coping processes, strategies	Coping style
origin	congenital and acquired	mostly congenital
psychological basis	current reflecting, thinking, evaluating and acting	personal predispositions and features to thinking and acting
stability	low	high
dynamics of changes	high	low
relation to burdensome situations	situationally specific acting	trans-situational acting
motivational aspects	significant	weaker
relation to the context	big	small
character of a diagnosed activity	particular, specific, unique	usual, common, typical

5 Coping styles

Events can be unpredictable, unavoidable, and they represent a challenge for our self-perception. We have to tendency to perceive and experience these situations as stressful situations. However, we can observe that some people perceive these events in this way more often than others, and therefore, they experience stress reactions more frequently. There exist three fundamental theories which explain why some people tend to evaluate events as stressful situations: the psychoanalytical theory, behavioural theory and cognitive theory. *Psychoanalysis* differentiates *objective* anxiety, an adequate reaction to a harmful situation, and *neurotic* anxiety, disproportionate to real danger or threat. The founder of psychoanalysis, Zigmund Freud, thought that neurotic anxiety arises from *unconscious intrapsychological conflicts* between unacceptable impulses and actual requirements. Many of these impulses represent a threat for individuals because they are incompatible with their social or personal values. An example is a woman who cannot admit that she feels hatred for her mother because these feelings are contrary to her conviction that children should love their parents. If she admitted her real feelings, she would destroy her perception of a loving daughter and risk losing her mother`s love and support. When she starts feeling anger toward her mother, this activated anxiety signals potential danger. This woman can also perceive a negligible conflict with her mother (e.g. disagreement about a family holiday or food for dinner) as a severe stressor. On the contrary, a woman whose mother does not provoke such contradictory feelings can experience these conflicts as less severe stressors. From the psychoanalytical view, we all experience unconscious conflicts. However, these conflicts are more severe and numerous for some people and, thus, they experience more life situations as stressful situations. For this reason, the cause of inner sources of stressful reactions lies in unconscious conflicts. *The behaviourists* focused on the ways individuals learn to connect stress reactions with specific situations. Some people react to certain situations feeling fear and anxiety because, in the past, these situations had some loss or stress as consequences for them. According to the behaviourist theories, some phobias develop through *classic conditioning.* An example is a student who was not successful at the final exam, which took place in a classroom, and he can feel anxious when there is another exam in the same classroom next year. It is sometimes complicated to get rid of fear. When the first reaction is avoiding or escaping from the given situation, people do not have to recognise when this situation is not dangerous anymore. Thus, individuals can still fear specific situations because they usually avoid them and are not confronted with their fear. An example can be a woman whose parents punished her for her assertive behaviour in childhood. She may never learn that, in some situations, it is suitable to express her wishes directly because she will never try it. *Cognitive theories* emphasise the importance and influence of cognitive processes on the evident behaviour of an individual in a stressful situation. Cognitive processes have a mediating function between impulse and behaviour. For this reason, the impulse itself does not provoke specific behaviour, but it is important what the individual will ascribe to this impulse. Similarly, consequences also strengthen or weaken previous behaviour according to the importance of these consequences (Murdoch–Barker, 1996, in: Možný, Praško, 1999). Based on the knowledge about the meaning and significance of cognitive processes, we can better understand and foresee people`s behaviour in some specific situations. At the same time, we can also explain why the same impulses can lead to various answers. People (subjects) are active participants in the learning process, and they pay attention only to specific impulses they evaluate and compare with their previous experiences. Their reactions also depend on their convictions, expectations, and not least, on their self-evaluation and assessment of their possibilities to manage the given situation.

Modification of the learned helplessness theory (Abramsonová, Seligman, Teasdal, 1978, in: Atkinson et al., 2003) focuses on the *attribution* or explanation of causes people attribute to the crucial events. According to these investigators, people more often have helpless and depressive reactions to adverse events if they attribute these negative events to causes that are internal concerning them („It is my fault."), they do not change in time („it will take an eternity"), or they are global, influencing many areas of their lives. For example, people whose partners have left them will attribute this breaking up to their „bad personalities"

(internal, invariable, global attribution), and they will lose their self-esteem. They will also expect that their future relationship will not be successful as well. This attitude will lead to their decreased motivation, passivity and sadness. Contrary, if people have less pessimistic attributions (e.g. attribution of the divorce to the difference in characters of both partners), they will probably keep their self-esteem and motivation in the future. Abramsová and her colleagues (1978, in: Atkinson et al., 2003) suppose that people have *attributive styles* (*specific styles individuals attribute causes to various events in their lives)*, which influence the way they experience specific events as stressful, and whether they have helpless or depressive reactions to these problematic situations. Several studies support this theory. The attributive (explanatory) style has three dimensions (Heretik, sr., 2007): 1. *permanence* (temporary vs permanent character), 2. *pervasiveness* (specific vs global character), 3. *personalisation* (internalisation vs externalisation). If we evaluate adverse life events and stressors, learning to be optimistic means changing thinking from *permanent* to *temporary* (no stressors will last forever). It is also a change from the *global to specific character* (these stressors are not related to „everything", to the whole life, they are related only to some specific impulses); from the *internal to the external character* (to differentiate what I can or cannot influence). *Seligman's theory of learned optimism* (or *even learned happiness*) belongs to trendy concepts of the so-called positive psychology. In one study (more in detail: Atkinson et al., 2003), the investigators found out that students who got a worse mark than was their standard and who had a pessimistic attributive style were significantly more often depressed than students who got a worse mark, but their attributive style was optimistic. The pessimistic attributive style also connects with the body illness. They found out that students with a more pessimistic style mention illnesses, and they go to the medical centres more frequently than students with a more optimistic attributive style. In the longitudinal study lasting 35 years, investigators examined men who studied at Harvard from 1939-1940. They noticed that 25-year-old men who had a pessimistic attributive style got ill more often during the following years than men who had an optimistic attributive style (Peterson, Seligman, Vaillant, 1988, in: Atkinson et al., 2003). Another study examining individuals in late adulthood confirmed that pessimistic people had a worse immune system activity than optimistic individuals (Kamen, Siegel et al. 1991, in: Atkinson et al., 2003).

A cognitive-behavioural contribution to the mediation of stress is also the conception of estimating own *self-efficacy*. According to the social-cognitive theory by Bandura, we can consider and regulate our behaviour. We use symbols; we can think, create and plan. The cognitive processes are evident in actions. Our ability to imagine future consequences and outputs reflects in their insertion into the current motivations of behaving. The result of previous experience can also be the expectation that some forms of behaviour can succeed, and others have only minor or undesirable consequences. Thus, causality does not depend only on the environment. The environment and people mutually influence each other (Možný, Praško, 1999). These expectations impact people`s behaviour, and they are a determining factor in choosing their activities. They also determine how much effort people will put into specific actions and how long they will keep in this effort when coping with demanding situations (Bandura, 1977). In this theory, changing expectations related to personal self-efficacy is crucial if people want to change their behaviour. Individuals with a firm conviction about their self-efficacy can cope with situations even in an environment with limited conditions, and they attribute their failures to unfavourable circumstances. Goals mean a challenge for them, and they try harder to overcome possible obstacles. Contrary, people with a low belief in their self-efficacy use potential opportunities less, they attribute their failures to unfavourable situations, and their effort to reach their goals usually weakens if some obstacles appear (Bandura, 1988). To some extent, self-efficacy is similar to the concept of aspiration level; however, they are not the same. Whereas people`s aspiration level primarily results from external pressures, self-efficacy depends more on the inner conditions. However, a positive correlation exists between these two views: the stronger the self-efficacy, the higher goals people have. The positive correlation is also between the perception of self-efficacy and success: success increases people`s self-confidence, and failure provokes their doubts about themselves. The research also confirms a relationship between perceived self-efficacy and the psycho-biological functioning of the body. The increase of self-efficacy improves the general level of arousal and has a favourable impact on health and mental well-being. It also influences the rate of vulnerability in stressful situations (Výrost, 1997). Another research tendency focuses on people who are more resistant to stress, and they do not get ill physically or mentally despite difficult, stressful situations (Kobasová, 1979, in: Atkinson et al., 2003). This characteristic feature is *hardiness*. More than 600 men participated in the research (Kobasová, 1979, Atkinson et al., 2003). It showed that men who overcame many stressful situations and were less ill differentiated in three main dimensions from those who overcame many stressful situations but were ill more frequently. These more resistant men participated in working and social life more actively, they were more focused on challenges and changes, and they had a feeling that they can more influence the course of events in their lives. According to Kobasová (1979, Atkinson et al., 2003), hardiness moderates the relationship between stressful life events and illness. She defines hardiness as a mixture of three different personal features: 1. Control (control of situations) – a feeling of personal control over external events in the life; 2. *Commitment* - (commitment and personal involvement) – a deep feeling of commitment, awareness of the meaning of life and events in everyday life; 3. *Challenge* – a flexible attitude in adapting to unexpected changes because they represent interesting challenges to further personal development. In general, resistance is an efficient moderating factor in the relation between stress and health. The resistance has a specific protective effect because it can eliminate, alleviate or regulate the negative impact of unfavourable life events, situations and circumstances.

According to Atkinson et al. (2003), it is possible to describe the personal characteristic features of people resistant to stress with three concepts: *„involvement"*, *„influence"*, *and „challenge"*. The author says that these characteristic features are in a mutual relationship with factors that influence stress intensity. For example, the feeling of influencing the course of life events also impacts evaluating stressful situations. The challenge also includes cognitive evaluation. Antonovsky (1979) pointed to three dimensions of a personality that influence whether people will fail to cope with difficulties or resist them. These dimensions represent: the *meaningfulness* of the given situation in contrast to its alienation, *clarity* in contrast to a chaotic character and *manageability* in contrast to an unmanageable situation. If people see their situation as meaningful, evident, and manageable, they acquire a more hopeful and optimistic attitude to fight difficulties.

Type A behaviour represents one pattern of personal behaviours, and nowadays, experts pay much attention to it. Over time, doctors observed that the myocardial infarction victims are hostile, aggressive, and impatient people who focus too much on their work. In the 1950s, two cardiologists (Friedman and Roseman, 1974, in: Atkinson et al., 2003) defined a model of behaviour characterising patients with the ischemic illness of heart, and they called this behaviour as *the Type A behaviour*. People with this type of behaviour are significantly competitive and focused on performance, and they feel a constant lack of time. These people cannot relax. They are impatient and angry when they have to postpone something or deal with people they consider unable. Even though they look self-confident, they are probably victims of their incessant doubts about themselves. These people try to do everything in the shortest time possible. Contrary, people with *Type B behaviour* do not have these features, which are characteristic of Type A. They can relax without feeling guilty, and they can work without stress. These people do not feel a constant lack of time, are not impatient and do not get angry quickly. In 1981, after examining all existing evidence, the American

cardiological association marked Type A behaviour as a risk factor for the occurrence of the ischemic illness of the heart. We mention an overview of all components of Type A behaviour in Table 5 and its expressions in Table 6.

Table 5: Components of Type A behaviour (Nôtová, 2007, p. 495)

• Competitiveness • Fight for success • Lack of time • Impatience and Speed	• Pushingness • Hostility • Responsibility • Working involvement

Table 6: Expressions of the Type A behaviour (Nôtová, 2007, p. 495)

Behavioural	Verbal
• Faster motor speed • Decreased ability of relaxation • Excessive activity and unrest • Performance orientation • Impulsiveness	• Explosive speech • Interruption • Tense breathing in • Briefness – emphasis • Hostile colouring

A relatively newer concept is the so-called *Type D personality (distressed personality)*, and experts published several works about this topic in 1996-2005 (Denolt, 2002, 2005, in: Nôtová, 2007). The concept of the Type D personality emphasises that these people tend to suppress expressing emotions, and they have negative emotions. There is also social isolation and increased depressive symptomatology (Denolt, 2003, in: Nôtová, 2007). The Type D personality possesses two stable features: *negative affectiveness* (a higher occurrence of negative emotions) and *social inhibition* (a tendency to inhibit the expression of these emotions in social situations). These people tend to be worried, tense, unhappy, irritable, and generally are in a worse mood. In Table 7, we mention an overview of typical characteristic features of the Type D personality.

Table 7: Characteristic features of Type D personality (Nôtová, 2007, p. 492)

• Depressive symptoms • Chronic tension • Hostility • Pessimism • Irritability	• Lack of social support • Absence of positive emotions • Decreased self-evaluation • Life dissatisfaction • Inhibition of negative emotions

However, a positive fact is that we can modify non-adaptative behaviour, which can cause even more stress retrospectively. It is possible to modify it with suitable ways of intervention (training and therapeutical programmes). The Stressful Situations questionnaire allows us to understand how we can cope with stressful situations in a better way (Buchwald, 2013).

6 Coping strategies

In the professional literature, we can find several divisions of coping strategies. The strategies of defence and attack, or active and passive strategies, belong to the oldest divisions of the coping strategies. *Active strategies* appear in the attacking solving of the conflict. Characteristic features are activity and increased level of aggression. People do not hesitate to fight with a stressor. The active strategies include: repeated trials to overcome obstacles (we do it with increased effort); open aggression; compensation; setting an adequate substitutional goal, effort to reach another success or satisfaction; escape to excessive activity. *Passive strategies* usually include a passive solving of situations. However, there also belongs the escape from the unfavourable situation, accompanied by significant activity. The category of passive strategies involves: resignation (i.e. stopping with an effort, setting a substitutional or inadequately low goal), escape to fantasy, inactivity, escape to alcoholism or abuse of other narcotics, isolation, avoiding of people (Senka, Čečer, 1988, in: Bratská, 2001). The classification by Lazarus belongs to the oldest strategies of coping. In his book *Psychological Stress and the Coping Process*, he mentioned the following strategies of coping with stress (Lazarus, 1966, in: Bratská, 2001, p. 114): *a strategy of indifference (apathy), a strategy of avoiding the noxious influence, a strategy of attacking the attacker, a strategy to strengthen and increase own sources of force*. Folkman and Lazarus (1984, in: Atkinson et al., 2003) further describe two primary forms or strategies people use to cope with stressful situations. People can focus on a specific problem or situation that occurred, and they try to find ways to change or avoid it in the future (*coping focused on a problem*). They can also focus on alleviating emotions related to the stressful situation, whereas a proper change of the situation does not have to occur (*coping focused on emotions*). Most people cope with stressful situations using both coping strategies, focusing on the given problem and emotions. In coping focused on a problem, individuals try to eliminate what provokes fear and worries, destroy all stressful situational influence, and achieve the change of conditions that worsen the general state. These strategies consist of identifying and defining a problem, seeking possibilities for solving and acquiring special skills. Contrary, strategies focused on emotions often include the evaluation of the given problem, use of various means to alleviate its urgency (e.g. physical exercises, psychological support by friends), or to achieve a temporary postponing of the situation (e.g. *„it is not worth so that I worry with it now"*). According to Folkman and Lazarus (1980, in: Křivohlavý, 2009), strategies focused on a problem are more frequently used in the working area, whereas people prefer strategies focused on emotions in solving family conflicts. One study (Arthur, Hiebert, 1994) points to gender differences in coping strategies related to differences in stressful situations (women showed a higher level of emotional stress). Another factor was a different approach of men and women to stressful situations (women more often used strategies focused on emotions). However, both mentioned types of coping are efficient if people suitably use them. Subsequently, they have a favourable effect on people`s mental and physical health. The following form provides steps of solving a problem (Table 8) (Praško, 2003).

Table 8: A form for structured solving of a problem (Praško, 2003, p. 192)

Step 1 – Definition of a problem and setting of a goal:
Step 2 – List of all possible (also imaginative) solutions:
1.
2.
3.
4.
5.
6.
7.
8.
9.
Step 3 – Evaluation of particular solutions: Go through all possible solutions and consider their main advantages and disadvantages!
Step 4 – Choice of the best or most practical solution: Choose a solution (or combination of solutions) that will lead to the goal most easily or practically (e.g. short time, short costs, use of skills you know)
Step 5 – Plan of steps:

1. —————————————————————————— – 2. —————————————————————————— – 3. —————————————————————————— – 4. —————————————————————————— – Plan: When? Where? What? How? With who? Consider your sources and skills, or, if necessary, get or practise them.
Step 6 – Practical solving of the problem: Follow the plan and timetable you prepared in the previous step. Do not postpone the beginning!
Step 7 –Evaluation: Did you reach the set goal? Consider where you were successful and where you failed. Which steps were helpful, and which were less efficient? What experience did you acquire? What did you learn? Reward yourself!

Besides *coping strategies focused on solving the problem* arising from stress and *strategies focused on coping with the emotional state* related to the given stress, Kebza (2005) describes another strategy – *avoiding coping*. Avoiding coping represents activities and changes where people focus on avoiding stressful situations by diverting or distracting their attention. The most frequent example of this non-adaptive coping with stress can be the confrontation ways of solving the consequences of a stressful situation with aggression or inadequate risk-taking: the *rumination strategy*, which means a process of continuous thinking, worrying, repeating of the problem in oneself, and describing of inner feelings without an effort to change the given situation. Another non-adaptive coping strategy is the *avoiding strategy* based on alcohol abuse, risk-taking, or attacking others (Dobríková, 2007).

As we can see, there are numerous ways of coping with demanding situations. Some strategies can be efficient (e.g. evaluation of the situation), and, contrary, some strategies can cause even more stress (e.g. alcohol or drug abuse).

In stressful periods, people can learn various strategies under professional guidance. They can learn how to decrease the harmful stress on the mental and physical condition. In general, there is an emphasis on behavioural or cognitive approaches or their combination. *The behavioural approaches* focus mainly on the change of external conditions and the change of people`s behaviour. We also include techniques to manage physiological reactions to stressful situations (e.g. biofeedback, relaxation training, meditation and physical exercises). *The cognitive approaches* primarily aim to change cognitive reactions to stressful situations. Several investigators show that the improvement achieved with the combination of cognitive and behavioural approaches lasts the longest time (Atkinsonová et al., 2003). Similarly, Dobríkova (2007) mentions several types of adaptive strategies: behavioural strategies (physical exercise, seeking for psychological support in the social environment, training of relaxation), which alleviate severe consequences of the problem). There are also *cognitive strategies* (evaluation of the situation or temporary postponing the problem from the conscience). Moreover, she also pointed to *distracting strategies* (performance of pleasant activities that enable relief from burdensome feelings, leading to the acquisition of control over the given situation). We can include Schwarzer (2000), Schwarzer, Knoll (2003), Schwarzer, Taubert (2002), Reuter, Schwarzer (2009) in newer approaches to coping. According to the time dimension, they differentiated four types of coping strategies. *Reactive coping* solves stressful situations at the moment when they occur or have already occurred. Reactive coping is problem-focused, emotion-focused or social-relation-focused. These coping strategies compensate for the loss or alleviate harm, and they are following the traditional coping. *Anticipatory coping* deals with the impending threat. People are dealing with a problem that may occur in the near future. This coping aims to directly solve the upcoming stressful situation, and people have to manage the perceived risk. It is a cognitive, emotional and free preparation for possible burdensome situations. People consider possible strategies, create their energy resources, and develop their specific competences. At the same time, they purposefully strengthen their resistance against stress. *Preventive coping* helps to create resistance to stress which may occur. It is an effort to prepare for uncertainty from a longer perspective. This coping does not arise from an acute stressful situation. *Proactive coping* creates resources that will be necessary so that people do not perceive stressful situations as a threat, but as a challenge they accept. They see risks and demands in the future, but they do not appraise them as threats, harm, or loss. In this way, they will achieve personal growth focused on the future, and at the same time, they will strengthen their anticipatory and preventive coping. Preventive and proactive coping styles are partially expressed with the same types of evident behaviour, such as developing skills, accumulation of resources and long-term planning. However, they differ in the motivation that can arise from evaluating a threat or a challenge. In the threat evaluation, the levels of fear are higher than in evaluating a possible challenge. Proactive individuals have the motivation to face these challenges, and they accept the commitment to achieve personal quality standards.

One way we can positively influence our health and life quality is to eliminate or, at least, alleviate some symptoms of stress in its very beginning. We agree that successful prevention and coping with stress require a combination of direct action strategies and relaxing strategies. First, it is crucial to discover and define the sources of stress and its causes. In the following step, we consider and choose how we can eliminate or, at least, alleviate the causes and (already arisen) consequences of stress. Subsequently, we recommend applying relaxation techniques in everyday life for the prevention of stress. Everyday „work“ on ourselves and applying psycho-hygiene principles represent an efficient tool for prevention against stress and for increasing the feeling of subjective well-being. It is also an efficient tool that helps us alleviate our experiencing of stress in situations when its source is persisting. Besides physical exercises, we recommend using breathing and relaxation exercises or mental techniques. Last but not least, protective factors against stress also include building a network of social help, the inclusion of pleasant activities in a daily regime, adequate self-evaluation and aspirations, sense of humour, optimism, a feeling of life meaningfulness, the ability to perceive obstacles as a challenge, a healthy diet, a balance between work and relax, enough physical activities, good sleeping and others.

7 Conclusion

The research subject analysed in this study is highly up-to-date. We think that it is currently an important social topic and increasing responsibility laid on every individual. Stress and burden represent part of the life of all people. With no resignation, we have to accept it and deal with its coping in the current environment. At the same time, we have to be able to perform the roles which are required from us by society. The study offers verified strategies that we can understand as efficient and applicable interventions in our reality.

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Primary Paper Section: A

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THE IMPACT OF SOCIAL NETWORKING ON THE DEVELOPMENT OF SOCIAL RESPONSIBILITY VALUES (APPLIED STUDY ON A SAMPLE OF SAUDI YOUTH)

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Abstract: The study aimed at knowing the impact of the social network in developing the values of social responsibility among the youth group in Saudi society, as an applied scientific contribution in diagnosing reality, and foreseeing the future in light of the modern changes brought about by the social communication revolution. It is a descriptive and analytical study of a sample of Saudi youth, consisting of (1325) individuals. The study found a number of indicators related to the development of social responsibility values, including exchanging experiences and studying the experiences of other societies, clarifying and educating others about the problems of society, contributing to programs supporting poor families, strengthening creative ideas among others to serve the community, a value commitment towards development programs and plans, especially at the local level, contributing and cooperating in national events and activities, sharing time and thought in voluntary groups in virtual communities, in addition to contributing to eliminating negativity in relation to some varied social situations. The results of the study, in general, emphasized the most important structural components of social responsibility, which are responsibility towards others, freedom and participation, belonging and citizenship, pluralism and openness.

Keywords: values - social responsibility - youth - social network

1 Introduction

Social responsibility is one of the important issues to be relied upon in addressing the dimensions of development in all human societies. In its comprehensive concept, it means that any organization, social institution or individual has the responsibility to work for the entity of the community and its capabilities as a whole. This responsibility may be negative or positive towards the community. In its positive side, it seeks to achieve the community goals and aspirations. In fact, human societies live today in a system of change imposed by most of the aspects of the modern technological era. In this regard, social networks have become of great importance in activating and developing the role of individuals and civil society institutions due to their distinguished characteristics and advantages that made them one of the most effective means of communicating and introducing their activities and achieving their goals. Therefore, it is important to know the impact of these social networks in developing the values of social responsibility among young people, and the extent to which they have become an essential tributary and an important pillar in building a human's social life, in light of the transformations and developments of knowledge integration in this era, which is reflected in the integration of social construction systems.

2 The problem and objectives of the study

The global report (Digital, 2021) shows that the number of active social network users in the world will reach about 4.2 billion users by the beginning of the year 2021, as the service penetration rate increased to about 53.6% of the total world population estimated at about 7.8 billion people, and that the average time the user spends on social networks is up to two hours and 25 minutes. The Corona crisis and the accompanying repercussions and measures that limited the movement of people had a significant impact on the increase in the use of the Internet and various means of technology, including social networks, where during the year 2020, they received nearly half a billion new active users. At the level of Saudi society, statistics show that the age group (15-34 years) amounted to (36.70%) of the total population, and that the percentage of young people who use social networking sites reached (98.43%), while the percentage of young people whose social life system was affected by Social networks is (35.83%) (General Authority for Statistics, 2021).

The observer of the prevailing social conditions realizes that the use of the social network is on its way to influence the social and value building of human societies, through the development of some values and the retreat from others, and social responsibility is one of the important values associated with citizenship, loyalty, belonging and a sense of developing and preserving civilizational gains, in addition to its role in strengthening the relationship between the individual and society through the responsibilities and duties that individuals must perform in integration with society and its various institutions. Rather, bearing responsibility is one of the skills required by social life to build an individual's personality and face the possible challenges and developments in all aspects of daily life (Nawfal et al., 2015).

The current study is a contribution to the scientific and cognitive context to understand the extent of the relationship between social networks and social values, especially with regard to the values of social responsibility, in addition to the applicable indicators that can be used to enhance such types of values. Accordingly, the study aims to know and diagnose the impact of the social network in developing the values of social responsibility among young people in Saudi society. And that is achieved through knowing about: What is the interactive reality of young people with the social network? And what is the positive impact of social networks in developing the values of social responsibility for the youth group in Saudi society?

3 The study literature

Values: a concept that denotes "the set of central normative trends that define the individual's goals in social situations, which appear through his social or verbal behavior" (Abdel-Aal, 1986).

Social values: "It is a set of beliefs that are characterized by a degree of relative persistence, and that represent directives for people towards goals or means to achieve them, or behavioral patterns chosen and preferred by these people as an alternative to others" (Al-Husnia, 2006). Hence, positive social values can be defined as a set of rules, principles and norms that govern behavior, and serve as the main criterion in formulating and directing public behavior in a manner that serves the progress of society. It means adherence to the values governing the movement of individuals and society such as honesty, sense of responsibility, knowledge of rights and duties, loyalty and belonging, sincerity, faith, justice, and transparency (Musbah, 2008). Values in the view of Durkheim are realistic common guidelines between a group of people and groups, and individuals find fulfillment of the desires that they are looking for in different and diverse situations. Each unit in society has its own values that regulate the behavior of its members. Parsons considers values as a fundamental reference point for the analysis of the structure, processes, and interactions of social systems (Faraj, 1980). One of the features of values in light of the current study is that it is a set of rules that are acquired to regulate human behavior through which the desirable and undesirable lifestyle and behavioral patterns are judged, and what these values ultimately constitute as values of a sense of social responsibility.

The interest in social responsibility and its concept has been doubled, and the social role that it can play in the development of society has been highlighted. Thus, the social responsibility represents practices that have a moral and ethical commitment. It consists of voluntary and ethical components. The most important elements of the ethical aspect are respect for the prevailing social principles in society, and that ethical behavior be consistent with legal legislation. As for the components of the voluntary aspect of social responsibility, they include participating in social activities, providing support to organizations in the community, and that the activities provided are based on raising the level of the type and quality of life.

(Badran, 2009). Social responsibility is defined as "a person's commitment to the laws of the society in which he lives, and to its traditions and systems, whether real or moral, and his acceptance of the penalties imposed by the society for violating its rules, traditions, or morals" (Al-Harthy, 2001). The dictionary of Social Sciences added that the concept of social responsibility includes rights and duties (Hegazy, 2009), as well as the connection between them. Satisfying needs and solving problems must be related to the extent to which members of society contribute and participate in satisfying their needs and solving their problems relying on themselves, and social responsibility is mutual between individuals and groups and between local and global societies (Badawi, 1978).

Accordingly, and given the previous studies data, and through tracking the prevailing social conditions, it is noted that the use of the social network is on its way to influence the social and value building of human societies. This requires a re-examination of the value system provided by social networks to members of society in general and to youth in particular, as societies, in their march towards progress and development, need to pay attention to their value culture, and the changes that may occur in them. Despite the severe criticism that social networks are subjected to, accusing them of having a negative and direct impact on the individual, family and society, which were indicated by the results of some previous studies, such as the studies of (Al-Khulaifi, 2002, Al-Shawaqi, 2003, Obeidat 2003, Al-Owaidi 2004, Sari 2005, Al-Sheikh 2006, Al-Majali 2007, Al-Shahri 2012, Al-Tayyar 2014, Al-Musa 2018, Al-Saeedi 2020, Issa 2020, Al-Mulla 2021, Shaker 2021, and Shams Al-Din 2021) and from international studies including (Niemz, et.al. 2005, Nie and Erbing 2009, Vansoon 2010, 2011 Kraut , et al, 2013 Jones 2015, Gathegi 2014, Iordachescu Ho 2017, and Ondja'a 2017), which refer to some facts including the control of social media on the individual, the emergence of behavioral patterns that are somewhat inconsistent with social values and norms, weakness and disintegration of family and social relationships, psychological isolation, value vibration among young people and their weak moral immunity, low level of social responsibility among young people, and avoiding social activities without opening effective social horizons with those around them.

On the other hand, there are those who see it as an important means of harmony and cohesion between societies, bringing concepts and visions closer with others, getting acquainted with the cultures of different peoples, and promoting the values of responsibility, loyalty, identity and belonging, especially in light of its active and distinguished role as a successful means of communication, by creating an open space for the transfer of knowledge and culture, and increasing their interests in areas that were far from them, in light of the false image or media blackout practiced by some media outlets, which made many resort to modern means of communication as an alternative means or alternative media. Indeed, young people, by virtue of their formation, represent the active mental stage in pursuing the fields of science, knowledge and research with seriousness and perseverance. They also have a high ability to conform and adapt to the prevailing social conditions, and have the ability to interact and build relationships with various factors (Better, 2002).

When considering some theoretical approaches, the public functions of social responsibility - whether through the real or virtual world - are summarized in the sense of responsibility towards serving and protecting the rights of individuals in society, serving the society and respecting its systems, highlighting economic, social, political and cultural activities, and participating in providing programs that serve the aspirations and strategies of development plans and achieve the quality of social life (Al-Dulaimi, 2011). The symbolic interactional theory stresses that social life, both real and virtual, and the processes, phenomena and incidents that surround it, is nothing but a complex network of interactions and relationships between individuals and groups that make up society, whether virtual or real, which is a final outcome of the use of technology and social networks. Social life and its true manifestations can be understood by looking at the interactions that occur between individuals and their objective and subjective motives (Blumer, 1969). The symbolic interactional theory clarifies the human model through the role and behavior that it plays towards an individual, group or other organization through social networks communication. After a period of time from the emergence of this interactive relationship, it becomes clear to what extent the roles are complementary or different between the two parties, and the evaluation of the most important knowledge and values that are acquired through that interaction, and the evaluation here depends on the nature of the language and communication that occurs between the two parties and their common culture (Saad, 2005).

The theory of uses and gratifications – which has a psychological dimension - believes that each individual has a special structure of interests, needs and values that play a role in shaping his choices, as he seeks to satisfy them through exposure to the content he targets through modern means of communication (Al-Ayadi, 2001). This theory - in the light of the current study - emphasizes that young people choose what they prefer and what is consistent with their own values and interests, taking into account the individual differences of young people that control those motives and choices, and that the prevailing cultural norms can be inferred from the youth's use of communication networks and not from the content of that network per se.

However, the behavioral theory sees that human behavior is a set of habits that the individual learns and acquires during the various stages of his development and which formation is controlled by the laws of the brain, which are the forces of restraint and the forces of arousal that guide the set of conditional responses, and this is due to the system of environmental and social factors that the individual is exposed to (Al-Sharqawi, 2012). Therefore, most of the features of human behavior is through learning. The individual's behavior is subject to modification or change by creating certain educational and cognitive conditions and atmospheres. Based on the foregoing, the current study sought to adopt a positive viewpoint that sees the effective and distinct impact of the social network in developing the values of social responsibility among young people in Saudi society.

4 The study methodology and community

The current study - according to its objectives - belongs to the type of descriptive analytical studies. It relied on the method of social survey by sample, using the questionnaire as a tool for collecting the study data, which were handed out directly and electronically to the students of King Abdulaziz University - in Jeddah, during the first semester of the year 2021 AD. The study sample included (1325) individuals. The majority of the study sample came from males with a percentage of (65.7%), while the percentage of females was (34.3%), and the percentage was (65.0%) in the age group of (17-22 years), followed by a percentage (27.2%) for the age group of (23-28). years), while the percentage of (7.8%) was for the age group of (29 years and over). Those with an urban background represented (77.4%), followed by a percentage of (12.4%) of those belonging to rural life. It was found that a large percentage of the study sample (69.20%) spend 4 to more than 6 hours per day on the social network.

Among the most important sites that were preferred to be accessed, ranked according to the most preferred, were entertainment (54.6%), sports (37.6%), social (37.4%), cultural (28.1%), news (24.1%), technical (17.8), then religious (14.2%). Among the most important motives behind using the social network according to their importance were knowing everything new in different fields, spending free time, becoming an important part of their daily lives, communicating with others, in addition to overcoming the barrier of shyness and free expression of opinion.

5 Discussing the study variables

Looking at the interactive reality of young people with the social network, it was found that (59.7%) believe that it is not possible to coexist with life away from these networks, and that (53.1%) do not see that the drawbacks of modern means of communication are more than their advantages. (82.1%) of the respondents believe that virtual societies have a role in building our real societies. (77.1%) of the respondents believe that virtual societies have become the reality in our world today. The results of the study indicated that (68.8%) believe that the problem is not in the social network as much as it is in the cognitive awareness when people use social networks. (23.7%) of the respondents believe that the problem is in the contents of the network itself, while only (7.5%) believe that the problem is the network itself, which indicates that the issue is the goal of using the network and not the network itself. This was confirmed by the study of (Issa, 2020), that cognitive awareness of using social media contributes to promoting the values of social responsibility, quality of life, and creative behavior.

When examining some of the negative dimensions of youth interaction with the social network, it was found that among the most important negative effects of negative communication in order of importance were the acquisition of some values that are unfamiliar to the community (83.1%), unconstructive criticism of some societal issues (81.1%), privacy breaching (80.9%), and acquisition of some behaviors contrary to the traditions of society (80.8%). This is consistent with what was indicated by the study of (Al-Shawaqi, 2003) that the Internet has an effective role in developing new behavioral patterns, and that the acquired behavioral patterns are incompatible with moral values, and that the Internet is an effective means of weakening values among the youth group, and the study of (Al-Owaidi, 2004) which confirmed that the Internet has a negative impact on Saudi society, religiously and morally, to a high degree.

Following came escaping from reality by (77%), not investing leisure time in a positive way by (76.2%), and the existence of a gap between the individual and his family by (73.7%). This was confirmed by the study of (Al-Khulaifi, 2002) that there are many drawbacks resulting from the use of social networking sites for long periods that may reach addiction, which makes these sites completely in control of the individual's life, and the study of (Al-Owaidi, 2004) which added a significant positive correlation between the duration of children's use of the Internet and the effect of that use on the relationship between parents and children. The high demand for social networking sites is the most common cause of psychological and social isolation. The study of (Obeidat, 2003, and Sari, 2005) also found that there is instability in family and social relations among the youth, which raises concern about the reality of stability in social life. The study of (Kraut, 2011) added that the increased use of the Internet significantly and negatively affects the individual's ability to socialize with those around him, and leads to depression and social isolation.

Tab. 1: T Test: Differences in the respondents' answers about the negative aspects of social networking

Drawbacks	Arithmetic Average	Standard Deviation	Standard Error	T-Value	Statistical significance level P-value (0.05)
Privacy breach.	1.77	0.421	0.016	3.881	0.00
	1.85	0.354	0.014		
Escape from reality.	1.73	0.444	0.017	3.671	0.00
	1.81	0.389	0.016		
Tendency to introvert.	1.63	0.484	0.018	5.626	0.00
	1.77	0.423	0.017		
Seeking to avoid others.	1.57	0.495	0.019	5.394	0.00
	1.71	0.452	0.018		
Neglect in religious rites.	1.51	0.500	0.019	9.200	0.00
	1.75	0.432	0.017		
Adopt some extreme ideas.	1.61	0.489	0.018	6.064	0.00
	1.76	0.426	0.017		
Not paying attention to school matters.	1.61	0.489	0.018	6.342	0.00
	1.77	0.422	0.017		
Encouraging social isolation.	1.59	0.493	0.019	3.835	0.00
	1.69	0.463	0.019		
There is a gap between the individual and his family	1.67	0.469	0.018	5.707	0.00
	1.81	0.393	0.016		
Do not invest your free time positively.	1.70	0.459	0.017	5.842	0.00
	1.83	0.372	0.015		
Entering into some illegal relationships.	1.70	0.460	0.017	5.568	0.00
	1.83	0.379	0.015		
Unconstructive criticism of some societal issues.	1.80	0.402	0.015	1.290	0.00
	1.83	0.379	0.015		
Acquisition of some values unfamiliar to the community.	1.78	0.414	0.016	5.187	0.00
	1.89	0.317	0.013		
Acquisition of some behaviors contrary to the traditions of society.	1.77	0.421	0.016	3.800	0.00
	1.85	0.356	0.014		

By conducting a T-test to find the differences in the answers of the study sample members with (yes or no) according to their opinions on the negative aspects of the means of communication, it is clear from Table 1 that there are statistically significant differences for all the determinants of the negative impact of social media, which means that there are statistically significant differences among the average opinions of the study sample due to the difference in their opinions on the negative aspects of modern social media.

On the other hand, when addressing some of the positive dimensions of youth interaction with the social network, the study showed that the priority, in order of importance, is for cultural and intellectual exchange with others by (95.6%), knowing the opinions of others on some societal issues by (94%), interaction with people of different cultures by (92.3%), widening the circle of acquaintances and friendships by (91.7%), acquiring the values of self-education, experiences and skills to raise the level of knowledge by (91.4%), and openness to the outside world by (90.5%). Al-Khelaifi, 2002, added that there is

a positive aspect of using social networking sites, which is to break the distances between individuals, especially the youth group, and help them to carry out their scientific tasks and try to bring ideas and viewpoints closer, in addition to the fact that the presence of the Internet introduced positive changes in the ideas of young people. Rather, the availability of modern communication techniques gives a feeling of independence, self-confidence, and being compliant with others, as was demonstrated by the study of "(Al-Sheikh, 2006)".
Following came freely expressing my opinions and ideas by (87.2%), entering into positive social relationships by (85.4%), respecting the opinions of others by (84.5%), and adopting the values of teamwork and avoiding selfishness and harming the interests of others by (80.5 %). The study of (Al-Majali, 2006) indicated that the most use of the Internet is for scientific and research purposes. The study of (Bo Faqira, 2006) confirmed that young people believe that their use of modern means of communication helped them connect more with values, and that one of the strongest reasons that motivate young people to use these means, according to females' point of view, is the ease of expressing their opinions and their intellectual trends that they cannot express, in addition to intellectual openness and cultural exchange, according to the "Al-Shehri, 2012" study. In addition to adopting ideas and opinions that support the customs, traditions and values of society, taking into account the value of honesty and not misleading others when sending information, and investing time positively. The study of (Niemz, 2005) confirmed that university students use the Internet in many situations for social support.

Tab. 2: T Test: Differences of respondents' answers about the pros of social networking

Advantages	Arithmetic Average	Standard Deviation	Standard Error	T-Value	Statistical significance level P-value (0.05)
Respect the opinions of others	1.91	0.284	0.011	7.350	0.00
	1.77	0.422	0.017		
Opening up to the outside world	1.91	0.288	0.011	0.553	0.269
	1.90	0.300	0.012		
Expanding the circle of acquaintances and friendships.	1.93	0.262	0.010	1.286	0.010
	1.91	0.291	0.012		
Cultural and intellectual exchange with others.	1.96	0.196	0.007	0.757	0.130
	1.95	0.215	0.009		
Express freely my opinions and ideas.	1.88	0.321	0.012	1.286	0.010
	1.86	0.347	0.014		
Investing time positively.	1.74	0.437	0.016	3.982	0.00
	1.64	0.479	0.019		
Interact with people of different cultures.	1.93	0.252	0.010	1.279	0.011
	1.91	0.282	0.011		
Entering into positive social relationships.	1.86	0.352	0.013	0.167	0.738
	1.85	0.356	0.014		
View the opinions of scientists on some scientific issues.	1.90	0.299	0.011	0.573	0.252
	1.91	0.287	0.012		
Adopting ideas and opinions that support the customs, traditions and values of society.	1.81	0.393	0.015	2.200	0.00
	1.76	0.427	0.017		
Respect the value of honesty and not mislead others when sending information.	1.75	0.435	0.016	0.068	0.891
	1.75	0.434	0.017		
Knowing the opinions of others on some societal issues.	1.95	0.220	0.008	1.504	0.003
	1.93	0.257	0.010		
Acquiring the values of self-education, experiences and skills to raise the level of knowledge.	1.93	0.252	0.010	2.472	0.00
	1.89	0.308	0.012		
Adopting the values of teamwork and avoiding selfishness and harming the interests of others.	1.83	0.379	0.014	2.099	0.00
	1.78	0.414	0.017		

By conducting a T-test to find the differences in the answers of the study sample members with (yes or no) according to their opinions on the positive aspects of the means of communication, it is clear from Table 2 that there are statistically significant differences for the determinants of the positive impact of the social network with regard to respect for the opinions of others, expanding the circle of acquaintance and friendships, expressing freely my opinions and ideas, positive investment of time, interacting with people of different cultures, adopting ideas and opinions that support the customs, traditions and values of society, acquiring the values of self-education, experiences and skills to raise the level of knowledge, and adopting the values of teamwork and distance from selfishness and harming the interests of others, which indicates that there are statistically significant differences between the average opinions of the study sample due to the difference in their opinions on the positive impact of the social network.

Looking at the study assumption on the role of the social network in developing the values of social responsibility among Saudi youth (the study sample), it is clear from Table 3 that among the most important variables related to the value of social responsibility were access to and benefit from the experiences of other societies, the exchange of experiences among young people in all fields, contributing to programs to support poor families, supporting creative ideas among others, value commitment towards development programs and plans in the Kingdom, and contributing to national events, which confirms the constructive components of the social responsibility factor, responsibility towards others, freedom and participation, belonging and citizenship, pluralism and cultural openness (Ahmed, 1999). In addition to feelings of commitment towards helping and caring for others, which represents the responsibility of individuals towards their community and its advancement.

Tab. 3: The role of modern means of communication in spreading and strengthening the values of social responsibility

Variable	Response Options						Arithmetic Average	Standard Deviation
	Agree		Agree to some extent		Disagree			
	Number	%	Number	%	Number	%		
Viewing and benefiting from the experiences of other societies.	997	75.2	280	21.1	48	3.6	2.72	0.525
Exchange of experiences among young people in all fields.	969	73.1	316	23.8	40	3.0	2.70	0.520
Contribute to programs to support poor families.	973	73.4	280	21.1	72	5.4	2.68	0.571
Spreading the vision of the Kingdom (2030) among societal groups.	939	70.9	334	25.2	52	3.9	2.67	0.548
Educate others about the problems of society.	945	71.3	326	24.6	54	4.1	2.67	0.550
Clarify some societal problems.	935	70.6	330	24.9	60	4.5	2.66	0.561
Support the creative ideas of others.	933	70.4	328	24.8	64	4.8	2.66	0.568
Value commitment towards development programs and plans.	941	71.0	318	24.0	66	5.0	2.66	0.569
Contribute to national events.	937	70.7	320	24.2	68	5.1	2.66	0.573
Participation in activities urging young people to cooperate in serving their community.	945	71.3	310	23.4	70	5.3	2.66	0.575
Contribute opinions and suggestions that serve the youth group.	945	71.3	302	22.8	78	5.9	2.65	0.587
Persuading others to perform their duties towards society.	897	67.7	374	28.2	54	4.1	2.64	0.560
Participate in dealing with cris es and environmental disasters in the community.	912	68.8	343	25.9	70	5.3	2.64	0.581
Clarify the responsibilities and roles of youth in achieving development goals.	929	70.1	320	24.2	76	5.7	2.64	0.587
Participation in charity activities.	929	70.1	320	24.2	76	5.7	2.64	0.587
Contribute to programs to support people with special needs.	933	70.4	310	23.4	82	6.2	2.64	0.595
Discussing societal matters with specialists.	903	68.2	348	26.3	74	5.6	2.63	0.588
Contribute to the elimination of negativity towards some social situations.	873	65.9	394	29.7	58	4.4	2.62	0.570
Representing the Kingdom in international meetings.	915	69.1	316	23.8	94	7.1	2.62	0.615
Contribute to public service projects through the social network.	877	66.2	368	27.8	80	6.0	2.60	0.601
Participation in service activities through the social network.	890	67.2	340	25.7	95	7.2	2.60	0.619
Participation in volunteer programs for Umrah and Hajj.	899	67.8	310	23.4	116	8.8	2.59	0.646
Participation in some community tasks that are carried out through virtual communities.	840	63.4	417	31.5	68	5.1	2.58	0.588
Sharing time and thought in voluntary groups in virtual communities.	839	63.3	406	30.6	80	6.0	2.57	0.605
Participation in youth events and forums.	812	61.3	409	30.9	104	7.8	2.53	0.637
The general average of all phrases							2.63	0.581

Following came the variables of persuading others to perform their duties in the community, participating in dealing with crises and environmental disasters, participating in the activities of charities and support programs for people with special needs, and contributing to eliminating negativity towards some different social situations. This is a reflection of the fact that social responsibility is one of the channels that support the public interest, and this is the secret of its strength as a basic element required to strengthen the bonds of human relations. Social responsibility imposes cooperation, commitment, solidarity, respect, love, democracy in treatment and serious participation (Bargawi, 2008). The study of (Awad, 2011) indicated that there is a positive relationship between preparing a training program, preparing pages on Facebook, and developing social responsibility among young people. This is in agreement with the study of (Nawfal et al., 2015), and (Issa et al., 2020), and was also confirmed by the study of (Shams al-Din, 2021) that the optimal use of the social network contributes to the development of social responsibility, and leads to changes in the cognitive, skill, behavioral and emotional levels of young people.

6 Conclusion

In light of the interactive reality of young people with the social network, and some positive and negative dimensions of that reality and the extent of its reflection and impact on the development of social responsibility values among young people in Saudi society - according to the respondents - it was generally found that there is a positive impact of social media that enhances the variables related to the values of social responsibility, as they came first in order namely benefiting from the experiences of other societies, exchanging experiences in all areas of life, contributing to programs to support poor families,

participating in dealing with crises and environmental disasters in society, strengthening creative ideas among others, value commitment towards development programs and plans and their objectives, contributing to national events, participating in cooperative activities in the service of society, and contributing to eliminating negativity towards some different social situations. Thus, it is recommended in this context to work on designing practical educational programs for young people on how to deal with the social network in order to enhance cognitive values (optimal use of communication means - discussion of ideas and opinions for community development - positive investment of leisure time), behavioral values (the values of honesty in dealing with the informational content of the means of communication - positive and away from isolationism - belief in the values of social responsibility), and skill values (effective communication - organized thinking in dealing with societal issues - problem solving in light of the various and varied experiences of others), provided that the educational environment works to satisfy those cognitive, skill, emotional and behavioral needs of young people, and to be a mirror reflecting the problems of society and its local and global issues.

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READINESS OF UNIVERSITY TEACHERS TO PARTICIPATE IN EMPIRICAL DATA EXCHANGE: PILOT STUDY IN UKRAINE

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Abstract: The article offers the description of the pilot study results on university teachers' engagement in exchange of empirical data on distance learning. It was suggested that they have a shaped intention to exchange; however, the specifics of their efforts make it difficult to integrate the collected data into the body of open empiricism. The study identifies the meaningful constructs of teachers' engagement in data exchange. The research findings can be used in the practice of knowledge management in the system of higher education in order to optimize the engagement of teachers in the exchange of empirical data.

Keywords: teacher, engagement, empirical data exchange, engagement in the exchange of empirical data.

1 Introduction

In many countries, including Ukraine, further digitalization of higher education is recognized as a strategic direction of its development (Digital Education Action Plan 2021-2027; Volungevicienė et al., 2021; Higher Education Development Strategy in Ukraine for 2021–2031). It implies considering both positive and negative aspects of distance learning (Young, 2018), which should be confirmed not only by theoretical but also by empirical evidence. Their lack complicates and makes it almost impossible to understand the features of distance learning and to control it (Alenezi, 2020). These days, it is close to impossible to find open empiricism concerning distance learning in Ukraine, though every teacher has some potentially usable empirical data (hereafter ED). Thus, the relevance of studying teachers' engagement in the ED exchange is explained by the necessity to coordinate the need for free dissemination and reuse of research data on distance learning and individual efforts to share them.

The purpose of the pilot study is to identify the specifics of faculty engagement in the ED exchange. This engagement is most appropriately viewed dispositionally, i.e., as their deliberate decision to make ED available for free dissemination and reuse by other researchers.

We hypothesize that educators do have the intention to make ED available for other researchers to use freely, but the scope of efforts required makes it difficult to integrate their data suitable for analysis into the body of open empiricism.

2 Literature Review

Since currently the exchange of ED is the initiative of teachers and goes beyond their job duties, regulated by the relevant normative documents, it is essential to determine how their engagement in such activities affects the university performance. To this end, we compare selected results from heterogeneous studies on intra-organizational knowledge sharing (in terms of approach, research methods, samples, countries, etc.) for a qualitative assessment of engagement in ED sharing. Next, we review works on the role of open empiricism in educational research and practice and then analyze the barriers to the free dissemination of ED and the ways to overcome them.

Studies show that: willingness to share knowledge is positively related to productivity (Jarvenpaa & Staples, 2001); there is a link between strengthening leadership and knowledge sharing (Srivastava et al., 2006); inducing knowledge sharing leads to a marked increase in organizational effectiveness (Wijk et al., 2008); by supporting and encouraging knowledge sharing, the organization not only achieves competitive advantage but also moves faster towards its goals (Liebowitz, 2001). Despite the fact that the lack of formal job responsibilities for knowledge sharing nullifies its intensity (De Clercq et al., 2013), it is still argued that employee engagement should not be neglected as it might be an opportunity to go beyond established job requirements by taking 'one step up from commitment' (Robinson et al., 2004). In this case, it is important to remember that the employee, taking on additional responsibilities to share knowledge, firstly, expects to be recognized as an expert in some area of professional knowledge (Yuan et al., 2013) and, secondly, makes a decision basing on the value of this knowledge (Pierce, 2012).

As follows from the above, the introduction and encouragement of knowledge sharing have a positive impact both on the functioning of the organization as a whole and on its employees' higher-level understanding of the professional activity.

So, how important is open empiricism in solving educational research problems? Both Ukrainian and foreign scholars working in the field of educational research generally do not refute the rationales for the use of ED. However, they express concerns about both the growing role of empiricism in recent research and the lack of proper attention to the potential of evidence-based pedagogy. Yet, research reliability remains one of the most fundamental issues. In different formulations and contexts, it is connected with the criticism of existing methods (Bridges, 2019; Fim'yar et al., 2019). This highly-cited study is representative in this regard (Glewwe et al., 2011). Having analyzed about 3,000 scientific papers, the authors concluded that the only issues that emerged from these investigations are the factors influencing the quality of education, including the availability of desks in the classroom, teacher's knowledge of the subject, and the absence of a teacher. The authors stated that such results are not novel and are hardly useful to guide the development of future education policy.

As a result, empiricism is now regarded as a public resource, a basis for political decision-making, and an indicator of university performance, in addition to a conventional understanding of it as the source of scientific information.

Examining the difficulties of disseminating open data in general and open empiricism in particular, scholars have pointed to the obvious ways of overcoming them, e.g., by implementing open access policies for research publications. Such a claim was refuted by the study (Savage & Vickers, 2009) that described an attempt to obtain a set of raw data on medical research and clinical trials: only one of ten corresponding authors provided the required data set, although the request for information explained that the data would be used to test a new hypothesis, not to challenge conclusions. Consequently, the researchers' initial intention to compare levels of data sharing in journals either with or without a clear sharing policy proved unhelpful. Therefore, open access policies are only partially conducive to realizing the potential of free dissemination and reuse of data, without guaranteeing that the difficulties of engaging researchers in these processes are fully overcome. Perhaps the initiative to reconsider how researchers and their academic careers are evaluated in order to ensure a successful transition to open science, supported by universities (Lévy, 2020), will be a key factor in overcoming barriers to ED exchange.

In the academic literature, the analysis of the difficulties and reinforcement of open empiricism is often focused on the place the university occupies in the hierarchy of aggregate research

visibility of their staff. Faculty members at prestigious universities may have less incentive to share ED because they have sufficient resources at their disposal (D'Este. & Patel, 2007); they have more opportunities to interact, as the institution itself attracts external stakeholders.

Investigating the potential value of open data as the material for educational use, scholars emphasize (Coughlan, 2020) that they [open data] are rarely developed for educational purposes and are often poorly specified. Moreover, the responsibility for using open data for educational purposes is unclear. In addition, teachers are not sufficiently informed about the differences between open content and copyrighted materials (Rolfe, 2012), open educational resources, or other types of online content (Atenas et al., 2015), which causes misapprehension of their value. It is encouraging to see the potential for various mutually beneficial models of collaboration, shared artifacts, and communication that will increase the visibility of the author and may provide a conceptual framework to support greater use of open access by educators. However, there arise some difficulties: educators are not confident users of digital technologies, they can fail to use them (Zhornova & Zhornova, 2014), as well as open educational resources or the potential of open pedagogy (Zhornova & Zhornova, 2017; García-Holgado et al., 2020).

Teachers' support for open data, in general, and open empiricism, in particular, is associated with increased awareness of stakeholders about their achievements, additional opportunities to promote their research and enter international scientific communities. However, the lack of knowledge about data dissemination and reuse, as well as the low level of digital literacy (Zhornova? 2013), have a negative impact on the state of open empiricism.

Thus, based on the results of the scientific literature review, we can conclude that:

- the engagement of educators in ED exchange will not have negative consequences for the university;
- overcoming the barriers to ED exchange is related to increasing teachers' understanding of the process and methods of open data dissemination and reuse.

3 Materials and methods

The empirical study of teachers' engagement in ED exchange consisted of two stages: the first stage was to identify the meaningful constructs of engagement in ED exchange through interviews, based on which a questionnaire was then created: and the second stage was to identify its inherent features through questionnaires.

Interview

In September 2020, we conducted unstructured interviews with educators at Ukrainian universities. All respondents had experience in conducting psychological and pedagogical empirical research.

Five faculty members were interviewed, including women (4) and a man (1); doctors of science, professors (2), candidates of science, associate professors (2), a senior lecturer (1); aged from 38 to 62 years old. All interviews were conducted in person and lasted 20 to 35 minutes. During the interviews, all respondents demonstrated interest in the research. To guide respondents' reflections, we asked them to express their opinion on the engagement of educators in ED exchange and determine the criteria to discover their intentions to share. Our synthesis of the information provided resulted in the identification of the main meaningful constructs.

The questionnaire survey was conducted in November 2020, data being collected anonymously. All interviewees were informed of the purpose of the study.

Sample

Among 44 respondents who completed the questionnaire, most of them were women (31). Regarding the age: under 35 years old (three respondents), from 36 to 55 (21), over 55 (20). Work experience: respondents, working in higher education for up to five years (2), 6 to 20 years (14), and more than 20 years (28). Three participants do not have a scientific degree, 23 are candidates of science, and 18 have doctoral degrees; 36 respondents have academic titles: professors (13) and associate professors, senior researchers, or senior research fellows (23). Two respondents are senior faculty members, five are faculty members; there is an almost equal number of professors and assistant professors (18 and 19, respectively).

To analyze the obtained data, we used:

- content analysis to identify the characteristics of the engagement;
- context analysis to specify and unify the meaningful constructs of engagement in the ED exchange;
- contrastive and comparative analysis to discover similarities and differences in teachers' engagement in ED sharing;
- generalization to establish common and specific features in the identified varieties of ED exchange engagement;
- grouping to combine the identified varieties of engagement;
- methods of mathematical statistics to assess the significance of engagement in ED exchange.

4 Findings and discussions

The first stage of the empirical research

According to respondents, ED exchange among educators has not become usual practice. One of the possible reasons is that data sharing is not their priority.

I believe that a small number of colleagues participate in data sharing. Certainly, for some people it's important, but there are probably some who don't care about it at all.

Meanwhile, views on the popularity of empirical research on distance learning divide respondents into two groups: those who argue that it is a common practice (*Everyone or almost everyone collects ED. How can you teach at a university and not try to scientifically explain certain learning outcomes?*), and those who think that this is rather an exception and that only a small number of colleagues work on it (*Not all colleagues collect empirical data. I don't think many people collect data.)*

The importance of ED exchange for the development of science is not questioned (*Of course, I agree that the exchange of data allows us to talk about the quality of the research conducted. I hope we will see new laws appear in pedagogy instead of conclusions generally useless for science).* As a result, the reasons for non-participation in ED exchange are based on the following: differences in scientific interests (*Shall we share the information we collect? It is not always easy to decide. What interests me is not always interesting for others. You also need to be able to present the data appropriately*); on the gradual effort (*Know how to make data available, and understand that without it there can be no exchange - this should be the first thing to talk about. Only after that we can make the first steps to data sharing...).*

However, considering the efforts spent on collecting ED as a loss of irretrievable resources (especially time and health) weakens the desire to share available data (*Many researchers conduct pedagogical experiments, especially for their dissertation. But not all are ready to share the data collected before defending their thesis. And then you wonder if it is worth going back to what was done... After all, you can't return the eyesight or the time"; "There are so many new concepts, that doubts only increase... To revise everything again, to redo... So much time! In addition, sitting in front of the computer…*).

When discussing data exchange, respondents describe some of its benefits and challenges based solely on their own experience (*"Sometimes asking colleagues for data is the fastest and most effective way to share. Certainly, you will provide your data in return, if needed. So, all that we have is cooperation and mutual support". "It is impossible to attach your ED to the article in a printed edition of a scientific journal. That is why the article is published in a journal, but ED must be deposited elsewhere").* Understanding the limitations of their experience, respondents plan to overcome them either with the help of their colleagues (*I would gladly exchange data. But where shall I send them? Where are they stored? I have to ask my colleagues, they might have a better understanding of it. No one said anything about that, though*) or on their own (*Did you try to upload the data? I tried several times. What was the outcome? None!!! It wasn't that the data were not properly formatted. It didn't even get that far. Everything stopped at some account requirements, which I never understood. I keep trying.)* It should be mentioned that the respondents tried to explain and not justify their insignificant contribution to ED exchange. *(Sometimes, it is so difficult to find necessary materials that you lose hope. If you understand that research cannot be isolated, that all findings have to be combined into collections or other forms, then this is an indication of your participation in the data exchange"; "We are writing and publishing, writing and publishing... And we do not even raise the question of clarifying, comparing, complementing what has already been done. We just do not know where and how to look).*

In general, the respondents' reasoning about faculty engagement in ED exchange can be grouped according to the following statements:

- teachers are more likely to have the intentions to share and reuse ED;
- most faculty members have at least one set of ED that are of interest to other educators;
- educators share ED in various ways: such data may be uploaded to special platforms, published in journals dedicated to data, sent to colleagues at their request, etc;
- educators' failure to understand the significance of each stage of data dissemination makes it difficult to share ED.

Thus, the results of the conducted content and context analyses showed that teachers could be engaged in ED exchange in different ways: a) they recognize the relevance of ED exchange; b) have experience or at least made some attempts to share data; c) have some understanding of the process of data dissemination.

The second stage of the study

Based on these findings, a questionnaire "Empirical Data Sharing" was developed to determine the following:

1. Shaped intention to share ED.
2. Consistent application of ED exchange methods.
3. Conscious assistance to data sharing.

The first three questions were designed to discover the shaped intention to share ED. The first question focused on the relevance of ED sharing, the second – on the frequency of ED sharing among university teachers, and the third – on the criteria for selecting ED to share. While determining the relevance of the ED exchange, we used a 5-point Likert scale (*very important, important, undecided, slightly important, unimportant*) to measure the importance of the exchange effort. Such a scale was also used to discover the frequency of data sharing and its availability (*definitely have, probably have, do not know, probably do not have, definitely do not have*). The respondents' choice of one of the suggested criteria for selecting ED to share clarifies if the effort is directed at sharing. Thus, the answer "data that other researchers might need" is the most indicative of this orientation, while "do not know" indicates the absence of this orientation. Other responses only point to insufficient focus on the ED exchange.

Consistent application of ED exchange methods is revealed through consistent approbation. For this purpose, the role of the most acceptable ED exchange method for a teacher is correlated with that of other methods.

The sixth question clarifies the respondents' awareness of the distribution logic, i.e., whether they know what skills they need to master in order to exchange ED and whether they are capable of estimating their significance. The list of skills is based on the so-called five-star rating of engagement in the dissemination of open data 'How many stars do you have?' by Tim Berners-Lee (*5-star Open Data plan*).

The following are the questions of the questionnaire:

1. Rate the importance of sharing empirical data on the characteristics of distance learning.
2. Do your colleagues or other researchers have empirical data on the characteristics of distance learning?
3. Which of the empirical data you have collected are to be exchanged?
4. What is the most acceptable way of sharing empirical data for you at the moment?
5. Rate how important it is to: a) share empirical data informally (e.g., at the request of colleagues); b) upload empirical data as an appendix to publications in journals with clear data sharing policies; c) deposit empirical data in thematic, institutional, and multidisciplinary data repositories; d) post empirical data to corporate (university) sites; f) publish ED in special data journals.
6. How important is it for a university teacher to be able to: a) use an open license; b) structure empirical data; c) use non-proprietary formats; d) use URLs and other codes; f) link data.

The results of the survey are published at Mendeley.data (Zhornova & Zhornova, 2021). Their analysis provides answers to three main questions: 1. Can it be claimed that the educators have formed an intention to share ED? 2. To what extent are educators' efforts to share ED coordinated with each other? 3. Are there reasons to believe that educators are familiar with the processes of ED dissemination and reuse? Let us consider them one by one.

Can it be claimed that the educators have formed an intention to share ED?

None of the respondents questioned the importance of ED exchange (mode 27). However, the respondents' are not sure whether their colleagues have ED or not: only 19 times the answer *probably have* was chosen (mode 19). The fact that none of them claim that colleagues do not have ED is encouraging.

As for the criteria for selecting ED to share, the answers were as follows: the majority of those surveyed (26) agreed on the response *data that has some value*; three respondents were undecided about the criteria for selecting ED to share, twice as many think that all the ED they have collected are worth exchanging. It should be noted that none of the respondents thinks, that their ED cannot be shared (Zhornova et al., 2021).

As we can see, the respondents generally understand the importance of ED sharing, but they are not so sure whether their colleagues have ED worth sharing or whether they are ready to share. Thus, every fourth does not know at all whether colleagues have ED or not, and only every fifth (20% or 9) showed some understanding of the essence of data exchange (by choosing the option *the data that can be useful for other researchers* while answering the question about the type of ED to be shared). In general, the results suggest that the respondents have formed the intention to share ED.

To what extent are educators' efforts to share ED coordinated with each other?

The three most acceptable ways include posting on university websites (27%), uploading as an attachment to a publication

(27%), and depositing in a data repository (23%). The least preferred ways include publishing in special data journals (9%) and informal sharing (14%). We can observe the following efforts: a) to maintain data sharing within universities, which is consistent with the statement of Blagov (Blagov et al., 2017), b) to reserve the proprietary right to be the first to analyze the collected ED, and c) store the data in a place designated for this purpose.

The fact that only 14% prefer to share ED informally proves that it is not common among university teachers. It can be explained both by the lack of demand and by a focus on a higher level of exchange to create a larger platform for sharing. We tend to believe that the latter is more consistent with the results described above.

In the responses to the question concerning the role of ED exchange methods, the central tendency in determining their importance is clear: mode - response *important*. Below is the number/percentage of options for each method: appendix to the publication: 24/54.5% ; data deposition in repositories: 26/59.1%; posting empirical data to corporate (university) sites: 24/54.5%; publishing in special data journals: 25/56.8%; informal data sharing: 21/47.7%.

As you can see, under half of the respondents consider informal sharing important, which makes it the least preferable method. It gives grounds to declare that, despite significant differences in what is considered the most acceptable ways for data exchange, a consistent approbation of them has been worked out.

So what kinds of configurations of consistent application of exchange methods do the respondents prefer? By the configuration of consistent application, we understand the compatibility of the most acceptable method with other methods of ED exchange.

We noticed that:

- The most common configuration, which is observed 18 times: the most acceptable for the respondent method is as important as the others (at least one more option is rated *important*). We call this type *co-oriented efforts;*
- The configuration that follows was chosen 13 times: the most acceptable method is the most important of all (only the most acceptable method is considered *very important*). We call this type *focused effort.*

There is also a configuration observed seven times, which we call *extremely important efforts*: the most acceptable method is not the only one to be defined as *very important*.

There are also some individual configurations: a) the most acceptable method is the only one whose role can be evaluated; b) its role cannot be evaluated at all; c) the role of other methods is important and that of the most acceptable one is unimportant; d) the role of the most acceptable method is not different from that of the other methods considered less important or unimportant.

In general, configurations with a negative assessment of the role of the most acceptable method are incomparably less common than configurations with a positive one. The latter makes up almost 91% of the answers.

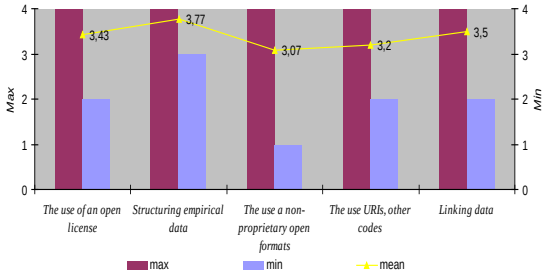
Considering the information mentioned above, it is justified to talk about the prevalence of consistent approbation of different methods of ED exchange. However, any configuration is time-consuming.

Are there reasons to believe that educators are familiar with the processes of ED dissemination and reuse?

Since understanding the logic of data dissemination involves the ability to assess the significance of the skills necessary for this process, we analyze the following: a) two levels of assistance: support and rejection; b) two degrees of confidence: full and partial. They are measured on an interval scale of significance (*unimportant - probably unimportant - probably important - very important*), because it is assumed that: a) the answers *probably important* and *probably unimportant* are the same distance from *very important and unimportant,* and b) the same distance is between *probably important* and *probably unimportant.* Thus, each of the proposed significance ratings is equidistant from the neighboring one.

The spread and distribution of the skill significance ratings are shown in Figure 1 and (Zhornova et al., 2021) The analysis of the results showed that: each of the skills received the highest score (*very important*), only the ability to use non-proprietary formats rated as the lowest (*unimportant).* The biggest range of opinions was expressed regarding the ability to use non-proprietary formats, the lowest - to structure ED; the average is in the range from slightly above *probably important* to *very important* (Figure 1).

Figure 1. Range of opinions (1- unimportant; 2- probably unimportant; 3 - probably important; 4 - very important)



We should note the asymmetry in the distribution of the significance ratings for each skill. Thus, positive asymmetry, i.e., when lower values of a feature are more common in the distribution, is observed for such skills as using codes and linking data, while negative asymmetry, with higher values of importance, is observed for the others (Zhornova et al., 2021).

The predominance of mean or close to mean values is characteristic for the skills to use non-proprietary formats and apply URL and other codes (have a positive kurtosis), while for other skills – the kurtosis is negative, indicating the predominance of extreme values of significance.

The data obtained (Zhornova et al., 2021) reveal an unanimity in the respondents' views on the importance of each stage of data dissemination. Thus, the response *unimportant* is found only once (out of 220 observations); probable and definite assessments are almost equally represented: 54% and 46%, respectively; the support of the data dissemination process at each of the stages was observed in 208 responses, which makes about 95%.

We identified only two of the four possible options for conscious assistance in our study, namely strong and mild support of the logic of data dissemination (Figure 2).

Figure 2. Configurations of conscious assistance

Level of confidence	rejection	support
strong	**Rejection** Complete misunderstanding of the data dissemination logic *All responses are negative* **0**	**Support** Complete understanding of the data dissemination logic *All responses are positive* **18**
partial	**Mild rejection** Partial misunderstanding of the data dissemination logic *Most responses are negative, doubts about significance prevailing, positive estimation* **0**	**Mild support** Partial understanding of the data dissemination logic *Most responses are positive, doubts about significance prevailing, negative estimation* **26**

Support

It is likely that there are causes that influence the level of support of all skills, but have little or no effect on the level of confidence. Since examining such causal relationships is beyond the scope of this study, we focused on establishing correlations between the levels of significance of different skills, as well as their strength and direction. We believe that the assistance to ED exchange is confirmed by significant two-way correlations (desirable value is 0.05, sufficient - 0.01) among all significance levels of all the studied skills.
Still, the results (Table 1) showed only 6 correlations, which makes, however, more than a half (60%). The analysis was performed using statistical packages SPSS 20.0.

Table 1: Correlation analysis results (Spearman's ρo)

	The use of an open license	*Structuring empirical data*	*The use of a non-proprietary open format*	*The use of URL, other codes*	*Linking data*
The use of an open license	1.000	.367*	.323*	.172	.064
Structuring empirical data	.367*	1.000	.240	.330*	.433**
The use of a non-proprietary open format	.323*	.240	1.000	.384**	.275
The use of URL and other codes	.172	.330*	.384**	1.000	.564**
Linking data	.064	.433**	.275	.564**	1.000

**. Correlation significant at the 0,05 level (2-tailed).*
***. Correlation significant at the 0,01 level (2-tailed).*

As we can see, the correlation is not random between the assessment of the significance: using open license and structuring data, using non-proprietary formats and open license, structuring data and coding them; linking data and structuring them; using non-proprietary formats, using URL and other codes; using URL and other codes and linking data.

None of the significance assessments of skills is fully related to those of the other skills, and no skill is completely isolated in terms of its significance assessment. Structuring and coding have the greatest number of associations (3), while the others have two.

Thus, we can state that the teachers are familiar with the process of open data sharing, but to further improve the conscious assistance they need to increase their understanding of its logic and to improve their existing experience in using open license and non-proprietary formats, data structuring, data coordination, and coding.

5 Conclusion, limitations and further development

The introduction of the quarantine became a "litmus paper", which showed the lack of exchange of primary research data on distance learning and actualized the problem of teachers' engagement in ED exchange.

The findings of the pilot study of the engagement, considered dispositionally, demonstrate that at this stage we have reached a meaningful understanding of its manifestations through a) shaped intention to share ED, b) consistent application of its methods, and c) conscious assistance to it.

We have revealed that teachers: formed the intention to share ED; despite significant differences in the most acceptable methods of ED exchange, developed their consistent approbation. Different types of configurations of concerted efforts, i.e. co-oriented, focused, and extremely important effort, which are similar in that they are time-consuming.

The teachers are unanimous about the significance of the stages of data dissemination: they are familiar with the process of disseminating open data, but they need to increase their understanding of its logic to further improve their conscious assistance.

It suggests that there is a gap in the chain of efforts to make ED available for free dissemination and reuse by other researchers, namely that the effort spent on collecting ED does not translate into efforts to fully integrate them into the body of scientific knowledge.

Therefore, faculty members' engagement in ED sharing can be regarded as an intention to promote ED dissemination rather than to strengthen and improve existing ED sharing practices.

University teachers need to make a transition from collecting ED to participating in the formation of a database of digital scientific data on distance learning. Certainly, it involves understanding the responsibility for the selection of ED to be included in the stream of knowledge on distance learning, as well as the willingness to take responsibility for it.

Most likely, the post-pandemic future of higher education will involve a new round of evidence-based pedagogy, when it will become impossible to propose and evaluate alternative solutions to learning in higher education without reliance on open primary data. However, even today, every teacher's redefinition of their role in such a future must begin now by improving their engagement in ED exchange.

Since the conducted research has focused on examining engagement in sharing data on the characteristics of distance learning, further research needs to be directed toward understanding the following:

- to what extent can the findings be extrapolated to other learning problems and other types and kinds of data;
- what are the implications of teachers' engagement in ED exchange in the long term.

The data for this study were collected from a small number of respondents, representing not all higher education institutions in Ukraine. Therefore, it is likely that intentions of teachers from other universities will be different from those presented in this paper.

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Primary Paper Section: A

Secondary Paper Section: M

GRADUATED THESIS AS A CHALLENGE FOR MASTER'S STUDENTS: THE CASE OF R. GLIER KYIV MUNICIPAL ACADEMY OF MUSIC

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Abstract: This study examines the practice of writing graduated theses by students who have participated in music competitions. The research method was a focus group. The reasons for this practice are described. It is proved the student cannot comply with the prescribed procedure for writing graduated these. It is concluded that it is time to legitimize this practice. The basis for legitimizing one recognizes its existence, its acceptance by both students and leaders, the positive effect of its use. Measures to legitimize this practice are proposed.

Key words: graduated theses, writing of graduated theses, student, supervisor, legitimization.

1 Introduction

1.1 Abbreviations and terms

Abbreviations and terms in the article:

HEI is a higher education institution.
GT is graduate theses.
A performer is the qualification "Performer - musician - soloist" of graduates of the master's program of the Glier Kyiv Municipal Academy of Music.
C&A is International/World competitions and auditions.
The research procedure is writing graduate theses, which the higher education institute proved.

1.2. The background of this study

The background of this article was the situation that happened during the defense of GT in the department of Humanities and Music-Innovative Disciplines of R.Glier Kyiv Municipal Academy of Music in 2019. The two best GT were highlighted during the collective discussion. As it turned out, the authors of these theses followed the research procedure differently.

The theme for the first GT was chosen from the list of GT themes recommended by the department. It showed the peculiarities of teaching school children to sing pop songs. GT pleasantly impressed us with the carefully collected educational and methodical materials and their adaptation for application. The author strictly adhered to all the research procedure regime points during the time allotted for GT. This writing GT is a classic example of full compliance with the research procedure.

The student herself proposed the topic of the second GT. This GT studied exploring the experience that the students of musical HEI acquired due to participating in music TV shows. It is interesting because

- describes in detail the author's history of participation in the TV show "Voice of the Country,"
- includes unknown empirical data that the author collected during the survey other participants similar TV shows (the author herself developed the questionnaire),
- offers original recommendations:

(a) to teachers of musical HEI - regarding the usage of TV show potential in the educational process;
(b) to students - concerning career formation of a pop singer;
(c) to TV show organizers - the best way of communication with the academic community of the profile HEI.

The author, who constantly participated in various C&A, tried to adhere to control educational activities. She always "vibrated" from the timetable to communicate with the supervisor and complete research tasks.

This article's research procedures mentioned above are Ostinato and Ad Libitum, respectively. The terms are commonly known to any musician. Ad Libitum means an opportunity to perform music work freely, as a performer desires, and, as a rule, such a way of performing is short-lived and applies only to a single fragment of the work. Ostinato is multiple repetitions. This way of performing plays an essential role in shaping music work. So the same goal of Ostinato and Ad Libitum is achieved differently: Ostinato is in full compliance with the research procedure, while Libitum is a departure from the established regime and substantive guidelines.
.
The discussion showed the necessity of studying the current situation in writing GT. We decided to investigate the problem of the legitimization of Ad Libitum.

2 Frame of The Study

First of all, we were interested in how widespread Ad Libitum is. Talking to the supervisors of the other HEIs, we have made sure they are also facing Ad Libitum. They also support it because they understand that C&A is an integral part of the training process for performers and the most crucial part of a master's degree experience that cannot but influence the research procedure.

Those conversations were private and cannot be the basis for the legitimization of Ad Libitum. By now, colleagues do not have scientific information about Ad Libitum and do not understand its problems. We decided to study the scientific literature on the peculiarities of writing GT by students of the music master's program.

At present, we do not currently know the study of the impact of CA on research, the consequences of violating the research procedure, the complexity of combining participation in CA and writing GT. Scientists make the problems wider. Existing educational programs need to be improved to meet the demands of the modern labor market, which allows only a high level of preparation (Wright & Osman, 2018; Sagy et al., 2019).

There are significant results of several foreign studies devoted to optimizing master music programs in this context. Harrison and Grant (Harrison & Grant, 2016) recommend better preparation music students for life beyond their studies. So they are advocating, in particular, a more collaborative model of research education than the one that is currently the norm. Other authorities (Convay et al., 2021) say that all program directors are aware of the varied needs of program graduates. Their work suggests that using varied tracks and choices for degree completion are desirable. It is noteworthy that for some graduates of master's programs, scientific work acquires great importance and becomes an essential part of their master's experience (Conway et al., 2009).

Another aspect of master-programs improvement is the introduction of new training performers. For example, Dorfman is convinced that distance music education, which is likely to grow in the coming years, deserves special consideration (Dorfman et al., 2021).

The improvement of the music master programs cannot but affect supervision practice. Many researchers agree that the traditional role of the supervisor needs to be redefined.

On the one hand, it is emphasized that clear organization and continuous monitoring focus on tasks impact better learning

outcomes and promote faster completions. Zhang and Jiang (Zhang and Jiang, 2021) propose strengthening the supervisor's responsibility, up to an evaluation of the supervisor's work, and believe that it is needed to make regular reports and discussions on research progress and feedback on research progress, and experience over a certain period. It's even suggested that it is a need that should be addressed by policymakers and the management at universities as a matter of the utmost urgency (Brink, 2021).

On the other hand, strong arguments are increasingly heard in defense of a different form of supervision practice, conventionally called the 'non-interference' regime (McCallin and Nayar, 2012).

So consideration should also be given to the most appropriate time for introducing support mechanisms without overburdening already overworked supervisors and students. Liezel Massyn raises this problem (Massyn, 2018).

The practice requires supervisors to envision a more far-reaching research prospect, not just the public protection by students of the research undertaken. However, supervisors have difficulty in determining such opportunities. Researchers concluded that most of the intentions underlying supervision practice were related to the concepts of 'acculturation' and 'functionality,' much less to the concepts of 'preparation for work and life' (Kreber and Wealer, 2021).

It should be borne in mind that the challenges mentioned above to the supervision are inseparable from the attendance policy. The attendance policy is based on general rules and requirements that do not depend on the nature of HEI. However, each HEI has the authority to correct the attendance policy, considering the specifics of educational programs implemented.

The difficulties of scientific substantiation of the attendance policy arise because, at present, there is no established law between student visits and student achievements. Büchele concludes, after conducting the study, that results of student achievements do not depend on how students attend class. Moreover, he questions the proposition that “in general, studies find positive but mostly weak correlations between attendance and performance“ (Büchele, 2021).

The study of Massingham and Herrington is very indicative. On the one hand, they note that students who attended lectures and tutorials had a better chance of having higher marks on all assessment tasks, particularly in the final examination. On the other hand, the authors add concerning Rodgers that “even though students increased their attendance through an incentive scheme, performance remained the same.“ (Massingham and Herrington, 2006).

In our opinion, it is more appropriate to speak that the attendance reflects the level of student involvement in their course and is critical to student success (Moores et al., 2019). Therefore, the proposal to implement an attendance policy that encourages students to attend classes seems quite balanced (Karnik et al., 2019).

This study is focused on resolving the contradiction between the actual practice diverged from the provisions in the research procedure and the constant requirements or overarching standard for offering how to write GT.

3 Research method

The research method was a focus group. Two Peer Groups were held in December 2019.

They are based on the premise that the personal perceptions of the educational process by master's students and supervisors are a compelling reason to make the right decisions on the learning environment, study programs, and paths. (Hattie, 2009, 2015; Hattie and Gan, 2011; Hattie and Timperley, 2007).

The first group consisted of five master's students (2 men and 3 women between 22 and 27). They had their history of participation in national and/or international C&A. At the time of the focus group, and they had already successfully defended their GT.

The second group consisted of five supervisors (1 man and 4 women between the ages of 45 and 67); there were 2 doctors of science, professors; 2 candidates of science, associate professors; 1 Honored Art Worker, Associate Professor. All the participants had the experience of working as a supervisor no less than 5 years and scientific-pedagogical experience no less than 15 years.

Each focus group operated for two hours. At the beginning of work, we announced that we were studying the best practices of GT for the good of other students. We informed the participants that:

- We want to know what they like and dislike about the research procedure and improve existing practices.
- Both negative and positive comments are crucial because sometimes negative comments are more informative.
- They should give individual examples of how students wrote the GT and the quality.

We clarified to the supervisors that these cases must relate to their recent experience, usually defined as being within the previous three years.

At the end of the discussion, we asked participants to recall everything said and express their views, central to improving the research procedure. We asked students to answer the following question: "Of all the things we discussed, what is the most important for the good of students who take part in C&A?" For supervisors, the question was formulated as follows: "Suppose you have the opportunity to change the practice of supervision. What would you do?"

Finally, the proposed issues did not mention different types to avoid unnecessary navigation on significant differences in the research procedure.

4 Finding and discussions

The first group participants most discussed issues were related to students' failure to stick to the regime points. The students think it is difficult and sometimes impossible to attend all contact hours and carry out the tasks assigned by the supervisor on time.

"What shall you do? You have unexpectedly been called to have a rehearsal for the time when your next consultation with your research adviser must be. You realize that it is impossible to let the team down, but to miss consultations is also undesirable."

"GT had turned out to coincide with the time of my preparation for participation in the international competition. This competition was very important for my career as a professional performer. Of course, all thoughts had been focused on rehearsals as much as possible. I couldn't think of anything else. And then, when the competition had been over, it was necessary to catch up with the schedule of GT. Everything, however, ended well, though it was not easy to do. But I think I had done the right thing - I had focused on the competition because I hadn't wanted anyone to believe that Ukraine is incapable of bringing up a good musician."

Students consider it reasonably sufficient to work on their research at the breaks between rehearsals, concerts, competitions.

"I think that a flex-time work on research is very appropriate. I can work on my GT anywhere if I have free time, but, you know, I can not perform anywhere and anytime (the student wants to say that he can not change places and dates of his performances

– authors). I think many of my colleagues that take part in competitions think the same way."

"We all know that a good musician participates in competitions in competitions, auditions, festivals, concerts. Even the World Federation of International Music Competitions website claims that the competition is the key to success and career. Students should be allowed to participate in competitions, and supervisors should change different deadlines and graphics for such students".

Students' violation of the regime points is also a problem for supervisors, but it is not a priority. The supervisors understand that students' participation in C&A is often a direct impediment to regular contact and classroom hours.

"I am used to the fact that the dates and times for rehearsals and concerts sometimes coincide with the dates and times for GT consultations. I'm always interested in how these musical events happen. We even discuss the situations that took place there".

The supervisors understand that students' participation in C&A is often a direct impediment to regular contact and classroom hours.

"I am convinced that students respect us and the visiting policy. But they can't deal with a situation where the GT and the contest coincide".

According to the supervisors, not adhering to the regime points is a matter of professional development of the performer over discipline. The main challenge facing supervisors is choosing the topic of GT. They noted that most students choose a topic from the list offered by the department. Nevertheless, quite often, the participants of C&A insist on researching «their own» topic. The supervisors confirmed that those students often perceive a topic from the list as the embodiment of someone else's plan.

"If you do not convince students of the advantages of the WR topic from the list, they will insist on their topic. It seems to them to be the most relevant and most interesting. Although they have not even started to search for scientific sources".

In this case, the supervisors realize that managing the work of such a student is much more complicated and stressful.

"One who once agreed to manage a topic that is not from the list knows that it is a burden. You must find and process much literature on this new topic and compile a bibliography. Then you have to discuss the bibliography with colleagues etc. So if you agree to do it one more time, that probably means you love the challenge."

However, all the supervisors still agreed with the point made by one of them: *"We must allow students to study the topic they like. The list of topics for GTs offered by the department should be treated as a recommendation, but no more."*
We noted that the willingness to support a student's choice must always be justified. So, the supervisors are convinced that the opportunity to investigate the topic offered by the student positively influences his desire to engage in scientific work after graduation from the HEI.

"The more we support a student's researching of his or her topic, the more likely the student will continue the research in the future."

"If I know that a student's choice is not random and not a manifestation of his or her fleeting passion, I'm prepared to support it. However, the students themselves have to understand the difficulties they will face in the future."

All supervisors noted that active participants of C&A were more convinced of their high readiness to GT and often underestimated the complexity of research and overestimated their own experience.

"They were sure that we were trying to exaggerate the difficulties of GT."

At the same time, such students often are not prepared to spend much time formulating it and justifying its relevance.

"Although the student confessed to me later: I did not think that if I had chosen a topic of interest, it would have caused additional difficulties. Maybe if I knew that, I wouldn't have been so insistent on studying my subject ".

It was impressive that the participants were unanimous in regulating the alternative research procedure, which would at the same time enable students to participate in the competitions and ensure the high quality of the GT. It was called in various ways: flexible, free, modern, alternative, etc.

"Our students are mainly responsible, but, above all, they pay all their attention to the realization of themselves as performers. They perceive all other activities, particularly scientific research, as a deviation from the 'business of life.' Such situations usually arise when students have a strong internal positive motivation to participate in C&A, professional contests as often as possible. That is why we can reach a flexible schedule of contact hours. It should not be called violation."

"If a free procedure is legal, it will be possible to resolve the urgent difficulties. Over time, the process of theoretical understanding of other practice of supervisor will begin, and its advantages will undoubtedly be appreciated by those colleagues who have progressive views on the pedagogical process."

"Free implementation of research is necessary for the development of professional competence of the performer. This should be solved in the following way: allow this new practice in addition to the traditional practice. However, first of all, there should be a broad discussion of what is meant by another research procedure."

"It is impossible to envisage all the auditions and performances in which students will take part. Using flex-time organization, there are possibilities not to betray their "business of life" and to fulfill their theses at a decent level."

Students are concerned that their participation in the competitions may negatively affect the reputation of the supervisors.

"The competition and the PB are not opposed but coincide in time. And the supervisor needs to have legal grounds to support a student when he's not doing his current assignments on time. 'Cause, it turns out the superintendent is supporting me, and I'm putting him in a tough spot."

"Understanding the situation, supervisors will not create obstacles to our improvement of performance skills. Nevertheless, it is a very difficult and uncertain decision for a supervisor to support students who have to use flex-time work."

Neither supervisors nor students discovered the connection between the result of GT and compliance with the prescribed research procedure. So the problem of providing quality assurance of GT should not be reduced to compliance with procedure, especially the timetable on the communication with the supervisor and for the completion of research tasks.

So the decision to comply with Ostinato means not participating in C&A. The decision to be an active participant of C&A means not to comply with Ostinato. The choice of decision is based on the meaningful self-identification of students. If students regard themselves as artists, they choose C&A and Ad Libitum. If a student's academic activity remains the leading one, they decide in favor of Ostinato.

The supervisor's support of the student's choice is, in fact, the confirmation by the supervisor of the student's self-identification. The requirements for writing GT do not meet the expectations of the students who think that this kind of educational training will be inspiring and not onerous. Only over time, of course, do they realize that scientific research is a task that requires a great deal of effort and sometimes not less than participation in C&A.

6 Conclusions

The study confirmed the existence of two opposite types of research procedures. Moreover, Ad libitum results from the inability to follow the Ostinato. At first, perceived as a situational "way out," Ad libitum gradually begins to exist as a new procedure that overcomes the limitations of Ostinato. Maybe it is time to legitimize Ad Libitum.

The reasons for the legitimization of Ad Libitum are

- the recognition of the existence of Ad Libitum,
- the acceptance of it by both students and supervisors,
- the positive effect of using it.

The key message of the legitimization of Ad Libitum is the affirmation of the value of scientific, organizational, and other students' and supervisors' initiatives that help reduce confrontation between C&A and GT.

Thus, we expect Ad Libitum will maximize the benefits of participating in C&A and minimize the costs due to violation of Ostinato.

We should note that the legitimization of Ad Libitum is consistent with the principles of HEI, which are in article 32, "Principles of operations, main rights and responsibilities of a higher education institution" by Law of Ukraine "About higher education" (https://zakon.rada.gov.ua/laws/show/1556-18/stru?lang=en).

Activities to legitimize Ad Libitum can be implemented in a particular department, faculty, or university. The advantage of legitimization at the status of a department or a faculty is that a student's research experience is well known to the supervisors of this department. If members of the Scientific Council receive positive feedback about Ad Libitum from students and supervisors, they can legitimize Ad Libitum at the university. Being legalized, Ad Libitum will be supported by material, financial and other resources, and management will resolve the issue of training of supervisors.

In addition, it is worth adding that there is a necessity to discuss the introducing mechanisms of Ad Libitum (benefits, credits, voluntary agreements, requirements, etc. and debate which of these mechanisms are more effective.

We emphasize that Ostinato and Ad Libitum, considered in this study, are the research procedure's limited types. Ostinato is a full observance of all regime points, and substantive guidelines of the GT and Ad Libitum are a complete violation of them. Without a doubt, there are cases where intermediate types exist, for example, a partial observance of regime points and full observance of substantive guidelines of the research procedure.

We hope that in conditions when the global labor market requires the highest level of skill, the issues of legitimizing Ad Libitum will give rise to a scientific discussion about the specifics of involving future performers in the process of scientific research.

Limitations. More probabilistic results will be obtained in the case of a larger sample of respondents from different HEIs and the application of other methodologies and research methods.

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REGRESSION ANALYSIS OF THE RELATIONSHIP BETWEEN SELECTED VARIABLES OF ECONOMIC GROWTH AND SUSTAINABLE DEVELOPMENT

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Abstract: Environmental threats of anthropological origin, such as global warming, rising water levels, air pollution, excessive waste generation, or the seas and oceans quality decline, are threats that directly affect us. Thus, the main goal of this paper is to evaluate the impact of current economic development in the intentions of planetary limits through regression analysis using cross-sectional and panel data evaluating the dependence of ecological footprint per person, gross domestic product per person and Sustainable Development Index. The analysis shows that economic development in line with the current market rules contributes to expand the ecological footprint. We argue that both green measures into international and national policies as an effective monitoring of the achievement of sustainable goals of all market actors are necessary.

Keywords: regression analysis, economic growth, sustainable development, ecological footprint per person, gross domestic product per person, quality of life

1 Introduction and Problem Formulation

Consumption, which is prevalent today in the society of developed countries, but also in countries with a growing middle class, is often absent from aspects of sustainability that take into account the effect use of natural resources. Recent decades were characterized by rapid population growth and depletion of natural resources. This is one of the reasons why the concept of sustainable development has increasingly appeared in many social science areas (Kajikawa, 2008).

As stated by Kuznets' environmental curve, economic growth pollutes and damages the environment, but declines from a certain level. Given that global society has exceeded the level of global biocapacity, it can be argued that it is not right to wait for a hypothetical break in the future (according to Mikkelson, 2019). At the same time, the author emphasizes that economic growth depletes natural resources and pollutes the environment more than it contributes to society. However, the economist DeGrauwe, is of the opinion that so far the only systems that have created well-being for people in society have been built on market mechanisms. However, he pointed out the limits that can be understood as negative externalities of companies borne by people (In Vaňo, 2019). Cubilka and Giljum (2020) argue that sustainable growth cannot be achieved if the "boundaries" of the Earth have already been exceeded and according to the authors Holm and Englund (2009) the transition to a highly efficient information society does not lead to a reduction in the use of natural resources, as experts have predicted in the past.

According to a panel analysis by Chen and Chang (2016) conducted in 99 countries from 1981 to 2006, economic development causes an increase in the ecological footprint[1]. However, this effect differs from the maturity of the economy. This means that GDP per capita growth in less developed countries will affect the growth of the environmental footprint to a lesser extent than GDP per capita growth in developed market economies. Therefore, one of the authors' recommendations is that developed high-income countries should help low-income countries through technology transfer and financial incentives.

A useful and very advantageous and therefore often used benefit of GDP is that this indicator is able to include total human activity in one figure. However, the authors Majid, Zaman and Halim (2018) came to the conclusion that the ecological footprint of a landscape is directly proportional to its economic development. They emphasize that high economic growth and reckless use of natural resources have direct negative effects on the ecological balance, resulting in a decline in the biological capacity of countries. At the same time, they note that countries with higher GDP emit more emissions and thus contribute more to global warming, precisely because of higher demand for energy consumption.

According to the latest data from the Global Footprint Network (2020), there are currently 1.7 global hectares (gha) of natural resource consumption (and waste generation) per individual, which the planet is able to restore in one year (calculated on the basis of population size) – which represents an average biocapacity of the Earth per capita. Out of the total number of 188 evaluated countries, only 58 of them reached a given or lower level, taking into account their economic activities. These countries include the least developed economies, mainly from sub-Saharan Africa, South and South-East Asia, and one transitional economy, Kyrgyzstan. OECD countries were above a sustainable level of ecological footprint per capita, ranging from 12.8 gha (Luxembourg) to 1.9 gha (Colombia).

Despite above, the OECD countries have been the best ranked in achieving the UN's sustainable development goals (Agenda 2030[2]). Almost half of them placed the first 17 places and in total belonged to the 70 best countries of this evaluation. Turkey, Mexico and Colombia ranked in the last positions within the OECD and thus significantly negatively shifted the overall position of the group of the most developed economies in the monitored indicator (UN, 2020).

European economies are among the top 15 economies[3] closest to achieving the sustainable goals of the 2030 Agenda. Despite the relatively good level of education, health care and overall social conditions, they show the worst development in the areas of Responsible Consumption and Production (SDG 12) and Climate Action (SDG 13). The ecological footprint per person of these 15 economies was in the range of 7.2 – 4.2 gha.

Based on the above, it can be stated that the solution of excessive consumption, which is characteristic especially for the developed countries is a fundamental and urgent issue today. Its solution requires effective management of natural resources, most ideally at the global, but certainly at least at a broad international and subsequently national level. In our opinion, one of the steps that could enable the individual economies to develop sustainable production and consumption would be constant monitoring of natural resource extraction through the ecological footprint indicator.

2 Methodology

A verification of the theoretical claims in the presented scientific article should be support by the application of the method of regression analysis (using cross-sectional and panel data), through which we examine the dependence of selected variables characterizing the current economic development in the conditionality of sustainable development.

In the first step, we decided to create a regression model using cross-sectional data, in which we examined the interdependence of selected variables in 26 observations. The observations represent EU countries – except Luxembourg, which we had to omit from the analysis because data of one selected indicators (SDI) were not available for this country.

1 The ecological footprint is an indicator that expresses how the individual biological components of the earth (soil and water) are used for production, consumption and also the absorption of waste as a result of human activity.

2 Agenda 2030 contains of 17 sustainable development goals divided into 169 targets adopted by UN member states in 2015.

3 Sweden, Denmark, Finland, France, Germany, Norway, Austria, Czech Republic, Netherlands, Estonia, Belgium, Slovenia, United Kingdom, Ireland and Switzerland

We obtained the input data of the examined indicators from the international databases of the World Bank (WB), the Global Footprint Network and the database of the Sustainable Development Index and processed them in the Microsoft Excel program. Afterwards we evaluated the processed electro metrics data in the Gretl program.

The quantitative analysis examines the relationship between the dependent variable ecological footprint per capita and the independent variables – gross domestic product per capita (GDP per capita) and the Sustainable Development Index (SDI). The result of the regression analysis expresses to what extent (and if at all) the independent variable (in our case 2 independent variables) is related to the dependent variable.

When implementing the first model of regression analysis, the latest data were available (at the time of analysis) for the ecological footprint per person indicator for 2017, and therefore we used the data from the same year for the remaining two variables. Since the output of the regression analysis may be limited mainly in terms of the observed period (1 year), to verify the statistical significance of the outputs, we further apply a panel regression analysis that examines the same selected variables in EU countries (except Luxembourg) in 1995 – 2017.

The initial equation for a given analysis can be written in the form (Lukáčik – Lukáčiková – Szomolányi, 2011):

(1)

$$y_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \ldots + \beta_k x_{ik} + u_i,$$

y_i - i-té observation of the modeled variable Y (dependent variable);

x_{i1} - i-té observation of the modeled variable Xj (independent variable);

$\beta_0, \beta_1, \beta_2, \beta_k$ - estimated unknown parameters;

u_i – additive random component.

In the following section, we provide a more detailed specification of selected variables, which we inserted into the regression analysis:

Dependent variable:
a) Ecological footprint per capita (EFP per capita) – the ecological footprint is an indicator that expresses how the individual biological components of the earth (soil and water) are used for production, consumption, but also the absorption of waste due to human activity. In our model, the given indicator represents a dependent variable and expresses the efficient use of the Earth's resources in the context of sustainable development. The data was obtained from the database of the Global Footprint Network (2021) and expressed in global hectares:

Global hectare (gha) = biologically productive hectare, expressing the average world biological productivity, mostly in one year.

In our model, we have placed the ecological footprint per person, which therefore represents the share of a biologically productive hectare – expressing the average world biological productivity (usually in one year) and the size of the population of the given country.

Independent variables:
b) Gross domestic product per capita (GDP per capita) – expresses the share of the sum of goods produced in the territory of a given country (mostly in one year) and the total population. The given indicator can currently be considered the most frequently used indicator of the economic level and growth of individual national economies and in our model represents the independent variable. Data for this indicator were obtained from World Bank databases (WB, 2021) and are expressed in current prices (US dollars). The given indicator can be expressed by the equation (according to Lisý et al., 2011):

(2)

$$\frac{GDP = C + I + G + NX}{population}$$

C - household expenditure on personal consumption of goods and services (final consumption of households);
I - a private gross domestic investment of enterprises (gross fixed capital formation);
G - government expenditure on the purchase of goods and services (final consumption of government);
NX - net export, which we get when we deduct from the total volume of exports the total volume of imports for a given period of time.

c) The Sustainable Development Index (SDI) – was created to increase the informative value of the Human Development Index (HDI) by updating on the impact of human activity on the environment – with the main idea to achieve both human development and environmental sustainability (SustainabledevelopmentIndex.org, 2021). We have chosen the SDI Index as an independent variable, which in our model represents a development of society that increases the wellbeing of people and at the same time preserves natural resources at a sustainable level.
We express the result of the SDI Index on a scale of 0 to 1, while countries approaching the score of 1 better than countries whose final score is closer to 0. A country that would reach level 1 would have to meet all the set criteria resulting from the calculation of the indicator, thereby the development of its people would be fully in line with the principles of sustainable development. The SDI Index can be expressed using the formula (Sustainabledevelopmentindex.org, 2021 a.):

(3)

$$SDI = \frac{Development\ Index}{Ecological\ Impact\ Index}$$

The Development Index is derived from the United Nations Development Program (UNDP) using the same data set that underpins the Human Development Index (HDI) and can be expressed as follows:

(4)

$$Development\ Index = \sqrt[3]{Life\ Expectancy\ Index \times Education\ Index \times Income\ Index}$$

- The Life Expectancy Index is calculated as the ratio of the difference between life expectancy at birth (in the given country) and the number 20; and the difference between numbers 85 and 20.
- We calculate the Education Index as the ratio of the sum of years of schooling (maximum value by 2025 is set at 15 years and minimum value is 0 years) and expected years of schooling (maximum value is set at 18 years - equivalent to obtaining higher education in most countries and minimum value is 0 years) with the number 2.
- We calculate the Income Index according to the formula:

(5)

$$Income\ Index = \frac{\ln(GNI\ per\ capita) - \ln(100)}{(\ln 20\,000) - \ln(100)}$$

GNI – gross nations income

The Income Index differs from the HDI Index in setting limits in the scoring of individual countries. The HDI sets a point limit where the maximum value of gross national income per person may not exceed 75,000 USD, because achieving an income of 75,000 USD is empirically incompatible with the planet's borders. The Income Index in the SDI indicator differs from the HDI Index and sets a limit when the maximum value of gross national income per person is not more than 20,000 USD. This means that earning above this level no longer increases the country's score. At the same time, the difference between the limit set in the HDI Index and the SDI Index is minimal (according to the HDI Index, the country score would increase by 0.05 points above the set level of USD 20,000) and does not significantly change the relative ranking of countries, except for a few countries, which achieve better scores in the HDI Index due to (relatively) high income, despite the fact that Life Expectancy Index and Education Index are (relatively) low – such as Kuwait, whose relative position in the SDI Index would fall for this reason (Sustainabledevelopmentindex.org, 2021 a.).

We calculate the Ecological Impact Index as follow:

(6)

$$Ecological\ Impact\ Index = 1 + \frac{e^{AO} - e^{1}}{e^{4} - e^{1}}$$

(if AO > 4, then EII = AO – 2)

AO represents the average exceedance of the Earth's biocapacity, according to the formula:

(7)

$$AO = \sqrt[5]{\left(\frac{Material\ Footprint}{planetary\ boundary} \leq 1\right) * \left(\frac{CO2}{planetary\ boundary} \leq 1\right)}$$

Material footprint - is calculated from the total extraction and consumption of materials, including biomass, minerals, fossil fuels, and building materials.

CO2 - represents the value of produced CO2 emissions of the given country per year.

Planetary boundary - represents the limit when the global biocapacity of the Earth is or is not exceeded, depending on the size of the population in a given year (Sustainabledevelopmentindex.org, 2021 a.)

3 Results

The basic premise of the theory of sustainable development is to preserve, protect and promote the quality of life on Earth. According to data from the Global Footprint Network (2020), it is clear that a society in a resource-constrained environment is not behaving effectively in terms of the rationality of individual entities. A global society focused on economic growth, measured by GDP per capita, cannot be efficient in the long run without proper natural resource management.

To verify this statement, we chose the method of regression analysis, where we examine the relationship between selected variables: ecological footprint per capita, GDP per capita, and Sustainable Development Index (SDI) in EU countries (except Luxembourg) in 2017. We chose the EU countries because they represent a relatively homogeneous sample in terms of economic level and because their average ecological footprint per person exceeds the average global biocapacity of the Earth per capita (> 1.7 gha). Last but not least, because the Slovak Republic is also a member state of the EU.

In the applied regression analysis, we assume that one variable depends on the other. In this model, we chose the ecological footprint per person as the dependent variable, and indicators that can affect the dependent variable are GDP per capita and the SDI index. All three indicators with their selection explanation are characterized in methodology.

The relationship between the one dependent and the two independent variables is expressed in Table 1. In order to obtain elasticities, the results of the three indicators examined were logarithmized.

Tab. 1: Regression analysis: Model 1

Model 1: OLS, using observations 1-26
Dependent variable: l_EFP_pc_2017

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	0.0784630	0.625253	0.1255	0.9012	
l_GDP_pc_2017	0.126781	0.0647137	1.959	0.0623	*
l_SDI_2017	−0.250314	0.0972500	−2.574	0.0170	**

R-squared	0.444516	Adjusted R-squared	0.396213
F(2, 23)	9.202660	P-value(F)	0.001158

White's test for heteroskedasticity - Null hypothesis: heteroskedasticity not present
Test statistic: LM = 3.52181 with p-value = P(Chi-square(5) > 3.52181) = 0.620091

EFP_pc - Ecological footprint per person
GDP pc - GDP per capita
SDI - Sustainable Development Index

Source: own processing in the Gretl program

Based on the coefficient of determination, 44.5% of the variability of the dependent variable was explained by the model. Neither collinearity nor heteroskedasticity (using White's test) was demonstrated. The independent variable GDP per capita was estimated with only a 90% probability and the independent variable SDI was estimated with a 95% probability.

The resulting equation of the regression analysis of the three variables examined is as follows:

^l_EFP_pc_2017 = 0.0785 + 0.127*l_GDP_pc_2017 - 0.250*l_SDI_2017
(0.625) (0.0647) (0.0972)

n = 26, R-squared = 0.445 (standard errors in parentheses)

EFP_pc - Ecological footprint per person
GDP pc - GDP per capita
SDI - Sustainable Development Index

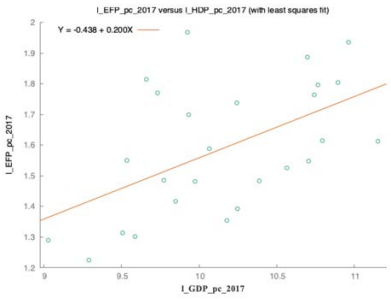
Based on the results of the above equation:

a) with an increase in GDP per capita of 1% ceteris paribus, we expect an increase in the ecological footprint per person by 0.13%,

b) with an increase in the SDI index by 1% ceteris paribus, we expect a decrease in the ecological footprint per person by 0.25%.

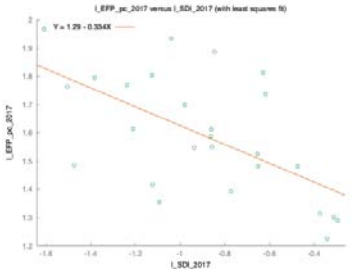
To better understand the results of the regression analysis, we present in Graphs 1a and 1b comparison of the relationship between GDP per capita and the SDI index for the creation of the ecological footprint per person individually.

Graph 1a: Relation of GDP per capita to the creation of the ecological footprint per capita in EU countries (except Luxembourg) in 2017



EFP_pc - Ecological footprint per person
GDP pc - GDP per capita
Source: own processing in the Gretl program

Graph 1b: Relationship of the SDI index to the creation of the ecological footprint per capita in EU countries (except Luxembourg) in 2017



EFP_pc - Ecological footprint per person
SDI - Sustainable Development Index
Source: own processing in the Gretl program

Graph 1a shows that as GDP per capita grows, so does the ecological footprint per capita, and Graph 1b shows that as SDI grows, so does the ecological footprint per capita.

The regression analysis examines the dependence of selected variables in EU countries (except Luxembourg) using cross-sectional data for 2017. In this regard, it can be argued that the results of the regression analysis are limited mainly due to the examined short period (one year) and therefore we decided to supplement the analysis with another regression analysis through the use of panel data. In the given panel analysis, we examine the same sample of EU countries (except Luxembourg) in the period from 1995 to 2017.

To eliminate the apparent regression of the examined data (selected three variables), we chose as a solution the differentiation of variables that were logarithmic and for the elimination of the autocorrelation error, we chose a robust method of errors estimation. The results of the panel analysis are shown in Table 2.

Tab. 2: Panel regression analysis: Model 2

Model 2: Fixed-effects, using 572 observations
Included 26 cross-sectional units
Time-series length = 22
Dependent variable: ld_EFP_pc
Robust (HAC) standard errors

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	−0.0103490	0.00131792	−7.853	<0.0001	***
ld_HDP_pc	0.122043	0.0251128	4.860	<0.0001	***
ld_SDI	−0.270451	0.0575351	−4.701	<0.0001	***

LSDV R-squared 0.134991 Within R-squared 0.115159

Test statistic: F(2, 25) = 36.5926 with p-value = P(F(2, 25) > 36.5926) = 3.74692e-08

Robust test for differing group intercepts - Null hypothesis: The groups have a common intercept
Test statistic: Welch F(25, 196.4) = 0.330904 with p-value = P(F(25, 196.4) > 0.330904) = 0.999076

EFP_pc - Ecological footprint per person
GDP pc - GDP per capita
SDI - Sustainable Development Index
Source: own processing in the Gretl program

Based on the coefficient of determination, 13.5% of the variability of the dependent variable was explained by the model. Nevertheless, the model is statistically significant and its results can be interpreted as relevant in relation to practice.

The resulting equation of the panel regression analysis of the three variables examined is:

$$\hat{}ld_EFP_pc = -0.0103 + 0.122*ld_GDP_pc - 0.270*ld_SDI$$
$$(0.00132)\ (0.0251)\qquad (0.0575)$$

n = 572, R-squared = 0.135 (standard errors in parentheses)

EFP_pc - Ecological footprint per person
GDP pc - GDP per capita
SDI - Sustainable Development Index

Based on the results of the equation, we can state:
a) with an increase in GDP per capita of 1% ceteris paribus, we expect an increase in the ecological footprint per person by 0.12%,
b) with an increase in the SDI index by 1% ceteris paribus, we expect a decrease in the ecological footprint per person by 0.27%.

The results of the panel regression analysis (Table 2) show the same relationship between selected variables (as in the regression analysis of cross-sectional data – Table 1). This means that with an increase of GDP per capita ceteris paribus, we expect an increase in ecological footprint per capita, and with an increase of SDI index we expect a decrease in the ecological footprint per person.

The equation of the panel regression analysis shows that if GDP per capita increases by 1% ceteris paribus, we expect an increase in the ecological footprint per person by 0.12%. This result confirms that economic growth based on the current linear model of the economy does not contribute to environmental sustainability. At the same time, the disturbance of biodiversity caused by human activity already poses a high threat today and will further distort and intensify socio-economic disproportions in the future. For these reasons, we consider it essential that the system be transformed into conditionality of sustainable development principles. It is also rather unlikely to expect national economies to approach the declared ambitious goals of the European Union, the United Nations or other national or supranational organizations by only self-reflection, when they do not change the conditions for assessing the results of the economic system – with aim to achieve sustainable production, consumption and the reduction of waste, unless compelled to do so by other legal procedures or means. The result of our regression analysis can also be verified in comparison with the conclusions of other significant and even more complex panel studies and evaluations (Mikkelson, 2019; Cibulka – Giljum, 2020; Holm – Englund, 2009; Chen – Chang, 2016; Mjid – Zaman – Halim, 2018), where they examined the relationship between economic growth and the creation of an ecological footprint.

To compare the relationship between the development of society and the creation of the ecological footprint, we chose the SDI index as the second independent variable. The given index is a composite indicator. Although, it takes into account the indicator of ecological impact in its formula, it also contains other variables, and therefore we considered it interesting to examine such an indicator, which takes into account social progress in the intentions of planetary limits. The results of the equation show that with an increase in the SDI index by 1% ceteris paribus, a decrease in the ecological footprint per person by 0.27% is expected. The result of this quantitative analysis is also indirectly confirmed by the words of Kuznets who at the beginning of the 20th century expressed the idea that the real wealth of a nation cannot be assessed on the basis of achieved national income (the US Office of Foreign and Domestic Trade, 1934).

4 Conclusion

Based on the above, the current development, still most determined on the basis of "Profit only" is unsustainable for humanity in the long run. Unless the "most intelligent" creature on Earth chooses another path of development and evaluation of quality of life such as profit-based consumption its existence on planet Earth is endangered.

This was also verified by the results of the regression analysis, which shows the need for the necessary change of the current socio-economic system and reassessment of the overall value system, which under the influence of growing population and unchanged conditions will most likely lead to deeper depletion of natural resources. Taking into account the current changes in biodiversity, which have a global impact, we can conclude that with increasing numbers of people and increasing depletion of natural resources, more radical, stronger and more targeted decisions and changes are needed from international institutions, governments, businesses, but also individuals themselves. The absence of such activity could accelerate to the much more serious consequences we are already seeing today: water scarcity; floods; soil degradation; desertification; increasing migration due to resource shortages; deforestation; changes in individual ecosystems; generation of excessive waste and other extreme climate changes.

It follows from the above that in order to minimize negative externalities, it is necessary to change the existing socio-economic system. One of the solutions can be considered an efficient market system. As DeGrauwe said, the setting of market limits by governments, which will be reflected in higher prices of final products, may limit the creation of indirect costs for society (In Vaňo, 2019). BlackRock has announced that sustainability will be a key part of the investment portfolio allocation in the coming decades. It assumes that investment in sustainable development will no longer be relatively inefficient, as it expects an increase in regulations, sanctions, higher taxes and fees for emitters (Eltobgy – Walter, 2021). However, in terms of sustainable development, we consider it important to take into account the impacts of such decisions on the economy, society and the environment at the same time.

The results of the applied regression analysis confirmed to us that in order to achieve sustainable development, taking into account the ecological footprint in the processes of production and consumption is currently important and essential. As David Deutsch said we can achieve everything that does not deny the laws of nature – we just have to think up of how (In Pinker, 2019).

We consider global and uniform measurement of social development by another indicator than GDP (currently the most important indicator for measuring countries' economic growth) rather unrealistic in the near future – although there is growing interest and pressure from the professional public to create increasingly complex indicators to measure people's quality of life. On the other this confirms today's trend of taking interdisciplinarity into account in the evaluation of human phenomena. From this point of view, the application of the principles of the circular economy to the market economy can be a solution that would positively influence economic growth and at the same time transform the system of more sustainable production and consumption of natural resources. This solution would consist of efficient use of natural resources, minimization of the extraction of primary raw materials, reuse of waste, support the market for secondary raw materials and efficient recycling.

Many countries, especially the European ones, are gradually applying the principles of circularity to their economies. However, the transition from a (current) linear to a circular system is a complex process that can only be achieved by constant monitoring of its indicators, friendly government policies that take into account such a development and the responsible behaviour of businesses and people themselves. Last but not least, this process requires investment in science and research for the creation of environmentally friendly green technologies, but also in education, for the development of a global society that is aware of the interplay between man and nature.

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ATTITUDE TOWARDS PHYSICAL EDUCATION AND ENJOYMENT OF PHYSICAL ACTIVITY IN HIGH SCHOOL STUDENTS

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Abstract: Scientific research provides enough evidence that physical activity or exercise is positively related to health and well-being of people. Development of physical activity habits begins at a young age. In our research we explored the relationship between enjoyment of physical activity as one of core elements of intrinsic motivation and attitude to physical education which is considered to be a key factor influencing physical activity participation. The sample consisted of 122 high school students (M = 16.79, SD = 1.29). Two measurement tools were administered. To assess enjoyment of physical activity we used Physical Activity Enjoyment Scale (PACES) and to assess attitude to physical education (PE) we used Physical Education Attitude Scale (PEAS). Statistically significant relationship between enjoyment of physical activity and attitude to physical education was identified. We also revealed that students who are involved in leisure-time physical activities experience greater enjoyment and their attitude to physical education is more positive. The findings highlight the importance of physical activity linked with positive emotions in school environment and also in adolescents' leisure time.

Keywords: Physical activity, attitude towards physical education, enjoyment of physical activity, high school students.

1 Introduction

The period of adolescence is an important milestone in the process of personality development and thus also in achieving positive attitudes towards sports. Also Dumith et al. (2011) point out that mainly adolescence is an important period in adopting a physically active lifestyle. Vágnerová (2000) defines adolescence as a period between the ages of 14 and 20. Research examining habits related to physical activities of adolescents typically focuses on two main areas, mandatory school physical education and leisure-time sport activities. It has been found that adolescents have different motives for participating in physical activities, including engaging in sport activities with friends, improving motor skills, comparing their own sports specific skills with the skills of others, experiencing enjoyment, making new friends, achieving the desired look and relieving tension (Kružliak, 2013). Overall attitude towards physical education (PE) can also be influenced by several factors and in our research we deal with the dimensions of satisfaction with physical education classes, experiencing comfort in PE classes, attitude to performed activities during PE classes and attitude to PE teachers. According to Orlić and her colleagues (2017), these four dimensions compose the construct of attitude towards physical education. Czarniecka et al. (2012) emphasize that participation in physical education classes, which are well structured, stimulate the child's development, facilitate new skills acquisition and create a habit of regular physical activity that can naturally last into adulthood. Pleasant feelings and enjoyment experienced during physical education classes increase the frequency of physical activities outside the school environment (Younes-Alhourani, 2015). This finding is important mainly because it is generally accepted that involvement in sport and physical activities has a tendency to promote a healthy lifestyle and it creates and reinforces physical and mental well-being and improves the quality of life (Bouchard et al., 2012). The submitted research aims to examine the relationship between the attitudes of high school students towards physical education classes and enjoyment experienced during physical activity. The partial objectives are to explore the differences in these two variables according to two factors: physical activity or physical inactivity of parents; and frequency of adolescents' leisure-time physical activities. Next part provides a brief description of enjoyment of physical activity and attitude towards physical education (PE).

Enjoyment is an important factor when examining participation in physical activities and it is a key component in intrinsic motivation. Theories of motivation explore what leads people to act, think, and develop in a certain way and they analyze factors that support people's perseverance, performance, and healthy development (Deci, Ryan, 2007). Motivation is also researched in terms of measurement tools focused on specific kinds of motivation such as career motivation or situational motivation (Baňasová, Sollár, 2015, 2016). In summary, motivation is associated with all processes that help energize and maintain behavior oriented to specific goals (Smith, 1998). People who are motivated act in a way that help them attain the set goals (Armstrong, 2009). Nakonečný (1996) defines motivation as a set of steps which enables people eliminate deficiencies in their own lives. Self-determination theory (SDT theory) proposed by Deci and Ryan is considered to be the leading theory in human motivation. The theory assumes that people are most of their time active and curious; they search for success which can bring satisfaction into their lives. According to self-determination theory, intrinsically motivated people are truly interested in what they are actually doing, that is subsequently associated with good and pleasant feelings (Ryan & Deci, 2007). Intrinsic motivation is evoked by the innate need for competence and self-determination when interacting with the environment. If an individual perceives himself as not competent for a certain activity or as being under some kind of external control, then his intrinsic motivation is weakened. It typically results to the predominance of external motivation (which depends on external rewards and pressure), or to a specific state labelled as amotivation. Amotivation is defined as a state during which people do not perceive the relationship between their own behavior and subsequent behavioral outcomes (Shen et al., 2010). From the perspective of SDT theory, amotivation means the lowest level of self-determination and a lack of will to act (Ryan & Deci, 2002). Amotivation plays also an important role in physical education classes and it can be manifested in inattention and low effort to be physically active outside the school environment (Ntoumanis et al., 2004). We agree with the opinion that experiencing enjoyment during physical activity or exercise increases physical activity adherence. There is a relationship between the enjoyment of movement and intention to be physically active. Thus, enjoyment can affect intentions and behavior of adolescents towards participation in physical activities they really enjoy (Bungum et al., 2000). According to Subramaniam and Silverman (2002), pleasure or enjoyment is an important component of physical education classes. Physical education is a mandatory subject in Slovak schools (the official name of this subject is Physical and Sports Education). High school students attend physical education classes twice a week, and they also have the opportunity to participate in sports clubs. In document labelled as the State educational program, physical education (PE) belongs to the educational area of Health and Exercise, which provides basic information about the biological, physical, psychological and social foundations of a healthy lifestyle (Kršjaková, 2014b). A specific feature of PE classes (physical education classes) is the focus on motor skills improvement of students and as we know other school subjects do not develop this area to such extent. Education typically takes place in classrooms. Physical education offers more options, except for the gym children and students can go to the nature (outside the school environment) and do some activities there. In addition, students have the opportunity to visit other sports facilities, such as leisure and sports centres, swimming pools and stadiums. Thus, not just place or location of PE classes can vary; PE teachers can modify also the curriculum content of PE classes. A large number of physical education equipment is also available. And we should also consider the primary responsibility of PE teachers for the care and safety of children and students which seems to be more difficult at physical education classes (Kršjaková, 2014a).

Attitude is another factor frequently discussed in scientific literature mainly because of its profound impact on healthy behavior, including participation in physical activities. Attitudes in general can have both, positive and negative meanings and they express the state of mind, feelings and dispositions of an

individual (Subramaniam & Silverman, 2002). Attitude is a state of alertness, a tendency to react in a certain way, when confronted with a certain stimulus. The process of attitude functioning is in scientific literature defined in three phases. Oppenheim (1992) proposes the approach labelled as the tri-componential viewpoint. It describes an attitude as a single entity but having three components. The affective component relates to the feelings people have toward an attitude object (e.g., PE classes). The second one, behavioral component relates to people's tendencies to act toward the attitude object. The last component, cognitive relates to the belief that people have about the attitude object. Cheung (2007) adds that not all attitudes have all these three components. Attitude is in psychology defined as relatively permanent system of positive or negative evaluations, emotional feelings and tendencies to act for or against social objects (Mesiarik, 2013). The attitude towards physical education is a complex construct. Describing and explaining its four dimensions, we provide a deeper insight into this topic. The first dimension is defined as satisfaction with physical education classes. We can perceive satisfaction as a process and as a result. It is a state of happiness or fulfillment and can be evoked by psychological, environmental, cultural factors, beliefs and value system. Hudáková and Sollár (2016) in their research found that satisfaction, as a state, can be predicted by various factors, e.g., coping strategies. The opposite of satisfaction is dissatisfaction or discontentment which refers to negative feelings, such as sadness and boredom (Elegba & Adah, 2015). The satisfaction dimension contains items related to the general emotional experience in PE classes (Fazio, 2007). Bebčáková (2012) in her research found that students frequently expressed that they were satisfied with the content of curriculum in physical education classes and girls in general showed less satisfaction than boys. According to another research, the fact that students' attitudes towards PE classes were mainly positive meant overall satisfaction with this school subject and also with the PE teacher (Chatterjee, 2013).

The second dimension is the comfort that students experience in PE classes. Personal comfort is one of the main factors that influence the level of students' interest in physical education classes (Medeková, 2012). This dimension deals with more specific emotions (such as relaxation or anxiety) than the previous dimension (Fazio, 2007). Comfort can be understood as a state of satisfaction, as something that makes our life easier and brings pleasure to our existence. We can also consider its stimulating effect in our lives. By achieving a state of comfort, we can eliminate the causes of discomfort. Absolute relief from discomfort in a certain area does not mean achieving complete and general state of comfort, since people typically face more than just one difficulty or adversity in their lives (Kolcaba & Kolcaba, 1991). The third dimension focuses on attitude to activities performed in PE classes. Dismore and Bailey (2011) point out that the need for a challenge during PE classes is emphasized by many students and new activities should be a part of this challenge. Students' lack of interest is associated with boredom and a lack of choice in repetitive exercises and activities. Hashim et al. (2008) identified several factors that were positively correlated with enjoyment in PE classes. The strongest relationship was identified between the excitement generated by the activity and enjoyment experienced in PE classes. The last dimension examines the personality of PE teachers and approach and methods they use. The importance of personality in teaching profession is emphasized in several studies examining teacher´s personality in relation to his authenticity (Hudáková, Kureková, 2020) or to pupil´s motivation to learn (Uhláriková, 2018). The important aspect leading to effective PE classes is implementation of innovative teaching methods and professional, creative approach of teachers (Czarniecka et al., 2012). Such approach has a potential to actively engage children and students in PE classes and subsequently create a positive attitude towards sports in general. There is enough scientific evidence that adolescents clearly perceive when PE teachers show enough interest, when their expectations are too high and when they prefer some students to others (Medeková, 2012). The main goal of submitted research is to examine the relationship between the attitude to physical education in high school students and experiencing enjoyment of physical activity. A similar study was conducted by Younes-Alhourani (2015), who examined the relationship between experiencing pleasure during physical education classes and the intention to perform physical activities in primary school students. The results of her research showed a positive relationship between experiencing pleasant emotions during these classes and being actively involved in physical activities. She found that enjoyment during physical education increases the frequency of participation in leisure sport activities. We assume that a positive attitude towards physical education is related to experiencing enjoyment during physical activity.

2 Methods

The research sample consisted of 122 students from two types of high schools: Grammar Schools (n=61) and Secondary Vocational Schools (n=61) in Slovakia. The original number of participants was 124; due to special physical disability two students were excluded from the sample. The age of the participants ranged from 15-19 years (M = 16.79, SD = 1.29). The administration of two questionnaires took approximately 20 minutes. Before conducting the research we have obtained the signed Informed Consent from each student (who were 18 years old and up) and from parents of students, who were under the age of 18. The questionnaires were answered voluntarily and anonymously.

Enjoyment of physical activity was measured by a revised version of the Physical Activity Enjoyment Scale (PACES) questionnaire, which was originally designed to measure positive emotions associated with physical activity participation in college students (Kendzierski & DeCarlo, 1991). The original form of PACES consisted of 18 bipolar statements evaluated on a 7-point continuum. The revised form of the questionnaire consists of 16 statements, starting with: "When I am active...". All items are rated on a 5-point Likert scale that range from 1 (disagree a lot) to 5 (agree a lot) (Carraro et al., 2008). Motl et al. (2001) report the Physical Activity Enjoyment Scale is valid measure of enjoyment due to evidence of factorial validity and convergent evidence for construct validity. To identify attitude to PE classes, the Physical Education Attitude Scale (Orlić et al., 2017) was used. Principal component analysis revealed four key factors, which were labeled as: satisfaction, comfort, activity and teacher. Dimensions satisfaction and comfort both consist of 12 items, dimension activity consists of 11 items and dimension teacher consists of 8 items. Respondents reply on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The Physical Education Attitude Scale is recommended for use since it meets all basic criteria for external and construct validity (Orlić et al., 2017). Descriptive statistics, Pearson correlation coefficient, Independent Sample t-test and One-Way ANOVA were used for data analysis (Sollár, Ritomský, 2002).

3 Results

Descriptive characteristics of two research variables: attitude to physical education and enjoyment of physical activity

Table 1 Descriptive characteristic of attitudes to physical education and enjoyment of physical activity

	n	M	SD	Min.	Max.
Attitude to PE	122	149.3	28.64	80	206
Enjoyment	122	62.01	13.19	25	80

Note: n- number of participants; M- mean; SD- standard deviation; Min.- minimum; Max.- maximum

As we can see in the Table 1, students scored 149.03 points in the PEAS questionnaire, while the maximum achievable score is 215. The average score in the PACES questionnaire was 62.01; and students could achieve a maximum of 80 points. We can conclude that on average students achieved higher scores in both questionnaires.

a) Relationship between attitude to physical education and enjoyment of physical activity in high school students

Table 2 Relationship between attitude to physical education and enjoyment of physical activity (N=122)

	Enjoyment of PA	
	r	p
Attitude to PE	.72	<.001
satisfaction	.72	<.001
comfort	.72	<.001
activity	.69	<.001
teacher	.44	<.001

Note: r - Pearson's correlation coefficient; p – p value

Based on the results we can conclude that there is a statistically significant, positive and strong relationship between the overall attitude to physical education and enjoyment of physical activity (r=.72, p < .001). Similarly, there is a statistically significant, positive and strong relationship between three dimensions of attitude to physical education classes (satisfaction, comfort and activity) and experiencing enjoyment of physical activity. There is a statistically significant, positive and moderate relationship between the attitude to PE teacher and enjoyment of physical activity (r=.44, p < .001).

b) Differences in attitude to physical education classes and enjoyment of physical activity according to parental physical activity (parental physical activity vs. parental physical inactivity)

Table 3 Differences in attitude to PE classes and enjoyment of physical activity according to parental physical activity

		Enjoyment of PA	*Attitude to PE*
Active parents	M1	61.54	147.78
(n1=65)	SD1	13.96	27.72
Inactive parents	M2	62.54	150.45
(n2=57)	SD2	12.35	29.84
	t	-0.419	-0.512
	df	120	120
	p	.676	.609
	d	0.07	0.09

Note: n – number of participants; M - mean; SD - standard deviation; df – degrees of freedom; t – Student's t test; p – p value; d - Cohen's d – effect size

The results in the Table 3 show that there is no statistically significant difference in attitude to physical education and enjoyment of physical activity between students whose parents are physically active and students whose parents are physically inactive (p> 0.05).

c) Differences in enjoyment of physical activity and attitude to physical education classes according to frequency of leisure-time physical activity (PA) in students

Table 4 Differences in enjoyment of physical activity according to frequency of leisure-time physical activity (PA) in students

Enjoyment of PA			
Frequency of PA	n	M	SD
several times a week	31	68.97	10.86
once a week	31	62.00	12.92
approx. once in 2 weeks	30	57.47	14.70
rarely	30	59.37	11.59
		F	4.90
		P	.003
		df	121
		η^2	.333

Note: n – number of participants; M- mean; SD- standard deviation; df – degrees of freedom; F – test statistic; p – p value; η^2 - Eta coefficient

Table 5 Post hoc test – Differences in enjoyment of physical activity according to frequency of leisure-time physical activity (PA) in students

Enjoyment of PA				
			95% interval	*Confidence*
Frequency of PA	*MD*	*p*	*Lower bound*	*Upper bound*
a - b	**6.97***	**.031**	0.63	13.30
a - c	11.50*	**.001**	5.11	17.89
a - d	9.60*	**.004**	3.21	15.99
b – a	-6.97*	**.031**	-13.30	-0.63
b - c	4.53	.162	-1.85	10.92
b - d	2.63	.416	-3.75	9.02
c – a	-11.50*	**.001**	-21.98	-8.34
c – b	-4.53	.162	-10.92	1.85
c - d	-1.90	.560	-8.34	4.54
d – a	-9.60*	**.004**	-15.99	-3.21
d – b	-2.63	.416	-9.02	3.75
d - c	1.90	.560	-4.54	8.34

Note: a - several times a week; b - once a week; c - approx. once in 2 weeks; d- rarely; MD – mean difference; p – p value

Based on Fisher's test, we can point to statistically significant differences in enjoyment of physical activity between the four identified categories (p <.05). The value of Eta (η^2) indicates a moderately significant effect size. Multiple comparisons test identified statistically significant differences in enjoyment of physical activity between students who are physically active several times a week and those who are active once a week; then between those who are active several times a week and those active approximately once in 2 weeks; and finally between students who are physically active several times a week and those who are rarely physically active (p <.05).

Table 6 Differences in attitude to PE according to frequency of leisure-time physical activity (PA) in students

Attitude to PA			
Frequency of PA	n	M	SD
several times a week	31	162.29	25.56
once a week	31	144.65	23.13
approx. once in 2 weeks	30	143.63	32.98
rarely	30	142.27	29.05
		F	3.26
		P	.024
		df	121
		η^2	.277

Note: n – number of participants; M- mean; SD- standard deviation; df – degrees of freedom; F – test statistic; p – p value; η^2 - Eta coefficient

Table 7 Post hoc test – Differences in attitude to physical education classes according to frequency of leisure-time physical activity (PA) in students

Attitude to PE				
			95% interval	*Confidence*
Frequency of PA	*MD*	*p*	*Lower bound*	*Upper bound*
a - b	17.64*	**.014**	3.63	31.66
a - c	15.66*	**.030**	1.52	29.79
a - d	20.02*	**.006**	5.89	34.16
b – a	-17.64*	**.014**	-31.66	-3.63
b - c	-1.99	.781	-16.12	12.15
b - d	2.38	.740	-11.76	16.51
c – a	-15.66*	**.030**	-29.79	-1.52
c – b	1.99	.781	-12.15	16.12
c - d	4.37	.545	-9.88	18.62
d – a	-20.02*	**.006**	-34.16	-5.89
d – b	-2.38	.740	-16.51	11.76
d - c	-4.37	.545	-18.62	9.88

Note: a - several times a week; b - once a week; c - approx. once in 2 weeks; d- rarely; MD – mean difference; p – p value

Results in the Table 6 indicate that there is a statistically significant difference in the attitude to physical education classes between the four defined categories of leisure-time physical activity in high school students ($p < .05$). The value of Eta indicates a weak effect size. Based on multiple comparisons test (Table 7), we can conclude that there are statistically significant differences in attitude to physical education classes between students who are physically active several times a week and those who are active once a week; then between students who are physically active several times a week and approximately once in 2 weeks; and finally between students who are physically active several times a week and rarely physically active ($p < .05$).

4 Discussion

The aim of the submitted research was to examine the relationship between enjoyment of physical activity, as a component of intrinsic motivation, and attitude to physical education classes in adolescents – high school students. The studies and theories we used when writing introduction focused on two main areas, the importance of physical activity and exercise in students' lives, and the significance of physical education classes. Based on the theoretical background, two specific measurement tools were used. The first examined enjoyment of physical activity (as a single factor) and the second one examined attitude to physical education and its four factors: satisfaction with physical education (PE) classes, comfort experienced by students in PE classes, PE activities and the PE teacher. As reported by Bungum et al. (2000) enjoyment experienced during physical activity reinforces the intention to engage in activities that are associated with exercise and sport. Physical education has an important function, since it forms the basis of health education (Fairclough & Stratton, 2005) and provides a good foundation for later physical well-being. The main goal of PE classes is to improve physical and mental health and to organize teaching in the way that students develop a positive attitude towards physical activity (Mesiarik, 2013).

a) Relationship between attitude to physical education and enjoyment of physical activity

The results from our research suggest that there is a significant positive relationship between attitude towards physical education and experiencing enjoyment of physical activity. Our findings are in line with the findings of Younes-Alhourani (2015), who reports that being physically active and doing exercises significantly depends also on the perceived enjoyment in PE classes. It seems that high school students who have a positive attitude towards physical education experience greater enjoyment during any physical activity. This relationship can be perceived also in the opposite direction. Experienced enjoyment of exercise or physical activity is associated with a positive attitude towards PE classes. On the other hand, adolescents with a less positive attitude towards physical education feel less happy during physical activities. A possible explanation can be perceived in the similarity between positive attitude and enjoyment, since both are induced by experiencing positive emotions during physical activities. These results are not surprising; as it is known that pupils and students who play sports (or are actively engaged in physical activity) and combine it with positive emotions, have a better attitude to physical education classes. In PE classes, students can experience similar emotions as when they are engaged in leisure-time physical activity. Therefore, they often perceive PE classes as a break from academic learning. On the other hand, students who are not physically active in their leisure time and prefer sedentary behavior will probably consider physical education to be less important than other school subjects. We also identified a strong or a medium-strong positive relationship between the separate dimensions of attitude towards physical education and enjoyment of physical activity. Satisfaction with physical education classes is the first factor and it measures attitude of adolescents to this specific school subject. Fazio (2007) defines this dimension as a group of items exploring a general emotional experience. Based on our results, we can conclude that positive emotional experience and students' satisfaction with PE classes are related to experiencing greater enjoyment during physical activity (performed in, or outside the school environment). If the students are satisfied with PE classes, they will be probably engaged in leisure-time physical activities and subsequently will have a positive attitude not only to PE classes but to healthy lifestyle (which includes physical activity and exercise) in general. High school students who are not satisfied with PE classes, due to any reasons or factors, do not feel comfortable and thus do not enjoy physical education classes. Kolcaba and Kolcaba (1991) define a state of comfort, as eliminating or removing negative factors such as anxiety and pain from our thinking and acting. They also associate this state with experiencing pleasure in life. This perspective supports our results, that high school students who experience comfort in physical education classes feel more enjoyment while performing any form of exercise or body movement. Students, who feel discomfort in PE classes, might associate this school subject with negative emotions, and are likely to achieve less enjoyment during any type of physical activity than students who experience pleasant and positive emotions, such as comfort. In scientific literature, a positive relationship was found also between the third dimension, which examines the attitude of adolescents to activities performed in PE classes and enjoyment in PE classes (Hashim et al., 2008). According to our results, there is also a positive relationship between the overall enjoyment of physical activity and attitude to PE activities. Furthermore, Dismore and Bailey (2011) emphasize that students' lack of interest during physical education is closely related to activities that are described as not interesting or diverse enough. It turns out that a positive attitude towards the exercises performed in PE classes is related to greater enjoyment during exercise or physical activity. High school students with a negative attitude towards activities in physical education feel less happy when they are engaged in any (light to vigorous) physical activity.

Furthermore, students who can perform the same or similar physical activities in PE classes as they do in their leisure time will probably have a better attitude to all PE activities. When students who prefer individual leisure-time sports and physical activities have to participate at a team activity in PE classes, they will probably experience less enjoyment, thus having a less positive attitude towards PE classes. The last dimension contains items examining the attitude towards PE teacher. Rink, Hall and Wiliams (2010) define a teacher as a person who provides maximum physical activity time during PE classes and also motivates children or students to be physically active also in their free time. Dismore and Bailey (2011), point out that the role of the PE teacher contains also creating a positive learning environment. A teacher who is able to create such atmosphere in PE classes evokes positive feelings in students and helps them develop a positive attitude towards him, and also towards PE classes he is responsible for. Our findings confirmed the relationship between attitude to physical education teachers and experiencing enjoyment when performing physical activity.

High school students with a positive attitude towards their PE teacher are likely to experience greater enjoyment during exercise than students whose attitude towards the PE teacher is rather negative. Students who develop a good relationship with the PE teacher typically perceive the atmosphere in the gym more positively; they enjoy the lessons when comparing them with students whose attitude towards the PE teacher is rather indifferent or negative. Physical education teachers might represent role models for students in many areas e.g., in motor skills development, in maintaining a healthy lifestyle, in improving physical fitness, in development of self-discipline and self-confidence, in learning effective strategies to reduce stress. PE teachers who really enjoy working with children/students and show good relationships with them can significantly reinforce their positive attitude towards physical activities or exercise and help them experience positive emotions while being physically active.

b) Differences in attitude to physical education classes and enjoyment of physical activity according to parental physical activity

The findings indicate that there is no significant difference in attitude towards physical education or enjoyment of physical activity between students whose parents are physically active and students whose parents are physically inactive. According to Brzek et al. (2018) positive and healthy physical activity habits depend to a large extent on parental frequency of physical activity. Also Hamar (2005) emphasizes the importance of family background in shaping attitudes toward physical activity. In our research we have obtained a positive result from one item that was added to the administered questionnaires regarding physical activity of students' parents. Based on this result, more than a half of all parents are regularly involved in sport-related activities. Different results obtained Hamar (2005) and he reports that only 19.06% of students' parents in his sample are physically active on a regular basis. To find out a little more about this issue, we asked students who supported and inspired them to be physically active. Only few students identified parents as their perceived support or motivator to sport-related activities. Most of them labelled their friends and peers as people who provide support or motivation for various types of physical activity. Possible explanation is that adolescents try to be independent and might be influenced or inspired more by peers, than by parents. Thus, their attitude to sport-related activities seems to be shaped by their friends and peers and also by famous athletes who might serve as a role model for this age group.

c) Differences in attitude to physical education classes and enjoyment of physical activity according to frequency of leisure-time physical activity (PA) in students

When contemplating about enjoyment of physical activity and attitude to PE classes, we also focused on the frequency of leisure-time physical activity in students. Several significant differences in enjoyment of physical activity and attitude to physical education classes were identified between the defined four groups (students who are physically active several times a week, once a week, approximately once in 2 weeks and those who are physically active just rarely). Romanová and Sollár (2016) found that students who are often engaged in sport related activities experience higher enjoyment of physical activity when comparing them with students who are just rarely engaged in any type of physical activity. Also Broďáni, Kalinková, Paška and Šutka. (2016) report, that female students who are physically active only in PE classes (compulsory school subject) typically have a negative attitude to sport-related activities in general. Our results therefore partially support this study. The highest scores in both variables (enjoyment and attitude to PE classes) were identified in adolescents who are involved in leisure-time physical activity more frequently (in our study physical activity performed several times a week and once a week). Based on our results and with line with several national studies (Broďáni, Lipárová & Král 2016; Broďáni & Kováčová 2019) we can conclude that the frequency of leisure-time physical activity is closely associated with attitude of students to PE classes but also with enjoyment of physical activity which is perceived by many psychologists as a key regulator of intrinsic motivation.

5 Conclusion

In the presented study we explored the relationships between enjoyment of physical activity and age and perception of success. While no significant relationship was identified between enjoyment of physical activity and perception of success, a weak but significant relationship was revealed between age and enjoyment of physical activity indicating a higher level of enjoyment in younger students. Additionally, individual sports athletes and team sports athletes were compared in enjoyment of physical activity and perception of success. The results of the study indicate that team sports athletes scored higher in perception of success than individual sports athletes. We can assume that team sports athletes are more task-oriented and subsequently they share the common goals. This can possibly enhance the feelings of pride, satisfaction and naturally it increases the perception of success. The findings suggest that it would be useful for the future research to consider at least a larger sample size, including the extended age range for better clarification and more precise generalizability of the results.

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Primary Paper Section: A

Secondary Paper Section: AN

FORENSIC SOCIAL WORKERS' SELF-CARE

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This paper is an outcome of the project Gapu 05/2020 Forensic social workers' self-care.

Abstract: The paper presents the results of semi-structured open question interviews with forensic social workers. Respondents are on-site social workers and social workers working in an international non-profit organization. The selection of respondents was intentional, based on a social workers' job position and their direct encounter with forensic clients, while their participation in the research was voluntary. The interviewing focused on social workers' self-care and resilience interdependence. Resilience has been the focal point of social work scholars' interest for several years. As a person's ability to effectively manage inappropriate life situations (Sabolová Fabianová and Žiaková 2016) and being present in physiological, psychological and spiritual areas, it is also point of attention for scholars from the Institute of Life-long Education and Social Work (Faculty of Arts, Prešov University). The main research question is as follows: In what ways do you cope with the burden of your work and what techniques do you use to support your own resilience?

Keywords: social workers' self-care, mental well-being, self-care techniques, burnout syndrome, prevention.

1 The importance of self-care and resilience development

Self-care is an important concept for social workers, supporting the effectiveness of their work performance, as well as their subjective well-being. This opinion is also supported by Petriková, Lichner and Žiaková (2019), who deal with the second form of social workers' self-care as a set of specific activities aimed at self-care and at eliminating inappropriate behavior. Petriková, Lichner and Žiaková (2019) refer to research carried out by several domestic or foreign scholars, which proves the scientific interest in the issue under discussion. Self-care is generally defined as "a process of purposeful involvement in strategies aimed at supporting healthful agency and increasing well-being" [author's translation] (Dorociak, Rupert, Bryant, and Zahniser 2017, p. 326, in: Miller, Poklembová, Podkowińska, Grise-Owens, Balogová, and Pachner 2019; Miller, Poklembová, Grisse-Owens and Bowman 2020). Self-care can be perceived as a tool for the development of mental well-being, but also as a tool for supporting health, mental hygiene or overall personal development of a person within their individual psychology (Lovaš 2014; Balogová, Miller and Poklemová 2017, in: Knurovský and Balogová 2018). It follows that the ability of social workers to engage in self-care also affects the performance when working with the clients. Ensuring and maintaining self-care in all its factors, including mental, physical, social and spiritual factors (Petriková, Lichner and Žiaková 2019), has a great impact on all areas of the social worker's life. Regarding the self-care factors taxonomy, Willins and Ratliff (2019) also include the emotional factor in the system. In a narrower definition, the authors list the factors primarily linked to the helping professions, namely "good social climate, work-related pitfalls management, social worker's professional life and professional growth in terms of better work-related stress management, mental and physical health" [author's translation] (Mesárošová 2018; Lovaš 2014; Lichner 2018; Čerešník, Gatial 2014, in: Petriková, Lichner and Žiaková 2019, p. 225).

Within self-care aimed at achieving efficiency, stability or balance in the social worker's personal and professional life, resilience is an effective aspect that can significantly influence social worker's agency. Resilience leads to success at work, but also in other areas of life, while significantly supporting successful management of extremely stressful situations. As Mahdi and Khoshaba (2005) argue, it transforms disruptive stress-situations-related changes or conflicts into opportunities for growth. They add that resilience is not just an innate ability, but can be acquired and improved through learning and training. Mahdi and Koshaba (2005) confirm that the resilience development currently depends on the existence of personal internal resilience sources for stress management. With regard to the issue of social workers' resilience, Sabolová Fabianová (2017) offers a pragmatic dimension of its presence and development importance. She considers resilience to be an important aspect in social worker's life because of the emotional and psychological demands of their work stemming from the clients' individual experience and affecting social worker's own experience. In addition, she considers resilience to be a protective factor helping to overcome mental, emotional or other stressful situations, whether on the part of clients or social workers, and thus assisting social workers in enhancing their ability to work successfully with the client. Generally, resilience can be defined as "an ability which, on the one hand, can be helpful in adapting to a stressful situation thanks to its dynamics; on the other hand, dynamics itself exercises influence on resilience as an ability. Dynamics – flexibility – allows us to work with the resilience in order to increase the functionality of its protective potential" [author's translation] (Poklembová and Sabolová Fabianová 2018, p. 120). Skodol (2010) offers a taxonomy of the following personality skills, whose building and strengthening contribute to high resilience:

- self-esteem,
- self-confidence,
- self-knowledge,
- positive future orientation,
- negative behavior and emotions self-control,
- ego resiliency,
- defense mechanisms.

2 Social workers' self-care

Forensic social work as a semi-profession is primarily focused on dealing with clients being in conflict with social or legal norms. In addition, it includes dealing with clients with demonstrably disruptive behaviors referred to as anti-social, deviant, aggressive or criminal (Šarišská and Balogová 2019a; Maschi, Leibowitz and Killian 2018, Schmidt and Hennessey 2019; Wyleżałek and Podkowińska 2018). In Slovakia, forensic areas are differentiated originally from the point of view of the clientele, as well as from the point of view of social interventions or social problems to be tackled by social workers. Forensic social work deals also with the issues of social protection for children, social guardianship, criminal activities, legal services and mental health (Šarišská and Balogová 2019a; Šarišská 2017). Forensic social workers' self-care is a necessary factor in the work performance, which often includes an analysis of their clients' burdensome life situations in the most vulnerable segments of society (Willins and Ratliff 2019; Hamadej 2016; Jašková and Sabolová Fabianová 2019). An important step in self-care is, first and foremost, the awareness and recognition of stress and changes signals in social worker's life. With regard to the forensic social workers' resilience, the scholars highlight stress as the main cause of the disruption of social workers' agency in professional and personal life. And consequently, as a way of stress reduction and mental health improvement, could social workers´ self-care follow (Poklembová 2019). Stress causes identification is one of the key activities in this profession. The following indicators are considered to be basic stress indicators in the forensic social worker semi-profession (NASW 2018, in: Willins and Ratliff 2019, p. 145):

- secondary traumatic stress – the presence of post-traumatic symptoms of a stress disorder resulting from indirect exposure to a traumatic situation,
- compassion fatigue – a term used interchangeably with secondary traumatic stress and burnout,
- burnout – emotional exhaustion and feelings of inefficiency due to work stress,
- mediated trauma – a change in internal experience due to an empathic relationship with a traumatized person,

- compassion satisfaction – positive feelings arising from the competent performance of a traumatized worker characterized by positive relationships with colleagues and the belief that their work is significantly beneficial.

With regard to forensic social workers' self-care, it is also necessary to list its individual methods.

Tab. 1.: Self-care methods

AREA	METHODS
Physical self-care	- healthy diet, - physical exercise, - regular medical check-up, - Illness-related rest, - massages, - leisure-time activities, e.g. dancing, swimming, going for a walk, running, doing sports, singing - sufficient amount of sleep - wearing favorite clothes, - going for holidays, trip, - restraining from using phone / computer (including personal phone calls), etc.
Mental self-care	- Taking time for self-reflection, - psychotherapy, - diary writing, - reading - carrying out new activities without taking a leading position, - inner experience (thoughts, prejudices, feelings, trust, abilities) recording, - life-long learning, - exercising the ability to be accepted by others, - training in refusing increased responsibilities at work, - practicing the skill to ask for help when needed, etc.
Emotional self-care	- spending time with friends, - being in touch with people who matter, - exercising the ability of self-confirmation, - searching for the ways to increase self-esteem, - re-reading favorite books - analyzing popular films, - reaching out for pleasant activities, objects, people, relationships, places, - achieving relief through crying, if necessary, - searching for and being in touch with things that make one laugh, - practicing skill to express prejudices or disagreements in social events, letters, collections, protests, - playing with children, animals, gardening, etc.
Spiritual self-care	- taking time for contemplation, - spending time doing outdoor activities, - seeking spiritual connection in the community, - being open to inspiration, - being sensitive towards the intangible aspects of life, - avoiding exercising power and being an expert at all times, - recognizing things that matter and their importance, - performing meditation, - saying prayer, - singing, etc.

Source: Bensinger, DuPont; Cox and Steiner (2013, in: Willins a Ratliff 2019, pp. 148-150)

The listed self-care methods operate as priority variables within the qualitative research methodology.

3 Research methodology

Within research on social workers' self-care, primarily quantitative research is carried out through a wide range of research tools. Quantitative research studies into self-care and resilience have yielded interesting results, however, qualitative research is of major importance. The choice of a qualitative research strategy reflects the nature and importance of qualitative research in the social sciences. Qualitative research, we dare venture, yields findings that are highly specific, clear, detailed and reflecting the researched area in a fully tangible sense. The research problem in this case is the self-care of social workers dealing with forensic clients. The research problem formulation draws on the theory of forensic social work currently growing in Slovakia, and on the need to define its further particularities. The present research also builds on the existing aforementioned quantitative research. The main goal of qualitative research is to find out what self-care forms are used by social workers dealing with forensic clients in various institutions. The main research question is as follows: In what ways do you cope with the burden of your work and what techniques do you use to support your own resilience? Based on conceptualization and operationalization, the data from the following areas was analyzed:

- forensic clients (Šarišská and Balogová 2019),
- self-care methods (Willins and Ratliff 2019).

Within the present research, specific research topics were identified based on the previously analyzed data so that we could objectively identify relevant information and posit research questions targeted at the respondents. The identified research topics also serve for a more detailed analysis of the written interview records.

Tab. 2.: Research topics

Research topics	
RT 1	*The type of clients' challenging behaviors encountered by social workers.*
RT 2	*The work-related issues affecting bio-psycho-socio-spiritual component of social workers' personality.*
RT 3	*The time consumption on social workers' self-care-related activities.*
RT 4	*Social workers' physical self-care methods.*
RT 5	*Social workers' psychological self-care methods.*
RT 6	*Social workers' emotional self-care methods.*
RT 7	*Social workers' spiritual self-care methods.*

Source: present research data

The research methodology was derived from the set objective, research questions and the variables operationalized as being primary for formulating the interview questions. The respondents were selected through deliberate sampling. Based on our long-term cooperation the respondents were addressed directly and their participation was voluntary. The group consisted of four social workers employed by various institutions providing social services, and directly involved in social work with forensic clients. The selected research tool was a semi-structured interview comprising open-ended questions. We opted for this particular research tool since "a semi-structured interview is popular for its flexibility, accessibility, and comprehensibility, as well as for its feature to prove, reveal important and often hidden and serious aspects of human and organizational behaviors. It is frequently the most effective and advantageous means of obtaining data" [author's translation], (Mišovič 2019, p. 80)" a semi-structured interview contains prepared questions, consistently and systematically aiming at identification of research topics through earlier received responds. The most important part of it is the core conversation, a pattern obligatory for the researcher. … The core interview is followed by further supplementary topics and questions which appropriately elaborate on the original aim" [author's translation], (Miovský 2009, p. 160, in: Mišovič 2019, p. 80).

The core questions of the interview included the following ones:

- During your work, do you ever encounter situations that negatively affect your work commitment?
- During your work, have you noticed how difficult situations arose and how has this affected your experience?
- Do you engage in self-care?
- What self-care methods do you consider most effective for you?
- What self-care methods do you use to successfully manage the work-related stress?

The core conversation consists of research questions following the main research objective, i.e. social workers' self-care specific forms, techniques or methods. Non-obligatory questions primarily concerned a closer identification of the negative or stressful situations experienced by workers.

The validity of the research was ensured by consulting the procedures applied with other experts not involved in the research. These were social work scholars who conducted mostly quantitative research on social workers' self-care. Subsequently, the validity was supported by a third component – the theoretical underpinnings of social workers' self-care. In qualitative research, reliability is ensured by applying unchanged conditions for conducting the interviews and data processing with regard to all respondents.

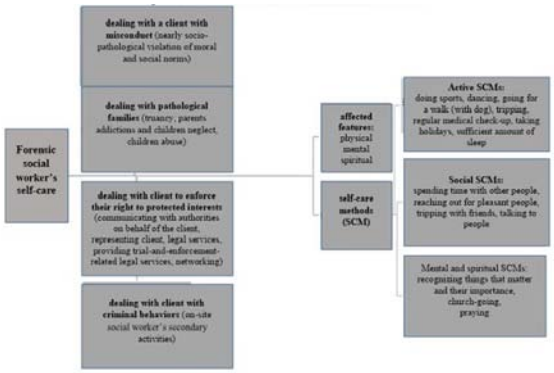
4 Results of qualitative research

Respondents' statements suggest that each of them engages in self-care. Respondents dealing with forensic clients elucidate that this is an area of social work that is extremely demanding and affects their experience as may be illustrated by the following responses: "Work affects my performance and especially its biological and mental aspect. Yes, while doing my job, I encountered challenging situations that affected my experience. I realized that I could handle them better" (R 5). "It is my mental life that is mainly affected. Stressful situations and solving complex problems affect my experience. The thing is that my clients share their problems with me and I transfer this experience to my private life." (R1).

The present research reveals that respondents engage in self-care through numerous self-care methods and activities requiring an active involvement (e.g. walking, exercising, dancing and entertainment), and, at the same time, being in touch with other people. Another most frequently stated activity was reading books or watching movies. We also inquired social workers about the impact of work performance on specific personality features (physical, mental, emotional, and spiritual). All four respondents indicated the spiritual aspect, which is surprising. They stated that spirituality helps them manage the impact of their work with forensic clients upon their private lives. Prayer, church-going and worship were stated as basic self-care spiritual methods, as may be illustrated by the following statements. "I deal with spiritual issues and they are important in my life. As I said, prayer and going to church are personally important for me. Regular attendance to worship helps me purify myself mentally and to gain mental well-being for the time to come" (R5).

In summary, we can present the results of the present research in the following diagram, which reflects social workers' self-care when dealing with forensic clients. The interview identified data most often mentioned with regard to forensic client behavior (type definition), the feature that is most affected by work and the most frequently used self-care methods.

Diagram 1.: Self-care of forensic social worker



Source: present research data

From the above diagram, it is possible to infer that the emotional feature was not indicated in the interview; the respondents did not comment on it in any way. Not all respondents gave identical answers to the questions concerning the impact of work performance and workload on their emotional well-being, and therefore the results are not included in the diagram. However, three respondents stated that their emotional well-being was influenced and stated that they could achieve it through the following activities: walking, reading a book, listening to pleasurable music, chatting with colleagues, through active listening and seeking support. The emotional self-care feature can also be achieved in a systemic way, as stated by one of the respondents. "Through analyzing my emotions. I will consider what they are and to what extent they are dangerous or annoying to me. I sort out these thoughts somehow and work with them accordingly. This way, I can more easily rationalize them, understand them, and then act normally in my work or in my private life. For example, when I'm angry, I need to get into mental well-being, e.g. through listening to music or working with children, whether doing some tutoring or engaging in a joint activity" (R4). Disruption of the emotional well-being was also perceived in a reverse direction from personal to professional life. "If various problems or situations arise in my personal life, they will affect my performance at work in a certain way. At the same time, my work can be like relief. One can devote oneself to one's work for a while and does not always have to think about one's personal problems. However, one must be able to guard and balance it well" (R3).

5 Conclusion

We can state that social workers dealing with forensic clients engage in self-care activities. Qualitative research unveils that self-care is a highly up-to-date issue dealt with by social workers and social work scholarly studies. Based on the interview analysis, we can also conclude that social workers are well aware of the importance of self-care and of the challenge of dealing with forensic clients. Social workers recognized activities helping them to manage work-related stress. They also described in much detail what challenges they face in various aspects of their personal lives and professional career, recognizing a challenging and demanding nature of this semi-profession. Therefore, we can emphasize the need for founding other institutions and agencies, (e.g. supervision that can affect the forensic social workers' work-related stress management).

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Primary Paper Section: A

Secondary Paper Section: AM, AN, AO

VET TEACHERS IN SLOVAKIA AND CHALLENGES FOR THEIR COMPETENCES IMPROVEMENT

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Abstract: The common problem of the many countries that´s identified by many policy makers, educators, economists and other professionals is the problem of high level of youth unemployment rate. Properly prepared workforce for the European economy are current challenges for the teacher and training community. The need to update vocational education teaching (further VET) - teachers' qualifications and competences is very urgent in the all countries of EU. This study deals with teacher preparation in Slovakia and concisely describes selected results of questionnaire survey on vocational education teacher competences. The study provides an introduction to the theme of teacher competence improvement through small survey conducted at Slovak university of Agriculture in Nitra and suggests some challenges for solution in VET teachers preparation. There is a need of innovative practical approach to stimulating and develop key competences among students in VET institutions. This need is also connected with the quality of VET teachers and the professional teacher competences development in teachers' preparation and in their further education.

Keywords: VET teachers, key competences, teacher competences, educational system in Slovakia; teacher preparation

1 Introduction

The European social and political agenda recently prefers vocational training as an important tool for the sustainable development. Competence demands, combined with a high-level skilled workforce, are a challenge for the teaching community. It is possible to state their increasing tendency. The eventuality of success expects the necessary competencies.

Today, many European countries indicate high unemployment rates among young people. Slovakia is a very open economy with total annual export and import over 200 % of GDP. Since its independence Slovakia has been all the time characterized by a powerful share of employed in industry, regardless changes in other sectors, e.g. growth within the service sector and dramatic decrease of employed people in agriculture (from 256,489 as of 31st December 1992 to 84,900 in 2009 (LFS), according to the Statistical Office SR). According to the Labor Force Sample Survey published in 2020, „2,59 million Slovaks were employed within the domestic economy and abroad in the 3rd quarter of 2019 and also the employment rate reached 73,4 %. The highest rate of unemployed in Slovakia is still among the youngest people. Due to the corona crisis we can expect its growth again. In the first quarter of 2020 was the youth unemployment rate 25,5% among people aged 15-24" (according to statistical office of SR).

Even a decade ago, unemployment rates were higher. ISCED 3-4 educated people aged 20-24 reached 30.6% unemployment. It was the sixth place in the EU. Young and old people perceive their unemployment worse because they perceive their employability more difficult than middle-aged people. The economic crisis, which took place 10 years ago, also deprived middle-aged people of their jobs. At the moment, we can talk about the corona crisis, which potentially increases the unemployment rate.

There are significant changes in economic fluctuations, due to covid, as well as political instability, rapid technological progress and the need for new competencies in connection with the development of IT technologies. For VET education, this means new challenges associated with sustainable economic development.

In EU conditions "there are offered different policies and supportive financial programs both by national and EU bodies" (Kotyza. Tomšík 2014). The very important task of the contemporary education is to develop and increase the competences of the employees, to maintain internationally competitive research and development basis and to improve the application of knowledge for the highest benefit of the whole society (Kuna, Hodal, Hašková 2019).

Dramatic economic, technological and societal changes within the different parts of the world are arising a new significant role of VET in sustainable world development. "Internationally, vocational education and training (VET) is intended to fulfil important economic and social objectives" (Schmidt 2020: 276). On the contrary, there also are many questions arising on quality of VET preparation. As an example, in England are still persistent „the chronic difficulties in recruiting teachers of vocational science, engineering and technology (SET) to FE colleges" (Hanley, Orr 2019: 103). This is often not the unique problem of one country, but the similar situation is also seen across the all European countries. Lack of quality VET teachers may be a modern phenomenon. Quality education, is more and more important for all countries because it is one of the crucial factors influencing their economic competitiveness in the globally connected knowledge–based economies. „Just as there is great diversity among the students at VET, the students in the teacher training courses differ considerably in terms of educational backgrounds and work experiences, and particularly in terms of their teaching contexts" (Duch, Andreasen 2017: 290). Above mentioned differences are also connected to the to the obtained level of education of the graduates. „European Credit System for Vocational Education and Training is an initiative promoted at European level, designed as a technical framework for the transfer, recognition and, where appropriate, accumulation of learning outcomes by learners in VET, thereby promoting transnational mobility and access to lifelong learning" (de Paor 2018: 1). There are increasing demands on permanent changes in vocational education and in our opinion they will further raise. Growing struggle between education providers and the society demands will continue. „Seeking prime quality vocational education and training and better education, the teaching staff design and apply different educational technologies, which are supported by the research paradigms of the quality of training and studies" (Gedvilienė, Tútlys, Daukilas 2019: 256). For example, the reasearch of Friedrich and Hirtz shows, that in Germany graduates of combined VET education and high school diploma achieve a higher wage rating (Friedrich, Hirtz 2021). Schuster and Margarian add, that in non-competitive peripheral labor markets, graduates with a high school diploma are more likely to enter VET education (Schuster, Margarian 2021).

VET provides opportunities also for internationalisation. Gao states, that there are significan differences in the primary motivation for initiation of international cooperation among VET teachers. While one group preferes activities on the basis of evidently commercial approach, other group of teachers preferes more instrumental and developmental character (Gao 2020: 232). Such results are helpful to identify the motives for international cooperation in the field of VET education.

The nature of VET teacher training practices requires innovations in their preparation and training. Cooperation with students is influenced by the quality and attention paid to their own teaching. It is an integral part of professional development. There is a wide range of models that can be and are used in vocational education. According to UN recommendations, VET teachers should have a position identical to other teachers. For example, a structured survey among Italian and Lithuanian teachers revealed some problems: "the marginalisation of the VET teacher's work and working conditions, especially the

dissatisfying wages and poor career opportunities, and the absent or weak institutionalisation of the VET teacher's qualifications and training" (Tacconi et al. 2020).

2 Teachers and trainers in Slovakia and their training

"In the ever-changing environment of vocational education and training (VET), an individual teacher can create a learning environment which can inhibit or promote the success of a student" (Dutschke, 2018: 163). All over the world exist different models and ways to obtain VET teacher qualifications. Access to the teachers' qualification is typically regulated by and is also subject to the control of a ministerial authority. In the almost all European countries, to be qualified as a teacher in vocational training, it is necessary to have a higher education degree followed by teacher training controlled at national level. In some cases, the higher education degree can be substituted by a nationally recognized vocational qualification. In most countries the qualifications mandatory for trainers or workplace instructors have not been formally defined. Neither do there appear to be any specific training paths to become a trainer of continuing training in a company or in a training organization (Cort, Härkönen, Volmari 2004). Teachers are usually in contrast with workplace trainers and instructors. Despite the fact that national regulations force (varying) requirements on staff involved in initial vocational training, there are no formal requests for the qualifications or formal training required to take part in continuing training. This contradictory situation can be observed also in Slovakia.

VET staff is predominantly bound to the educational institutions. There can be divided traditionally three groups of VET school teachers according to the education legislation: 1. teachers of general subjects; 2. teachers of vocational subjects; 3. teachers of practical training (Khonamri, Azizi, Králik, 2020). Teachers of practical training are responsible for assisting students in developing their skills throughout the practical - primarily manual training. Even though VET in Slovakia is dominantly school-based, there exist the possibility to carry out practical training also outside the school. Built on a school and a company agreement, practical training can be provided straight by the company in its own premises and by its own staff, but what is important this is under the supervision of the school. These professional staff of the company are called instructors to distinguish between them and trainers from schools. Since the year 2015 exists in Slovakia possibility of "Dual education". Dual education is a system of vocational education and training through which student acquires the knowledge, skills and competences necessary for the profession. It is characterized especially by a near connection between general and vocational theoretical education in secondary vocational school with practical training at a specific employer.

VET teachers preparation is actually organized according to the Act no. 138/2019 Coll. on pedagogical and professional staff. According to this Act, there are four stages of career development, ascending from a beginner to an independent teacher, a teacher with the first attestation and the last stage is a teacher with the second attestation. According to the law there exist also several forms of professional development in teacher further education: innovative, functional, qualification and extending education.

The follow-up of knowledge acquired during theoretical preparation in connection with the practical implementation of acquired knowledge directly in the specific conditions of the secondary school teaching process becomes especially important in the process of higher education teacher preparation. By participating in educational practice, students - future teachers gain and subsequently develop, the experience, skills and competences necessary for the practice of the teaching profession. During the educational practice as the part of teacher preparation and training, student also experiences the positives and negatives arising from the teaching profession and, on the basis of regular pedagogical practice, also acquires the necessary self-confidence for passing on knowledge to generations of students at secondary schools (Michvocíková, Sirotová 2019).

3 Increasing of teacher competences

According to the above mentioned it can be stated that study courses for students should be also focused on presenting additional skills and competences for their future life and profession related to the fields they have chosen. „There are many various discussions about key competencies, professional competencies in education and even the teacher professional competencies" (Gadušová, Hašková 2015). For example, Kyriacou (1996) identifies as essential teaching skills and competences the following: Planning and preparation; Lesson presentation; Lesson management; Classroom climate; Discipline; Assessing pupils´ progress; Reflecting and evaluation. Competence profile of high school teacher - teaching professional (vocational) subjects in Slovakia according to professional standards for individual categories and subcategories of teaching staff (Pokyn ministra č. 39/2017) is defined as follows:

Table 1. Competence profile of high school teacher - teaching professional (vocational) subjects

Areas	Competences	
1. Student	1.2	To identify the developmental and individual characteristics of the student
	1.3	To identify psychological and social factors of student learning
	1.4	To identify the sociocultural context of student development
2. Educational process	2.1	To master the content and didactics of subjects
	2.2	Plan and design lessons
	2.3	Implement teaching
	2.4	Evaluate the course and results of teaching and students learning
3. Professional development	3.1	Plan and implement own professional growth and self-development
	3.2	Identify with the professional role and school

Source: Pokyn ministra č. 39/2017

To reach quality education it is needed also to focus on teacher development. Authors Cort & Härkönen & Volmari (2004) point to some of the skills and knowledge teachers need to acquire and that teacher training should provide. These include:

- „new pedagogical skills and competences in line with the learner centered approach of modern pedagogical theory ('pedagogical update') and on-the-job learning techniques now being offered to trainees;
- up-to-date 'vocational' skills related to modern technologies and work practices ('vocational update');
- awareness of the needs of business and employers;
- skills for team work and networking;
- managerial, organizational and communication skills".

2.1 Results of small survey on teacher competences

In connection to the previously indicated areas connected with the vocational education and the teacher competences improvement, this study is complemented with the results of qualitative research that´s aim was trying to monitor the situation of competence development in educational practices. A review and examination of related documents and a qualitative methodology were employed. In the study are also summarized results of a questionnaires from the VET teachers and students.

Surveyed were several categories of the qualitative research including the following theoretical groups:

- valuation of VET teacher competences by students-teachers,
- valuation of development of key competences of students by VET teachers.

Survey was conducted in 2020 within a research sample of 83 students of Complementary pedagogical study at SUA in Nitra. SUA is the unique institution in Slovakia preparing teachers for agri-food sector. The aim of the survey was to evaluate the level of their own competence development. The sample consisted of two groups of 1st and 2nd year students. They were asked to choose from the list of nine groups of competences (inspired by Kyriacou and professional standards) to assess their least developed competence.

Second part of the survey was based on answers of VET teachers from 5 secondary vocational schools in Nitra city (vocational schools preparing professionals for agriculture, food industry, economical sector and technical fields of study). Teachers were asked to list the competences they primarily develop among their students and to suggest the proposals for their improvement (open question).

A) Self-assesment of future teachers´ competence development

Which teaching competencies do you rate as the least developed so far?
1st year students' results (46 answers) in order of answers frequency:

1. Work with students with special needs;
2. Maintaining classroom discipline;
2. Realization of lessons and Language and
3. communication skills;
4. Assessment of student achievement and Reflection and self-evaluation;
5. Lesson planning and preparation and Influencing classroom climate;

Knowledge and erudition in the field of study- nobody indicated as the least developed competence. Two answers were as follows: "Since I don't teach I can't judge".

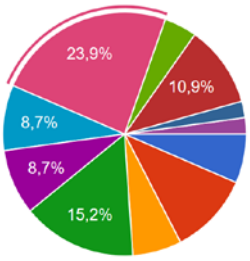


Figure 1. 1st year student teachers least developed competences

2nd year students' results (37 answers) in order of frequency of answers:

1. Work with students with special needs;
2. Influencing classroom climate;
3. Lesson planning and preparation and Reflection and self-evaluation;
4. Assessment of student achievement and Knowledge and erudition in the field of my study;
5. Maintaining classroom discipline and Realization of lessons;"

The option "Language and communication skills" nobody indicated as the least developed competence. However, lacks of the competence development perceived by students in 2nd year of their study can be expressed by the following quotations as an example: (S=student):

S1: Right now all of them, because I haven't taught "real" yet, unless I count the few hours of teaching practice during the study.

S2: Difficult to answer … apart from the practice lessons I did not teach, so developed is a strong word … I have a lot of work to do once I have to teach.

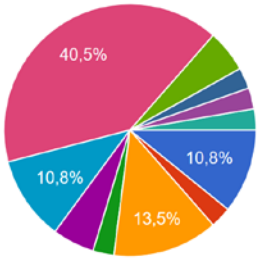


Figure 2. 2nd year student teachers least developed competences

B) Competences developed by teachers in secondary vocational education

Qualitative Analyses of results from questionnaires:

Teachers according to their answers the most often devote their attention to development of the following competences and skills of their students in VET:

- problem solving, ICT skills, communicative and social competences, soft skills,
- work with literature,
- entrepreneurial competences through examples and implementation of students' own innovative ideas, self-realization, self-knowledge, self-development, active involvement for future entrepreneurial activity in a professional career,
- soft skills and financial literacy.

Selected proposals of teachers for improving the development of competences in vocational education (T= teacher):

T1: To improve the equipment of the schools or equipment of ICT classrooms.
T2: Work with the Internet to a greater extent.
T3: Many vocational study programs are based on dual education - there are big differences between theory and practice, it would be good to minimize them.
T4: To develop and promote pupils' independence and financial literacy.
T5: In addition to traditional hard skills development, it is necessary to develop soft skills, especially to develop communication and work with people.

3 Pedagogical and vocational skills; pedagogical and vocational update as challenges

Qualified VET students, and professionals, meet and compete in skills competitions (Andersson, Köpsén, 2019). Teachers and trainers in VET are required to possess two distinctive groups of skills:

1. *Pedagogical skills – skills and* abilities or so called pedagogical competence involves activities eg. to plan, organize, teach and instruct and to be able to assess the outcomes of the teaching. These are the basic *skills* of all teachers regardless of the field or subject they teach.

2. *Expert knowledge and* vocational *skills* are the basis for VET teachers to exchange their expertise to trainees so they are able to perform gained vocational skills after leaving school and start their jobs – this is a demand to have a stable ground in the theory that leads to these skills development.

Earlier, teachers attained pedagogical and vocational skills during their studies at the beginning of their professional path.

Currently this is not sufficient because the national VET systems are changing continuously. Educational research and theory constantly proposes new teaching approaches, strategies, innovative methods and techniques, the use of the latest modern technology. Also the workplace and the needs of labor market are in a rapid change.

In such new circumstances, it is fundamental that teachers constantly *bring up-to-date* their skills. Cort, Härkönen and Volmari (2004) talk about these procedures as *pedagogical update* and *vocational update*.

Among the new challenges for teacher training could be included new target groups, changing pedagogical paradigms, ICT developments, labor market developments or increasing internationalization:

Target groups in VET are more varied than before. „The age at which young people leave education for the labour market has increased in recent decades, and entering upper secondary education has become the norm“ (Eirikíksdóttir, Rosvall 2019: 355). For example there is a rising number of adults attending VET programs and teachers have to deal with their various skills, attitudes, motivations, which often differ to those of youth. VET teachers have to look for new teaching methods with regard to the previous experience of their learners, to the needs of the specific group of students.

Changes in educational theory now focuses more on learning rather than 'transmitting' information by teachers. Therefor optimum teaching requires teachers to use a wide range of activating teaching methods, containing in example: projects, group work, problem solving, discussions, case studies, etc. "Social entrepreneurs and change agents trained in the university (and not just the business school) mitigate sustainable development problems" (García-Gonzáles, Ramírez-Montoya 2021). Selected studies bring also some interesting results and on their basis can be implemented some improvements in the educational practice. For example, Karpáti-Daróczi and Karlovitz identified, that Albanian students have in comparison with students in Hungary higher contact with entrepreneurial environment. On the other side, Hungarian students prove more entrepreneurial personality traits (Karpáti-Daróczi, Karlovitz 2020: 47). Some significant changes in the area of stability of interests in vocational education and training were also identified (Etzel, Nagy 2021). As these findings show, it is important to use much more activating teaching methods and experience based teaching and learning in VET according to the demands of the particular national educational systems.

Among the recent technological developments belongs *development of ICT* which entered also the educational process. Currently all VET systems call for general skills development in ICT. All graduates entering the labor market are required to use ICT in their future jobs, but on the other hand teachers themselves are forced to use ICT as a teaching tool, as well as for administration (Kuna, Hodal, Hašková 2019).

Due to the labor market development teachers are required to equip students with the up-to-date skills important in their future careers. On the other hand, those skills are in permanent change. One of the demanding challenges is how to keep up to date vocational skills of teachers so they can provide graduates with the skill the labor market requires. The best model of lifelong learning cannot be attained without expert teachers. This is an important task for government and professional organizations. Baglama and Uzumbolyu recommend as an effective measure: „career counselling interventions ought to be increased during high school in order to increase career decision-making self-efficacy and vocational outcome expectations“ (Baglama, Uzunboylu 2017: 8). Other possibilities advise Tomšíková, Hudečková and Tomšík, who recommend „greater interconnection of specific teaching subject with practice or closer cooperation of actors at local level, which have a potential to enhance an attractiveness of secondary education“ (Tomšíková, Hudečková, Tomšík 2019: 143).

Another great challenge is *internationalising* VET teacher skills. As Khonamri, Azizi and Králik (2020) state „market developments imply that to an increasing extent national VET systems are called upon to implement an international dimension in the provided training. Similarly, the action programs promoted by the EU Commission carry this dimension into the classroom. For teachers, parts of serious importance are including language skills, knowledge of other countries, knowledge of trades and trade requirements in other countries, intercultural communicative skills, etc“ (Khonamri, Azizi, Králik 2020).

In accordance with Rybanská (2020) it can be concluded that wider access to education is an opportunity for schools to benefit from an increasingly diverse individual experience. In response to diversity and growing expectations of education is essential a shift in its provision, through a student-centered approach to learning and teaching, the acquisition of flexible learning pathways and the recognition of competences acquired outside the official curriculum. The schools themselves are also increasingly differentiated in terms of their mission, the way in which education and cooperation are provided, including the rise of internationalization, digital learning and new forms of education provision.

Internationalization of VET teachers´ skills and competencies is the key for maintaining the graduates' competitiveness at the labor markets.

It should be in the center of the educational policy that the particular countries implement the international dimension in the pedagogical preparation for the teaching of vocational subjects. These skills and competences are also supported by the EU Commission through action programs. The competences we consider to be the key in the field of VET teacher preparation are for example realities about other countries, knowledge of foreign languages, knowledge of the business protocol of other cultures, knowledge of the etiquette of other nations and cultures, etc.

4 Conclusion

Vocational training has indeed gained a significant role in recent years in Europe. Although Slovak republic is an quite open economy and having relatively high export and import rates, but it is currently suffering from high unemployment among the younger generation. In addition, there has been a dramatic decline in employment in agriculture and other areas of industry, but increase in services in the recent decades. The vocational training system should contribute to general economic development, to adjust to the recent demands. In Slovakia, there is still a system that is set up to produce a percentage of strong secondary cadres. In addition to higher education, further professional education of adults has a significant position there. Currently it has been provided by about 300 facilities. The educational institutions are subject to the accreditation process. Problems are caused by low investment in education and low investment into research of vocational training. Content of work of the vocational teacher - trainer has been relatively fast changing. There are three categories of teacher's training. In the case of its´absence there is a possibility of passing a complementary pedagogical study. Graduate thus obtains full qualification for secondary vocational schools. Educational content should be compatible with the possibility of self-plan for lifelong learning. VET teachers need to acquire new teaching skills, up-to-date 'vocational' skills, skills for team work and networking and also managerial skills and many other. They also need to understand the role of graduates after leaving school. Since it is not possible to acquire all competences in early career, VET teachers should continuously update their professional and pedagogical skills. As can be seen also according to the results of our small survey, the students-teachers stated also some areas

of their competences that can be still improved. For the pedagogical up date are available various forms of professional development in Slovakia. Vocational education deals with particular problems and challenges. There is especially a need to find suitable teaching methods which make use of previous experience of the educated, to absorb changes in paradigm of teaching theory, to understand the role of teacher as coach and facilitator, and to implement new teaching methods in teaching process (such as case studies, projects, workshops etc.). It is important to provide teachers with suitable pedagogical theory but on the other hand, the practice will be gained through their further teacher experience. A particular requirement is the ability to fully benefit from ICT. It is related to the ability to use e-learning and blended-learning. Teachers must keep up with new technology if they want to prepare graduates who are fully applicable. The problem is the acquisition of suitable candidates for teaching positions. Challenge is in improving internationalization skills of VET teachers and providing the international dimension of education. In that context, the internationalization can be supported via action programs promoted by the EU Commission. As teacher training is constantly under pressure from economic, social, political and legislative changes and at the same time must adapt to scientific progress, the content and implementation aspects of the VET teacher preparation must respond flexibly to the current requirements of the time.

We are aware that our study is only a small survey in the field of professional competences of teachers of professional (vocational) subjects and pedagogical practices of students, but it is an important factor that can contribute to streamlining not only practical training but especially theoretical preparation of teachers. This requires constant attention in the future. Based on the above mentioned, we state that a competent teacher must really meet a large number of requirements for the performance of his profession, on which the quality and effectiveness of his pedagogical work depends.

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Primary Paper Section: A

Secondary Paper Section: AM, AN, AO

THE INFLUENCE OF THE PROCTORING SYSTEM ON THE RESULTS OF ONLINE TESTS IN THE CONDITIONS OF DISTANCE LEARNING

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Abstract: Covid–19 has made significant adjustments to all spheres of Kazakhstan's society, the education sector was no exception, and therefore all educational organizations were forced to urgently activate distance learning. Of course, organizations of higher and postgraduate education used a distance learning format before the pandemic. Kazakh schools experienced difficulties with the distance learning format. One of the problems of distance education is that academic honesty in relation to online tests is dangerous because of deception, which artificially gives a high score. To solve these problems, an online proctoring system was used, designed to eliminate and prevent academic dishonesty. The purpose of this study was to compare the results of online tests with proctoring and online tests without proctoring. The test results of 220 students studying in different groups of the online course were compared using linear models of mixed effects, some students did not use a proctoring system, and the rest were forced to use online proctoring software. Students scored an average of 11 points less and spent less time on online tests that used proctoring software compared to tests without a proctoring system. A significant difference in grades and different use of time was in different exams, both for sections of the same course, and in the fact that some students used software for testing, while others were absent. The necessity of introducing the use of a proctoring program for online learning and distance education is justified. The necessity of using innovative tools in the field of education, in particular in online learning, is actualized. The introduction of proctoring systems increases the reliability of the assessment of educational results in the online mode. It is necessary to further develop the capabilities of proctoring technology and its wide implementation in all universities of the country. The use of this software system will allow educational organizations to improve the quality of the results of distance education provided.

Keywords: distance learning, online education, academic integrity, online testing, proctoring software.

1 Introduction

Distance learning is a form of education in which a teacher and a student interact at a distance using information technologies. During distance learning, the student studies independently according to the developed program, looks through the recordings of webinars, solves problems, consults with the teacher in an online chat and periodically sends him his work for verification. Distance learning has become popular with the advent of the Internet, opening up new development opportunities for residents of remote settlements and business people with a busy working schedule. At first, distance learning was perceived only as an additional way of acquiring knowledge or preparing for exams. Now you can take full–fledged distance courses and advanced training programs from prestigious universities, commercial and non–profit companies from different countries, being anywhere in the world. In distance learning, the issue of objective assessment of knowledge is acute. Online proctoring systems are one of the ways to prevent students from academic fraud. The article considers the possibilities and problems of using the online proctoring system for monitoring students ' knowledge. The widespread use of dishonest behavior in educational activities has serious consequences. Firstly, it leads to a low efficiency of investing resources in student education, which, in turn, leads to a decrease in the level of knowledge and skills of graduates and, as a result, a decrease in the economic potential and pace of development of the country. In addition, graduates who have practiced dishonest behavior during their studies are inclined to resort to deception in their work. In addition, a number of empirical studies have shown that the widespread use of academic deception in the educational environment leads to the fact that highly motivated students begin to use these practices in their educational activities. Accordingly, disrespect for the principles of academic dishonesty now can have large–scale negative consequences in the future.

Modern information and communication technologies provide continuous education and have a much more effective impact than traditional means of education. Traditional forms of obtaining higher and postgraduate education in recent years, such an innovative form as distance learning has been gaining more and more popularity.

At the same time, the trends in the development of education indicate that the distance learning format is becoming increasingly popular:

- distance education will lead to a reduction in the costs of students and educational organizations;
- distance education allows you to combine training with work, allows you to study in the family when receiving a postgraduate or second education, as well as when obtaining a bachelor's degree, gives you the opportunity to get practical experience in your chosen specialty during training;
- the format of distance education expands learning opportunities for people with disabilities;
- distance education allows you to study both in Kazakhstan and abroad at the same time;
- the distance learning format allows you to improve and improve your skills.

The spread of Covid–19 has caused many problems for Kazakh and foreign universities. Universities were forced to work remotely, make adjustments to their curricula and educational programs. In addition, a new, remote final exam was provided in an online format. In this format, the final exam of the student was held outside the educational institution. It should be noted that the remote format was used in many leading foreign universities before the pandemic, using their educational platforms (Harvard University, Oxford University, Open Universities Australia, Open University UK, Stanford University, Ottawa University, etc.).
However, distance education is inferior to full–time education when it comes to trust in the results of evaluation activities and diplomas, certificates and certificates issued based on these results. This is due to the complexity of identifying students. It is difficult to keep track of whether a student performs tasks or tests independently. Thus, there is a problem of increasing confidence in the results of evaluation activities carried out in distance education.

Sometimes students who do not want to independently pass testing in any discipline, resort to the help of people or organizations that pass various forms of control for money instead of students. Such situations reduce the quality of distance education and, consequently, the level of trust in it.

2 Literature review

Both the current state of development of distance education and the problems of objective assessment of knowledge, as well as the history of its development, are considered in detail in many

analytical works (Hard, S. F., Conway, J., and Moran, A. S., 2006), (Jones, I. S., Blankenship, D. and Hollier, G., 2013), (Ladyshevsky, R. K., 2015), (Newton, D., 2015), (Spalding, M., 2009), (Stuber–McEwan, D., Mudro, P. and Hoggatt, S., 2009), (Reines, D. A., Ricci, P., Brown, S. L., Eggenberger, T., Hindle, T., and Schiff M., 2011), (Patashkova Y; Kerimkhulle S; Serikova M, Troyanskaya M., 2021). An important result of the study of the state of affairs is the conclusion that distance education has not yet fully realized its potential.

The problem of monitoring and evaluating students ' knowledge is an important component of the learning process (Beck, V, 2014). The works of a number of scientists are devoted to the problems of the development of distance education, online learning and the study of online proctoring problems: (Christie, B., 2003), (Boehm, P. J., Justice, M., and Weeks, S., 2009), (Etter, S., Kramer, J. J., and Finn, S., 2006), (Etter, S., Kramer, J. J. and Finn, S., 2007), (Alessio, H. M., Malay, N. J., Maurer, K. T., Beiler, A. J.., and Rubin, B., 2017). The authors, investigating the problems of determining and evaluating the level of quality of students ' knowledge, note that the applied forms of knowledge control have significant disadvantages (Grijalva, T. C., Nowell, C. and Kerkvliet, J., 2006). Some scientists pay great attention to the study of the features of remote control and methods of distance learning. The authors define distance learning as the most important direction of supporting the potential of higher education (Grigoriev V. Yu., Novikova S. E., 2020). The authors understand distance learning as a new training format that provides the use of information technologies based on the use of computers, video equipment, audio equipment, space and fiber–optic technology. Distance learning is an educational process that involves an active exchange of information between students and the teacher, as well as between students themselves, and makes maximum use of modern means of new information technologies (audiovisual means, personal computers, telecommunications) (Allen, I. E., Matros, Yu., 2015).

In the conditions of constant improvement of technologies, educational organizations focused on innovative development models should master modern technological innovations, especially aimed at ensuring high–quality training, including in the process of distance learning (Nurzhanovna A., Issayeva B, Tatyana S. and Kaldenova G, 2020), (Aetdinova R., Yerzhanova S., Suleimenova B., Maslova I., 2020), (Bekbenbetova B., Mussirov G., Borisova E., Dzholdosheva T.& Aetdinova R., 2020). The question of academic integrity of students arose earlier with the advent of distance learning and exams. With the help of modern technologies, the possibilities of deception are currently increasing. A study conducted by American scientists revealed the opinion of students that it is easier to" write off " that it is easier to study online during the exam than to study during the daytime (this approach was followed by 73% of students). In addition, according to research, students who take exams in the external control mode deceive teachers more than those who take full–time exams (King S. G., Guyette R. U., Piotrovsky S., 2009). The credibility of online learning is questionable due to the distance between students and teachers, suggesting that this may contribute to a violation of integrity (Moten, Locksmith, Mangal, Leonard and Brown, 2013). Berkey and Halfond (2015), studying the topic and problems of online courses, say that students are not honest during full–time training. According to research by scientists, most students believe that it is easier to cheat the Internet than traditional full–time education (Corrigan–Gibbs, H., Gupta, N., Northcutt, S., Cutrell, E., Tis, U., 2015). A survey of students found that a third consider fraud in any environment, while students showed that fraud in an online classroom is four times more. (Harbin, J. L. and Humphrey, P., 2013). Some studies aimed at the real behavior of students have given contradictory results. Most of the studies on the prevalence of fraud on the Internet were devoted to lessons during the day, and most of these studies were based on student calculations (Corrigan–Gibbs, H., Gupta, N., Northcutt, S., Cutrell, E., and Tis, W., 2015).

3 Material and methods of research

Research methods: analysis of scientific and pedagogical literature on the theory and practice of distance learning, questions of online learning, problems of online proctoring, observation, questioning, expert assessment, study of pedagogical experience of conducting the final test of students using an online proctoring system.

Proctoring allows you to increase the reliability and reliability of the results of diagnostics of students ' academic achievements. Proctors, as well as exam coordinators in the classroom, monitor the process so that participants follow the rules when taking online exams. With the development of digital technologies in education, proctoring is becoming more and more popular, and therefore it is necessary to continue studying the possibilities of optimizing this process.

220 1st–year students of the specialty "Economics", "Management and Management", "Business Informatics", "Accounting and Taxation", "Finance", "Information System" were selected for the study at the Kazakh Agrotechnical University named after S. Seifullin, where about 11,000 students' study.

The purpose of this study was to compare the test results of students studying in several groups of the same online training, where six out of ten groups used a proctoring system for at least one of their tests, and the remaining four groups of the course did not integrate a proctoring system to the tests.

We also compared the results of students in each section using the proctoring system and without it. Table 1 provides a brief description of the ten sections of the group and indicates that the tests for each subject consist of tests with and without proctoring.

Table 1–Conditions of five tests in different subjects for Saken Seifullin University students for the 2020–2021 academic year

Subjec / Group	Test a	Test b	Test c	Test d	Test e
1	U	U	U	U	U
2	U	P	U	P	U
3	P	P	P	P	P
4	U	U	P	P	U
5	U	U	U	U	U
6	U	U	U	U	U
7	U	U	U	U	U
8	U	P	U	U	U
9	U	P	U	U	U
10	P	P	P	U	U
P – proctored *U – unproctored* Note: Developed by the authors					

From fifteen to thirty students studied in each of the ten groups of this course in total, using the Examus proctoring program (https://ru.examus.net/), remote proctoring software that takes a student on video, blocks some unauthorized actions on the computer and records the students ' desktops during the test. Examus software uses proctors or teachers who review the records after the exam and identify possible situations of cheating.

Here are the violations that the proctor fixes with the help of "Examus":

- face recognition of a person in the frame;
- the presence of an outsider;
- voice detection;
- determining the direction of view;
- changing the active window on the computer;
- conversation during the exam;
- prohibited sites / software are used.

After the tests were completed, the videos from Examus were reviewed for violations of the rules or suspicious activity.
Students of all ten groups were informed that the tests should be conducted independently, without any notes or other resources allowed during the test.

The tests differed in terms of timing, number of questions, and proctoring, but they all covered the same material, and the questions were randomly taken from a common database of questions.

Table 2 – The total number of tests in 10 groups of Saken Seifullin University for the 2020–2021 academic year

Test a	Two tests (n=40) were performed with proctoring; eight tests (n=160) were performed without proctoring
Test b	Five tests (n=100) were performed with proctoring; five tests (n=100) were performed without proctoring
Test c	Three tests (n=60) were performed with proctoring; seven tests (n=140) were performed without proctoring
Test d	Three tests (n=60) were performed with proctoring; seven tests (n=140) were performed without proctoring
Test e	One test (n=20) was performed with proctoring; nine tests (n=180) were performed without proctoring
Test a (on the subject of ICT) Test b (on the subject of mathematics) Test c (by subject Kazakh (Russian) language) Test d (on the subject of political science and sociology) Test e (on the subject of a foreign language) Note: Developed by the authors	

Table 2 shows the number of tests conducted with and without proctoring. Out of the initial 220 students, 5 students failed at least 1 course test. The students ' test results were used in statistical analysis to assess the impact of proctoring on test results and the percentage of allotted time.

4 Data analysis

The impact of proctoring on student academic performance was evaluated using a linear mixed effects model (Verbeke & Molenberghs, 1997; Montgomery, 2013).

Linear model of mixed effects 1.

An alternative to variance analysis is regression analysis using mixed linear models. The essence of this method is as follows. The effects (factors) affecting an independent variable are conditionally divided into two types: fixed and random. There are sometimes disputes about the pedagogical and methodological aspects of dividing effects into given parts (Gelman, A., 2005).

The main object of interest is the variables between one or more independent variables that differ in their dependent value. Everything else–the temperature in the room, the time of day, the differences of individual objects, stimulating properties and other factors–is considered "noise" or an accidental error, the influence of which the experimenter tries to avoid all available methods. The main object of interest is the variables between one or more independent variables that differ in their dependent value. Everything else–the temperature in the room, the time of day, the differences of individual objects, stimulating properties and other factors–is considered "noise" or an accidental error, the influence of which the experimenter tries to avoid all available methods. These are the least important of the restrictions, which are almost never observed in practice, and their violations usually do not lead to significant problems (Gelman, H., 2007).

The main data requirements in the case of mixed models are the presence of groups of interrelated observations. In addition, mixed linear models require the same assumptions as conventional linear models:

- the effects in the model are additive, that is, the influence of one parameter does not depend on the level of another parameter;
- there is a linear relationship between the independent and the dependent variable;
- the errors (residuals) have equal variance and are distributed normally.

The following fixed effects were included in the mixed regression model: the number of observations, the number of subjects, the number of questions of the subject, the number of students, the correctness of the answer. The mixed linear model extends the general linear model, which allows you to display the interrelated and non–constant variability of data. The mixed linear model provides flexibility for modeling not only data averages, but also variances and covariances.

$$y_{ijk} = \mu_k + \beta_P I_{ijk} + \beta_Q Q_{ik} + \delta_i + \gamma_{ij} + \epsilon_{ijk} \quad (1)$$

where we model the *k*–th test score for the *j*–th student in the *i*–th section, meaning the parametrization of the average test values, mccs that use non–core exams with 20 questions as a baseline. The terms of the model associated with fixed effects are defined by:

μ_k – average score on the k test without proctoring software and 20 questions (basic level), β_P- additive change of the base score when using video testing in the test, I_{ijk} -Indicator function for using proctoring software in the *k* test for student *j* in section *i*, β_Q - additive change of the base score for each additional question above the base, Q_{ik} - the number of questions exceeding the base value of 20 on the *k* test in section *i*.

Random effects (factors) $\delta_i, \gamma_{ij}, \epsilon_{ijk}$ are given as follows:

$$cov(X,Y) = \frac{1}{n}\sum_{i=1}^{n}(X_i - \bar{X})(Y_i - \bar{Y}) \quad (2)$$

where the average value of the samples is determined by the formulas $\bar{X} = \frac{1}{n}\sum_{i=1}^{n} X_i$, $\bar{Y} = \frac{1}{n}\sum_{i=1}^{n} Y_i$.

$$cov(X,Y) = \begin{cases} 0, & i \neq l \ section, j \neq m \ student, k \neq n \ test \\ \sigma^2_s, & i \neq l \ section, j \neq m \ student, k = n \ test \\ \sigma^2 + \sigma^2_s, i \neq l \ section, j = m \ student, k = n \ test \\ \sigma^2 + \sigma^2 + \sigma^2_s, i = l \ section, j = m \ student, k = n \ test \end{cases}$$

It was suggested that academic integrity is associated with additional time spent searching for prohibited reference materials. To study the impact of the online proctoring system on the time spent on performing tests, we applied a linear model of mixed effects to the percentage of allotted time. The metric used in modeling the differences in time use was the percentage of allocated time used by the student; this is done to maintain a consistent interpretation with a different number of questions and the time allowed in different sections. The model selection and diagnostics were carried out in the same way as in the model for test scores, and the model covariances and random effects for the selected model turned out to be identical to the structure described in Equation 1. The model for the percentage of time spent corresponds to the form:

Linear model of mixed effects 2.

$$z_{ijk} = \mu_k + \beta_P I_{ijk} + \beta_Q Q_{ik} + \delta_i + \gamma_{ij} + \epsilon_{ijk} \quad (3)$$

Data analysis, visual graphics and calculations of linear mixed models were created using R software using the packages dplyr, ggplot2, nlme (R Core Team, 2014).

6 Results and discussion

6.1 Online survey of students

Among 150 full–time students (75 girls, 75 boys) of the Kazakh Agrotechnical University named after S. Seifullin in the format of an anonymous survey (by means of forms docs.google.com test) a study was conducted, as a result of which the pros and cons of distance education were analyzed. According to the form, the questions were divided into open–a free answer, for example, "What do you think to do after studying at a university?" and closed–the answer is to choose from several statements offered in the questionnaire. Open–ended questions provide more in–depth information, but with a large number of questionnaires, they lead to significant difficulties in processing due to the non–standard answers. Table 3 shows statistics on the answers to the question about the desire of students to use distance education.

Table 3–Statistics of answers to question No.1

Would you like to take written exams and final tests remotely and at a convenient time?	total	%
yes	132	88
no	18	12
I find it difficult to answer	0	0

Only 12% of students would like to take various forms of final certification in the traditional form, when students and the teacher gather at the same time in the classroom and the long process of passing an exam or test begins. The remaining 88% of students would like to take exams in a comfortable environment and at any time convenient for them. People organize their time in different ways and, it can be assumed that everyone has their most favorable time for passing an important test.

Table 4–Statistics of answers to question No.2

On average, how many disciplines per semester include testing on the platform Platonus (https://platonus.kazatu.kz/)?	total	%
1	0	0
2	0	0
more than 2	100	100

Statistics on the average number of disciplines on the Platonus platform per semester are presented in Table 4.

Based on the answers to this question, we can draw the following conclusions that the student passes all exams on the Platonus educational platform. Table 5 shows the ratio of students who rely only on their knowledge during testing, and students who use additional sources of information.

Table 5–Statistics of answers to question No.3

Do you rely only on your own knowledge during testing?	total	%
yes	98	65
no	52	35
I find it difficult to answer	0	0

An analysis of the survey results shows that two–thirds of students use additional sources, which is during a regular exam, which some teachers consider a violation. Statistics on the actions that students resort to during testing are presented in Table 6.

Table 6–Statistics of answers to question No.4

What actions did you resort to during testing?	total	%
None of the above	12	8
Other people's help	39	26
Use of lecture materials	48	32
Search for information on the Internet	51	34

This table shows the following statistics: 26% of the surveyed students resorted to the help of other people during testing, 34% use the Internet during testing to find answers to questions and 32% of the respondents use lecture materials. All these actions are usually violations of the rules of behavior on a traditional exam. Only 8% said that they had not resorted to any of the previously listed actions. Table 7 shows statistics on students ' compliance with the rules for passing remote testing, provided that they will be monitored by video surveillance.

Table 7–Statistics of answers to question No.5

Would you follow the rules for passing remote testing if you were being monitored by video surveillance during testing?	total	%
yes	129	86
no	21	14
I find it difficult to answer	0	0

The statistics presented in the diagram allows us to conclude that 86% of the surveyed students, realizing that they are being monitored by video surveillance, will not take actions that are violations of the rules of testing. Students have heard both positive and negative reviews about the distance education system (62%). Only negative reviews were highlighted by 13% and only positive ones by 25%, which indicates an ambiguous attitude of students to the distance education system (Table 8).

Table 8–Statistics of answers to question No.6

What reviews have you heard about distance education?	total	%
only positive	38	25
both positive and negative	93	62
only negative	19	13
I didn't hear anything	0	0

Students highlight the freedom and flexibility of learning as the main advantage of distance education, 86.5% of respondents answered this way, which fully confirms our hypothesis. Also, 60% of individual training and 45% of the availability of training for any person are identified as positive aspects (Table 9).

Table 9–Statistics of answers to question No.7

What positive features can you identify in the distance education system?	total	%
Teaching disciplines at an individual pace	91	60
Freedom and flexibility of learning	130	86,5
Accessibility of training for any person	113	45
Technological effectiveness of the educational process	23	15
The opportunity to work in a comfortable environment	46	31
Availability of training materials	48	32
Communication speed	36	24
The opportunity to work with each student individually	32	21

Table 10–Statistics of answers to question No.8

What negative features can you identify in the distance education system?	total	%
lack of practical knowledge	134	89
written form of answers to tasks	97	65
electronic courses or programs are not well developed	15	15

lack of regular monitoring of students the	23	31
need to understand digital technologies	48	32
lack of personal communication	81	54

The main disadvantage of distance learning is the lack of practical training (66%). 34% noted the lack of control over the student. Among the negative features that can be identified in the distance education system, the first place is occupied by a lack of practical knowledge, 89% of respondents answered this way.

Among the negative signs, the second place is taken by the written form of answers (31.3%), which is not always convenient for the student. For many students, it is easier to "live" communication with the teacher. And the third place is taken by the lack of personal communication, as well as communication with other students (54%) (Table 10).

Students were asked to evaluate the main features of distance education on a ten–point scale. As a result of the distribution of answers, the following results were obtained:

- parallelism – 10 points.
- flexibility – 9 points;
- asynchrony – 8.1 points;
- long–term exposure – 7.8 points;
- profitability – 5 points;
- modularity – 4.5 points.

The main advantage of distance learning is that it can be carried out when combining the main professional activity with study, i.e. "on–the–job production". Students offered such implementations into the distance education system as practical classes and strengthening the server of the educational institution.

6.2 Studies of the influence of the proctoring system on the results of online tests

In online and distance learning, the issue of an objective assessment of knowledge is acute. Online education continues to grow, creating opportunities and difficulties for students and teachers. One of the difficulties is the perception that the academic integrity associated with online tests is being compromised due to undetected fraud that gives artificially higher scores. To solve these problems, an online proctoring system was developed to eliminate and prevent academic dishonesty.

Figure 1 – Test results (%) in ten groups (Group 1 – Group 10), colored by the proctoring status.

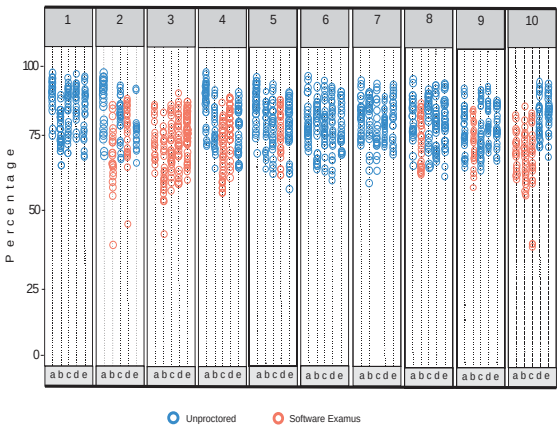
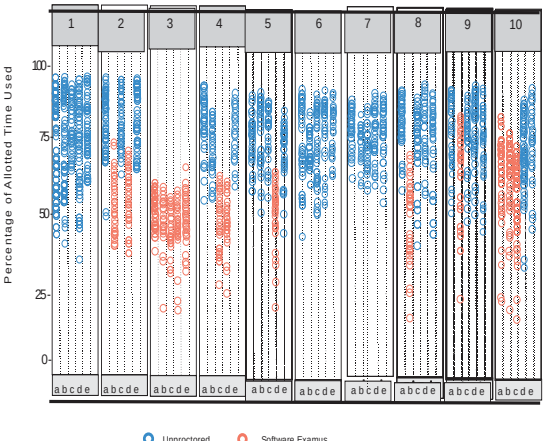


Figure 1 visually presents the results and time obtained on the tests in each group, and is colored to emphasize the proctoring status of each test group. The average results of tests with a proctoring system and tests without proctoring were 79.3% and 90.8%. The average percentage of allocated time spent on tests with proctoring was 40.4%, and tests without proctoring – 60.2%. This shows that students spent about more than half of the time passing the proctoring system compared to tests without proctoring. Tests with proctoring (red), as a rule, scored less points and took less time than tests without a proctoring system (blue). (Figure 1, Figure 2).

Figure 2 – Results (time used in % of the allotted time) in ten groups (Group 1 – Group 10), colored by the proctoring status.



Note–developed by the authors

A complete list of statistical data on test results and the percentage of allotted time used in proctoring groups is given in Table 11.

Table 11–List of statistical data on test results

Type of exam	Test results (%)	Average value of time used (% of the specified time)	Numbero f tests	Number of students
Without an online proctoring system	90,8	60,2	36	833
With proctoring (with video monitoring) (Software Examus)	79,3	40,4	14	327

The initial average values for tests from 1 to 5, with tests without proctoring (20 questions), were: 89.7, 87.8, 83.4 and 84.8, respectively. This explains the general differences in difficulty, when the first two tests were less difficult than the last three.

Fixed Effect	Linear model 1	Estimation	Confidence Interval (95%)
Test 1	y_1	88.77	(86.87, 91.20)
Test 2	y_2	88.81	(83.87, 91.14)
Test 3	y_3	82.37	(80.87, 85.12)
Test 4	y_4	84.70	(80.17, 87.26)
Test 5	y_5	80.63	(76.92, 84.17)
Proctored (protected by software or response monitor) effect	β_P	–18.23	(–16.62, – 9.83)
Additional questions effect	β_Q	0.35	(0.21; 0.41)

Random Effect	Variation	Estimation of variance	Percentage of total variance
Section	σ^2	10.1	11.2 %
Student	σ^2	28.3	31.3 %
Residual error	σ^2	52.0	57.5 %

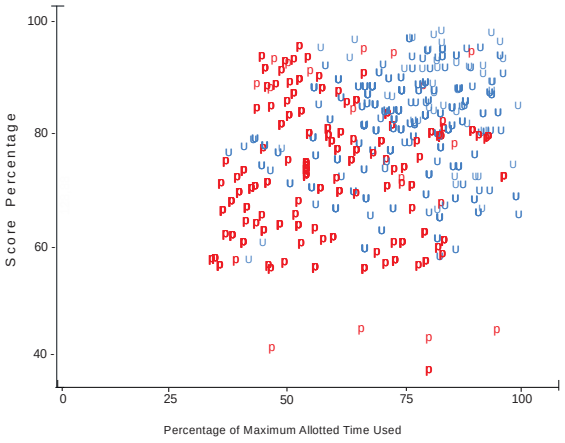
The results of linear mixed–effects models for test scores and the percentage of allotted time used show that the unprocessed tests had significantly higher scores and took significantly longer than the processed tests, while controlling the order of the tests and the number of questions. Table 12–Established coefficients and variance estimates for the linear mixed effects model for the percentage values of test results parameterized in the equation of model 1. The proctoring system not only affected the test results, but also affected how long it would take students to complete the test. The basic tests, consisting of 20 questions without proctoring, show that students need more time to complete subsequent exams. The number of questions did not significantly affect the percentage of time allotted.

Table 13–Established coefficients and variance estimates for the linear mixed effects model as a percentage of the allotted time spent on tests, as indicated in the equation of model 2

Fixed Effect	Linear model 2	Estimation	95% confidence interval
Test 1	z_1	56.10	(46.05; 66.16)
Test 2	z_2	69.67	(58.87; 80.48)
Test 3	z_3	71.43	(60.80; 82.06)
Test 4	z_4	70.50	(59.50; 81.49)
Test 5	z_5	70.50	(59.50; 81.49)
Proctored	β_P	–30.53	(–35.69; –25.36)
Additional questions effect	β_Q	–0.01	(–0.20; 0.18)
Random Effect	Variation	Estimation	Percentage of total variance
Section	σ^2	180.79	28.2 %
Student	σ^2	128.53	21.2 %
Residual error	σ^2	207.19	39.8 %

Note: Developed by the authors

Figure 3. Graph of the test score (%) compared to the amount of time used (%max.) for all the sections combined. The scores correspond to the students in the sections that were processed with the Examus software (blue U), or without the Examus software (Red P).



The results of linear mixed effects models for test results show that the percentage of time used in tests without proctoring scored higher and takes significantly longer than in proctoring tests. We see a clear difference in the testing behavior in Figure 2, which shows the scatter plot of test results and the percentage of allocated time spent with the proctoring status. These findings are that students are looking for prohibited reference materials during testing, and non–compliance with academic integrity is often found in exams.

7 Discussion

Test results are not the only component that takes into account student grades, case studies, homework and other types of work – all this contributed to the final grade in this course. However, the striking difference in scores from tests with proctoring and without proctoring seems to have significantly affected the final scores, as evidenced by the different distributions of final scores. Sixty–five percent of all students in the sections with only tests without proctoring received an A, while 17 % of all students in the sections with tests with proctoring received an A.

8 Conclusion

Thus, the analysis showed:

- a distance learning student does not like the lack of practical classes, but still, if possible, he would not change the form of training;
- the student likes the opportunity to combine the freedom and flexibility of learning with work;
- at the moment, the evaluation activities of distance learning do not achieve the expected results, since most students violate the rules of the distance testing procedure. This is due to the problems of verifying the student and recognizing his behavior during testing;
- test scores of 220 students studying in several sections of the online course were compared using linear models of mixed effects. Students scored an average of 11 points less and used significantly less time in online tests that used proctoring software, compared to tests without proctoring. Significant differences in grades and different use of time occurred on different exams, as within the same course, where some students used the software for testing, and others did not;

Practice shows that the number of violations on the part of exam takers with proctoring is significantly less than without a proctoring system. In disputable situations, the university receives material evidence in the event of an appeal, and students treat the examination procedure more responsibly. Such opportunities are opened by the proctoring technology, which requires further development and wide implementation in all universities of Kazakhstan.

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Primary Paper Section: A

Secondary Paper Section: AM

INFORMATION TECHNOLOGY IN LANGUAGE TEACHING METHODOLOGY COURSE AT PEDAGOGICAL UNIVERSITY

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Abstract: The introduction of information and communications technology (ICT) in pedagogical universities of Ukraine has considerably optimized the professor's preparation for different forms of in-class teaching. The aim of this research is to characterize the range of media resources used during the preparation of the teaching foreign languages methodology course at high-specialized school and universities of Ukraine. The predominant method used to check the effectiveness of ICT was content analysis. The method of psychological experiment served to study the link between ICT and the students' emotional sphere. An anonymous poll has discovered a considerable number of students showing a positive attitude to online instruments and using those resources very frequently or almost every day.

Keywords: foreign language, information and communications technology, media platform, methods, student of a Ukrainian pedagogical university, teaching, tertiary education.

1 Introduction

1.1 The topicality of the research

The development of digital technology has caused a rapid digitalization of the learning process in the Ukrainian pedagogical universities. Systemic introduction of computer-assisted language learning technology in teaching foreign languages for pedagogical university students is the appropriate response to COVID-19 pandemic-related challenges and the need for implementation of distance learning by higher pedagogical education establishments in 2020-2021. Foreign language teachers using a vast spectrum of media instruments provided to support the methodological content have empowered the theoretical groundwork of their courses. Consequently, this has led to the previously developed methodological paradigm itself transforming. Similarly, the technological progress has irrefutably unleashed a new vista of integrating previously purely singular and personal teaching methods into the wider usage, which has raised the quality of the entire field. Using certain elements of information and communications systems to prepare for lectures, seminars, and practical lessons has made the teacher to overhaul the approaches and the structure of their personal preparatory work, with the increased time for professional growth, the reduced psychological pressure and moral burden being other side advantages. On the other hand, studying the methodological component online has allowed a master's degree student, a trainee foreign language teacher, to build their own educational trajectory relying on the transparent "professor – student" subject-subject communication mechanism and providing for personal needs. It is worth mentioning that a certain number of Master's students combine their studies with professional activities in the establishments of general secondary education. The distance learning has contributed to getting the most out of the methodological courses as well as high personal motivation and optimized time consumption, while professional work in the field has allowed the students to practice and hone their skills immediately after their acquirement. Besides, introducing the quarantine and restrictive counter-epidemic measures aimed to prevent the spread of COVID-19 acute respiratory disease caused by SARS-COV-2 coronavirus likewise contributed to creating a suitable educational environment with minimal losses.

The Ukrainian society of the early 21st century views a foreign language teacher in the context of new challenges of our modernity. Where the theoretical base is considered, the teacher is expected to function as a high-level researcher operating the knowledge from pedagogy, psychology, inclusive education, theory of language communication, lingual-cultural studies, neuro- and psycholinguistics, together with learning and teaching principles and strategies. The communicative competence sets the demand for the teacher to be an experienced communicator able to find an individual approach to every student according to the latter's ethnic, social and cultural standards, psychophysiological traits, and educational needs. The educator needs to create a well-meaning and thus favourable atmosphere during the lesson. The expected outcome of this interaction should be voluntary and natural breaking of the psychological barrier by the secondary student, and their introduction to productive cooperation based on deep trust. The level of the methodological training allows qualifying a teacher as a professional tutor and instructor using all instruments and means for enabling the student to understand and internalize the learning material on the basis of stable interest and internal motivation for mastering a foreign language. One of integral constituents of a fully-fledged methodological competence of this professional aiming at mastering a range of "all possible interaction models of phenomena, processes, relations and links within the sphere of teaching foreign languages" (Tarnopolsky, 2020, 9) is motivated use of digital instruments for productive educational management.

1.2 Problem stating and analysis of previous studies

Systematic usage of media instruments in providing the foreign language teaching methodology course contributes to the successful training of Master's students – trainee teachers in the Ukrainian pedagogical universities. That is why the issue of the link between effective educational process time management and information and communications technologies (ICT) is of special importance and topicality in the modern reality. The problem of creating a productive mechanism of combining them for work in bilaterally-oriented dimensions "professor ↔ student" and "teacher ↔ pupil" directed at training all language skills, together with the issue of the ICT's place in the life-long personal growth of a professor, a teacher, and a student belong to the sphere of intense interest of the Ukrainian theoretical pedagogues, practical methodology specialists, philologists, and psychologists of the 21st century. For instance, the experience and prospects of using the Internet in learning a foreign language are outlined by Nataliia Nasonova (Nasonova, 2008), the specificity of using multimedia presentations and their potential for teaching a foreign language are specified by Inna Tryhub (Tryhub, 2014), the ICT's role as a component of the innovative training of a modern foreign language teachers is characterized by Vitalii Boychuk, Volodymyr Umanez, Andrii Bezuglyi (Bezuglyi, Boychuk, Umanez, 2018), and Yuliia Rudnik (Rudnik, 2014). The works of Olha Strelnyk (Strelnyk, 2019) and Iryna Kohut (Kohut, 2018) deal with the influence of media technologies on the formation of new professional competences of a foreign language teacher. Liliia Morska (Morska, 2007) likewise Oleg Tarnopolsky and Maryna Kabanova (Tarnopolsky, 2020) set the theoretical groundwork for effective teaching of foreign languages in the Ukrainian environment. Alla Kulichenko and Yurii Polyezhayev (Kulichenko, Polyezhayev, 2020) outline the importance of innovative ICT in teaching foreign languages to students majoring in medicine. The specificity of using certain online instruments in teaching foreign language is described by some overseas scholars, particularly Dafne Gonzalez (2003) and Graham Stanley (2005).

The aim of this research is to locate a range of ICT usable within the framework of the course of foreign language teaching methodology for Master's degree students of the Ukrainian pedagogical universities and to ascertain the effectiveness of these technologies in developing various language skills of trainee foreign language teachers. This aim calls for reaching several goals, the most important ones being showcasing online instruments for working with management and technologies in teaching foreign languages in their synchronic and diachronic cross-section, and also the mechanism of introducing ICT while

forming the foreign language communicative competence of a higher pedagogical education student

2 Materials and Methods

The study is based on the method of content monitoring that, during 2021-2022, enabled the teacher and students in a mixed mode to trace most topical online catalogues and libraries, to pick most popular services for preparing for discussion lectures, seminars, and methodological practical lessons, to select training and testing podcasts, audio-visual materials according to the personal proficiency level in English / German as a foreign language. Using the elements of content monitoring allowed the teacher to use professional online forums, chats, and methodological platforms for sharing the experience of using media services by teachers of the Ukrainian establishments of higher education. For Master's students, using content analysis opened a new prospect of comparative analysis of textbooks and syllabi currently in use in high specialized and higher school of Ukraine and, on the other hand, available authentic teaching materials in the aspect of orientation towards forming the key competences. Besides that, content analysis was essential for Master's students practicing skills of foreign language communicative competence in various types of language use. The introduction of a psychological experiment, more specifically, an online poll and gradual scaling method was implemented after the completion of the course by Master's students, in 2021, in order to locate positive / negative motivation of trainee foreign language teachers for using the ICT potential in their professional activities at the establishments of comprehensive secondary education and to ascertain attitudes of the students to specific media resources while working on the methodology course. The respondents were the philology students (100 persons in total).

3 Results and Discussions

Reaching the goals of studying a foreign language and successful internalization of the language are impossible without taking into the account the requirements of the modern scientific knowledge paradigm. Productive mastery of a range of didactic principles and approaches is similarly dependent on topical trends in teaching linguistic disciplines.

Anthropocentrism. For a student, individualizing the education process is the core criterion in choosing both a professional training programme and the higher educational establishment in general. The autonomy of the Ukrainian establishments of higher education offers the prospect of introducing an individual education trajectory and the possibility of adapting the schedule with minimal losses in time and moral resources. The logical outcome of such a personalized approach is the growth in quality of learning achievements. The student's motivation increases and becomes result-oriented. The student-centred nature of the Ukrainian pedagogical universities and their differentiated approach to teaching allows the professor and the student to concentrate their efforts on forming professional (didactic, linguistic, speech, sociocultural, sociolinguistic, literary criticism, comparative, research) competences of the teacher – the core of their professiogramme, – efficient usage of which contributes to life-long education.

Information Competence. Exponential growth of data amounts in the early 21st century creates a need for instilling information culture in both the professor and the student. There is an urgent need for improving the readiness and ability of the teacher to select and order materials needed for a specific topic. It is also worth honing the practical skills of using a vast array of technical means of processing the teaching content. Undoubtedly, it calls for personal responsibility and high information competence of a Master's student, a trainee foreign language teacher. Judicial use of ICT both during the introduction stage and the main part of education process can simultaneously simplify and empower communication on the intersubjective level.

Communicative approach. The human-centred focus of the modern scientific knowledge paradigm includes systemic usage of bilateral-oriented subject-subject principle in learning a foreign language when mastering a linguistic structure happens while using this very structure by means of specific language exponents in the communication. By means of ICT, the speaker (professor ↔ student) can carry out a critical analysis / self-analysis and correction / self-correction (professor→ ICT ← student) of all language skills directly in the framework of the training activity. Combining different forms of work according to the communicative principle with the help of ICT (brainstorming, case technology, the method of problem situation, project work) improves the teaching process's ergonomics ensuring its continuity and reproducibility on each stage. It is ICT that allows to create suitable conditions for these procedures, provided that the professor is sufficiently determined in their preparation.

CLIL, English / German as medium of instruction methods in teaching foreign languages. English as lingua franca, the language of international communication (CEFR, 2020), as well as German play an essential role in training students of the Ukrainian establishments of higher education as an instrument for obtaining knowledge, acquiring skills in other disciplines. That is why getting the students acquainted with these techniques within the teaching methodology course should deepen their professional training and form ability to organize and give lessons of binary, dual and mixed types together with a subject teacher of a secondary education establishment. CLIL-oriented approach in teaching a foreign language to Master's students of the Ukrainian pedagogical universities provides them with professional terminology empowering the communicative professiogramme and practical professional skills.

English / German for Specific Purposes in the course of foreign language teaching methodology. One of topical modern challenges is the combination of general theoretical facts about the foreign language structure with their specific usage is specialized fields of science. Introducing the module satisfies the requirement for narrow specialists oriented at communicative tasks of a specific field (e.g. EPP: English for Professional Purposes) or an establishment of higher education as a scientific and academic institution (e.g. EAP: English for Academic Purposes). The logical conclusion of this module is a higher level of formation of professional, in particular, linguistic, sociocultural, and sociolinguistic competences of a graduate of higher education establishments of Ukraine, their readiness to work in ambiguous conditions of the ever-changing world. Such a specialist can flexibly use the learned language in its written and oral forms considering its genre and stylistic types, registers of communication, has a sufficient level of ethnocultural / thematic background information, is able to perform situational communication in both the national and international environments, constantly works for the improvement of personal expertise. Thus, it is mostly about the relevance of a highly qualified professional on the Ukrainian labour market of the 21st century.

The course of methodology of foreign language teaching at high-specialized school and university consists of 3 ECTS credits (90 hours), where the teaching and methodological content is grouped in 2 content modules. Each integrates lectures, seminars, and individual methodology practice. At the end of each module students prove their level of obtained knowledge by means of a module test. The final course activity is a complex test work – a defence of an individual methodological portfolio.

Content module 1 "Methodology of teaching foreign languages" integrates the basic information of theoretical and methodological nature within its 3 topics. Every topic of this module starts with a distance Zoom-based lecture. The seminars are provided using the media resource Google Meet enabling the participants of the education process to create a productive online discussion, review and discuss materials prepared by students, send them to the corporate e-mail box of the correspondent department of the pedagogical university.

Topic 1 “Methodology of Teaching Foreign Languages in the Synchronic and Diachronic Cross-Section” is a problem lecture-visualization using a professor-created Power Point presentation, which shows the mutual connections between the methodology course and other courses of linguistic, literary criticism, and pedagogical cycles. The lecture provides a characteristic of the development of methodology in the historical perspective, modern classifications of didactic principles and approaches, and ascertains leading methods of teaching foreign languages. During the lecture, the professor set discussion points, which were to be brainstormed in mini groups in Zoom waiting rooms with clear timing (2-3 min.). The students were required to design a common optimal solution for such problems as “Trace the connection between the principles of use of visual methods and scientism in teaching a foreign language”, “Show the advantages of using a grammar-translation approach in learning English as a Second / Foreign Language”, “Motivate using case technology in practicing academic writing skills”, “Which method of acquiring the first foreign language is optimal for an extravert student (an introvert)?”, “Is it sensible to use brainstorming in practicing a lexical topic with the fifth-year school students? Why?”, “Motivate the introduction of synesthetic elements during the beginner stage of teaching a foreign language to first-graders”, etc. Having designed the solution, the mini-group participants were to send the answers to the professor in the group chat and consequently to discuss their correctness. The result of Lecture 1 is understanding of concepts “method” and “methodology”, forming the skills of critical analysis of each of topical methods on the basis of comparative analysis of their advantages and drawbacks. The preparation of Master’s students for the seminar requires completing the following tasks: a) compiling notes on the historical development of foreign language teaching methodology and its connections with other pedagogical, linguistic and literary disciplines using the online resource teachingenglish.org.uk; b) preparing a presentation on the history of a chosen teaching approach in a mini-group of 2-3 participants using padlet.com.

Topic 2 “Management and Technologies in Teaching a Foreign Language” is implemented as a discussion lecture with elements of problem study where the professor presents stages and essence of planning teaching process according to the lesson’s aim, the structure of a foreign language lesson in re/productive skills development. A group discussion in the common chat with strict timing for answers has allowed specifying advantages, drawbacks, and functions of CLIL approach in the system of training the modern language teacher in Ukraine. Problem questions such as “Does adapting the teaching content influence the effectiveness of material acquisition during the lesson and why?”, “Show the specific features of teaching a foreign language for specific purposes nowadays”, “The role of individual professional self-development of a teacher” served as discussion points for the seminar. The core component of the discussion lecture is the review of information and communications technology in teaching a foreign language. Highlighting this aspect is possible through a presentation broadcast in Zoom and showing screenshots of the interface of various internet platforms used for preparing lessons in different types of foreign language competence. The result of Lecture 2 is internalizing the principles of using traditional / unconventional approaches to teaching a foreign language in a combination with different types on online instruments during the learning process. The preparation for the seminar of Lecture 2 requires: a) developing timings for lessons on receptive / productive skills using the resources of esol.britishcouncil.org, iSLCollective.com, esl-lounge.com, eslflow.com belonging to a specific lexical topic; b) a virtual overview of a chosen Ukrainian textbook in foreign language teaching methodology at higher school using padlet.com.

Topic 3 “Functional Approach to the Language and Teaching Language Aspects” as a lecture with problem material presentation shows the ways of forming phonetic / lexical / grammatical competence during which the teacher presents different exercises and activities aimed at improving those competences. Using problem questions such as “Does the work with unique authentic material (proverbs, phraseological and lacunar units) improve the lexical competence of a foreign language teacher?”, “Show the relations between practicing different grammar structures and improving grammar competence of the teacher” has focused the students’ attention on the importance of the acquirement of solid language skills. The result of Lecture 3 is internalizing the structure and specific features of learning the lexis and grammar of a foreign language. Preparation for the thematic seminar demands: a) creating a folder of authentic texts with unique language material (language clichés, phraseological units, folk riddles, superstitions, omens, lacunar units, etc.) for improving the student’s lexical competence. This folder is created, in particular, using online resources tefl.net, busyteacher.org; b) a set of tests for each competence created using the resources of ego4you.com, HotPotatoes, LearningApps.org, etc.

Content module 2 “Forming Foreign Language Communicative Competence” includes 4 topics outlining stages and specific features of language skills and related activities. Each topic offers a lecture and a seminar. The module lectures are organized using the platform Google Meet, while the seminars are Skype-based. Topic 4 “Forming Communicative Competence in Listening» as a discussion lecture covers the following points: methods and principles of teaching listening, types of audio materials and selection criteria on different stages of mastering a foreign language. Problem questions “Comment on the interrelations between listening and speaking skills”, “Is it important to adhere to the authenticity principle while teaching listening skills?” discussed by the professor and students in the group chat showed the balance in teaching various foreign language skills. At the end of Lecture 4, Master’s students have better understanding of setting up a listening lesson, specificities of using audio content depending on the lesson aim and objectives. The preparation for the seminar includes: a) compiling a set of authentic audio recordings with linguocultural content (clichés, phrasal units, folk riddles, superstitions, omens, lacunar units, etc.) by means of Kahoot!; b) preparing a video fragment (10-15 min.) of a student’s lesson in listening skills using OBS Studio software and Audacity audio editor; c) analysis of the level and specific features of the teaching material based on 5 chosen TED-talks recordings from ted.com; d) a presentation of 3 video fragments (5-7 min. each) of favourite films in a foreign language with a self-designed transcript of the characters’ speech (using YouTube).

Topic 5 “Forming foreign language communicative competence in reading” as a problem lecture orientates the students to the methods and principles of teaching reading, describes its main types and forms, provides the classification of tasks and criteria for selecting texts for teaching reading. During the online lecture, the following problem questions have been discussed in the collective chat: “Which reading skill/type is aimed at developing research (sociocultural, literary criticism) competence?”, “Do innovative, integrated forms of work for improving reading skills (audiobooks performed by famous writers and celebrities, reading promotion by sports stars, etc.) increase the students’ interest?”. The final part of Lecture 5 is learning the factors influencing the development of students’ reading skills and their correction. Preparation for the seminar includes: a) recording a video fragment (10-15 min.) of a reading skills lesson using OBS Studio software; b) creating a text folder (10 samples) of authentic linguocultural content using the web resources gutenberg.org and archive.org for different reading sub-skills; c) preparing one’s own translation of 3 text samples (350 words each) of different genres from the web resources gutenberg.org and archive.org, with the usage of ethnically-specific units (clichés, phrasal units, folk riddles, superstitions, omens, lacunar units, etc.).

Topic 6 “Forming Foreign Language Competence in Oral Speech” in the form of the discussion lecture aims to show the role and functions of monologue and dialogue speaking in communication, to provide the lesson stages and task types for speaking practice. During the lecture, the following problem questions have been discussed in the group chat: “Interrelation of

literary language and dialect (national) variant", "Tasks for Fluency". The final part of Lecture 6 is practicing the mechanism of setting up restricted and freer practice activities during a speaking lesson. Preparing for the seminar integrates a set of tasks: a) recording a video fragment (10-15 min.) of a speaking lesson using OBS Studio software; b) a set of authentic tongue-twisters for practicing the pronunciation of vowels, consonants, distinguishing monophthongs and diphthongs using the platforms eslspeaking.org, iSLcollective.com, esl-lounge.com, esl-Flow.com; c) creating a set of tasks for practicing free speaking (monologue / dialogue) using the online instruments and resources HotPotatoes, LearningApps.org, Kahoot!, cambridgeenglish.org, etc.; c) analysis of 3 chosen video fragments (5-7 min.) with star TV hosts or politicians (a news set, an interview with a celebrity, a talk show, etc.) with the focus on individual speech features (using the resources of ted.com, YouTube).

Topic 7 "Forming Foreign Language Communicative Competence in Writing" in the format of a presentation lecture shows different types and forms of writing, elucidates factors influencing the development of this competence. An integral lecture component is the chat discussions of the following points: "Are skills of clear formatting of a written message important in the modern epoch of the technical support provided by intellectual information systems?", "Can the modern means of communication substitute human grammar accuracy?" At the end of Lecture 7, the students are better able to differentiate between writing types and sub-skills, to understand their essential components and outline. The seminar preparation includes: a) developing an essay bank (8-10 samples) with different communication aims using the resources of tefl.net, busyteacher.org, teachingenglish.org.uk, esol.britishcouncil.org web-sites; b) presentation of extended (with didactic hand-outs) lesson plans (1 – in receptive skills and 1 – in productive skills) based on topics from high school syllabi (FRS, 2017) and using the online instruments found at iSLcollective.com, esl-lounge.com, esl-Flow.com, Google Docs; c) recording a video fragment (10-15 min.) of a student's own distance lesson in teaching writing using the resource grammarly.com (a screen recording is created using OBS Studio software); d) forming a set of communicative tasks (10-15 samples) for practicing writing skills based on high school topics and using ego4you.com, HotPotatoes, LearningApps.org, etc.; e) presentation of 5-7 samples of e-letters of different types (a letter to a foreign friend, an answer for a formal application letter, an inquiry for detailed information on college/university studies in a country which language is studied) with collective viewing and editing enabled via Google Docs and Padlet.

It is worth mentioning the importance of continuous professional development and digital competence in particular for the specialist during the course of foreign language teaching methodology. One of topical challenges, which arose in the early 21st century, is the professor's ability to be "on the same wavelength" with their students. It mostly has to do with the ability to keep the personal account in social networks (Facebook, Twitter, Instagram, etc.). In the professional plane, one should be able to create a personal blog / a personal mage / an academic repository, fill it with the appropriate content as a portfolio sample, upload it to a certain platform (for instance, using esol.britishcouncil.org); upkeep an effective mail exchange with the representatives of the world professional community for productive sharing and improvement of pedagogical and methodological experience; to register at a professional group website (ORCID, LinkedIn) for self-presentation of personal achievements; to take part in distant seminars, conferences, and professional forums providing high-quality oral and written communication; to practice life-long learning using different courses of professional development at international platforms such as cambridgeenglish.org, iSLcollective.com, esl-lounge.com, esl-Flow.com, prometheus.org.ua, BBC; to create personal audio/video content for methodological purposes (OBS Studio, Audacity, YouTube); to practice innovative interactive forms of work (method of neurolinguistic programming, brainstorming, problem situations, case technology, linguistic training sessions) in teaching foreign languages. The project activities of both the professor and the student deserve special attention as it requires the ability to do independent research work in the Internet, to select appropriate authentic materials, to work with (cloud) services for creating audio and video recordings, presentations, to discuss the projects and edit them collectively in a professional group. The outcome of such activities is the mutual enrichment with experience and increased teaching quality of each of the participants.

After the completion of the course in foreign language teaching methodology, in order to ascertain the skills of students in the ICT field, an online poll (Figure 1) was offered using the following form:

1. How often do I use online resources in preparing for my learning / teaching activities?
a) almost never;
b) once a week;
c) three times a week;
d) constantly, I do not imagine my preparation without the Internet;
e) your answer.

2. How well can I create a presentation?
a) with great difficulty, I almost never use it;
b) I can create a presentation with the help of my friends or groupmates;
c) easily;
d) I see no need in using presentations in my work;
e) your answer.

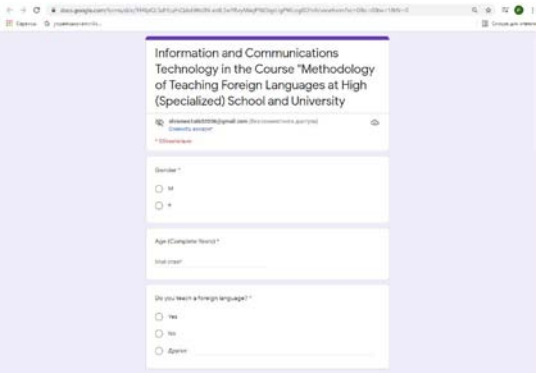
3. Do I use authentic materials from different online resources to prepare for different types of my lessons?
a) almost never;
b) rarely, a paper version is preferred;
c) sometimes when there is a real need;
d) constantly, cannot imagine my work without authentic materials;
e) your answer.

4. How often do I use video/audio content to raise my own language proficiency?
a) almost never;
b) rarely, when there is some free time;
c) sometimes, in case of real need;
d) constantly, I cannot imagine my life/work without authentic content;
e) your answer.

5. Do I create / upload my own teaching content in a foreign language to online resources?
a) never;
b) rarely;
c) sometimes;
d) constantly;
e) your answer.

6. What is my attitude to the necessity of having my own page in social networks / on professional platforms / creating my own blog / an e-portfolio, etc.?
a) positive;
b) wary;
d) I see no need in this;
d) negative;
e) your answer.

Figure 1. Information and Communications Technology in the Course “Methodology of Teaching Foreign Languages at High (Specialized) School and University”



Note: own questionnaire designed specifically for the research

The results of the experiment undertaken show that 78% of respondents constantly use online instruments for teaching a foreign language (or other subjects), while 22% of the interviewees try to combine the traditional format of studies (paper-based teaching materials) with media resources. Positive motivation for using Internet resources is found among 84% of respondents while 16% are wary about using them. Continuous development of personal language proficiency by means of media content is found among 68% of the respondents, the rest (32%) considers using online resources to complete a specific communication task. Only 21% of respondents are inclined to upload their self-designed materials to online platforms, while 79% are extremely cautious about that. 90% of the students participating in the poll have their own social media accounts, which shows their high level of social motivation.

4 Conclusions

Using ICT in the course of foreign language teaching methodology is an extremely powerful means of professional development of the teacher and simultaneously a topical instrument of teaching a foreign language at a pedagogical university of the early 21st century. Introducing online resources and platforms allows to plan the learning process more effectively and optimize it at high school and university levels, offers a vast array of techniques for sharing available authentic materials / producing self-designed teaching content, opens numerous prospects for professional development in different activities; it is a strong “bridge” for distance / extramural communication with students. All these factors show the importance of information and communications technology in the professional career of the Ukrainian school and university teacher on the modern labour market.

Thus, the paper does not highlight all the spectrum of the problems but contributes to the issue of interaction between professor and student via ICT in the up-to-date educational process, opening the perspective of its future all-embracing research.

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Primary Paper Section: A

Secondary Paper Section: AM

THE IMAGE OF THE WAR IN DONBAS IN WORKS OF CONTEMPORARY UKRAINIAN ARTISTS

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Abstract: The purpose of the article is to reconstruct images and symbols from the standpoints of hermeneutic and semiotic approaches in which the features of the war in Donbas (2014 - present) are expressed in works of contemporary Ukrainian artists. The analysis of works about the war in Donbas has shown that this topic is not singled out as an independent part in the studies of contemporary Ukrainian art and in the cycles of works by the authors themselves. War is not viewed only as an armed conflict: the authors primarily emphasize its moral side. Modern Ukrainian masters are in search of an artistic language capable of expressing the traumatic experience. The main themes of works of contemporary Ukrainian artists about the war in Donbas are 'war and man', 'war and its consequences', 'war and its symbols' ets.

Keywords: war in Donbas, contemporary Ukrainian art, the Soviet past, Luhansk oblast, Donetsk oblast, artistic image of the war in Donbass.

1 Introduction

The war in Donbas is an armed conflict in the territory of eastern oblasts of Ukraine, namely, Luhansk and Donetsk, which began in 2014, passed its active phase with many human losses in 2014-2015, and continues to the present day as simmering but not resolved. The conflict has been named in the media as 'war in Donbas', 'armed confrontation in Donbas', 'anti-terrorist operation', 'united forces operation', 'Russian aggression in Donbas' (official point of view of Ukraine), 'civil war in Donbas' (the point of view of the government of the Russian Federation) and others. Chronologically, the conflict began after protests and confrontation between the protesters and the government forces on the main square (Maidan Nezalezhnosti) in the capital of Ukraine, Kiev, in November 2013 - February 2014 (an event that, having received the name "Revolution of Dignity", or rather, its political end - the change of power - caused an ambiguous reaction in different regions of the country and abroad). On April 14, 2014, the leadership of Ukraine, which came to power after the events on the Maidan Nezalezhnosti, announced the start of the Anti-Terrorist Operation in Donbass with the involvement of the Armed Forces of Ukraine [The sixth anniversary, 14.04.2020].

Art workers are known to always actively respond to significant events in public life. They can feel and foresee trends because the grand purpose of art is to improve a person, society, life in general. Thus, works of art of various types and genres created during the World War II are widely known. The theme of the war in Donbas is also embodied in works of contemporary Ukrainian artists. At the same time, this war has several features (in comparison with the World War II chronologically preceding in this territory):

- the war in Donbas combines regular hostilities with elements of hybrid war;
- tension arose between peoples and states that used to be a part of one state entity, the USSR, several decades ago, i.e., they have quite a lot of common pages of history, common points of historical and cultural memory;
- the war has a local character and is characterized by insufficient involvement of a large part of society, their mental, emotional and physical remoteness from traumatic events. Significantly, A. Lozhkina called her article on contemporary Ukrainian art 'Between War and Rave' (Lozhkina 2019), and an art critic K. Yakovlenko wrote in 2015, 'It's quite difficult to imagine that the war has already been going on in the country for the second year' (Yakovlenko 2015).

In this regard, it is necessary to consider how, in what images and symbols these features of the war in Donbas find expression in works of modern Ukrainian artists, which is the purpose of this article.

The culturological and art history analysis of works on this topic is at an early stage. There are several reasons for this. These are, firstly, the incompleteness of military operations and the aforementioned detachment of a part of society from traumatic events, external to the sphere of art and cultural sciences, but affecting the atmosphere of research (and the socio-cultural background in general). Secondly, these are the reasons for the internal plan: insufficient time distance from the analyzed event with its perceived belonging to the transformational era, i.e. the initial pluralism and mobility of the author's aesthetic positions, which - due to the uncertainty of the range of interpretations of artistic searches in each individual case - creates objective difficulties for cultural generalization.

The available theoretical works on art about the war in Donbas can be grouped according to the following main thematic areas:

- an overview of exhibitions, biennials, presentations with the participation of contemporary Ukrainian artists ((Kryzhanivska 2016); (Davenport 2019); (Miller 2017));
- reflection of authors on their works (in interviews or articles) ((Kadan 2018); (Yakovlenko 2017));
- review and analytical articles about Ukrainian art after the events on the Maidan (Revolution of Dignity), where works about the war in Donbas are included as a logical and chronological component (Lozhkina 2019);
- articles about visual art in the context of the confrontation in Donbas (Bodnar 2019); (Glushko 2017); (Kurban 2017); (Nabok 2016); (Yatsymirska 2015));
- direct analysis of works about the war in Donbas ((Oliinyk 2017); (Prokopenko 2019); (Tymoshenko 2019)).

2 Materials and Methods

In this article, the works of the following contemporary Ukrainian artists have been selected for analysis: Nikita Kadan, Tudor Ion Stegarescu, Alevtina Kakhidze, Lesia Tyshchenko, Mykhailo Diachenko, Serhiy Pushchenko, Oleksiy Bondarenko, Oleh Shchupliak, Roman Mikhailov, Kateryna Yermolaieva. The main principle of their selection is the presence of artistic representations about the war in Donbas in works of these artists, and the citizenship of Ukraine. Cinematic, photographic, and literary works are outside the scope of this study.

The methodological basis of this article is the interpretation of works of art from the standpoint of hermeneutic and semiotic approaches. Methods of analysis and categorisation are applied.

A related purpose of the article is to test the hypothesis that the 21st-century art does not praise war and does not apply military categories to art. It is pacifist and non-violent. Even the most radical descriptions of cruelty and horror are aimed at criticizing them rather than justifying them (Rybkowska 2015, 132-133).

3 Results and Discussions

The works of Ukrainian artists about the war in Donbas are rather difficult to distinguish from the total amount of works from the post-Maidan period. This theme cannot be called dominant in contemporary Ukrainian art. Firstly, it should be noted that there are quite a few Ukrainian artists, representatives of figurative and realistic trends, who have addressed the theme of the war in Donbas. The reason might be that this conflict does not fit into the literal forms of rational objectivity. Nevertheless, Mykhailo Diachenko addressed the traditional themes of glorification of Ukrainian soldiers and perpetuating the memory of the fallen (the series of works Baptized by Fire. In Fire, Thunderers). An artist Serhiy Pushchenko called his album Portraits of Volunteer Fighters in the War, thus marking the phenomenon of the volunteer movement caused by the hostilities in Donbas. Oleh Shchupliak created works about the war in his former manner of optical illusion inspired by works of Giuseppe Arcimboldo and Salvador Dali. His series is dedicated to the

Maidan, and his works about the conflict in Donbas are a part of it and do not stand out as an independent cycle.

On the contrary, some artists working in a realistic manner in the pre-war period used abstract motives, symbolic forms, allegorical means of expressing ideas in their works during the period of the hostilities in Donbas. One of them is an artist Lesia Tyshchenko, a native of Luhansk oblast. She created her series of works based on the results of several trips to the anti-terrorist operation zone. Against a black background, we can see bursts of pure local colours, white, red, yellow and blue combinations. In terms of plots and performance, the works are close to the folk painting. The main theme is the struggle between good and evil. The good is presented in the images of a soldier with a patch in the form of the Ukrainian flag on the sleeve; a white bird; a girl; a bride. Evil is in the form of crows, fire, explosions, a bear in an attacking pose, etc. In contrast to the 'pre-war' works, the author's manner has acquired the character of a sketch; the composition became dynamic and asymmetrical. Religious symbols of Christianity are widely used: cross, icon, angel, priest.

The artist from Luhansk, Tudor Ion Stegarescu, has also dramatically changed his style of painting. He was living in this city during the most active phase of the hostilities. The events of 2014 in Donbas divided his work into two periods.

The first one, pre-war, is characterized by impressionistic works in the genre of landscape, still life, and infrequent experiments with colour and form in abstract painting. The picturesque component dominates over the graphic one. The artist has a subtle sense of colour making it resonant and rich in iridescence, accurately and realistically conveys the state, lighting, and material. Painting often spiritualizes a rather ordinary nature motive making it aesthetically attractive.

The second period that can be called the military cycle of T. I. Stegarescu's works is the natural reaction of a person who creates, thinks and feels to a tragedy that has become personal. The language of symbols of expressionism and abstract painting has become a method of objectifying experiences that helps to live.

In the 2014-2017 series of paintings, the author's inner state is conveyed by the instability of the composition, blurred spots of colour, colourful streaks, sharp lines, disappearance of the bright and vibrant palette of the pre-war period. The colour scheme is contrast, intense to the point of disharmony.

The work of 2014 Bearing the Cross (Fig. 1) can be recognised as outstanding in style, performance, content, composition, and even the title. The cross in the artistic tradition of the peoples of Christian culture most often symbolized suffering, martyrdom (crucifixion) or fate, inevitability, sometimes eternity. In the work of T. Stegarescu, the cross - the basis of the composition - symbolically sets (evokes in the viewer) two intersecting associative-semantic series: 1) the existential unity of the fate of the opposing sides: carrying ONE cross, and this carrying cannot be avoided, from the ONE cross and its weight (cross presses like a reinforced concrete beam, oppresses) not to get rid of it (especially since the characters are hung on a cross, pinned, forever (?) tied to him, alone); 2) at the same time, the multidirectional symmetry of efforts on the verge of human capabilities (oppositely directed movement of two human figures, a red dividing line, a blood line) - what is it: the desire to break the cross and be content with a part of it (half, which - not being whole - will turn out to be in a fateful plan, useless and meaningless) or the thirst to possess it entirely, pulling it over to its side - but then, it turns out, together with the "other side"? Divided in half - bloody at the place of a fault - the once single living space is read not so much as a place of collision, but as a place (and time) of rupture and emptiness: no contact, no desire for dialogue itself, no meeting - even meeting of eyes ... rush in opposite directions with the tenacity of Sisyphus ... Whoever they, the characters of T. Stegarescu, may be, for the viewer they are unhappy and doomed, unable to even look each other in the eyes, as has been customary from time immemorial, to meet face to face with the enemy, with trouble, with Fate ... The image of the cross-intersection: there is only one cross. Fate. War. According to the author, this image was inspired by his visit to a checkpoint, where the level of tension and danger is high.

As it is known, there is a black stone of meteorite origin built into the wall in the Kaaba that is sacred for Muslims. According to Islamic tradition, at first, that stone was white but turned black because of the sins of people. T. I. Stegarescu's Three Angels (2014) may be evidence of the distortion of the image of Trinity by Andrei Rublev. But we look at it through the dim glass of time filled with human sins.

Winter Sky over the City (2014) creates a feeling of an inverted reality (Fig. 2). We can see a devastated (almost surreal) land and an ominously coloured sky of war. The roar of aircraft and the explosions of shells are heard. Dry snow-covered sunflowers in the foreground are as an allegory of the Ukrainian land in the grip of the military conflict.

The motive of a lifeless space, a post-civilization that has outlived itself can be found in the works Winter Angel (2014), Post-Industrial Landscape (2015), White Ants (2015). And the harvest of souls passed away prematurely is depicted in Angel Picking Green Apples (2016).

Dream in the Open Air (2015) depicts a fragile truce, memories of silence and serenity of the pre-war past, and defenselessness at the same time. In the light spots in the foreground, one can see a kind of a female figure. From another point of view, these may be the remains of something organic, his/her eternal sleep.

Images of a tragedy, a new reality in the artist's life distorting his external and especially internal world are symbolic in his works. These are loneliness (Vienna Chair (2015)), winter (Winter Sleepwalker (2015), Summer Dream in Winter Garden (2014), a bullet (Still Life with a Bullet (2015)), people hiding from shelling in the cellar (Two in the Cellar (2014), Fig. 3), tripwire mines (Tripwires (2014), Fig. 4), stopped time (Wall Clock without Mechanism (2016)), dried flowers (Dry Roses (2014)), etc. Also, we can often find the motive of an angel without a face his works. This image does not carry a positive meaning. Similar objects and images (without faces) are known in the folk pagan art (Ukrainian motanka doll), in art history, e.g., surrealistic works of Giorgio de Chirico and Salvador Dali (a period when art turns to pre-Christian images and symbols again). Although images of angels were known in Judaism, still, it is an Orthodox icon that is the source of images of angels. The icon is often called just as 'holy face', for it is the faces of the depicted that are its most important component. It is known that it is not customary to depict saints side-faced in the Byzantine icon. Only negative characters are presented in this way. Christian iconography knows no faceless depictions of angels.

A motanka doll, being without a face, could attract the spirit of a deceased or an unborn person according to popular beliefs. But according to the philosophy of surrealism, faceless images expressed exeptional wisdom of realizing the limitations of rational thinking and understanding the meaning of absurdity for penetrating the essence of things. For Salvador Dali, such an image was a way to evoke a feeling of 'disturbing strangeness' (Bransky 1999, 485). In combination with the war theme, the image of an angel without a face is almost a ghost, a soul in confusion and sadness, not just strangeness but an organic expression of irrational death, an illogical phenomenon of fratricidal confrontation.

Portrait of Anaesthesiologist (2014) is an unexpected look at the problem of illness, pain (possibly injury). The viewers find themselves in the image of a patient, to whom consciousness returns after anaesthesia. The first thing they can see (we can see) is a face with glasses, a caring and attentive look of a doctor. But the reality, the environment is still blurry, fragments of images of drug-induced (delusional?) sleep still flicker in it.

Immortelles (2014) is a burst of hope. In the simplicity of alive dry wildflowers, there is a glimpse of colour and light, belief in the end of hard times, and a return from madness to spirituality.

Analysis and comparison of the works of two periods of Tudor Ion Stegarescu make it possible to determine the vectors of the war's influence of the war and the direct experience of the hostilities on the artist's work:

- the war changes the vector of creativity: we can characterize pre-war works as 'reflection' but wartime works are 'expression';
- the content and the theme of works are changing: charm and admiration are replaced by reflections of an existential and ontological nature; the author's works state uncertainty, reflections on death/life, danger, pain, uncertainty and transience of human existence, etc.
- the stylistics of the author's works is changing; his wartime works can be characterized as close to expressionism (as opposed to the impressionistic pre-war pictures), expressionistic avant-garde that was also historically born under conditions of tension and hostilities.

At the same time, the greatest attention to the topic of the war in Donbas is paid by Ukrainian representatives of conceptual, non-figurative, contemporary art.

One of the significant events in this area and on the topic considered in this article is the works of Nikita Kadan The Possessed Can Witness in the Court, Shelter, Victory. The author explains his creative method in the following way, 'passing through the present day (engaged in the 'museumification of modernity') before it is somehow described by certain professionals of historical and mythological construction' (Kadan 2018).

The Possessed Can Witness in the Court is a museum exposition of objects from the Soviet past. They are selected in contrast to the current events in Donbas. The author explains the title of his work in such a way, 'The possessed (of course, by the spirits of history) who can witness in the court (surely, we are talking about the court of history) is an invisible character in the work. He/she is driven by the released force of contradictions, which he/she directs for the sake of breaking any ideologised illusion of the "natural order" of historic events' (Kadan, 2018). Silent evidence of military exhibits is an exposition of suspended shells in the flight of the stairs of the National Museum of the History of Ukraine as one of the methods of talking with the viewer about traumatic events. Significantly, Nikita analyses the work about the war together with his works based on the materials of the repressions of 1937-1938, the events in Volyn and Lviv in 1941. The author considers it 'working with historical material'. His position is 'not to be one of the means of propaganda' and, at the same time, 'not to stay above the battle' but 'to direct the energy of wars against themselves'. That is, reflection about the present is woven into earlier facts and events of the history of Ukraine, 'a work of art becomes a 'stop-reminder' actualising those stories of the past that are capable of giving an intelligible political form to the present day' (Kadan, 2018). An analysis of the abovementioned works shows that, according to their author, the Soviet period (the Soviet past) is the culprit and the cause of the military events of the early 21st century in eastern Ukraine.

Nikita Kadan's Shelter (Fig. 5) is a two-tiered installation. On the upper tier, there are the ruins of the exposition of Donetsk Regional Museum of Local History complemented by car tires (a reference to the Maidan and the barricades), and on the lower tier on the two-tier shelf (looking like bunk beds), there are boxes with earth and sprouted agricultural plants along the perimeter of the volume. In both tiers of the installation, the Maidan and the war in Donbas are intertwined:

- on the upper tier: the broken ceiling and the damaged museum exposition as traces of the war, and tires as a sign of the barricades on the Maidan;
- on the lower tier: bunk beds from bomb shelters in the settlements of Donbas and mini-vegetable gardens from the protesters on the Maidan.

The title of the work Shelter is sarcasm. In fact, there is no shelter. Unresolved problems of the past and the present attack everywhere.

The art object Victory is a rethinking of Monument to Three Revolutions, the work of the Ukrainian artist of the early 20th century Vasyl Yermilov, its negative replica cleared of communist symbols. A new element is introduced into the composition as a symbol of war (two cups glued together with molten remains from a house destroyed by an artillery strike in Lysychansk). In the work, the cause of the military conflict of 2014 is named through symbols. These are the revolutions of the early 20th century under the flag of the communist ideology. Victory is both sarcasm and an indication of the need for victory over the Soviet past.

To understand his artistic method, Nikita Kadan offers the following allegory, 'Imagine a construction in which you constantly have to make changes to the foundation, while you are on the upper floors that are being endlessly finished' (Kadan, 2018). The author's position is historical and dialectical.

The next method of conversation with the viewer is the choice of a genre, which can be conventionally called a 'psychological visual reportage'. The Story of Strawberry Andreevna, or Zhdanovka 2014-2018 by Alevtina Kakhidze is an exposition of drawings-stories in the style of diary entries about the life of the artist's mother in Zhdanovka, Donetsk oblast, which is not controlled by the Ukrainian government, and the propaganda products of the self-proclaimed authorities. The artist is interested in the internal state of the characters, their assessment (bewilderment), the search for answers to questions, but not an external factor (chronology of the military events). These 'external' events are perceived 'by default'; they are 'out of question'. This can be called a reaction displacing traumatic events that have not yet become memories. A torn, multi-style reality does not make a coherent work. A common man is in the life-threatening propaganda noise of absurdity and hatred.

Such psychological and even psychosomatic depth is inherent in the installation in the Ukrainian pavilion at Venice Biennale 2015 'Synonym for 'wait''. As a reality, the video installation presented on one monitor an image from nine video cameras directed at the doors of the flats of Ukrainian servicemen being at that moment in the combat zone in Donbas. Each visitor could temporarily become a family member of the servicemen on the front, and personally feel the time burden of uncertainty through art. The impression was complemented by performance. The project authors sat down at the kitchen table in front of the monitor for a long time, peered at the screen in tense expectation, did not eat anything at that time, and only drank water. So, the topic of presence and absence, endurance, stamina, courage of a person in war was brought up. As José Ortega y Gasset put it, a work of art is an event that takes place in the soul of the viewer when communicating, interacting with the work of art.

Another aspect of the topic is the motive of personal memories, and the fate of the internally displaced persons forced to leave their homes in Luhansk or Donetsk oblasts because of the war. Kateryna Yermolaieva, a displaced person from Donetsk, proposed an artistic reconstruction of the places where she grew up: grandmother's house, parental home, and family summer cottage. The installation combines objects painted in an achromatic colour scheme, empty white spaces (as signs of oblivion of certain elements of the furnishings or events that have been erased from memory), and real objects of memory like grandmother's kerchief, perfume bottles, photographs, etc. This is not only an opportunity for the viewer to enter the artist's personal space. This is the pain of the gone, from which you are forcibly separated, and, at the same time, the sweetness and warmth of memories, reconstruction of the space, where you became who you are.

By his installation Burn of the Real (Fig. 6), the artist Roman Mikhailov draws attention to the suddenness of the war, its unexpected start for the overwhelming majority of the Ukrainian population. Unfortunately, this burn and the accompanying pain are a fait accompli.

An unexpected consequence of the bloody events in eastern Ukraine is the interest in the provincial cities of Donbas, the rise of local history, rediscovery of the province, provincial museums. As Alisa Lozhkina notes, whereas at the beginning of the 20th century, the future was the deity of avant-gardists, now the past is the fetish of contemporary Ukrainian artists (Lozhkina 2019).

In fact, the war in Donbas in Ukrainian art has become an occasion to reflect on the state of society, to rethink the relationship of Ukrainian society and culture with the past, present, and future. Artists are looking for an answer to the question why the war has become possible, although they do not say it. Artists do not reproduce real facts, do not submit reports from the front but focus on the human aspect of events. The war is perceived through the prism of a man. It is artists' attempt to resist the war, not on one side or the other, but to the image of the war as such.

Generally, it is clear that the events of the war in Donbas cannot be reflected by copying. This process is mediated by ideological constructs, images of historical and collective memory.

4 Conclusion

Thus, the analysis of works on the war in Donbas has shown that this topic is not singled out as an independent section in the studies of contemporary Ukrainian art and in the cycles of works by the authors themselves. It is presented along with the themes of decommunization, overcoming the Soviet heritage (first of all, in its mental form), events on the Maidan in 2013-2014, problems of the depressed regions of Luhansk and Donetsk oblasts, the political situation in the country as a whole. That is, reflections on the war in Donbas are mediated by ideological constructs, images of historical and collective memory. The war is not contemplated only as an armed conflict; authors emphasize its moral side. In works of artists, we can see not an image but a concept of this or that event. Modern Ukrainian masters are in search of an artistic language capable of expressing the traumatic experience.

The main trends in depicting the war in Donbas in Ukrainian art are:

- a change in the way authors express their thoughts in their works: the narrative is replaced by the fragmentation of consciousness and feelings, a discordant and disharmonious colour scheme; the artistic language of figurative and realistic painting (including impressionistic) ceases to be adequate to new sensations and impressions;
- shifting the semantics of images to non-military meanings, focusing on the sensory experience of the author, character, viewer;
- a chain of traumatic events of the past is being built, in which the war in Donbas is becoming a topical link;
- an imposition of reflection on the war in Donbas on the cultural trauma of the interethnic relations between Ukraine and Russia; expanding the context of the topic to the need to overcome the Soviet past and to form a new Ukrainian culture;
- an ambivalent character of artistic pictorial statements about the war in Donbas: the glorification of Ukrainian soldiers and volunteers in the 'friend-or-foe' opposition and, on the other hand, the desire to 'direct the energy of wars against themselves' (pacifist sentiments).

The main themes of works of contemporary Ukrainian artists about the war in Donbas are:

- war and man, his/her inner spiritual world, psychology, memory, experiences, memories;
- war and its consequences, burns, wounds;
- war and its symbols - bullet, winter, shrapnel, shells;
- war and its causes (Soviet past, Russian aggression).

These are the images found by artists to convey the concept of the 'war in Donbas':

- fire (as an ambivalent symbol in the 'friend-or-foe' system);
- time (through the past, present, future, expectation, presence, absence);
- an angel without a face (irrationality of the event);
- the Soviet past of Ukraine (subject, event, cultural memory);
- cross (suffering, the complexity of the situation mediated by the past that cannot be changed).

In general, it is not yet clear what imprint this war will leave on the group consciousness of the Ukrainians, and how much its events will be reflected in Ukrainian art in the long run.

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Primary Paper Section: A

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THE CRISIS OF SOCIETY AS A CRISIS OF THE CULT. ON THE QUEST FOR REMEDY

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Abstract: The study deals with progressive theatre work and their connection with the universal value system. Using the methods used – quasi-experiment, HO-PO-MO questionnaire, direct and indirect observation, expressive interpretation, content analysis – we examined the influence of the Forum Theatre on the value system of delinquent youth. It turned out that if the participants try to act in different situations, their empathy will change and they will start to look at their own and other people's problems from a different point of view. This will give them a personal experience that lasts much longer than the knowledge gained through theoretical learning.

Keywords: value system, delinquent youth, theatre, Forum Theatre

1 Theoretical background

Cult, culture, art

The overlaps between the art of music and/or theatre and interpretive practice are likely to be as old as humanity. Though one can hardly look into the prehistoric period (which is only possible in the historical period, i.e. reflecting on ourselves), it is particularly ethnology which offers indications suggesting that the earliest forms of theatre were rooted in a cult. By taking over the identities of other entities, a priest had to secure for himself and his community a protection by higher force, successful hunting, prosperity. From the moment when this activity won a spectator, hence God (deities, Powers) was no longer the "percipient", but also, and later exclusively, the percipient was human community, we cease talking about cult and talk about theatre.[1] Therefore, this contribution opens with reference to such depths of history, to highlight the tie of the cult and the mythical to theatre (of which music and dance seemed to be an inseparable part from the outset).[2]

The tie between the cult and what we later came to call culture is symptomatic for the whole of human history, or for humanity as such. Culture is linked to the cult by going beyond our own human horizon: this happens when we address higher powers within the cult, but also when we suppress lower motives within the intentions of culture. Therefore, it is considered cultural to cross one's personal boundaries for the benefit of someone else, to step out of the comfort zone of one's individualism. Here we think of the entire spectrum of attitudes, from freeing up a place to a pregnant woman on a bus to, for instance, sacrificing one's life for the benefit of another. Therefore, cultural – in its most prominent positions – has become synonymous with the sublime, transcendent, perfect. And that is why culture and art as its part have had such an important place in the religions throughout history. In art, we touch on something more perfect than ourselves. Something beyond us. In this sense, an artistic act has the same pedigree as a philanthropic attitude.

This relationship works both ways. While the cult has been staged in thousands of different forms throughout history, theatre is perceived as something of a cult, mystical. Impersonation into other identities is, in essence, related to magic or self-giving (according to the moral nature of a particular stage act).

It is therefore no coincidence theatre occupies such an important place in human history. Theatre has always been understood not merely as entertainment, but also as a means of learning, upbringing or re-education, and, over time and with the specialisation of scientific disciplines also as a therapeutic tool. If we still perceive its aforementioned kinship with a myth ("Who am I?", "Who wanted me to be?", "Where am I going?", "What's the point of it?" ...), naturally, we have to realise that its influence far exceeds the position of spectator's lose encounter with the stage illusion in theatre.

Universal value system

From times remembered, progressive theatre work has always been and remain bound to a universal value system:

- The system is inherent in every regular individual, whether or not he or she is aware of it;
- Under this system, all the values and objectives of the conduct are arranged in a hierarchy, with the most universal values and goals (truth, honour, love, family, occupation, health and the like) at the top;
- Society-wide value system is also the only point of view, from which one can clarify methodically and pertinently such imperative issues of our time, as some manifestations of the alienation of modern man, the emphasis on consumption, crisis of ideals, disorientation in choosing a profession, inability to organise one´s priorities in terms of the time available, etc.;
- The value system constitutes a dynamic and systematic (hence the "system") view to a fact that precludes the parallel existence of conflicting values.[3]

At the same time, a central value (defined according to the nature of the ideals of a particular society) serves as a reference point, "around which", as Miron Zelina puts it, other values "crystallise". Elsewhere, Zelina adds that, if a generally accepted value system is absent, other, often random influences will automatically prevail in the formation of an individual – such as the social context in which he or she operates, upbringing, education, schooling or professional focus.[4]

Where there is a lack of a value system, defects in interpersonal ties are also exacerbated, as individuals lack a common platform of opinion. Instead, they of a noble human identity, they take on lower-rank identities (such as professional or political affiliation) and, worse, pseudo-identity (for instance, man as a consumer). If the influence of value system is absent, the emerging personality has nothing to identify with and remains in psychological, social, intellectual and moral isolation.

Andrej Sičak argues that, while in traditional society man perceived himself as part of a hierarchically organised community and needed general categories such as family or homeland for his self-interpretation, in modern society he becomes the centre of self-interpretation and judges the outside world from this position only.[5]

Alas, market society does all in its might to develop in young people "pseudo-identity" of the consumer. A paradoxical situation has arisen: though we have such means of communication and such interpersonal connections as never before (social networks, advertising, television, etc.), they are not very important for the development of a value system in the relationship between an individual and society. Quite on the contrary: the means of communication become the bearers of confusion, which is supposed to programmatically divert one from building one's own identity. It is the phenomenon of online space that brings with it various other dangers: obtaining

[1] Brockett, O. G.: *History of Theatre* [Dejiny divadla]. Prague: Nakladatelství Lidové noviny, 2001, pp 7, 8.
[2] Černušák, G.: *History of European Music* [Dějiny evropské hudby]. Bratislava: Panton, 1964, pp 7, 8.
[3] Boroš, J.: 'Young Person and The Meaning of Life' [Mladý človek a zmysel života]. In *Osvetová práca*, 1990, 40.4, pp 9–11.
[4] Zelina, M.: *Strategies and Methods of Personality Development* [Stratégie a metódy rozvoja osobnosti], Bratislava: IRIS, 1996, s. 167.
[5] Sičak, A.: Specifics of Value Orientation of Youth and Older Generation in Current Social Eevents [Špecifiká hodnotovej orientácie mládeže a staršej generácie v súčasnom spoločenskom dianí]. In *Intergenerational Bridges – Entering the Year of Intergenerational Solidarity, Proceedings of Conference with International Participation, 10 November 2011 in Prešov* [Medzigeneračné mosty – vstupujeme do roka medzigeneračnej solidarity, Zborník príspevkov z konferencie s medzinárodnou účasťou 10. 11. 2011 v Prešove], pp 145–155.

personal passwords, spreading fraudulent chain messages, but also cyberbullying. Using modern means of communication, adolescents can insult, threaten or reveal intimate information to the public.[6] Inundating users with a large amount of information of various standards without determining their place in the hierarchy of importance creates, particularly in youth, a bad habit of successive understanding of reality, when reality comes across as a series of diverse perceptions of varied system and credibility, without being able to summarise their true value and context. Anything is presented as a bastion of rationality, even if for no legitimate reason. The user does not examine perceptions, or weighs them merely fragmentarily, emotionally, without a logical system of criteria. He or she is inundated and deceived by information smog. In the mind of the user, images at the top technical and often artistic level build a parallel media and IT reality, which further destabilises his true existential rooting. In such context, it is the individual without a firm value roots who becomes more of a consumer than an authentic personality.

Identity crisis – crisis of social ties

Identity crisis is a frequently discussed today. It is not merely a matter of academic discourse, but an issue one encounters daily, an issue that is literally palpable. On the one hand, population (as a system of individuals) is lost in the confusion of information overload; and, on the other hand, in the absence of criteria based on which to develop a reasonable opinion about the information. This crisis stems from the (almost) ubiquitous relativisation of traditional values. They are not understood here as ossified customary relics (as they are often interpreted by proponents of extreme liberalism), but in reference to the aforementioned foundations of human society as they have evolved throughout history.[7]

Existential (value) disorientation manifests itself in all age categories as a crisis of social ties. And it is not passive in nature (absence of value criteria), but actively–destructive (replacing values with pseudo-values, and patterns with pseudo- or anti-patterns).

The following list offers an anamnesis. The crisis of social ties is manifested by:

- The absence of multi-generational families, which could fuel the society with developmental dynamism with the natural authority and knowledge of the elderly and the yest and quest of the young;
- In the absence of functional single-generation families with a natural anchoring of children in male and female patterns of behaviour; [8]
- In the protective bubble of the pseudo-social agenda of single mothers[9] as "queen bees" (a woman supported by the general community as a single parent);[10]
- In the growing absence of relations at school, workplace and in all walks of life that are being replaced by the ideal of consumerism and formal image;
- In a poor state of "ecology of meaning" – because the meaning of existence cannot be sought in individual performance, but only in the collective existence of free individuals;
- In fleeing from a confusing and impersonal reality into realities that support illusions: the excessive use of social networks and assigning them an inflated (or distorted) meaning, or an escape to various types of delinquencies and addictions.

On the quest for solutions

As teachers, we encounter the consequences of these deformations not only in individual problematic cases, but in general: we are confronted daily with a minority of socially deranged youth, which has long been the majority. Amidst the current popular discussions of inclusion a question arises: What is the norm from which minorities deviate? Do we at all still have anything deemed as "normal" standard?
In an effort to respond to all these issues of concern, the Department of Music at the Faculty of Education of the Constantine the Philosopher University in Nitra (Slovakia) decided to look for a target group in which the above issues would be apparently present (i.e. a representative target group), and then look for the methods that would enable identification of and application of solutions to these pressing issues. Resocialisation seems to be the ay out. In the light of the above, it was important to precisely target resocialisation as a return to cult, i.e. that man is defined as a social being not by his or her isolated performance in an amorphous society, but by the social dimension of his or her existence as a naturally highest value (thus social as anthropological).

2 Research

Forum Theatre and delinquent youth

The research teams seem to have found the methods as well as target group too. The research aimed to find out how the application of stage methods affects - in this particular case the stage form of A. Boal – Forum Theatre [11] value orientation, attitudes towards values and incentives for delinquent youth (boys placed in the Diagnostic Centre, which is the "gateway" before they are referred to treatment, penal institution, to a youth re-education facility, into a substitute family or their own family). We did not find any mention in the literature about the application of the principles of the Forum Theatre to such a target group.

Subsequently a research question was formulated: How will the Forum Theatre methods affect the level of aesthetic, moral and social value orientation, moral, artistic, social attitudes to the values and the weight of incentives of delinquent youth?

Research set

The research was conducted at the Diagnostic Youth Centre in Záhorská Bystrica. After consulting with experts (head of the Diagnostic Centre and the relevant psychologist), a research set was created comprising six groups. Each group had six participants – men aged 15 to 17, with the average age in each group being 16 years.

Research methods

A combination of qualitative and quantitative method was chosen to analyse the studied issues. The key research method was quasi-experiment. Before and after the research additional methods of data collection were used as well (characteristics of subjects): observation and the standardised HO-PO-MO questionnaire (J. Vonkomer). The questionnaire consisted of three parts to identify value orientations (aesthetic, moral and social), attitudes to values (moral, artistic and social) and the weight of incentives to increase activity in socially current

[6] Hubinská, Z.: Forum Theatre and Movement. In *Ad Alta*, 2020, 10.2, pp 145–150.
[7] By the functioning of human society, the authors understand standard beyond the functionality of any other system. A characteristic feature of the overlap is the ability of man (humanity as a set of people) to go beyond his own limits, to step out of a narrow circle of personal benefit for the benefit of others. It is no coincidence that such an attitude is colloquially referred to as *being human*.
[8] Behaviour in the broadest sense as a way of existence.
[9] This does not question the need to help abandoned women, but the social rise of their status on a par with family.
[10] Such a status of a woman as a living incubator without family ties does not emancipate her – as tends to be popularly stated, but, on the contrary, in the hierarchy of social ties, it humiliates her to a solitaire who brings the society and raises a new generation who is along with the mother and therefore unanchored socially and in terms of values.

[11] Forum theatre is a name for an interactive stage technique often used in the educational process. The world-renowned method, based on the dramatic techniques of August Boal, is characterised by the fact that the audience become actors and are thus confronted with the reality that takes place on the stage. (Tischler, L.: Forum Theatre and the Teaching Process. In *Ad Alta*, 2021, 11.1, pp 328–330.) Spectators can thus directly test their opinions and ideas in practice, and find out whether it is possible to achieve a positive result based on their ideas. Forum Theatre provides spectators with the opportunity to do a “test run” of conduct in situations that might arise for them in real life.

activities (interest satiation, public contribution of individual effort and peer recognition). During the individual meetings, the method of direct observation enabled to probe deeper into the motivation of participants' behaviour. Audio-visual recording was made of the last meeting with the consent of the administration of the Diagnostic Youth Centre in Záhorská Bystrica. As part of the indirect video observation, the key moments of the Forum Theatre performance were analysed in detail. In addition to the above, the method of expressive interpretation was applied in terms of interpretive interventions of the participants through various artistic means of expression (word, sound, facial expressions, movement, rhythm, etc.) on a certain stimulus (impulse). Content analysis focused on the analysis of the reflections of the studied individuals. The analysis and evaluation of the results used a mathematical-statistical method (percentage expression).

Organisation and implementation of research

Work with clients from the Diagnostic Youth Centre in Záhorská Bystrica was carried out from March 2019 to February 2020. During the first two meetings, the participants became acquainted with musical-drama activities aimed at the development of personal and social competencies. At the third meeting, which focused on the Forum Theatre, we presented a short story to the participants. The performance of *(Un)Susceptible* [(NE)Ovplyvniteľný] touched upon the issue of delinquency.[12] After the performance, the participants, with the help of Joker, proceeded to analyse the story, the characters, the relationships and the setting of the story. They also assigned to each scene a song that best captured its atmosphere. [13] Subsequently, the performance was given again. When replaying the story, the participants, at their own discretion, interrupted the performance at certain moments by calling "Stop!" and entered the storyline with a different solution to the plot (thus creating various versions of the story they watched a while ago).

Evaluation of expressive interpretation, direct and indirect observation

Through the method of expressive interpretation, direct and indirect observation, we observed how the individual research groups worked on the final shape of the Forum Theatre. At the same time, we focused on the moments at which the participants stopped the performance and adjusted the situations on stage. In the performance, we outlined five key situations in which the value orientations of individuals were to be reflected. We expected participants to intervene at the following key moments:

- Scene 1: Relationships between classmates,
- Scene 2: First contact with a cigarette,
- Scene 3: Accepting money
- Scene 4: Betraying a friend,
- Scene 5: Social exclusion from the group.

Analysis of characters

Throughout the performance, the participants perceived the character of Richard largely neutrally. They described him as a simple and decent boy who paid for his trust. According to them, he only failed because he wanted to please Natalia. Interestingly, almost all participants identified with Natalia's character. She reminded them of their own difficult behaviour, which they themselves were trying to change. Many saw Martin as a positive character and also appreciated the way he approached problem-solving. In the fifth scene, their view changed to neutral, as Martin did not stand up for his best friend. Filip and his behaviour in individual scenes were seen positively by the groups. According to the participants, Filip tried to take things objectively and saw everything from a positive perspective. Most participants had a negative attitude towards the character of the teacher. They perceived her as a negative figure who condemned a man without giving him a chance to explain the reasons for his actions.

Choice of music

Groups 1, 2 and 3 chose the song *Up is Down* (H. Zimmer) to the first scene. By contrast, Groups 4 and 6 chose the song *It's So Overt It's Covert* (H. Zimmer). The Group 5 chose the song *Professor Umbridge* (N. Hooper). In the second scene, with the exception of Group 1, which voted for the song *Believer* (Imagine Dragons), the groups chose the song *Legendary* (Welshly Arms). The Groups 2, 3, 4 and 5 added the song *Royal* (Separ) to the third scene. The Groups 1 and 6 voted for the song *Kokalero* (Yzomandias). For the fourth scene, Groups 4, 5 and 6 chose *Prelude No 5 in G minor Op. 23* (S. Rachmaninov). Groups 1 and 2 chose the song *Battle on Ice* (S. Prokofiev). The Group 3 decided for the *Violin Concerto in G minor RV 156* (A. Vivaldi). In the final scene, Groups 1, 2 and 4 agreed on the song *Numb* (Linkin Park). The other three groups voted for the song *Bring Me to Life* (Evanescence).

Scene 1

Participants from Groups 1, 4 and 6 left the first scene unchanged. The Group 2 stopped the story right at the beginning of the performance and suggested that Filip not give Natalia his sandwich or his homework. They opted for the same solution for Richard. Natalia thus stopped abusing her classmates. Participants from Groups 5 and 6, on the other hand, suggested that Natalia greet her classmates after entering the classroom and ask them for homework assignments, for which she should also thank her.

Scene 2

The Groups 1 and 6 arranged the second scene so that Richard left for a smoke with his classmates. They also suggested that Martin takes with all his things. Yet, after his classmates left for a break, Filip's bag remained in the classroom. Participants in Group 2 insisted that Richard not smoke. They also managed to prevent the theft of Martin's money. The Group 3 altered the situation so that none of the characters smoked. Participants from Groups 4 and 5 suggested that Martin ask everyone if they wanted to join him for a cigarette. Richard and Natalia rejected the opportunity. When Natalia started rummaging through Martin's things, the participants stopped the situation. They wanted Richard to remind Natalia that she wouldn't like a stranger searching her bag.

Scene 3

Each group altered the situation in the third scene so that Richard refused the money and found out where Natalia took it from. Yet, Natalia did not communicate with Richard and left for the classroom.

Scene 4

In the fourth scene, Martin found that his money had disappeared. At the time, each group suggested that Richard accuse Natalia of stealing the money. Yet, she denied all the allegations. Furthermore, the participants changed the situation so that Martin sided with his best friend. After the teacher's arrival, Natalia voluntarily confessed to the theft. In this section, the participants stopped the story and demanded that Natália apologise to Martin. They also wanted to give her a second

[12] The central character of the story was 16-year-old Richard, who was very naïve and easy to influence. In order to please his troubled classmate Natalia, he was willing to change his behaviour, what put him in great trouble. The boy, who had been so far well-behaved, thus became an individual who started to show early signs of delinquency. He spent his free time inefficiently, cheating, consuming alcohol and skipping school. Such behaviour gradually affected his personal life and interpersonal relationships, what cost him the trust of his best friend. At the end of the story, he was socially excluded from his classmates and punished by expulsion from school.

[13] For Scene 1 they were choosing from the selection of film music: Hans Zimmer: *Up is Down*, Hans Zimmer: *It's So Overt It's Covert*, Nicholas Hooper: *Professor Umbridge*; for Scene 2 from pop music: Imagine Dragons: *Believer*, Adam Levine: *Animals*, Welshly Arms: *Legendary*; for Scene 3 from hip-hop compositions: Yzomandias: *Kokalero*, Pil C: *Peroxid*, Separ: *Royal*; for Scene 4 from classical music: Sergei Rachmaninoff *Prelude No 5 in G minor Op. 23*, Antonio Vivaldi: *Violin Concerto in G minor RV 156*, Sergei Prokofiev: *Battle on Ice*; for Scene 5 from metal: Linkin Park: *Numb*, Evanescence: *Bring Me to Life*, Korn: *Falling Away from Me*.

chance and escape the whole situation only with a warning from the teacher. At the end of the fourth scene, Natalia apologised to her classmates and regretted her actions. Richard then invited her to the cinema. The participants thus managed to resolve the situation and correct the relationships between their classmates.

Evaluation of the content analysis of the reflections of the examined persons

Based on the collected reflections, we performed a content analysis of the text. We focused on whether the participants directed the reflection to themselves, to the surroundings or to the musical-drama activities and the Forum Theatre.

In Group 1, reflections aimed at the Forum Theatre often appeared. Participants highlighted the possibility of active involvement in the stage process. They liked that they could enter the story and amend the performance. This is also confirmed by a participant statement: "This theatre was excellent and I really liked it. I'm glad we had the opportunity to intervene in the performance."

The Group 2 focused mainly on musical drama activities and the Forum Theatre: "I liked all the activities and the theatre, from which I will learn. I would like to experience something like this." There were also texts in which the participants commented on the surroundings: "I liked the music and drama activities. The final theatre was interesting, and I was captivated. I took away a small piece of advice and it is that we should watch out for people who have bad influence on us."

In Group 3, texts focusing on self-reflection appeared often. Most commented on the correction of their behaviour: "I learned a great lesson from the theatre that I should change my behaviour and think about my conduct."

Group 4 based their reflections on the experiences they were given by the Forum Theatre. Participants welcomed the opportunity to seek appropriate solutions to problem situations together. At the same time, they understood that they should not condemn people: "The impression of this theatre was very good. It was well played. I realised that we cannot condemn people right away. We need to get to know them better first and give them a chance."

Group 5 participants directed their reflections to the surroundings and the Forum Theatre. They most often described the overall impression of the meetings: "The theatre was great, the actors performed well. Overall, I am satisfied, and I liked all the meetings. The performance taught me not to condemn people at first sight."

Group 6 commented on the Forum Theatre in their reflections. The participants were interested in active participation and the opportunity to replace the characters in the performance: "I am most satisfied with the theatre and the acting was incredible. The best part was that I could swap with the actors and enter the story."

Evaluation of the HO-PO-MO questionnaire

The HO-PO-MO questionnaire helped to gain information on the value orientation of the participants, attitudes to the values and weight of incentives before and after the research. A total of 36 participants completed entry and exit questionnaires. In the first part of the questionnaire (HO), the participants placed "aesthetic value orientation" in the first place, which increased by 7.85% on average compared to the initial measurement. This increase may have been due to the acquisition of new aesthetic experiences. Second ranked "moral value orientation" with an average increase of 2.66%. "Social value orientation" increased by 1.76%.

In the second part of the questionnaire (PO), a more significant increase was noted in "artistic attitudes", which raised by an average of 12.15%. The increase was likely due to the intensified contact of participants with art. This is also evidenced by the reflections of the participants, in which they commented positively on the musical-drama activities, the Forum Theatre and the experiences with music. "Moral attitudes" increased by 11.3%. This increase can be attributed to the fact that the participants had an opportunity to evaluate their own actions and those of their context. "Social attitudes showed an average increase of 4.95% compared to the initial measurement. The increase is likely to be the result of the development of social ties in the group.

The third part of the questionnaire (MO) recorded the highest increase "experiencing the benefits of one's own efforts on behalf of the society." Compared to the pre-test, this area increased on average by 7.05%, which can be attributed to the critical reflection of the participants' own abilities, which could have been a consequence of the completed research. Second ranked "satisfaction of interests", which rose by an average of 7.03%. "Experiencing peer recognition" increased in an average increase of 2.21%.

Table 1 Average results of the HO-PO-MO questionnaire

Average results of the HO-PO-MO questionnaire			
Value orientation	**Pre-test (%)**	**Post-test (%)**	**Dif'ce (%)**
Aesthetic value orientation	50.03	57.88	7.85
Ethical value orientation	59.95	62.61	2.66
Social value orientation	65	66.76	1.76
Attitudes to values	**Pret-test (%)**	**Post-test (%)**	**Dif'ce (%)**
Ethical values	45.31	56.61	11.3
Artistic values	54.43	66.58	12.15
Social values	58.06	63.01	4,95
Incentives	**Pre-test (%)**	**Post-test (%)**	**Dif'ce (%)**
Satisfaction of interest	64.75	71.78	7.03
Experiencing the benefits of one's own efforts for the good of the society	44.63	51.68	7.05
Experiencing peer recognition	51.75	53.96	2.21

3 Conclusion

In analysing the results of research related to the value system of delinquent youth, we noted a considerably positive effect of the Forum Theatre. Based on the observation, we noted shifts in values, attitudes and incentives in a favourable direction during the work. At the beginning of the research process, each of the six groups showed a lower level of value orientation, attitudes towards values and the weight of motivational resources than at the end. This was likely to be caused by the potential of the Theatre Forum; for the participants, it was an experience they had never encountered before. By applying the methods of the Forum Theatre, we exposed delinquent youth to new conditions. They practically experienced various fictional situations, to which they responded spontaneously, and thus prepared to cope with similar moments in real life. The experience with the theatre, the priority of which was not an aesthetic or artistic experience, but its positive effect on people in connection with the value system, was beneficial for the participants. Juvenile delinquents learned to understand others and to respect their opinions. They also strengthened self-esteem, self-confidence, developed imagination and concentration. This shows that the Forum Theatre is an effective means of improving social competencies, developing personality, strengthening spontaneity, building healthy attitudes, awareness of values, and gaining motivation.

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THE SPECIFICS OF ROMAN BERGER´S COMPOSITIONAL LANGUAGE

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Abstract: The presented paper is focused on the compositional language of the paramount Slovak composer, theorist, musicologist and publicist Roman Berger. His work occupies an essential and unique place in the field of Slovak music culture. The composer has cerité his own and original musical language that is specific to each of his compositions. The paper is a summary of the composer's lifelong work and an explanation and characteristic of his specific compositional language.

Keywords: Roman Berger, slovak contemporary music, compositional language

1 Introduction

Roman Berger (1930 - 2021) was an exceptional figure in Slovak music. He worked as a composer, theorist, musicologist and publicist who tried to create a system of music theory adequate to current scientific thinking and which would be as general as possible. In many respects, his work can at the very least be described as specific, original and fundamentally meaningful. Berger's work does not impress in the range or width of the scope, but in its depth and the effort to concentrate. He was not only a composer, but also an exceptionally thoughtful philosopher and writing poet - this feature became an integral part of every composition. He created his own, inimitable compositional language, which is characteristic and recognizable within each of his compositions.

2 Life, work and compositional language

Roman Berger was born in a humanist-based family of Polish Evangelical pastor Jozef Berger, who was interned in concentration camps during World War II due to his patriotic mindset. After graduating from high school, his son decided to study music at the University of Music in Katowice. His interest in composition originated in his theory lessons with Ján Gawlas. Here he also met two other professors - Boleslaw Woytowicz and Boleslaw Szabelski - who were the protagonists of the organic connection of respect for tradition and the sensitive way of its integration into the development of contemporary music, as well as music as a spiritual profession. In 1952, the whole family was forcibly moved to Bratislava, which forever left Berger with feelings of resistance and protest against the manifested power, the expressions of dogmatism and unculture. In 1952 he became a student of piano at the Academy of Performing Arts in Bratislava. His teachers were Frico Kafenda and Štefan Németh-Šamorínsky, whose spiritual world was the polar opposite of the political and ideological realities of the time. In 1956 he began teaching piano at the Bratislava Conservatory. However, he maintained his relationship with composition and was intensely interested in contemporary work at the time. In the late 1950s, he intended to enroll in composition studies in Katowice, but this effort was thwarted by representatives of domestic institutions at the time. Unlike his companions, he began studying composition as a mature man at the age of 30. He became the first student of Dezider Kardoš.[1]

Roman Berger began composing in the mid-fifties of the 20th century. Studying piano at the Academy of Performing Arts became the primary starting point for choosing an instrument - his first works were piano compositions - e.g. *Fantasia quasi una sonata* (1955) or miniatures *Five Very Short Pieces* (1959), *Five Studies* (1959 - 1960), *Inventions* (1959 - 1961) and *Little Suite* (1960). Already in the first of them he tried to address the musical substance of compositional trends of the 20th century in the integration of tonal harmony with atonal elements.[2] The instruction and brevity of parts of these cycles is reminiscent of Béla Bartók's *Microcosmo*s. Here, Berger works with the details of the motivic phrase, exposes the elements of modalc organization, shapes the simplicity of the relationship of the two lines, the variability of the metric pulse and the simplicity of the chord shapes. The progress from simplicity to the gradual evolution of the initial elements in the *Sonata 1960* (1960) and the *Piano Suite* (1961). In the background of the *Sonata* composition process, we find Messiaen's modal system in a relaxed twelve-tone space, adapted to a dynamically perceived form. The composer's intention was *"to create a homogeneous stream of music in which the traditional thematic contrast in the exhibition is bridged and the balance of evolutionary and repetitive procedures in sonata form is resolved."*[3] Berger composed the *Piano suite* as a composition student at the Academy of Performing Arts. It consists of *Prelude*, *Scherzo* and *Toccata*. The musical process of the work is characterized by the constant movement of the ostinato, which is interrupted by the opposition of melodic fragments in the horizontal line. The baseline of the compositional process is chronometric regulation, which can be seen in the shifts of accents and polyrhythmic structures, as well as the layering of a wide range of shapes, interspersed with several rhythmic models.[4] The influence of Paul Hindemith's work can be seen in the flute, clarinet and bassoon performance in *Trio for Winds*. It is characterized by the discipline of developing thematic cores, moderation of expression and polyphonic binding of equal voices. On the contrary, Bartók's composition Music for strings, percussion and celesta is reminiscent of Berger's orchestral Suite in the Old Style for strings, percussion and keyboards (1963). Except for the second part, it is characterized by seriousness and a meditative touch. The interval cores are made up of two small seconds and small thirds, apart from the interval of the increased quarter.[5]

In the period's fascination with new sound possibilities, electronics, serialism, sonorism, stochastic music or graphics, it was time to look for connections between what was considered traditional and the "shock" of unusuality, typical for the time. Berger attempted a sort of combination of these contradictions in *Transformations* (1965), his graduate composition at the Academy of Performing Arts. The baseline of the work was a twelve-tone series with the intention of achieving the greatest possible diversity. There is also a notable relationship with the sonorism of the Polish composition school.[6] In the middle of the basic series arrangement (2-6-1-3-1-6-1-3-2-6-1 - numbers indicate the size of the interval according to the number of halftones) is the tritonus. Similarly to the previous ones, in this composition, the basic building blocks and pillars of melodic-chord thinking are the intervals of small and large seconds, as well as small thirds. *"Berger's characteristic position is meditative as a derivative of the seriousness and concentration of search and finding, as well as explosiveness, excitement, interpreted as if by sighs and screams ... The work does not emanate author's pride…or enthusiasm for experimenter, but rather a certain humility."*[7] This work was awarded the Ján Levoslav Bella Award and the Czechoslovak Critics' Award in the year of its premiere (1966). *"... Berger's composition surpassed the level of a synthetic documentary of the author's mature compositional poetics and achieved the value of a*

[1] CHALUPKA, Ľ. 2011. *Slovenská hudobná avantgarda*. Bratislava : Univerzita Komenského v Bratislave, 2011. s. 192 - 195.

[2] JAKUBISOVÁ, L. 2016. *Roman Berger – skladateľ.* In: Slovenská hudba, roč. 17, 2016, č. 2. s. 113.
[3] CHALUPKA, Ľ. 2018. *Generačné a štýlové konfrontácie. Sprievodca slovenskou hudbou 20. storočia II.* Bratislava : Univerzita Komenského v Bratislave, 2018. s. 247.
[4] JAKUBISOVÁ, L. 2016. *Roman Berger – skladateľ.* In: Slovenská hudba, roč. 17, 2016, č. 2. s. 115.
[5] CHALUPKA, Ľ. 2018. *Generačné a štýlové konfrontácie. Sprievodca slovenskou hudbou 20. storočia II.* Bratislava : Univerzita Komenského v Bratislave, 2018. s. 247.
[6] HRČKOVÁ, Naďa. 2006. *Dejiny hudby VI. Hudba 20. storočia (2).* Bratislava : Ikar, 2006. s. 388.
[7] CHALUPKA, Ľ. 2018. *Generačné a štýlové konfrontácie. Sprievodca slovenskou hudbou 20. storočia II.* Bratislava : Univerzita Komenského v Bratislave, 2018. s. 251 - 252.

symbolic statement, a testimony for his whole generation about its creativce motivations, ambitions and results, a testimony that had the power to transcend origins and send impulses to the present."[8]

During the normalization period, Berger was expelled from the Slovak Composers' Union due to his unshakable opinion and moral attitudes and also stripped of a teaching position at the Conservatory. He began to create in his own internal exile. During this period, he gradually composed a cycle of compositions for string instruments called *Convergence I.* (1969) for violin, *Convergence II.* (1970) for viola and *Convergence III.* (1975) for cello. He believed the concept of musical form required refining and could be inspired by practices from the exact sciences, such as logic, mathematics or systems theory. Looking for connections between composing and contemplating about it, he presented a way to use these techniques in the presented compositions. Violin and cello are characterized by a synthesis of mathematical structures and diatonic, elements of Bach melodies are implied in violas with the creation of structures of contemporary musical language. The meaning and starting points of the author's intention are obvious - to overcome contradictions and find connections. This idea poses a serious question about the mission of art and the authenticity of artistic creation - *"it is understood on a transcendental level as a possible way to get rid of a state of chaos, randomness, indiscipline or distraction, carried out with the help of firm principles and a sense of order."*[9]

Ten years after the creation of the *Piano Suite*, the *Sonata No. 3 "da camera" in memoriam Frico Kafenda* (1971) was created. The basis of the four-part work is formed by short melodic-rhythmic models, which are arranged in various meters. Here, too, the intervals characteristic of Berger - tritonus, small thirds and small seconds - appear. The composer's affection for the expressionism of the Second Viennese School is referred to by symbolic quotations - a fragment of the waltz *The Bluel Danube* by J. Strauss, tone sequence B-A-C-H and behind it the cryptogram K-A-F-E-N-D-A as a symbol of respect for the teacher's memory. Influencede by the tragic death of musicologist Miroslav Filip, he created a Memento after the Death of Miroslav Filip (1973-1974). *"... The musical material in this composition oscillates between extremes - especially in terms of complexity. Perhaps in these oscillations and the unpredictability of the form process, there are points of contact with the non-musical sphere that evoked this music."*[10]

In 1972, Berger began composing the electroacoustic composition *Epitaph for Nicolaus Copernicus*. The introduction of this type of music was banned in the period of normalization, it was first introduced in Slovakia only in 1977. Berger also applied his principles of harmony to hum and microintervals. *The Epitaph* was planned as a "melodrama" with a recitation of excerpts from Copernicus' *De revolutionibus orbium coelestium*. At the international competition in Bourges, he placed fifth out of a hundred songs, which was a significant morale boost for the author.

After meeting the poetic narration of the texts of the Polish poet Tadeusz Różewicz, Berger wrote the four-part chamber work *De profundis* (1975 - 1980) for bass, piano and cello. The almost hour-long composition is characterized by great drama, consisting of a synthesis of all the compositional techniques used by the composer - diatonic, off-interval series, fragments of the twelve-tone series, repeated fifth techniques and his usual symbols. The intensity of the statement is increased by the electronic transformation of sound, singing and piano. The author demands an extremely wide range of means of expression from the singer - from spoken word to expressive singing to shouting.[11]

In 1987, a musical meditation was created in honor of the late friend - *Adagio for Ján Branný*. The sharp contrasts present in previous works disappear; the author uses only muted musical means. At the beginning of the song, Berger again utilizes the popular interval of a small third, which then develops into a pure fifth. The composition recalls the meditative character of "minimal music" by the frequent return of the main motivic sections and the use of repetitions. It is also characterized by detailed work with elementary structures. In *Adagio No. 2 "Repentance"* (1989), Berger revises his composing practice, searches for elementary sources of music, and rethinks the limits of his possibilities. The tonal functional relations of the harmonic cadence, culminating in fragments of Bach's chant *"Wer nun den lieben Gott lässt walten"* (Who relies on God), are further reduced to a double voice in a series of small thirds. The center of gravity of the parallel procedures of the scaled-down septachords is the tritonus. In addition to chromatic procedures, it also uses a full-tone scale and clusters. In the final Epilogue, the meditative character returns in diatonic procedures and complete dynamic silence.[12]

A reflection of Berger's spiritual world is also *Wiegenlied* (1991), in which he meditates on the tragic fate of a young teacher, Ella Maldaque, one of the first victims of the Nazi regime. In the dead mother's "lullaby", two contrasting positions change - soothing and anxious. The dramatic atmosphere of the concentration camp is replaced by the poetic chorus "Willows softly sway you". *Wiegenlied* probably best describes the whole spiritual world of Roman Berger and the Poetics of his music as dramas. *Requiem da camera* (1998) is not a form of liturgy. Berger composed it on the basis that we may call it art if the artifact is aimed at the expression of the last truth about man. The composition consists of four consecutive sections of attaca. In the third part, the B-A-C-H motif and a fragment from the Lutosław 4th Symphony appear, which will also be heard in the final part. The sonorism of the musical expression is confirmed by a wide range of musical means - clusters in the bass position of the piano, tremolos, glissands, clusters in fortissime and sudden dynamic contrasts. The context of the author's spiritual thinking here is to *"penetrate to the essence of being through music."*[13]

One of Berger's most specific compositions is the monumental composition *Korczak in memoriam for mezzo-soprano, flute, organ, timpani and string quartet* (2000). It was commissioned by the *Krakow 2000 Festival - Velvet Curtain*. The author dedicated it to the Polish doctor, writer and pedagogue Janusz Korczak (1878 or 1879 - 1942), who decided to accompany the children from his orphanage during transport to the concentration camp, even though it meant his certain death. This story substantially fascinated Berger. He, too, relentlessly fights against all the evil he observes and feels, even at the cost of causing him harm. He always remains faithful to the Good, the Truth and his principles.

In the case of a performance at the church, Berger requests that the first part (Polemos - "Kinderszenen") be played by a quartet in front of the audience (in front of the altar), after the beginning of the second part (Dies irae) the lights are turned off and the players go to the choir. The flute is to be hidden behind the altar or sound from a distance, the timpani placed behind the audience. The whole work is presented by the organ. By repeated fifth procedures and a rapid change in dynamics, the composer achieves a great gradation effect at the beginning of the composition, with noticeable gusts between the lyricism of "slow" fifths on one hand and their opposition of "fast" and restless fifths on the other. The drama is stepped up by the

[8] CHALUPKA, Ľ. 2018. *Generačné a štýlové konfrontácie. Sprievodca slovenskou hudbou 20. storočia II.* Bratislava : Univerzita Komenského v Bratislave, 2018. s. 253
[9] CHALUPKA, Ľ. 2011. *Slovenská hudobná avantgarda*. Bratislava : Univerzita Komenského v Bratislave, 2011. s. 207.
[10] JAKUBISOVÁ, L. 2016. *Roman Berger – skladateľ.* In: Slovenská hudba, roč. 17, 2016, č. 2. s. 116.
[11] HRČKOVÁ, N. 2006. *Dejiny hudby VI. Hudba 20. storočia (2).* Bratislava : Ikar, 2006. s. 389.
[12] JAKUBISOVÁ, L. 2016. *Roman Berger – skladateľ.* In: Slovenská hudba, roč. 17, 2016, č. 2. s. 145 – 146.
[13] JAKUBISOVÁ, L. 2016. *Roman Berger – skladateľ.* In: Slovenská hudba, roč. 17, 2016, č. 2. s. 145 – 148.

accompanied timpani. Berger uses the same material (distributed quarters and fifths) to alternate poetic and dramatic passages, which perhaps symbolize the beauty and tragedy of Korczak's life. (At this point, it is possible to reflect on the fact that beauty and tragedy may come from the same matter ...) The moment the last soothing pure fifth in pianissime sounds on the organ, the string quartet sounds in the tranquillo for the first time. The second (accompanied by timpani) and third organ input are a short reminiscence of the beginning of the song. The second part of *Dies irae* comes attaca by the gentle melody of the flute (sounds like a memory from a distance), which is literally shaken by the sharp blows of a timpani accompanied by the organ in fortefortissimo. After a tumultuous and expressive solo, the organ sound shows its second - poetic face, which is lost in the imitation of a flute melody. Another organ input in the accompaniment of the quartet (which is already located near the organ) quotes the melody *Dies irae*, which is further varied in different ways. The third part (again attaca) *Choralvorspiel - Marcia funebre* begins with long "mourning" fifths, resounding in strings. The last organ entry begins in an aggressive forte, which is replaced by the chant *O glowo, twa korona* (O Haupt voll Blut und Wunden), delivered by the mezzo-soprano in pianissime. The last tones of the organ resound in the fading dynamics and atmosphere that presents the final tranquillo. The whole composition ends with a mezzo-soprano solo in pianopianissimo with the words: *O glowo poraniona, krwia hańba pokryta, o glowo ...*

In writing this work, Berger was galvanized by the tragedy of Janusz Korczak's story, the hiding of war misfortunes behind a wall of silence, and the thoughts of John Paul II that after tragedies in the first half of the 20th century, one can sing as long as one's singing is an expression of protest, lamentation or hope. According to his own words, he initiated the music of the first two parts several times, the chant itself is not finalized. He could not create music that would be the ideal of wholeness and evolution if it came from something that was killed, broken or shattered. In the end, the unfinished chant is only broken by the silence - Silentium. Hope can no longer be triggered by old illusions. The postulate of Truth suggests that not only the category of ethos, but also sin, should be integrated into aesthetics.

Berger uses the organ as an equal partner to the other instrumental components. It does not state or have special sound color requirements. He prescribes dynamics in standard markings. Sections with listed crescendo and decrescendo are relatively short, and it is appropriate to perceive them as terracelike due to the speed of dynamic changes. In solos, the organ carries dramatic tension, but due to the overall sound concept of the work, it must never sound in full tutti (except for a small instrument). Silent registers (covers and flutes) are sufficient when playing with the ensemble. Dramatic passages in strings can be a great inspiration for the expressiveness within the interpretation of *Exodus*. The performer will also find stimuli for the interpretive performance in the silent tranquillos of the quartet, which are reminiscent of all *Misterios* and *Andante* of the second, as well as *Moderato* of the third part of the *Exodus*. These related sites have led me to use an accessible range of string registers. The sound of the strings can be guided at the final *Veloce ma Tranquillo e equale, legatissimo* of the third part, while its complete conclusion is to some extent related to the solo sections of the flute. (This one interprets its solo from a distance, hidden from the view of the audience.)

3 Conclusion

If we want to summarize the specifics of Roman Berger's compositional language, it is important to perceive the fact that this composer takes music very seriously and that it represents a significant dimension of life, an integral part of it, not an autonomous entity. The basic theme is always the truthfulness, the authenticity of Creation. It is conditioned by authentic humanity, which is manifested in man's relationship to eternity (Sacrum). Music becomes one of the manifestations of the creative forces of the Universe, and man's role is to cultivate this eternal energy, because otherwise it degenerates into ideologically or commercially (i.e., egocentrically) determined reproduction. Berger emphasizes the term "authentic creation" in opposition to "re-producing" creation, which only touches the surface of the psyche and is tied to ready-made forms, positions of expression and means. "Authentic work" is characterized by a deep immersion in the psyche, it is urgent and revealing. It focuses on the search for the "expressiveness" of the sound-musical substance, which presupposes "direct contact" with sound, the *"abolition of the Cartesian dichotomy, 'subject versus object'. The sound (tone) 'material' here changes to the 'element' with which the composer enters into a dialogue sui generis"*.[14] Authentic creation has the ability to deeply impact the recipient and Berger's contains two types of "messages" - S.O.S. and the Eureka!

Roman Berger's work cannot be seen as a set of thorough mastery of many compositional techniques in synthesis with a vivid expression. The composer cared primarily about the message and the emotional impact of the work. For him, music was an expression of dramatic existence and creation by an emotional shock that seizes rational structures. The composer's spiritual and emotional world is evidenced by the passion and emotional strain of his music. Its inspiration is an extraordinary contribution not only to the Slovak but also to the world music culture. In composing, the composer sought the meaning of artistic music and activity, while trying to find answers to the essential questions of life. The values that he defended in his journalistic activity and musicalized through personal testimony are still natural to us - in our inner essence - only they - according to the composer's words - need to be rediscovered.

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PARTICIPATION OF SCHOOL AND FAMILY IN ADDRESSING ADAPTATION DIFFICULTIES OF PUPILS STARTING PRIMARY EDUCATION

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Abstract: This study is focused on analysing selected theoretical approaches and research findings of our and foreign provenance, focused on the issues of raising the participation rate of parents in eliminating the problems children experience during the school adaptation period. The pupils´ adaptation difficulties requires the teacher´s attention as also the quality of education conditions in the family determines the way the child adapts to school as well as the academic success. The aim of the research part was to find out the opinions and attitudes of primary education teachers with various lengths of teaching experience on the possible of solving adaptation difficulties of beginning pupils. The results of research confirmed that the length of teaching experience influences the opinions and attitudes of teachers to the possibilities of solving the adaptation difficulties of beginning pupils.

Keywords: adaptation difficulties, family, start of primary education, pupil.

1 Introduction

The start of compulsory education is a difficult time for new pupils and their parents. During the period of adaptation to new school conditions, some children might experience adaptation difficulties that individually vary in their etiological background. The course of the children's initial education is influenced by their family environment (among other factors), e.g. the value orientation of the parents, their level of education and the socio-economic status of the family (Elliott, 1995; Hausken, Rathbun, 2002; Pianta, Kraft-Sayure, 1999; Yeom, 1998).

The quality of conditions created by parents for their children in order to cope with the requirements of school education also impacts the successful adaptation of the child or potential adaptation difficulties (Harvard Family Research Project, 2007; Slezáková, Tirpáková, 2006).

The requirements of the pedagogical practice include the elimination of difficulties children experience at the beginning of the schooling process and especially the prevention of these difficulties. In order to address this issue, the teacher must be able to apply pedagogical diagnostics with regard to signs and causes of adaptation difficulties in different groups of children, as well as to find adequate solutions with the aim to eliminate these difficulties or decrease their frequency. A comprehensive approach foresees the participation of all parties involved. In particular, the emphasis is on the cooperation of family and school environments, as the intensity and importance of this cooperation increases after the child starts the first year of primary school. Specialised literature mentions several forms of cooperation that help not only to solve children's adaptation difficulties, but also to support new pupils in managing this challenging period through their own efforts.

2 Difficulties Faced by New Pupils in the Period of Adaptation to New Conditions

Specialised literature considers the child's transition from nursery school and family to the first year of primary school to be a challenging time in their life. From the affective perspective, the child might experience contradictory emotions – the fear of an unknown situation and the joy of expected progress. In order to cope emotionally with various situations, the child requires support from the adult who creates conditions for optimal management of the adaptation period (Samara, Ioannidi, 2019).

The new pupil needs to adapt to school education in its full extent. The difficulty of this process perceived individually by some children and the absence of adequate support can give rise to adaptation difficulties. The potential causes of adaptation difficulties that are most often mentioned in specialised literature are, for example, a low level of school readiness (Boethel, 2004), specifically the level of socio-emotional skills (Yuksel, 2013) and intellectual potential (Monkeviciene, Mishara, Dufour, (2006) and others. Current research findings show a growing number of such pupils. The interpreted data from the Irish study show that according to teachers, about 20 to 40% of children are facing adaptation problems at the beginning of compulsory education. (O´Kane, Hayes, 2006). This finding is also complemented by the results of a research conducted in selected Slovak schools (Borbélyová, Slezáková, Tirpáková, Kurucová, 2018). According to the author, 70% of pupils adapt successfully. The remaining 30% experience adaptation problems. Moreover, the study also found some differences in the course of pupils' adaptation with regard to their gender – between boys and girls, these differences were in favour of girls (Margetts, 1999; Jánošová, 2008; Besi, Sakellariou, 2019). Based on some expert opinions (Slezáková, Tirpáková, 2006; Prücha, Walterová, Mareš, 2009; Gagay, Grineva, 2015), differences between the conditions of the educational process and the pupil's abilities to cope with them can be regarded as a cause of the difficulties. Such a pupil needs suitable support from adults – teachers as well as parents. Otherwise, their cognitive and socio-emotional development and also their further education might be impacted in a negative way.

Specialised literature (Slezáková, Tirpáková, 2006) provides research findings with regard to the consequences of failing to address the pupil's adaptation difficulties. A lack of interest in eliminating or mitigating these issues poses a threat to the child's relationship to school, their motivation to learn and gain knowledge as well as the mental health of individuals. In the long term, if the teacher and the parent adopt a passive attitude to the difficulties faced by the pupil, it might negatively impact the pupil's relationship to work.

In the view of the theoretical and research basis presented above, it seems relevant to focus on the search for solutions that will ensure a successful adaptation process for each pupil. According to the authors (Ahtolaa, 2011; O´Kane, Hayes, 2006), the teachers and parents as well as the quality of their cooperation all play a key role in this respect.

3 Family at the Time of Adaptation of the Pupil and the Benefits of Cooperation with School

When the child starts the first year of primary school, the demands and requirements of school education also concern their family. The parents of a new pupil are faced with an unfamiliar situation that requires their active approach. In this context, it is necessary for the teacher to also pay attention to parents. Examples of what can be regarded as a significant factor of a supporting family environment include the quality of preparation in the conditions at home, the overall family climate, cognitive stimulation, well-being and adequate signs of interest in the child (Bednářová, Šmardová, 2012; Harvard Family Research Project, 2007). There is also an emphasis on the parents' influence on the academic success of their child. Research findings show that at the beginning of compulsory education, pupils whose parents take an active approach are potentially twice as successful as children of passive parents. Important factors of the family environment that contribute to the pupil's support might include, among others, a stimulating domestic environment, the creation of learning conditions for the child, the knowledge of their abilities and potential, the formation of optimal expectations and the cooperation with their teacher (Pinantoan, 2013).

The pupil exists within multiple environments at the same time, the dominant environments being their family and school. Between them, there is a constant interaction and dynamic communication, the contents of which must never be mutually exclusive. The quality and frequency of contact between both environments provide benefits for the pupil starting compulsory education. The mutual cooperation results in the support of the pupil, which is a prerequisite for their successful adaptation. In case of adaptation difficulties, the subject of the cooperation is the solution implemented both at school and in the family (Samara, Ioannidi, 2019).

With regard to adaptation, the focus is on the protective function of the family that plays an irreplaceable role in situations of particular pressure. The essence of this consists of adequate attention, aid, protection and support between the child and the members of their family (Slezáková, Tirpáková, 2006).

According to Samara and Ioannidi (2018), the partnership between the parents and the teachers impacts the child's education as well as their emotional and social development. However, the theoretical framework of this issue shows that some parents are unprepared for the upcoming period and have no knowledge of their own position and the role they play in the adaptation process of a new pupil. The situation requires adequate professional and pedagogical preparedness of the teacher in initial education who will provide advice and methodical guidance for the pupil's parents. If the parents are familiar with basic adaptation mechanisms, they can respond to signs of difficulties and apply appropriate strategies in order to solve them.

In spite of the wide spectrum of benefits brought by active participation of parents in the educational process, there are some obstacles in the mutual cooperation (Sapungan, Sapungan, 2014). In the pedagogical practice, this can involve the negative attitude some parents have towards the teacher or education in general or a passive attitude. There might be some shortcomings limiting the parents when it comes to providing support to their children during the adaptation period, such as a low level of preparedness for the role of a parent to a school-aged child (Chomenko, 2006). According to the author, the main criteria of preparedness include the psychological, pedagogical, socio-legal and economic readiness of the parents. At the beginning of compulsory education, there might be some differences between the parents' expectations and ideas about school education and the actual demands and requirements for the pupil. Consequently, this situation prevents parents from providing efficient aid to their child. Similarly, parents are confronted with their new role as defined by the school (Slezáková, Tirpáková, 2006) . In order to increase the quality of education, attention must be paid to pedagogical intervention for the parents of new pupils. In connection with the identified issue, this contribution further focuses on the options the parents have with regard to their participation in addressing adaptation difficulties of new pupils.

Pedagogical practice involves several inspiring options for the cooperation of the family and school environment (Besi, Sakellariou, 2019) . The specific examples of cooperation at the start of education include sending written materials with the necessary information and letters with recommendations and instructions for parents as well as relevant phone communication. The results of the research by Besi and Sakellariou (2019) indicate that most teachers consider cooperation with parents necessary and important. The respondents especially emphasised the need for trust in the mutual relationship. Based on the opinions and attitudes of teachers included in the research sample, parents are an integral part of the pupil's adaptation process. According to the teachers, the role of the parents consists in providing positive motivation to the child and holding target-oriented conversations about ideas and expectations with regard to school education. They also believe that parents have various possibilities of active participation, such as learning with their child, helping them prepare in the home environment, reading books and playing educational games.

An active parent that takes part in ensuring a successful start of primary education can provide adequate help and support to their child. Other inspirational examples can also include parents visiting a primary school together with their children, written information about school education provided to parents, meetings with primary school teachers, joined events for parents and teachers with a focus on the expected changes and possibilities of support for a new pupil. Another option is the participation of parents in a transition programme (Margetts, 1999). Pedagogical practice in Australian schools includes the implementation of transition programmes where parents, nursery school teachers, primary school teachers and expert staff take part. The cooperation of participating members of the transition team shows a comprehensive approach to supporting a seamless transition of the child and their successful adaptation without any difficulties.

In Germany, joined conversations of teachers and parents are organised in order to increase the quality of communication between the two environments. Their content mostly centres around the possibilities of cooperation and support for the child. Similarly, a research project conducted in Guyana aimed at exploring the issue of adaptation problems in the period of the child's transition from nursery school to primary school emphasises that the pupils' parents also need to participate alongside teachers from both types of schools (Fabian, Dunlop, 2007).

4 Methodology

The main goal of the pedagogical research was to find out the opinions of primary school teachers with various length of teaching experience regarding the possible solutions for adaptation difficulties experienced by beginning pupils. Of particular interest was the question whether the length of teaching experience influences the choice of solutions in favour of cooperation between schools and family or other institutions, for example the Center for pedagogical and psychological guidance and prevention. The mentioned institution provides comprehensive psychological, special-pedagogical, diagnostic, educational, counseling and preventive activities to children in the field of optimizing their development.

The research sample consisted of 104 teachers teaching in the first grade of primary school. According to the length of practice, we divided teachers into five groups - teachers with a length of practice of up to 5 years, from 5 to 10 years (inclusive), with a duration of practice of 11 to 15 years (inclusive), 16 to 20 years (inclusive) and teachers with more than 20 years of experience.

Data were collected through an own electronic questionnaire sent to respondents in the school year 2020/2021. The questionnaire included semi-closed questions that teachers answered either by choosing one of the options or by providing their own answer. The selected questions (1-4) of the questionnaire concerned the possible solutions to adaptation difficulties, namely the questions:

1. *Do you consider cooperation with parents to be a suitable option for addressing adaptation difficulties of first graders?*
2. *Do you consider cooperation with the Centre for pedagogical and psychological guidance and prevention to be a suitable option for addressing adaptation difficulties of first graders?*
3. *Do you consider cooperation with a nursery school to be a suitable option for addressing adaptation difficulties?*
4. *Do you consider adaptation difficulties of first graders to be short-term problems not requiring a solution?*

We verified the validity and reliability of the compiled questionnaire using the Cronbach's alpha test. The calculated value of 0.91 confirmed the validity of the questionnaire.

Respondents could answer "yes" or "no" to all questions. We assigned the value 1 to the positive answer and 0 to the negative. In the evaluation, we were interested in the number of positive, resp. negative answers. We subsequently analyzed the obtained results according to the length of pedagogical practice of teachers within the created groups. In the statistical analysis, we used the selected Chi-square test of independence.

4 The Analysis and Interpretation of Results

As already mentioned, we evaluated the data using statistical analysis. Before starting the research, we set the following hypothesis:

H1: The length of pedagogical practice of primary school teachers has an impact on their views and attitudes to the possibilities of solving the adaptation difficulties of beginning schoolchildren.

To verify the validity of the established hypothesis, we analyzed the answers obtained to all selected questions of the questionnaire, which concerned the possibility of solving the adaptation difficulties of beginning schoolchildren. These questions are mentioned in the previous part of the article and were statistically processed.

The aim of the statistical analysis was to find out whether there is a connection between the length of practice of primary school teachers and their views on the possibilities of solving the adaptation difficulties of beginning schoolchildren.
We used non-parametric test methods for statistical analysis of the obtained data. To verify the dependence of the two qualitative features A, B, we used - the independence test for the PivotTable type (Markechová, Stehlíková, Tirpáková, 1990).

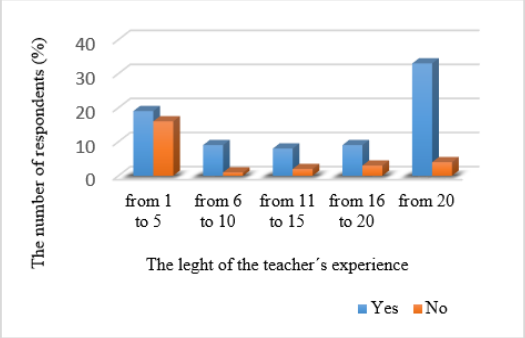
1. Question

In this question, we found out whether there is a correlation between the length of the teacher's experience and the answers given to the following question: *Do you consider cooperation with parents to be a suitable option for addressing adaptation difficulties of first graders?* Therefore, the subject of the test was the dependence of two qualitative characteristics *A*, *B*, where *A* stands for the choice of answer to the question above and *B* represents categories created by the length of the teachers' experience.
The χ^2-test of independence for the contingency table $k \times m$ was used to verify whether there is a connection between the type of response provided by the teacher to the question above and the length of their experience. The test was conducted in the programme STATISTICA. After entering the input data, the output system of the computer produced the contingency table, the test criterion value of the χ^2-test (=13,3158) and the *p*-value=0,009831.

The test can also be evaluated by using the *p*-value, which stands for the probability of an error resulting from the rejection of the hypothesis that is being tested. If the *p*-value of probability is sufficiently low ($p < 0.05$ or $p < 0.01$, respectively), the hypothesis H_0 that is being tested with regard to independence of the examined characteristics *A*, *B* will be rejected (on significance level of 0.05 or 0.01, respectively). Otherwise, the hypothesis H_0 cannot be rejected.

As the *p*-value of probability is lower ($p = 0.009831$) than the chosen significance level $\alpha = 0{,}01$, the hypothesis H_0 on significance level $\alpha = 0{,}01$ is rejected and the alternative hypothesis H_1 is accepted. This means that the length of the teacher's experience has a statistically significant impact on the choice of an answer to the following question: *Do you consider cooperation with parents to be a suitable option for addressing adaptation difficulties of first graders?* In other words, the length of teaching experience has a statistically significant influence with regard to considering the cooperation with parents as an option for addressing adaptation difficulties of first graders. The test proved that the chosen way of addressing adaptation difficulties faced by first graders depends on the length of teaching experience in a statistically significant way. The following Figure 1 shows a graphic depiction of this situation.

Figure 1 Cooperation with parents



As the test proved that the choice of said option for addressing adaptation difficulties of first graders depends on the length of the teacher's experience in a statistically significant way, the degree of that dependence was also of interest. The degree of dependence between the qualitative characteristics *A*, *B* shall be assessed on the basis of a contingency coefficient (Markechová, D. – Stehlíková, B. – Tirpáková, A. 1990). Contingency coefficient *C* acquires values from the interval $\langle 0, 1 \rangle$.

In our case, the calculation determined the value of the contingency coefficient between the choice of the most suitable option for addressing adaptation difficulties of first graders and the length of the teacher's experience $C = 0.79$, i.e. there is a high degree of relationship and the relationship is statistically significant.

2. Question

An analogous approach was adopted in order to detect a statistically significant correlation between the teacher's length of teaching experience and responses to the following question: *Do you consider cooperation with the Centre for pedagogical and psychological guidance and prevention to be a suitable option for addressing adaptation difficulties of first graders?*

In this case, too, we used a χ^2-test to find the answer to that question. The determined value of the probability *p* is greater than 0.05 (p = 0.123676), the hypothesis of the independence of the observed features at the level of significance cannot be rejected. The test proved that the teacher's answer to the question whether teachers consider cooperation with the Center for Pedagogical-Psychological Counseling and Prevention to be a possibility of solving pupils' adaptation difficulties in the 1st year is not statistically significantly related to his length of practice.

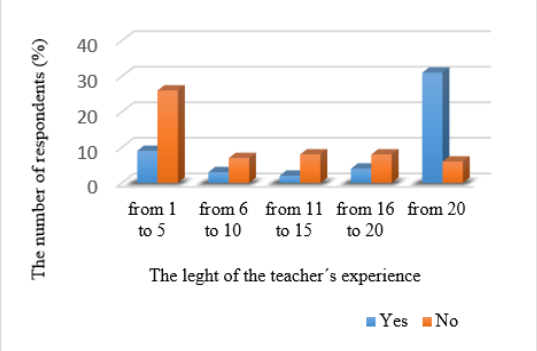
3. Question

Similarly, it was of interest whether there is any statistically significant correlation between the length of the teachers' experience and their answers to the following question: *Do you consider cooperation with a nursery school to be a suitable option for addressing adaptation difficulties?*

We proceeded in the same way using – the χ^2- test of independence the contingency table, which we verified whether the answer to the question is related to the length of the teacher's practice.

As the *p*-value of probability is lower (p = 0.000002) than the chosen significance level $\alpha = 0{,}01$, the hypothesis H_0 on significance level $\alpha = 0{,}01$ is rejected and the alternative hypothesis H_1 is accepted. This means that the length of the teacher's experience has a statistically significant impact on the choice of an answer to the following question: *Do you consider cooperation with a nursery school to be a suitable option for addressing adaptation difficulties?* In other words, the length of teaching experience has a statistically significant influence with regard to considering the cooperation with a nursery school to be a suitable option for addressing adaptation difficulties of first graders. The test proved that the chosen way of addressing adaptation difficulties faced by first graders depends on the length of teaching experience in a statistically significant way. The following Figure 2 shows a graphic depiction of this situation.

Figure 2 Cooperation with nursery school



Due to the proved statistical significance of dependence, the focus was on the degree of this dependence, which was assessed on the basis of the contingency coefficient described above. In that case, the calculation concerned the value of contingency coefficient with regard to the cause for adaptation difficulties and the length of the teacher's pedagogical experience C=0.95. This represents a very close relationship.

4. Question

In addition, it was examined whether there is a correlation between the length of the teachers' experience and their answers to the following question: *Do you consider adaptation difficulties of first graders to be short-term problems not requiring a solution?* During the statistical evaluation, the subject of the test was the dependence of two qualitative characteristics *A, B*, where *A* stands for the choice of answer to the question above and *B* represents categories created according to the length of the teachers' experience.

The χ^2-test of independence for the contingency table $k \times m$ was used to verify whether there is a connection between the type of response provided by the teacher to the question above and the length of their experience.

The detected *p*-value of probability is higher than 0.05 (p = 0.123676), therefore the hypothesis H_0 about the independence of the characteristics observed on significance level $\alpha = 0{,}05$ cannot be rejected. The test proved that the teacher's response to the question whether they consider *adaptation difficulties of first graders to be short-term problems not requiring a solution* has no correlation with the length of their teaching experience.

The results of tests for statistically significant correlation between the teachers' responses to selected questions in the questionnaire and the length of their teaching experience are summarised in the Table 1:

Table 1 The results of tests for statistically significant correlation

The possible solutions for adaptation difficulties	χ^2	***p***	***C***
The cooperation with parents	13,3158	0,0098*	0,79
The cooperation with Centre for pedagogical and psychological guidance and prevention	-	0,1236	-
The cooperation with a nursery school	31,4409	0,0000*	0,95
The short-term problems not requiring a solution	-	0,1236	-

Statistically significant values are marked by an asterisk. The test results show statistically significant correlation between the length of the teachers' experience and their answers to the following questions: Do you consider "*cooperation with parents/cooperation with a nursery school"* to be a suitable option for addressing adaptation difficulties? This means that the length of teaching experience has a statistically significant impact on the choice of the answer to the questions mentioned above.

5 The Results and Discussion

Based on the analysis of the results of pedagogical research, we can state that a statistically significant relationship was demonstrated between the length of the teachers´ experience and their opinions on solving the adaptation difficulties of pupils. Our research findings show that almost twice as many teachers with more than 20 years of experience consider working with parents to be a suitable option for solving adaptation difficulties in pupils (Question 1). In the statistical analysis of teachers' answers to the 3rd question, whether teachers consider cooperation with a kindergarten as a suitable option for solving adaptation difficulties, similarly to the 1st question, a statistically significant relationship was demonstrated between the length of the teachers' pedagogical practice and their views on solving pupils' adaptation difficulties. We recorded the most positive answers for teachers with a length of practice of 20 years or more. Teachers who have been placed in the first category (length of practice 1 to 5 years) do not consider cooperation with the kindergarten to be important in solving the difficulties of beginning pupils. We recorded the most negative answers in this category.

In the analysis of the answers to the 2nd question whether teachers consider cooperation with the Center for Pedagogical-Psychological Counseling and Prevention to be a suitable option for solving pupils' adaptation difficulties in the 1st year and the 4th question whether teachers consider adaptation difficulties of 1st year pupils to be short-term problems do not require a solution, no statistically significant correlation between teachers' opinions on these issues and the length of their practice has been demonstrated.

The results of our research point to the importance of many years of experience of teachers in their practice, which allows them to take a comprehensive approach to the problem. Compared to teachers who have less practical experience, they can identify far more factors that can cause problems for children in such a challenging period. At the same time, they know how to find more ways to solve them. In our case, more experienced teachers consider cooperation with the family environment and kindergarten to be one of the important solutions to the adaptation difficulties of beginning pupils.

To examine a pupil at the beginning of school, it is important to know pupil´s personality in a broader context, including the characteristics of the family environment and the level of previous development. It is determined primarily by the child's family environment, but it can also be a pre-primary education in kindergarten. U. Bronfenbrenner concretized the mentioned theoretical starting points as a bioecological theory of

interconnected systems. Their influence can have a positive or negative effect on the development of the pupil's personality (Johnson, 2008).

A necessary condition for the implementation of quality work of a teacher is the formation of an image of the family environment of pupils. The existence of a child, in the context of our contribution of a beginning pupil, in the family influences a school performance, a social position in the classroom, an interaction with the environment. The concretization of the issue is the cooperation of the family and the school environment. After the child starts primary school, the possibilities and forms of parental involvement expand (Kurincová, 2019).

Our research findings also correspond to the theoretical background of Slezáková and Tirpáková (2006), Samara and Ioannidi (2019), who confirm that the existence of difficulties represents a burden not only for the individual, in our case beginning pupils, but also for his surroundings (Fabian, 2000). In this context, it is necessary to provide support to children, but also to their parents. During the pupil's adaptation to the new conditions, the position of the parents is considered crucial. At the same time, entering the 1st year is an opportunity for quality cooperation with parents, as the nature of the adaptation process exceeds the beginning of school attendance and affects the education of children in the next period of their school attendance. From the teacher is expected to take the initiative to lead parents to understand the changes that accompany the start of schooling and to an appropriate orientation in the practice of primary education (Jindal-Snape, Hannah, 2013). Part of these teacher efforts is to provide information on the challenges facing the beginning pupil, on the possible ways for children to adapt to the new conditions and on various support strategies. The partnership between the family and the school monitors the development of positive relationships between stakeholders and forms the basis for stability, success and continuity between the family and the school at the beginning of the pupil's schooling (Hirst, 2011).

In addition to quality cooperation between the family and the school, the cooperation between the primary school, the kindergarten and the family is also important. It is important to focus on preventing early manifestations of adaptation difficulties of the pupils entering the first year of primary school. In the kindergarten, it is possible to carry out appropriate preventive activities aimed at detecting signals of adaptation difficulties. In the context of preventing or solving the difficulties of children with adaptation, information on pre-school preparation of the child is useful. According to Fredrickson (2001), its necessary part is to increase the pupil's psychological resilience, self-confidence and coping with stressful situations independently with the support of an adult.
We can state that using statistical methods, it was possible to point out the link between the length of teachers' pedagogical practice and their opinions on the possibilities of solving adaptation difficulties. The analysis of the results showed a statistically significant relationship between the longer length of pedagogical practice of teachers and their views on solving the issue of adaptation difficulties of pupils in favor of cooperation with family and kindergarten. The specific nature of the difficulties requires a comprehensive approach and an effective solution is the teacher's purposeful cooperation with the family and preschool environment.

6 Conclusion

In conclusion, we emphasize the need for more attention towards the issue of adaptation of beginning pupils by theory and practice. The basic condition is to know and understand its specifics and to provide adequate support to children and parents in order to prevent difficulties. We see the benefit of the presented paper in finding out the opinions and attitudes of primary education teachers with a longer length of pedagogical practice, who consider the solution of adaptation difficulties to be important. They see one of the strategies for their solution in the quality cooperation with the family and kindergarten. It was confirmed that a necessary condition for a successful transition to primary school is to ensure continuity between the family environment, pre-primary and primary education. This means that an important prerequisite for eliminating difficulties is the active participation of teachers from both levels of education and parents aimed at strengthening the preconditions of children to master school education and reducing the frequency of adaptation difficulties.

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Primary Paper Section: A

Secondary Paper Section: AM

ANALYSIS OF MACHIAVELLIAN BEHAVIOR IN BUSINESS ENVIRONMENT – QUESTIONNAIRE CASADI

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Abstract: The paper deals with issues of Machiavellian traits as a significant factor occurring in business behavior. The aim was to enrich the knowledge of the Machiavellian issue with a specific focus on the Machiavellian traits of business behavior. The aim of the creation of the questionnaire was to bring construction and application of using methodology or CASADI questionnaire in Machiavellian traits of business behavior closer.

Keywords: Machiavellianism, Machiavellian behavior, Business environment, CASADI, Traders.

1 Introduction

Traders try to attract their customers in many ways. They use advertisement, targeted marketing, and widespread campaigns. There are several psychological techniques that merchants can use to attract customers and influence their decision making. They use emotion, so sometimes to attract interest is just about the right color or eye contact. Most of us think that trading decisions are based on rational analysis and on the fact-finding. However, customers often make their choices based on personal feelings and experiences more than facts and descriptions.

It is important to know, what behavior is typical for manipulative merchants and how to recognize manipulative techniques in relationship, family, on the workplace, in advertisements, media and in policy. People are prone to be manipulated. There exist many techniques to manipulate someone without him or her knowing it. These methods are based on basic human brain behavior principles and they work almost perfect in the natural environment. In the case of cooperation word power and our human diversion of the natural environment which is getting bigger and bigger, we become vulnerable.

Manipulation is, according to one of the numerous definition, the use of unawareness, insecurity, kindness, naivety, anxiety, and politeness to achieve own, usually hidden, goals and plans. These could be even very petty and, in our view, trivial or dishonorable. It can be also objectives related to full subjugation of the individual, specific groups, or nations. Therefore, to the manipulator, psychical manipulation means misuse of own predominance regarding quantity and type of information or access to information, intelligence, verbal capability and eloquence, current circumstances or situation, various psychotechnics, methods, and strategies to influence decisions of individuals for own benefit (Christie, Geist 1970).

1.1 Machiavellianism

Machiavellianism in psychological view is a summary of cynical beliefs about the nature of man, his manipulative techniques, and the forms of behavior. Machiavellianism is focused on controlling and influencing others to achieve own benefit in order to achieve own requirements (Výrost, Slaměník 1998).

Machiavellianism refers to behavioral strategies that involve manipulating others to achieve personal goals and increase and maintain control over others. Acting of people, who reach high scores in the test of Machiavellianism is cold, full of intentional lies and compliments and it is also characterized by lack of moral. (Grams, Rogers 1989).

The objective of Machiavellianism is to keep the public busy and do not provide them any free time to think about the most important principles and the core of the issues. This method creates and manipulates the crises related to the world and life in a matter of economic, violence, etc. Moreover, it encourages the public to admit persistent harm represented by the restriction of civil rights or gradual removal of public services. (Machiavelli 2007)

A problematical side of the Machiavellian type of person, who may present a certain extent of danger for today´s world, is a lack of loyalty and reliability, self-interest and related profit-seeking behavior. It allows the manipulator to act unpredictably and it allows to his potential "victims" justifies the need for achieving the desired goal. If the merchant would follow this principle in achieving personal goals, this behavior could have in particular negative impact on his safety.

A bogeyman of all business activities is the idea that an employee decides to leave his job and begins to work as an employee of another organization or as a civil servant to fulfill his personal ambitions. In this situation, this character trait is inappropriate. Another situation would be if such “opportunistic” actions were committed during the execution of the task entrusted to it, so if it acted on behalf of the public interest, respectively in the interest of its organization or state. In that situation, such a procedure would be desirable. The same opinion can be also given in relation to another negative character trait, namely unreliability. In our view, a lack of loyalty, if it is not just pretended to obtain relevant information of a given task, wouldn´t be a specific personality deficiency discriminating the candidate for a job. It may be considered a "personal disadvantage" of profession performance. Forasmuch as loyalty is a "moral value" and not a psychological feature, it cannot be built or "instilled" or enforced; a person has it or not. (Wrobel 2008; Vernon, Villani, Vickers, Harris 2008).

Nowadays a number of questions that psychological sciences, theory and practice of business and business behavior deal with together are growing. The modern trade of companies is becoming more and more challenging and it demands the trader to combine synergistically theoretical and practical knowledge and experience of different disciplines. In many management approaches and solutions, an interdisciplinary approach is essential. Psychological sciences offer traders a whole range of methods and procedures to improve their mental conditions. They are important for the trading process and related employee management and for influencing buyers to reach the company goals. They give the trader an opportunity to uncover and analyze the causes of the often irrational behavior of others in the work and non-work processes. They teach him to identify and respond to various behaviors of employees, to look for motivational factors, thus increasing the performance of the individual as well as the entire working group and ultimately the whole business (Viestová 2001; Birknerová, Frankovský 2013).

2 Overview of CASADI structure

The first step in compiling the CASADI was to gather a set of statements expressing ideas about the respondent's personal opinion on manipulation between people. The questionnaire items were inspired by the book The Prince by Niccolo Machiavelli (2007). These thoughts influence how person interprets events and behavior. Table 1 gives an overview of the factors CASADI and the terms that the scales measure.

Application of CASADI

CASADI may be useful in business practice to obtain information about opinions on the Machiavellian traits of traders. Such information may be useful during and before the business meeting itself. Furthermore, CASADI may be also useful in various training courses for people in the business. In education, CASADI may be used in the educational process at the university and for counselling their future employment. It

can be also used for selection and counselling of trading and manufacturing companies.

Tab. 1: CASADI scale and its description

Scale	Number of items	Description
Calculativeness	5	The items detect how intensive are people beliefs that it is necessary to keep people manipulated at all costs and that they take control by manipulating others.
Self-Assertion	4	The items detect, how intensive are people beliefs that person is reliable just in case that he relies on himself and his own capacities and that he must avoid allies who are more powerful than he is.
Diplomacy	8	The items detect people´s tendency to define themselves by a constant collecting of information that can use for their own benefit later and constant surrounding themselves by capable people whom they express their generosity and appreciation at the right moment.

2.1 CASADI tools

The respondent writes his /her answers directly into the questionnaire (form). When the responses are completed, they are rewritten manually into the IBM Statistics SPSS statistical software, which evaluates the record and generates a CASADI results report.

Conditions of questionnaire use
The normative group was consisted of twenty years old people and older. The CASADI questionnaire can be administrated and interpreted also by paraprofessionals without special testing training. CASADI is suitable for individual and mass use.

Administration
Respondents record all their demographic data, such as age, gender, residence, work area, etc. to the provided space in the questionnaire. After that, it is appropriate to follow the instructions with them so that they can be sure that they understand the method of evaluation. They use a 5-point scale to indicate how suitable the statement is for them. The answer options are 0 (completely disagree), 1 (disagree), 2 (mostly disagree), 3 (mostly agree), 4 (agree), 5 (completely agree).

Administrators should remind the respondents to evaluate the validity of each statement and choose only one answer for each item. If a respondent wants to change an answer, he can do so.

Presence of the administrator during testing is appropriate but not required. People with well-developed language skills should be able to fill in the questionnaire just based on instructions reading. CASADI should carry out in a tranquil environment without any distractions. If the CASADI is implemented in a group, the environment should be arranged so that the respondents have sufficient privacy. Usually, 10 to 15 minutes are sufficient to complete the CASADI depending on respondent reading skills and understanding the questions.

Scoring and drawing up a profile
CASADI is scored using the IBM Statistics SPSS statistical software. Administrators should review the questionnaires as soon as they are completed, to ensure that no item is left unanswered. If unanswered items are found, they ask the respondent to answer them and to check a few previous and following items to correct possible errors. If unanswered items are still found, the evaluation program informs you that the results are not valid.

2.2 Interpretation of CASADI

Calculativeness – Opportunism factor refers to people who believe that controlling people should be kept at all costs. They maintain an opinion that it is necessary to tell others what they want to hear and to gain knowledge to control others. Opportunistic people think that when two compete, it is necessary to recognize whose victory is more profitable to them and that it is always profitable to rely on their own ability to control other people.

Self-Assertion – Assertiveness factor refers to people who consider a person reliable just in case he relies on himself and his own capacities. Successful person has to keep in mind that he must avoid allies who are more powerful than he is. This factor supports the idea that if someone helps others to take control, he undermines his own ability to take control. Subsequently, one, who wants to maintain control, has to consider all the necessary difficult preventive actions in advance and carry them out at the same time so that he has to no longer come back to them.

Diplomacy – People with the high rate of diplomacy are characterized by constant collecting of information that can use later for their own benefit. They use diplomacy to control others and prefer false and indirect communication. These people surround themselves by capable people and society in general and they express generosity and appreciation to them at the right moment.

2.3 Development and validation of CASADI

The pre-research of the own methodology (questionnaire) making is consisted of 21 items on a sample of 685 respondents. During pre-research, there were extracted three factors (opportunism, power, diplomacy) by the factor analysis and based on it, the new methodology name CAPODI was created. By further developing the methodology, the questionnaire items were reduced due to the low value of their communalities. Based on the results of item reliability analysis for individual extracted factors, items 5, 10, 12, and 20 were not included in the factor score calculations or other analyzes. Based on the calculations, it can be concluded, that a further change in the number of items that each factor contained would not result in an increase in reliability.

CAPODI[1]

To what extent does each of the following statements reflect you? Please, rate how much you agree or disagree with the following statements so you choose a number on the scale that reflects your opinion.

Completely Disagreee 0	Disagree 1	Mostly Disagree 2	Mostly Agree 3	Agree 4	Completely Agre 5

1.	It is necessary to constantly collect information that can be later used for own benefit.	0	1	2	3	4	5
2.	Anyone who wants to maintain control has to consider all the necessary difficult preventive actions in advance and carry them out at the same time so that he has to no longer come back to them.	0	1	2	3	4	5
3.	To control others, neither merit nor happiness is necessary, but rather skilful diplomacy.	0	1	2	3	4	5
4.	Although it is easy to	0	1	2	3	4	5

[1] The name of the methodology CAPODI is the acronym created from syllables of the terms in Slovak language - Calculativeness, Power, Diplomacy

	convince others of something, it is important to maintain this belief at all costs.						
5.	It does not matter the means that lead to success.	0	1	2	3	4	5
6.	It is necessary to tell people what they want to hear.	0	1	2	3	4	5
7.	It is necessary to gain knowledge so that they can be used to control others.	0	1	2	3	4	5
8.	If someone helps others to take control, he undermines his own ability to take control.	0	1	2	3	4	5
9.	In the enforcement of own opinion, it must be assumed that people believe in what they want to hear.	0	1	2	3	4	5
10.	Helping others is pointless unless others know about it.	0	1	2	3	4	5
11.	Control over people must be kept at all costs.	0	1	2	3	4	5
12.	It is important to bear in mind the danger of not recognizing incipient evil.	0	1	2	3	4	5
13.	If two people compete, it is important to recognize, whose victory is more profitable for you.	0	1	2	3	4	5
14.	Taking control by manipulating others is beneficial.	0	1	2	3	4	5
15.	To be considered a person in the right place must be surrounded by capable people.	0	1	2	3	4	5
16.	It is important to express generosity and appreciation to people at the right moment.	0	1	2	3	4	5
17.	People are considered reliable just in case they rely on themselves and their own capacities.	0	1	2	3	4	5
18.	Only one thing must have a successful person always in mind: avoiding allies stronger than himself.	0	1	2	3	4	5
19.	It is important to let others know that you are not offended by the truth.	0	1	2	3	4	5
20.	It is always more effective to act vigorously than carefully.	0	1	2	3	4	5
21.	Person may be permanently successful just in case, that he can adapt to changing conditions.	0	1	2	3	4	5

The modified methodology was designed and validated as part of a first research project for the purpose of detecting Machiavellian traits in business behavior. There were extracted three factors (opportunism, assertiveness, diplomacy) by the factor analysis and based on it, the new methodology name CASADI was modified.

CASADI[2]

To what extent does each of the following statements reflect you? Please, rate how much you agree or disagree with the following statements so you choose a number on the scale that reflects your opinion.

[2] The name of the methodology CASADI is the acronym created from syllables of the terms in Slovak language - Calculativeness, Self-Assertion, Diplomacy

Completely Disagreee 0	Disagree 1	Mostly Disagree 2	Mostly Agree 3	Agree 4	Completely Agre 5

1.	It is necessary to constantly collect information that can be later used for own benefit.	0	1	2	3	4	5
2.	Anyone who wants to maintain control has to consider all the necessary difficult preventive actions in advance and carry them out at the same time so that he has to no longer come back to them.	0	1	2	3	4	5
3.	To control others, neither merit nor happiness is necessary, but rather skilful diplomacy.	0	1	2	3	4	5
4.	Although it is easy to convince others of something, it is important to maintain this belief at all costs.	0	1	2	3	4	5
5.	It is necessary to tell people what they want to hear.	0	1	2	3	4	5
6.	It is necessary to gain knowledge so that they can be used to control others.	0	1	2	3	4	5
7.	If someone helps others to take control, he undermines his own ability to take control.	0	1	2	3	4	5
8.	In the enforcement of own opinion, it must be assumed that people believe in what they want to hear.	0	1	2	3	4	5
9.	Control over people must be kept at all costs.	0	1	2	3	4	5
10.	If two people compete, it is important to recognize, whose victory is more profitable for you.	0	1	2	3	4	5
11.	Taking control by manipulating others is beneficial.	0	1	2	3	4	5
12.	To be considered a person in the right place must be surrounded by capable people.	0	1	2	3	4	5
13.	It is important to express generosity and appreciation to people at the right moment.	0	1	2	3	4	5
14.	People are considered reliable just in case they rely on themselves and their own capacities.	0	1	2	3	4	5
15.	Only one thing must have a successful person always in mind: avoiding allies stronger than himself.	0	1	2	3	4	5
16.	It is important to let others know that you are not offended by the truth.	0	1	2	3	4	5
17.	Person may be permanently successful just in case, that he can adapt to changing conditions.	0	1	2	3	4	5

Evaluation of analyses was proceeding based on Kaiser normalization criteria where we determined fixed number of factors (3 factors) and value of communalities correlate at the level of 0,6. Proposed three-factor structure of analysing Machiavellian traits in Business behavior and its basic validation parameters affirm a meaningfulness of proposed specification for creating methodology to indentify these traits in business behavior.

3 Conclusion

Professional manipulators use thousand of different tactics to get others to agree. Business policy follows the basic psychological principles that control human thinking and in this way this tactics become effective. Basic principles as reciprocity, stability, social influence, sympathy, authority and shortage, become a part of our lives and ways of integration into society.

A professional or trader can achieve an incredible power by using the right way of manipulation and its implementation in the fulfilment of the requirements for the sales of goods, services, acquisitions or donations, votes or even a "simple" consent of the other party.

It is up to each of us how do we see a leader or trader that is trying to manipulate us. It is up to each of us who do we trust in and give in.

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Primary Paper Section: A

Secondary Paper Section: AE, AN

THE COMPETENCY FOR BUILDING SCHOOL-FAMILY PARTNERSHIPS IN PRESERVICE TEACHER EDUCATION: THE ROLE OF STUDY LEVEL, EXPERIENCE WITH SCHOOL-FAMILY COOPERATION AND SELF-RATED PERSONALITY

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This study complements the solutions of the research project KEGA No. 007UKF-4/2020 "The topic of a family in a system of pre-service teacher preparation."

Abstract: The aim of the present study was to verify differences in self-rated competency of students based on various factors – the level of study, experience and self-rated personality. The research data were obtained from self-report questionnaires distributed to 138 teacher candidates. The questionnaire consisted of four parts – personal information, personality self-assessment, experience with school-family cooperation and competency for school-family cooperation. The competency was significantly higher in students with more experience related to real interactions with parents, younger students, and finally in students who rated themselves as extroverts. Methodological issues are discussed and some suggestions for future research and pre-service training are presented.

Keywords: teacher training, future teachers, competencies of teachers, school – family cooperation, parental involvement, self-report, experience.

1 Introduction

There is no doubt about the fact that the more complex the socio-economic and political conditions for the existence of a society are, both nationally and internationally, the more demanding is the work of the teacher at school as well as the role of the parent in the family. This is absolutely true of our pedagogical reality in which globalizing processes enter with their many consequences for the most important institutions of education - school and family. Both institutions present for pupils the environment that provides them, through education and socialization, with a basis for their comprehensive development and participation in the surrounding world. Despite the fact that each of the institutions has its specific functions in this process, they share a common interest in the well-being of the child / pupil. Having in mind the Ecological Theory of U. Bronfenbrenner (1986), the educational areas of children are interconnected. As the author suggested, the development of children is best understood as taking place within nested contexts, first of all, family settings, and school and community surroundings (educational effects of children are determined by effective relationships among these contexts).

In this sense, we come to the topic of the cooperation between the two institutions of education and their main protagonists - teachers and parents of pupils. The school-family cooperation is an "old-new" topic in the pedagogical field. It is determined by socio-historical factors, especially by the life of the current family, the image of the school as well as by the preparation of future teachers to initiate and manage this area of contacts with pupils' parents. Our interest in the topic of school-family cooperation has its roots in our contacts with future and novice teachers. In previous years, there were several efforts to implement new elements related to a given issue into teacher training. However, during the interviews with novice teachers, we often find out that it is stressful for them when they are expected to communicate and cooperate with pupils' parents. The students consider this area of teacher training (compared to the didactic level) to be weaker. This corresponds to several foreign researches on "novice teachers" or "transition-reality shocks".

According to more recent research findings carried out by V. Casper (2011), the insufficient training of future teachers for working with the family may result in fears of novice teachers that they are incompetent in this area, that parents are strange to them, and that they do something wrong when contacting parents. They are afraid that parents will be aggressive and unable to listen to them. Moreover, they are worried about problems when communicating with parents from different cultural backgrounds (with a mother tongue other than the official state language); they are afraid of overall communication with parents, mainly, of resolving differences of opinions between teachers and parents. They are also worried not to have enough time to contact parents as well as not to be familiar with the ways to communicate negative information to parents about their child's learning outcomes and behavior (for more details, see Buchanan, K. S. - Buchanan, T. D., 2019, p.5).

These outcomes are alarming as it is clear that school-family partnership has a crucial impact on the education effectiveness. Based on T. Smith & et al. (2011), it is a pupil's progress in terms of school attendance, more positive attitudes, better grades, increased motivation for better grades, better test scores as well as better attitudes to school, school duties and homework, the reduction of school absence and drop out and the enhancement of academic achievements in general. According to A. P. Turnbull (1995), an effective partnership has positive effects for entire school in many ways (high levels of trust, better morale, more positive school climate, better problem solving etc.). On the other hand, the partnership is the way for boosting families' quality of life (for more details, see also Gentry, R., 2012). Consequently, in a professional area, there exists a consensus about the importance of family-school cooperation for all people who are involved in this process. The great body of research findings from various countries serves as a clear evidence (Epstein, J. L et al., 2009). According to A. Hindin (2010), more research is carried out on practicing teachers, but it is necessary to have answers about pre-service teacher education and competencies of teacher candidates in this area. The author underlines that there exists a need for research, which addresses the ways teachers develop their believes and knowledge about parent involvement. Similarly, Denessen et al. (2009) strongly emphasize that teachers are expected to build relationships with their pupils' parents, but it is important to explore how they develop their knowledge and competencies regarding their relation to parents.

Concerning the outcomes of many researchers (e.g., Bandura et al., 1993, 1999; Guskey, 1988; Hoover-Dempsey et al., 1992; Woolfolk, Rosoff, & Hoy, 1990, Dauber & Epstein, 1993; Hoover-Dempsey & Sandler, 1997), Kathleen V. Hoover-Dempsey et al. 2002, (authors of TIP – „An in-service teacher education program for enhancing parental involvement"), pointed at factors, which are crucial in school-family cooperation. They analyzed a personal sense of teaching efficacy, teacher perceptions of parental efficacy for helping children learn, teacher attitudes about parental involvement in general and teacher beliefs about the importance of specific involvement strategies.

In this context, we would like to mention that the issue of teacher readiness for teacher-parent cooperation is examined by some authors through the concept of "self-efficacy", a personal perceived competency (based on the socio-cognitive theory of A. Bandura). According to P. Gavora (2012), the assessment of teachers' qualities by teachers themselves is the most important self-regulatory element in their work. It greatly influences a teacher's approach to the development of a pupil towards their class. Through the assessment of their qualities, the teacher activates their professional competencies and acts according to them. Concerning teacher-parent cooperation in Slovakia and the Czech Republic, the concept of self-efficacy was applied by P. Gavora, J. Majerčíková and Z. Syslová (2013, 2014).

In general, researchers all over the world provide a lot of findings, which are not quite consistent. Therefore, it is

important to build a new insight for the future. G. Hornby has done a lot in this area. He researched various dimensions of family-school cooperation from the perspective of professionals (including teachers), parents and others involved in this process. The author pointed out the most serious barriers that can negatively enter into their mutual relations. It is primarily the perception of parents by professionals where the following attitudes towards parents may be observed: parents as problems, parents as adversaries, as vulnerable ones, parents as less able; those, who need a treatment, parents as causal and those, who needed to be kept as a "professional distance." The author further analyzed the barriers concerning parents and family, pupils, parent-teacher contacts as well as socio-political and economic factors (Hornby, G. – Lafaele, R. 2011).

A useful help for us, both for the educational practice and the research field, is a framework of teacher competencies created by Vidović & Velkovski et al. (2013). They offer a framework of teacher competencies for the 21st century developed within the ATEPIE Project. It consists of six areas (there are indicators for each main component – knowledge, skills and values):

1. Learner and learning.
2. Teaching and assessment.
3. Learning environment.
4. Professional development and responsibility.
5. School, family and community cooperation.
6. School development and improvement of the education system.

Our interest is concentrated on the area School, family and community cooperation. The following are the requirements for teachers derived from the above mentioned document:

1. „A teacher should have knowledge and understanding of: expert associates and other professionals in and out of school towards ensuring the well-being of each child, the importance and impact of family involvement in school life, approaches to encourage and sustain the partnership between parents (family/cares) and schools, and the possibilities and resources of the local community to support families and children.
2. A teacher should be able to: establish cooperation and participate in teamwork in diverse cultural contexts, communicate effectively and respectfully with teachers, colleagues, parents, educational experts and the representatives of authorities, apply different strategies in order to develop an effective partnership between family, school and community.
3. A teacher should: be open and ready to cooperate with other experts, parents and the wider community, nurture relations with other actors based on empathy, mutual respect and tolerance of diverse opinions, promote mutual trust and confidentiality in relations with students, colleagues and parents, be ready to take action and promote the rights and interests of each child in the school and community" (Vidović & Velkovski et al., 2013, p. 34, 35).

From our point of view, the deficit and unpreparedness of the teacher in any of the above mentioned areas of cooperation with the pupil's family (knowledge, skills and attitudes) represent the barriers in building their mutual relationship, mutual trust, sincerity and respect. In developing and planning pre-service teacher training programs, it is very difficult to find a right balance among theoretical subjects (providing teacher candidates with appropriate knowledge), future teacher practice (skills and experience with parents), general moral education and socialization of young adults.

Based on the study of relevant literature, previous research activities of the authors and their practical experience in teacher training, the aim of the present study is to provide the evidence of factors that have an impact on students' self-reported competency to build an effective school-family partnership. The role of study level, personality and experience in self-reported competency to support the cooperation with parents was verified. First, it was expected that students who study at higher level, feel more competent to work with families than students who study at lower level. Secondly, students who reported more experience were expected to feel more competent to work with families than students with less experience. Finally, we expected that students who perceive themselves as extroverts feel more competent to work with families than students who consider themselves introverts.

2 Methods

The present study involved 138 students – future teachers: 104 students were graduating from the bachelor's degree of preschool and elementary pedagogy and teaching for primary education and 34 students were graduating from the master degree of the same major. The sampling was non-random and was based on accessibility.

The study was based on the data obtained from self-report questionnaires distributed to the students. The questionnaire consisted of four parts – personal information (age, gender, major), personality self-assessment (introvert or extrovert), experience with school-family cooperation (four items were measured on five-point scale; for the internal consistency test, see Table 1), and finally, competency for school-family cooperation (16 items, based on framework developed by Vidović & Velkovski, 2013, were measured on five-point scale; for the internal consistency test, see Table 1). The scale ranged from 1 (very good) to 5 (very poor). The reliability of this instrument was verified by the use of the Cronbach's alpha. For individual scales, the internal consistency ranged from good (0.864) to questionable (0.689).

Table 1. Internal consistency of the scales and the content of the scales

Scale (content of items)	Cronbach's Alpha	Number of items
Experience with school-family cooperation (family anamnesis, planning of school-family cooperation, participating at the meetings)	,726	4
Competency for school-family cooperation – Scale 1 Knowledge (methods and forms of cooperation, typology of parents, understanding barriers of cooperation, understanding the role of supporting professionals)	,689	4
Competency for school-family cooperation – Scale 2 Skills (organization, communication)	,858	2
Competency for school-family cooperation Scale 3 – Personality (open-minded, empathetic, motivated, patient, cooperative, active, respectful, tolerant, helpful, assertive)	,864	10

The data were analyzed by IBM SPSS Statistics. The normality analysis was carried out in order to decide whether the parametric tests are applicable. The coefficients of skewness and kurtosis suggest the distribution is normal. We used the Student T-test and the Pearson correlation coefficient to test the differences and verify the relationships. The level of the statistical significance was set on p=0.05.

3 Results

The competency for school-family cooperation and study level

The analysis of differences in competency for school-family cooperation showed that students at the higher level of study rate their knowledge regarding school-family cooperation statistically significantly worse ($p \leq 0.001$) than students at the lower level of study. The scores of Scale 2 Skills and Scale 3 Personality did not differ significantly.

Table 2. Differences in competency for school-family cooperation between younger and older students

Variable	Level	n	AM	SD	df	t	p
Scale 1 Knowledge	Bachelor	104	8,12	1,90	136	-4,17	<0,001
	Master	34	9,82	2,54			
Scale 2 Skills	Bachelor	104	4,94	1,98	136	-,303	,762
	Master	34	5,06	1,82			
Scale 3 Personality	Bachelor	104	15,48	4,57	136	-,955	,341
	Master	34	16,29	3,37			

Notes: n – sample, AM – arithmetic mean, SD – standard deviation, t – test criterion, df – degrees of freedom, p – statistical significance level

The competency for school-family cooperation and experience with school-family cooperation

Secondly, the relationships among experience and three competency scales were verified. The results suggest that there are significant relationships between experience and each of the scales - knowledge, skills, and personality. The competency self-rates rise with more experience.

Table 3. Correlations of experience with school-family cooperation and three scales of competency for school-family cooperation

		Experience	Scale 1 Knowledge	Scale 2 Skills	Scale 3 Personality
Experience	r	1	,221**	,360***	,355***
	n	138	138	138	138
Scale 1 Knowledge	r	,221**	1	371***	,360***
	n	138	138	138	138
Scale 2 Skills	r	,360***	,371***	1	,470***
	n	138	138	138	138
Scale 3 Personality	r	,355***	,360***	,470***	1
	n	138	138	138	138

Notes: r – Pearson correlation coefficient (* correlation is significant at the 0.05 level, ** correlation is significant at the 0.01 level, *** correlation is significant at the 0.001 level), n – sample

The competency for school-family cooperation and self-rated personality

Finally, we decided to verify differences between introverts and extroverts. The analysis showed that students who perceive themselves as extroverts feel more competent in school-family cooperation regarding skills – organization and communication – than students who rate themselves as introverts. There were no significant differences in the remaining scales.

Table 4. Differences in competency for school-family cooperation between introvert and extrovert students

Variable	Type	n	AM	SD	df	t	p
Scale 1 Knowledge	Introvert	40	8,90	2,17	136	1,248	,214
	Extrovert	98	8,39	2,19			
Scale 2 Skills	Introvert	40	5,55	1,90	136	2,273	,025
	Extrovert	98	4,73	1,91			
Scale 3 Personality	Introvert	40	16,55	6,18	136	1,520	,131
	Extrovert	98	15,33	3,23			

Notes: n – sample, AM – arithmetic mean, SD – standard deviation, t – test criterion, df – degrees of freedom, p – statistical significance level

4 Discussion

The aim of the present study was to verify differences in self-rated competency of students based on various factors – level of study, experience and self-rated personality. The data did support our hypotheses, however, some surprising findings emerged.

First, we verified the differences in competency for school-family cooperation based on study level. Surprisingly, the data showed that students graduating from the master level rated their knowledge regarding school-family cooperation worse than the younger students. One of the possible explanations may relate to the fact that students in the final grade of their teacher training program, who have already completed their practice training, understand the complexity of school-family partnership building in the real context. As they realize they start their teacher career soon, they may feel more pressure on their competency than students who have not finished their training yet. It is important to note that the scores suggest that students rate themselves rather positive, the mean scores of both groups lie at the lower end of the five-point rating scale.

Secondly, we determined the relationships among experience, school-family cooperation and three aspects of competency – knowledge, skills, and personality. The correlational analysis showed that the competency self-rates rise with more experience. Students, who report more experience with school-family partnership building, rate all the aspects of competency higher. Generally, the experience in the whole group was rated rather negative as the means lie at the higher end of the five-point rating scale. It means the students did not enter many real-time interactions during their training and thus they do not feel competent. The training should reflect this and provide more opportunities for interactions with the community and individual parents (meetings, consultations). Our findings are similar to those of Denesen et al. (2009) who report that, in general, students do not feel well prepared to communicate with parents when starting their teaching career.

Finally, we verified the differences in competency for school-family cooperation regarding knowledge, skills and personality between two personality types. The data support our hypothesis. We expected extrovert students to rate themselves more competent than introvert students. The results show that the students who are extroverts feel more competent in the area of skills, as measured by items addressing organization and communication. These findings may be interpreted in terms of characteristics of this personality type – extroverts are communicative, enthusiastic, action-oriented, and they enjoy interacting with people (Goldberg, 1990). Extrovert students feel more comfortable in social interactions, including interactions with parents.

It can be stated that our study presents some new results. However, there are some issues we did not cover properly and may serve as suggestions for future research. First of them, the personality was assessed by a simple question – a validated questionnaire should be used to obtain more valid results. Similarly, the measure used to assess the competency is not well validated and it is needed to test its psychometric properties in a representative sample to provide data on its validity and reliability.

The obtained results suggest some implications for future research – it is important to study an entire system of school-parent partnership and explore the effect of the barriers that threaten the partnership success. Most studies (e.g. Hindin, 2010) focus on how various groups of parents (based on education, ethnicity, socio-economic status etc.) differ in their level of involvement. There is less evidence about how the personality of the teacher candidate may influence their attitudes, expectations and self-rated competency. Denessen et al. (2009) found out that students whose parents showed high levels of involvement in the past, reported positive attitudes towards parents. These positive attitudes were not related to teacher training or to the level of competency regarding parent-teacher communication.

Based on the results, some suggestions for pre-service training may be formulated: it is important to understand barriers that may threaten school-parent partnership and pay attention to them within the pre-service training (e.g. Hornby and Lafaele 2011).

The theoretical basis of the study and the acquired empirical results lead us to believe that the researched area of teacher's work and their competencies deserve the same attention as their didactic preparation. However, the current reality of universities in this regard is more proclamatory than practical. The fact the parent is the first and, for the child (pupil), the most important educator, must be reflected in the curriculum of pre-service

teacher training. The obtained results should be already taken into account when selecting teacher candidates for university studies in the teaching profession. It turns out that it is desirable to admit teacher candidates not only on the basis of the results of their secondary school studies, but also to include at least interviews with teacher candidates in the admission process. Concerning the first contacts with the teacher candidates, it is possible to determine their communication skills, which are improved in the study process. When innovating teacher training study programs, it is necessary to respect the fact that in addition to theoretical knowledge, the future teacher has to gain sufficient personal experience in communication with parents, acquire the ability to work with pedagogical documentation related to the social (family) environment of the pupil and its peculiarities as well as gain competencies for developing pedagogical culture of parents etc. One of the ways to eliminate barriers in (novice) teacher - parent communication is to re-evaluate the content of pedagogical practice with respect to the various roles that the teacher implements in practice as well as finding a balance between theoretical and practical component of training.

5 Conclusions

The aim of the present study was to verify differences in self-rated competency of students based on various factors – the level of study, experience and self-rated personality. The study results are based on self-report of 138 future teachers who rated their experience with school- family cooperation, competency (measured by three aspects (knowledge, skills, personality), and their personality type. The competency scores are higher with more experience. Students who rate themselves as extroverts feel more competent to work with parents in their future practice. We suggest to employ validated and more detailed measures in future studies to provide a complex understanding of how the competency for school-family partnership is built.

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Primary Paper Section: A

Secondary Paper Section: AM

SIGNIFICANCE OF EVALUATION IN ART EDUCATION IN THE PROCESS OF PARTICIPANT'S SELF-EXPRESSION

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The paper is one of the outputs of the project KEGA 003UK-4/2020 Art Education Evaluation.

Abstract: The paper analyzes the possibilities of Art Education evaluation at primary schools. Art Education gives pupils opportunity to express themselves through art. Evaluation processes is a possibility to diagnose and evaluate the process of art making and the final product. The paper presents an analysis and interpretation of different forms of art evaluation in the context of expressive stimuli.

Keywords: Evaluation, expression, artistic creation, interpretation, diagnosis, self-expression, pupil.

1 From self-expression to expressive work

Maintaining and increasing self-esteem has always been considered a basic human need in terms of social life. Self-expression also plays an important role in the creative process of children and students. The creative process is also influenced by the author's self-image, motivation, social interactions and, last but not least, the assigned topic. Self-esteem has been regarded as the highest form of artistic expression of pupils. Art is a process in which authors express their emotions and personal statements in a particular socio-cultural system forming their personality (Helus, 1973). The artistic space is full of situations which at first glance carry an idea representing a consistent structure (in terms of internal logic with accompanying ways of expression in the context of emotions, activities). However, the environment or the very interaction with another person can spark ideas influenced by personal experience, experience of others, or opinion of others (compare Kováčová et al, 2019). For this reason, self-expression is important for individual and group artistic creation (Valachova, 2020).

We understand expression in Art Education in the context of artistic expression and its content. Expression is a specific, emotionally charged, as Slavík (1997) claims, and a more or less deliberately structured representation of one's inner world. In the broadest sense, the word expression is perceived as a concrete, material or physical, sensory perception of a specific meaning. This concept stands on two basic pillars. The first pillar is the sense-perceptible form, the second pillar is the meaning expressed in this sense-perceived form. In addition to the aforementioned, expression is a process that gives an external form to various internal contents (Eco, 2015). Based on the above, it is possible to perceive artistic expression as a form of cognition, construction of knowledge through artistic expression (Valachová, Kováčová, 2020).

With regard to such understanding, expression mean finding one's own way of expressing one's inner personal perceptions through gestures, shapes, colours, rhythm, melody, etc. The key aspects in such understanding of expression (and expressiveness) are the shift from the inside out and the emphasis on the emotional nature of the content (Valachová, Kováčová, 2020).

In a narrower sense, the term expression refers to the field of aesthetic and artistic expressions. Also, words like art and artistic point to the importance of one's own expression. On the one hand, expressiveness is associated with nature and immediacy, has a significant relationship to sensuality, emotions, instincts, and on the other hand, expression is related to the artifact.

The above forms of perception of the term expressiveness point to the principle of expressing "something in something". This means that expression is metaphorical and there is also the question of understanding the nature of expression. Goodman's theory of expressiveness (2007) provides a useful theoretical framework. According to the author (2007), there are two ways in which we can represent reality, that is, shape its meaning – "label" and "sample." With regard to the label, we talk about denotation - Denotation is the relationship between a "label" and what it labels (a word or picture). According to Goodman (2007), we give such meanings primarily to things and events. In this case, the direction of reference is from the label to the thing itself. However, there is a second way, a reverse reference - exemplification. This method is based on design and is more typical of properties and conditions. Ricoeur's (1997) understanding should also be mentioned – he perceives meaning as the inner meaning of an expression and distinguishes it from the meaning that points to that inner meaning of an expression of reality.

2 Art Education Evaluation at School

In general, according to Slavík (1999), evaluation is "comparing something with something in which we distinguish better from worse and choose better, or we try to find a way to correct or at least improve the one which is worse." From a pedagogical point of view, Slavík (1999, p. 181) states that the term evaluation is understood as *"a multilateral evaluation activity that aims at providing strategic evaluation information about the whole pedagogical reality, in particular to measure, compare and assess educational programs, concepts of education and their use in practice. In a slightly different sense, all the results of evaluation processes form an evaluation; at school, these are, for example, assessments, characteristics, testimonials, certificates and the like"*.

Planning, implementation and evaluation are important and inseparable parts of every educational process. For this reason, too, evaluation should be defined in the context of *"systematic collection, classification and evaluation of data according to certain criteria in order to take further decisions that will significantly affect the further activity of the participants"* (Pavlov, 1999, p. 10) and should be part of the evaluation of each art class. According to Kolář et al. (2012), in the field of education, evaluation is perceived as an evaluation process/ an evaluation analysis according to predetermined criteria. In the context of the statement, it is an analysis of facts, facts related to the effectiveness of the results of institutions and persons providing formal and non-formal education. This can cover school evaluation, teacher evaluation, external evaluation, internal evaluation, evaluation of educational processes (Danek, 2019).

It can be stated that evaluation is a means by which the level of abilities of the evaluated object is compared with regard to a group or several entities in a similar situation (Valachová, Lipárová, 2020). Evaluation and its form depend on the area it is to take place. Work performance evaluation leads to the optimization of the work process. Self-evaluation can serve as a source of self-regulation, self-improvement, etc. The main feature of the evaluation is the subjective attitude of the evaluator, their values and experiences on the basis of which they can balance and draw own final conclusions (Read, 1976).

2.1 School evaluation

School evaluation is a specific type of evaluation, especially when the evaluation processes and their manifestations affect teaching methods (Kalhous, Obst, 2002).

School evaluation is part of a three-phase teaching process which consists of preparation, implementation and evaluation. The third phase of the process brings various pitfalls, as it greatly affects teaching and many other aspects, such as the learning environment, the teacher-student relationship, the student's motivation for self-improvement. At the same time, it provides incentives to improve and streamline the teaching process and evaluates whether pre-set goals were achieved or not. An important part of evaluation is information as it is information which provide answers to the questions – feedback (Uždil, 1988).

Given the fact that evaluation belongs to everyday life, it can be said that we evaluate almost everything – that also applies to pedagogical evaluation, too. We evaluate the goals of the activity, the conditions set for the activity, the suitability and meaningfulness of the means used in the teaching process, etc. We can also evaluate other processes and operations within the teaching activity (Kolář, Vališová, 2009).

As a systematic process that determines the quality of activities and performance, evaluation should cover all these aspects. Evaluation provides feedback to teachers on how pupils progress and at the same time pupils get feedback on the level of acquired knowledge and their overall progress. In the long run, evaluation provides teachers with a comprehensive view not only of the study-related progress of pupils, but also the overall development of pupils. Thus, evaluation can serve as a basis for communication with students and parents and also help decide on the further course of teaching. Evaluation should motivate pupils and provide them with the opportunity for further development (with a view of a possible future profession).
Evaluation brings various pitfalls, including the fact that both the teacher and the pupil may be too focused on giving a good performance. Achievement failures can lead frustration and resignation. Evaluation preparation is also too time-consuming (Valachová, 2012).

Evaluation is an integral part of teaching, as it provides partial as well as overall overview of achievements of all parties involved, i.e. on the one hand, the teacher's ability to manage their role in the educational process and to pass on all the information so that the pupil is willing and able to accept it, and on the other hand, the pupil's ability to acquire required skills and knowledge (Sternberg, 2002). Evaluation should therefore guide the process of teaching and behaviour of both participants on the path towards process optimization (Valachová, 2012).
A new approach to evaluation, as opposed to the traditional understanding of this process, is to accept not only the cognitive dimension of education, but also to place emphasis on the experiential dimension. The main task of such an approach is to make the student take responsibility for their own well-being, their progress and the acquisition of competencies.

It follows from the above that evaluation actually focuses on finding errors, identifying their cause and correcting them. Grade classification states the level of acquired knowledge without an individual approach and is aimed at finding normative deviations, while verbal assessment opens the way to a deeper insight into the overall performance and personality of a pupil. However, the task is not to decide which of these ways to choose, but to combine the two forms of evaluation presented so that they complement each other and thus give a comprehensive picture of the evaluation.

2.2 Art Education Evaluation

The aim of the Art Education is to develop the creative side of a pupil, their imagination, creativity, as well as many other aspects. The scope of these activities includes a wide range of activities aimed at sparking the interest in pupils. This places great demands on the teacher. The teacher often has a difficult task of maintaining discipline in the classroom, unlike a mathematics teacher, where the subject itself arouses a certain degree of respect. Despite the fact that Art Education is an established subject in school education, however, teachers themselves often do not pay sufficient attention to this subject, mainly due to *"the fact that it is a subject perceived as marginal and not very important"*. The subject is often considered to be a form of relaxation and its real purpose is pushed into the background. Art Education tends to be reduced from its original meaning - the teacher should support pupils in their emotional, psychomotor and cognitive visual development (compare Slavík, Chrz, Štech, et al., 2013). It is essential for pupils to understand the features of the visual arts and see them as holders of meaning. In this regard, pupils should be able to interpret them. As a whole, Art Education represents an opportunity for pupils and teacher to exchange information and interact.

Given the diversity of Art Education, it can be confirmed that this subject has many specifics, which, however, require an individual approach of each participant in order to achieve the goal set in the curriculum (Valachová, Lipárová, 2020).

3 Research

The research plan was based on assumptions and available but not yet verified information about the position of Art Education in primary schools and related evaluation.

The research plan was conceived using qualimetrics and combined research design to obtain the most objective data possible. Obtained data were later analysed.

3.1 Research Methodology

The research makes use of both qualitative and quantitative methodology. The aim of the research in terms of qualitative approach is to interpret and understand phenomena using in-depth exploration and description (Strauss, Corbinová, 1999). The aim of the quantitative research is to propose hypothesis, explain phenomena and determine causal connections. The data collected for qualitative research will be of textual and visual nature; in the case of quantitative research data will be of standardized quantifiable nature. According to Hendl (2012), interpretive methods aim at searching for regularities using statistical analysis and quantitative interpretation. Through a complementary approach, the research will focus on the study of didactic method used in an authentic environment in order to obtain a comprehensive picture of the observed educational phenomena. Through a qualitative and quantitative approach, we will be able to describe the research problem from a very detailed point of view.

The subject of the research is the conceptual expression of the researched reality – Art Education evaluation at primary school.

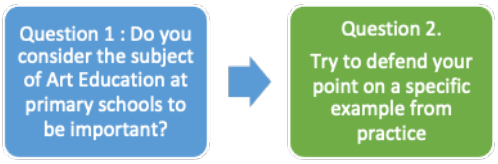
Research Goals:
The main goal of the research was to examine opinions on the subject of Art Education and its evaluation at primary schools.

Research Methods:
The research made use of three basic methods which suited the set research goals the best.

Questionnaire:
It is one of the most commonly used methods in research. Questionnaire asks questions and seeks answers to these questions (Gavora, 2001).

In addition to the identification data, the questionnaire contained only two questions, deliberately formulated.

Figure 1: Questionnaire questions



Source: author's own work

The replies to the first question were interpreted on the basis of statistical methods. The replies to the second question were interpreted on the basis of content analysis.

Text Analysis:
The text analysis and content analysis were used to interpret the second question. The aforementioned methods were also used to analyse statements of the respondents in the second part of the research survey.
Analysis is employed in any research which researches texts. The text is usually understood as a written sequence of statements (Hendl, 2012).

The content analysis is one of the methods used. Content analysis forms the core of the method. The research will be based on several specific procedure. The very name of the research method suggests its nature, i.e. the analysis and evaluation of the content of written texts (Gavora, 2001).

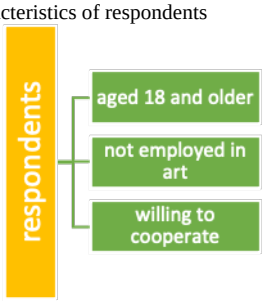
Visual Display Analysis:
In the visual display analysis, we used our own criteria focusing on the visual display - the third part of the research.

The visual part consisted of suggestions for ways of evaluating Art Education at primary schools. The proposals were processed visually and did not correspond to classical evaluation methods such as classification. The intention was to offer new possibilities and ways of evaluating Art Education at primary school.

3.2 Interpretation and Analysis of Findings

Questionnaire Analysis
The questionnaire survey targeted the general population of adult respondents. The respondents were selected based on several basic conditions.

Figure 2: Characteristics of respondents



Source: author's own work

With regard to the above characteristics, the questionnaire was distributed to 270 respondents. We got back 184 questionnaires and the return rate was 89%.

In terms of profession and jobs, respondents were divided into several groups.

Table 1: Groups of respondents

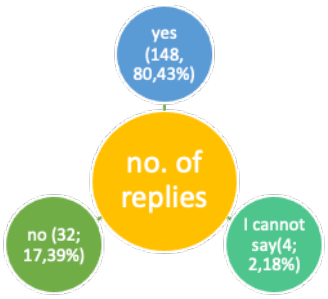
Respondent specification	N	Fields of study
University students	34	languages
		psychology
		philosophy
		IT
Primary school teachers	38	Slovak language
		English language
		civics
		mathematics
University degree	62	the law
		IT, economics
		medicine
		management
		geologist, natural sciences
Secondary education	50	confectioner, seamstress,
		white collar, office
		cleaning services
		fitness and services
		firefighter
		technology
		unemployed
∑	184	

Source: author's own work

Respondents with a university degree made the biggest group, followed by respondents with secondary school degree. Smaller groups consisted of teachers of various subjects at primary school and university students.

After a deeper analysis, we can state that the differences in the answers to the first question were not significant due to the occupation and education of the respondents.

Figure 3: Respondents' replies



Source: author's own work

Based on the results shown in Picture 3, it is evident that up to 80% of our respondents stated that they consider Art Education to be an important subject at primary school. 17% of respondents do not consider Art Education to be an essential subject. Only 2% of respondents could not decide and explained their stance in the second question. Overall, the results surprised us, as it is known that the subject of Art Education is often taught by unqualified teachers, it is not popular especially at the second stage of primary school and other teachers at primary school consider the subject to be a form of relaxation. However, our respondents were inclined to consider the subject to be essential and important at primary school and expressed their opinion in more detail in the following question.

Table 2: Answers to the second question

Yes	develops creativity
	develops imagination
	develops interests
	develops fine motor skills
	develops a relationship with art
	aesthetic feeling
	should be taught differently
	helps to express feelings
	develops a relationship to personal creation
No	there are more important subjects
	all students have good grades

	they can draw at home
	painting supplies are expensive
	good for relaxation
	it's a specialization
I cannot say	I have no good experience
	should be taught differently

Source: author's own work

Based on the table, we have developed a concept map which visualizes data obtained from the content analysis of the second question in the questionnaire. In it, respondents were required to explain their opinion on why they think that Art Education is or is not an important subject at primary school.

The content analysis revealed that the respondents who stated *yes* argued that Art Education develops creativity, imagination, interest, fine motor skills. Less often, respondents argued that Art Education develops a relationship with art, aesthetic feeling.

Some respondents argued that they perceive the subject as important, but they think it should be taught differently. These answers surprised us. There were also opinions that Art Education is important because it helps students express feelings and develops a relationship with personal creation.

Respondents who replied *no* argued that Art Education is not important, because there are more important subjects at primary school and that everyone has good grades. Less often, respondents stated that pupils can draw at home, Art Education is a waste of money and that Art Education is too specific to be taught at primary schools.

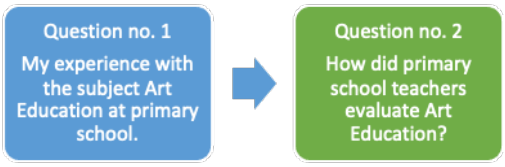
With the reply *I cannot say* only two arguments were stated, namely that the respondents do not have a good experience with the subject and that if the subject were taught differently, they might consider it important.

Text content analysis

The research results prompted us further research the phenomenon of Art Education in terms of its evaluation (Gavora, 2012).

We used the content analysis to examine opinions of students of Art Education study program at university (master degree). During the three academic years, we invited students to write a text in which they would comment on two topics.

Figure 4: Essay questions



Source: author's own work

The sample of respondents consisted of master studies students (first year) in order to have as diversified sample as possible.

Table 3: Sample of respondents

Academic year	No. of students
2018-2019	34 students
2019-2020	36 students
2020-2021	35 students
In total	105 students

Source: author's own work

The range of analysed texts was set at 250-300 words, the average number of words was 273 words.

In the first statement of art education students, we identified the following statements.

Table 4: Results of text content analysis

Experience with Art Education at primary school	positive	I have nice memories
		I've always been looking forward to it
		we had a lot of fun
		we had an excellent teacher
		we did different art techniques
		they didn't force us into anything
		we could do art however we preferred
	negative	annoying teacher
		we didn't do anything
		we just drew
		we just relaxed
		it was not an art class – we had student-teacher meetings
		the art always had to look like the teacher wanted
	Both positive and negative	good in the first stage, terrible in the second stage
		I preferred to go to specialized art school
	I do not remember	it was stressful for me
		I have no memory of it

Source: author's own work

Our respondents attended primary school approximately in the years 2003-2012, which is why we consider their statements to be valid.

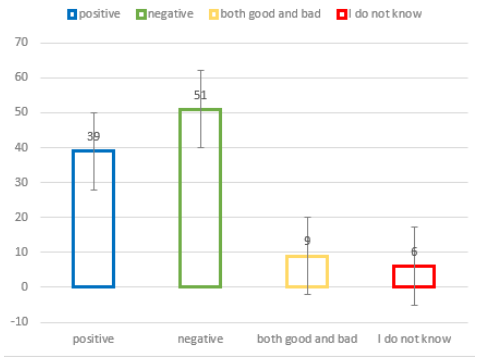
The following table presents data related to frequency. Although these are not significant statistical differences, but we consider them important.

Table 5: Frequency of expressions

Statements	Frequency	%
Positive	39	37,14%
Negative	51	48,58%
Both good and bad	9	8,57%
I do not know	6	5,71
	105	100%

Source: author's own work

Figure 5: Frequency of expressions



Source: author's own work

We find it very worrying that almost half of our respondents have a negative experience with Art Education at primary school. This is a particularly alarming fact, as our respondents attended primary school around 2003-2012. We also consider the statements *we did not do anything, we just relaxed* and *it was used for other purposes* to be particularly serious.

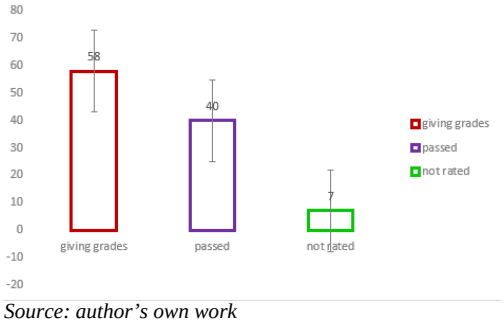
The second part of the text was devoted to the method of evaluation in Art Education.

Table 6: Assessment methods

evaluation method	frequency	%
giving grades	58	55,4%
passed	40	38%
not rated	7	6,6%
N	105	100%

Source: author's own work

Figure 6: Assessment methods



Source: author's own work

Based on the analysis of the texts and also the number of statements of our respondents, it is clear that our respondents state that their work during art classes was usually graded. Some state that they were given only "passed" in their evaluation. Only a small group stated that the subject of Art Education was not evaluated. It is alarming to find that other forms and methods of evaluation have not been mentioned.

Based on the above findings, we conducted a third research survey.

Analysis of visual images

The third research survey focused on the visual representation of new, more creative ways of evaluating Art Education at primary schools.

The master's degree students in the Art Education study program were asked to propose new, creative way of evaluation.

Students came up with several possibilities and ways of evaluating Art Education based on various methods:

- evaluation based on emoticons
- the more complex design base on the use of colours,
- another quite complex proposal was based on a management strategy.

4 Discussion

This part of paper comment on the fulfilment of the objectives of the research.

Our goal was to explore conceptual reality in Art Education at primary schools. The research focused on presenting the views of the general public based on the questionnaire survey.

Subsequently, we analysed the texts of university students in Art Education study programs. As part of the analysis, we focused on experiences of students with Art Education at primary schools and forms of evaluation they experienced.

In the third part of the research, we presented several proposals for innovative ways of evaluating Art Education at primary schools.

Based on our research, we can state that despite the fact that our respondents consider Art Education to be important, there were still opinions about the insignificance and uselessness of the subject.

A group of respondents consisting of university students presented their experiences with Art Education. It is striking that their experiences are mostly negative. According to the analysis, they experienced only the traditional ways of evaluating Art Education at primary schools.

Based on their suggestions, we have given several examples of an innovative, interesting way of evaluating Art Education at primary schools.

5 Conclusion

Art Education at primary school is a subject that divides the general public. The theory presented is based on the results of data collected using three research methods. Nevertheless, it is clear that Art Education not only develops the creativity and imagination of pupils, but also contributes to the development of the personality of children. Evaluation in Art Education brings various situations which can positively and negatively affect not only the progress of pupils, but also the overall attitude to art. The topic should be researched further so as to find more interesting ways and forms of evaluation Art Education at primary schools. We believe that the research results can be used as a basis for further research.

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Primary Paper Section: A

Secondary Paper Section: AL, AM

MARKETING COMMUNICATION IN SELECTED E-SHOP

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Abstract: Marketing communication is an important part of any company, as it has impact on customer satisfaction with the products offered. All subjects under review have been operating in the world clothing and fashion market for several years. Effective use of marketing communication of individual subjects was examined using questionnaire survey, structured interviews, SWOT analysis, methods of observation and comparison. The results of the survey showed the importance of using websites as a tool of marketing communication and what shall be done to use them as effectively as possible. The survey identified many strengths, weaknesses, threats and opportunities and showed that in comparison with other competitive subjects, the situation of the subject under review is the worst, with many problems that need to be solved. In the second case, the subject achieves the best performance, which indicates that its communication with customers is effective and brings the best results, with only a few shortcomings which do not significantly affect the effectiveness of the marketing communication. The results are a contribution for the subjects under review or their competitors. For subjects starting to operate in the same field, this paper can be an inspiration or source of information to raise the awareness of this issue.

Keywords: marketing communication, marketing communication tools, online shopping, social media, SWOT analysis, websites.

1 Introduction

Marketing communication is a universal component of marketing mix (Mamedova, Bezveselnaya, Malakhova, Kozmin, Kornilova, Savinchenko 2019), representing an integral part of any organization, which enables companies to succeed in the saturated market of goods and services and gain competitive advantage. If customers are informed about the specific product or service, they can buy it; however, if companies do not use marketing communication at an adequate level, customers may not have any information about them.

The development of e-commerce increases customer requirements and expectations concerning the quality of the service offered, safety, and general trust in online shopping. Nevertheless, information about products and real experience in brick-and-mortar stores influence the pricing strategy on the internet and customer behaviour in online shopping (Dong, Yang, Shao, Zhong, Li, Qiao 2021). Interest in online shopping is enhanced by reducing key obstacles and increasing trust in e-commerce compared in comparison with other alternatives (Kwarteng, Nabareseh, Pilik 2017). In addition to high awareness, one of the basic functions of the internet is communication and shopping in an entertaining form. Wide deployment of digital technologies and online social networks has revolutionized the way marketers communicate with consumers. The application of various digital platforms and tools of information and communication technologies (e.g. smart phones, social media, mobile apps or electronic billboards) enables organizations to compete with more objective, relational and interactive marketing practices. The adoption of innovative devices and data-based marketing, especially in digital advertising, provides a wide-range and effective reach. As a result, digital marketing launched a creation of well-informed, stronger, and interconnected groups of customers in both real and virtual world (Krishen, Dwivedi, Bindu, Kumar 2021). Marketing communication and tools used by e-shops in trading change quickly together with current trends. Traditional advertising cannot satisfy customer requirements for advertising, which results in user resistance to advertising. This brings great advertising challenges.

The pace of changes is growing and marketing communication must consider these changing effects. Therefore, I must disagree with the conclusion of the research on whether the presence of websites on social networks can be a competitive advantage for any company to certain extent, which was not confirmed (Bacik, Gavurova, Gburová 2017). Currently, companies are making increasing efforts to promote themselves effectively on the internet. Companies operating online need mainly the right presentation for their successful trading. I agree with the marketing agency INIZIO, which believes that the added value of excellent websites lies in their ability to attract customers and thus bring profit.

The objective of this paper is the evaluation of marketing communication of a selected e-shop. The overall marketing communication of the e-shop is described both in offline and online environment with regard to the changing trends. There will be analysed the tools used in marketing communication of a German e-shop and evaluation of individual communication tools used. To achieve the objective set, the following research questions are formulated:

RQ1: What results does the selected subject achieves in marketing communication by means websites in comparison with its competitors?

RQ2: What levels of effective use of communication tools in marketing communication do individual competitors achieve?

2 Literature review

Market position, identification of target customers, and defining valuable offers are key factors of success. This must be based on deep knowledge of target customers and key stakeholders obtained using traditional methods and analytical big data tools improved by artificial intelligence. In general, such decisions must be based on systematic and objective analysis of developer´s skills and strengths of context, and focused on the identification of market segments, where competitive advantage can be obtained using these skills and strengths (Ciaramella, Dall'Orso 2021). Thanks to globalization, many new opportunities and available technologies have appeared, marketing communication has been modernised, and a wide range of business opportunities have been brought to the European single market, which businesses can take advantage of. Changes occur much more often than ever before (Zauskova, Řezníčková 2020). Therefore, it is necessary to find innovative solutions that contribute to achieving the objectives more effectively, create positive changes, or increase the value for customers, in fact improving innovative performance and competitiveness of business.

There are no significant differences in using internet marketing communication tools that would be easier to use and cheaper. Structured interviews show that university marketing managers widely use internet advertising tools, but have difficulty with using marketing tools for public relations and sales promotion (Kisiolek, Karyy, Halkiv 2021). Internet communication have become an efficient and popular tool for market communication, used both for achieving collaborative impact in large-scale marketing campaigns and for carrying out short-term tasks, communication with target audience, maintaining reputation and promotion of the brand.

Using structured interviews, it was found that modern companies often use digital marketing technologies for promoting their products. The purpose is to increase competitive advantages of marketing companies using project management system in digital marketing (Zozulya, Titova, Ciric 2021). Currently, the result in almost all phases of communication is more and more influenced by digital technologies, especially in the internet environment.

It has been specified that digital technologies have already spread even outside the internet space and are currently proactively used in the offline environment, which determines the limits of digital marketing. Keeping up with the situation and being able to make use of it is always difficult, or even impossible for companies. It is not possible if modern methods are not used. A solution which has significantly changed the whole advertising market is program advertising, which enables the best possible adaptation of advertising communication with

consumers (Abaev, Sharkov, Aleshnikova 2021). In marketing communication, it is difficult to separate online and offline advertising channels. Qualitative data collection showed that one of the most effective internet marketing tools is video marketing on social networks (Akhyadov, Goncharov, Makushkin 2020). The communication with consumers uses all possible communication channels based on the customer preferences, despite of the large number of communication channels and diverse consumer requirements.

Social media have become a rich real-time source for various opinion polls and sentiment analyses. The way that envious individuals attribute their failure to undeserved advantages of other people influences the intensity of their malicious envy. Therefore, marketers are recommended to be careful when examining envy as a marketing communication tool a used it only when supposing that consumers will feel benign rather than malicious envy (Ferreira, Botelho 2021). Human emotions depend strongly on sensory perception. The analysis of social media has become a common way to know and understand views, feelings, interests and reactions of people to ongoing events.

Many research results identified social media marketing as a potential tool for reducing marketing costs and increasing efficiency of activities when suing online social media platforms (Soeth 2020). The study shows that effective use of social media for marketing communication can arise interest in the brands being advertised or even stimulate the intention for buying the products (Mukherjee 2020). Quantitative research revealed that traditional marketing approaches use media to a large extent, although they are extremely costly for the organizations and are becoming less effective.

Observations have shown that using social media is currently one of the most popular online activities; social media are one of the most widely-used means of communication used almost by everyone. This marketing tool helps online sellers manage their business. In 2018, 2,65 billion people were estimated to use social media all over the world; in 2021, this number is expected to be 3,1 billion, the majority of whom being mostly young people (Ganduri, Reddy 2020). The results of the questionnaire survey showed that marketing communication using social media influences not only consumer interest in buying goods offered by means of social media, such as marketing implemented through Instagram, which is the most frequently visited social network nowadays (Soegoto, Utoma 2019). These results make social media a suitable tool to ensure marketing communication.

Public relations represent a versatile tool for marketing communication, which is widely used by managers in their business activities. It requires knowledge of marketing, journalism, and deep knowledge in the area of the internet. In order to remain competitive, companies must invest in the knowledge and skills of managers so that they are able to upgrade their competencies and manage public relations (Zavadsky, Satanova, Hvizdova 2017). Initially, marketing expert perceived public relation techniques as another tool to grant a greater specific instrumental relevance over time. On the other hand, scholars in the area of public relations tried to separate it from marketing to have an individual position in the area of communication (Fernandez-Souto, Vazquez-Gestal, Ruas-Araujo 2020). Working with public is a priority for management. It should not be just a one-off act but a long-term and well-planned process.

The importance of marketing knowledge is examined in relation to choosing the application of sales supporting tools in order to meet marketing objectives of supply. In the age of digital and holistic marketing, knowledge is a determining factor in consumer decision-making related to buying (Hes, Regnerova 2018). Recent boom of e-shops and network advertising tools clearly showed the power of new technologies and solutions in the area of business and marketing. The application of facilities and services of the internet are proposed to be used to fill in the gap and obtain further information on customer behaviour and activities in real stores (Chojnacki, Rykowski 2019). The information could be used as a basic input for various marketing tools, including the aforementioned referral systems, instant advertising, promotion, and discounts.

Currently, there are three times as many e-mail accounts, such as Facebook and Twitter accounts. Many leading brands all over the world believe that e-mail is the channel for expanding your business, with SMS as excellent support (Jain, Kumar, Rawat 2018). Many marketing trends come and go, but e-mail and SMS still remain.

To answer the formulated questions, the following selected research methods and techniques are used: study of publicly available internet resources for selected subjects, method of observing communication processes of selected subjects, the method of interviewing using a structured questionnaire. The last methods used is comparison and SWOT analysis, which use the collected information to identify strengths, weaknesses, threats, and opportunities.

3 Material and methods

3.1 Material

For the analysis of marketing communication, sufficient amount of data is gathered in order to apply the selected methods, which enable finding the answers to the research questions. The data for the overall analysis of marketing communication are available on various websites. For data collection, I will use the following websites: eTail Connect, Ecommerce Germany news, Corporate.AboutYou, Jobs.smartrecruiters, LiveHire, MediaGuru, and Youtube channels belonging to online stores. All websites used contain the information about marketing communication of e-shops A, B and C.

The success of marketing communication created by them is examined based on the number of people who express their opinion by clicking on “like” as well as based on positive and negative comments. Moreover, there will be used the direct click-through rate, number of re-tweets, number of readers, reviews, visits to e-shops, participants in events, or number of products bought.

For the purpose of the paper, a group of ca. 300 respondents actively shopping in these stores, which will be selected from my Facebook friends. The respondents are at the age of 20 – 50 years. I will try to get feedback on whether and how they perceive the e-shop´s attempts for marketing communication, and whether they feel influenced by this communication.

The questionnaire will be created using the website survio.com and I will try to make the online structured questionnaire as interesting for the respondents as possible. I will use 20 closed filtration questions, which will be responded using compiled answers. In the introduction of the questionnaire, the respondents are politely addressed and asked to fill in the questionnaire, the contents and purpose are clearly presented, and the respondents are provided with the instructions on how to fill it in, along with the specification on the approximate time necessary to fill it in.

As for the structure of the questions, the first part of the questionnaire contains a few filtration questions focused on the specification of the customers of online shops and in which online store they shop most often. Thanks to the same number of male and female respondents, it will be possible to find out who uses these services most often. The questions need to be interesting in order to attract the attention of the respondents. The following part includes 17 key questions that will specify which market communication the respondents encounter most often, which one they would appreciate if dissatisfied, how they perceive it or whether they even feel influenced by it.

In addition, I will find out whether the respondents perceive any promotion of the given e-shops on the networks mediated by influencers and what is their attitude to this means of communication. These questions, however, require more focus on responding. The final part of the questionnaire will contain less important questions. Finally, I will thank the respondents for the time they dedicated to filling in the questionnaire and mention the way they can contact me.

Communication with e-shop managers was using e-mail addresses, mostly in English. This allowed me to obtain information that could not be included in the questionnaire. The results obtain will be analysed in order to find out whether the communication channels are used effectively or not.

3.2 Methods

After gathering the data collected by means of studying communication channels and websites of individual e-shops, the level of their communication is compared. The comparison focuses on the evaluation on technical, content, and formal aspects of the web.

The method of comparison of the monitored competing subjects enables the detection of problems, comparison of website traffic, which is carried out using key words and Google Analytics or Omniture. These tools are used to analyse the information on web users and sources through which the users get to the communication channels of the given e-shops. This analysis shows the behaviour of users, performance indicators, or the effects of potential website modifications. The Google Ads advertising system provides information on using keywords, performance, or potential webs. The loading speed of websites is one of the technical factors, which plays a role in whether the customers will or will not visit the website. This can be carried out using the WebPageTest or Pingdom, which provide the information on the loading and suggest how to optimise the loading speed.

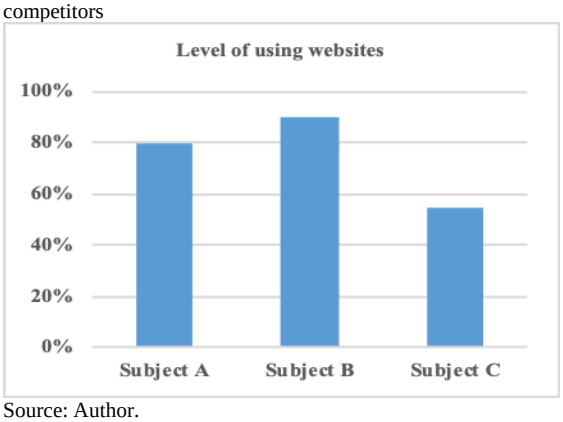
Available reviews on the selected e-shops will be analysed in terms of the customer satisfaction of the services offered and used means of communication.

Based on the data obtained by means of studying electronic channels and data from the questionnaire survey, SWOT analysis will be performed and the findings on strengths, weaknesses, opportunities and threats of marketing communication and their amount for individual e-shops will be compared with other competitors.

4 Results

First, Google Analytics was used for data collection. All three subjects and their websites were analysed using this application, which provided me with the information on which company uses its websites effectively and which one does not, or which website modifications affected marketing communication. Graph 1 shows a comparison of all three subjects and the level of using their websites (in percentage).

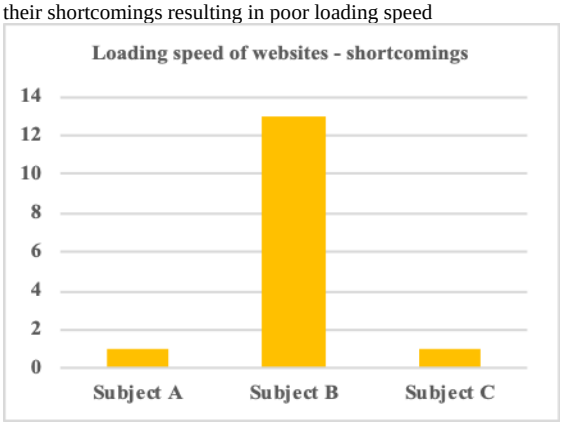
Graph 1: Comparison of using websites by individual competitors



Source: Author.

The following part of the research focused on the effectiveness of consumer websites, mainly on their loading speed, since low loading speed may discourage customers from visiting the given website. Due to its availability on the internet, WebPageTest was used, as using its services is free. This way it is possible to obtain the information of web´s efficiency for all e-shops being compared. The overall loading speed was determined based on the data obtained, specifically their average. The comparison is shown in Graph 2, which also presents the security score, first time byte, compression of transfer, compression of images, static content caching, efficient use of CDN, and the so-called keep-alive request.

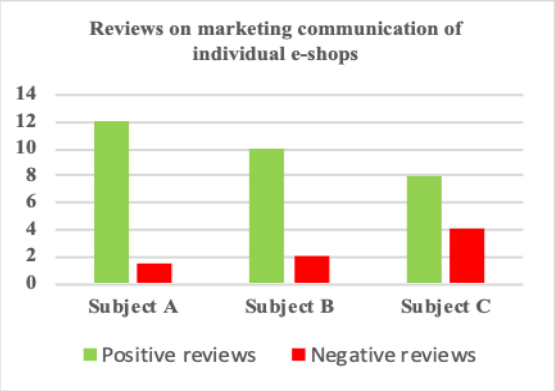
Graf 2: Comparison of individual websites of the subjects and their shortcomings resulting in poor loading speed



Source: Author.

Publicly available reviews play an important role in customer decision-making concerning the use of the given e-shops. However, I will not attach particular importance to them, as it is not clear whether potential positive or negative reviews are based on real experience. On the websites of the given e-shops, I found reviews concerning marketing communication and tools used. The lowest number of reviews was found for Subject C; therefore, the same number of reviews had to be considered for Subjects A and B, starting from the latest date of their publication. By comparing the reviews of individual subjects, it was found that Subject A has the highest number of positive reviews and the lowest number of negative ones; it can thus be considered the most successful subject in terms of positive and negative reviews. Graph 3 below shows the number of positive and negative reviews to the used marketing communication to the overall number of 14 reviews considered. Another possible direction of the research can be aimed at reviews focused on defamation of e-shops, adoration from anonymous users, or so-called fake reviews.

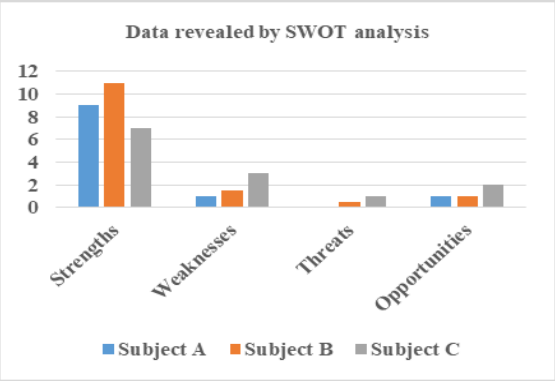
Graph 3: Comparison of positive and negative reviews on selected subjects under review



Source: Author.

The final part of the research is based on the data obtained using the questionnaire survey. A total of 154 respondents participated in the survey, all of them being active customers of the given e-shops. For these responses, SWOT analysis was used to identify strengths and weaknesses of marketing communication, as well as potential threats and opportunities. The results of this analysis were compared using the comparison method, which showed that the results of Subject B are the best in terms of all the SWOT analysis data, while Subject C has the highest number of opportunities for improving its marketing communication and thus increase better awareness of the brand.

Graph 4: Comparison of amount of data obtained through SWOT analysis of individual subjects



Source: Author.

5 Discussion of results

Based on the data and findings obtained, it is possible to answer the research questions formulated in the introduction.

Which results does the selected subject achieve in the marketing communication using websites compared to its competitors? Subject B achieves the best results in terms of the level of websites effectiveness. Specifically, its websites are used to 91 %, with only a small number of detected shortcomings. No website modifications have been in the last six months; therefore, I was not able to detect any positive or negative effects on the marketing communication. The results of subject are very close to Subject B. In contrast, the comparison of results shows that the effectiveness of using websites is relatively low in the case of Subject C; however, thanks to website modifications in the last year, it has grown to more than 50 %. The success rate increased by 23 % (to 68 %). This shows that Subject C started to update regularly its websites, focusing more on the customer wishes and needs. The websites have been redesigned to improve their clarity make shopping easier and faster for customers. Several premium brands have been added, such as GAP or Tamaris; in terms of sizes, “over size” category has been added and in commercials, plus-size models now appear.

This research includes world-famous, foreign, large enterprises with similar marketing communication and similar orientation on clothing and fashion market. The results show that websites have a great influence on customers, which is also confirmed by Daries, Cristoval-Fransi, Ferrer-Rosell (2021) in their research focused on the existence of websites of golf courses in Catalonia and to which extent their customers are influenced by them.

Free internet application WebPageTest provided the information on the loading speed of the given e-shops´ websites and the results helped answer the first research question. A Score 1+ is the best rating which can be achieved in the test. Subject A was identified as a subject with the best results in the website loading speed. The total security score was 4, first time byte was 1, the score of requests with keep-alive option not enabled was 1. The score of transfer compression was 1, image compression 2, static content caching 4, effective use of CDN 6. The subject thus achieves the lowest results, but the effective use of CDN is activated. In the last case, Subject C achieves the same average results as Subject A. The security score was 6, which is the lowest score of all subjects under review. First byte time was 1, keep-alive 1, transfer compression 1, image compression 1, static content caching 3. Subject C, however, does not use the effective use of CDN, which is one of the biggest shortcomings that need to be solved, as it enables to increase the website loading speed to the maximum. What should Subject B focus on to improve its ratings? It is definitely the security score, which is very high, as well as the first time byte and static content caching. Focusing on solving these shortcomings would significantly increase the website loading speed and could ensure the satisfaction of all customers who visit the given e-shop´s websites.

Finally, this research question concerns also positive and negative reviews publicly available on the given e-shops´ websites. In terms of the ratio of positive and negative reviews, the research revealed that Subject A achieves the best results, while Subject C the worst ones. Reviews on the e-shops are thus another issue that needs to be dealt with; customer needs should be met even beyond expectation and thus achieve the best reviews. Available reviews often influence customers when they decide on whether to use the given e-shop or not.

Marketing communication of companies is currently about the communication by means of digital technologies; it is very important and essential for the company. The same conclusion was made by Mamedova, Bezveselnaya, Malakhova, Kozmin, Kornilovi and Savinchenko (2019). Marketing specialists should focus on all aspects that influence the communication with their customers by means of websites and strive for achieving the best results, keeping up with the times and fast-changing trends.

What levels of effective use of communication tools in marketing communication do individual competitors achieve? On the basis of the aforementioned data, I expected Subject C to have the worst results, which was confirmed. The questionnaire survey and structured interviews with the managers brought enough information about the marketing communication and it was thus possible to carry out the aforementioned SWOT analysis, whose results showed that Subject C has the lowest number of strengths, weaknesses, threats and opportunities that can be used to its advantage.

The answer to the question on the level of effective use of communication tools in marketing communication the individual subjects achieve is thus clear. In terms of effective use of marketing communication, Subject A achieves the best results, followed closely by Subject B. Most shortcomings were recorded in the case of Subject C; these shortcomings need to be resolved.

The research results provided the answers to the formulated research questions. They could be beneficial for the individual subjects that focus on marketing communication and can be an inspiration for research on the level of effective use of marketing communication. Moreover, the results could be beneficial for further research on this issue. Subject C, which was compared

with other subjects in all the aforementioned aspects of communication, is recommended to focus on these shortcomings and increase the public awareness on the brand.

6 Conclusion

The objective of the paper was to analyse the current marketing communication of selected internet e-shops operating in the clothing and fashion market and to answer the research questions formulated in the introduction.

The objective of the paper was achieved. In the chapter Results, all available data were processed and using the comparison methods, the results of the individual competitors were compared in terms of the effective use of websites. Using the average value, the individual websites´ loading speed was calculated; there were also mentioned the factors that influence the average values and the results were compared with other subjects. The questionnaire and structured interviews provided the information on the perception of the marketing communication with customers and its use by individual subjects. Subsequently, it was possible to carry out SWOT analysis and comparison of the results obtained, which was presented in Graph 4.

In the previous chapter, Discussion of results, the results obtained were analysed and processed in more detail. I tried to interpret the results and express my view to this issue. I pointed to the strengths of the subjects and also their shortcomings. I made recommendations on what to focus on and what shall be dealt with to improve the communication and achieve better results. Finally, I mentioned the possible benefits of the research results and to whom it may help.

The main research limitation consisted in the fact that the subjects cannot provide information on their costs incurred on marketing communication due to trade secret. Therefore, I could not deal with the issue of funds spent on marketing communication.

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Primary Paper Section: A

Secondary Paper Section: AH

Annexes

Annex 1

Questionnaire survey on marketing communication of selected e-shops

Dear Sir or Madam,
within my study at the Institute of Technology and Business in České Budějovice, I carry out a questionnaire survey focused on marketing communication of selected e-shops, which is necessary for my seminar work in the course of Methodology of Diploma Work. I would like to ask you for filling in a short anonymous questionnaire with 20 questions. Please select and circle one option only for each question. Filling in the questionnaire should not take more than 15 min.

I also ask you to relate your answers to the period before the COVID-19 pandemic.

1) What is your gender?
- Man
- Woman

2) Which age group do you belong to?
- 15 – 20 years
- 21 – 25 years
- 26 – 35 years
- 36 – 45 years
- 45 and older

3) Which group of respondents do you belong to?
- Secondary school student
- University student
- Employee
- Unemployed

4) Which region do you live in?
- The City of Prague
- Central Bohemian Region
- South Bohemian Region
- Pilsen Region
- Karlovy Vary Region
- Ústí nad Labem Region
- Liberec Region
- Hradec Králové Region
- Pardubice Region
- Vysočina Region
- South Moravian Region
- Olomouc Region
- Zlín Region
- Moravian-Silesian Region

5) In which e-shop do you like to shop?
- Zalando
- AboutYou
- Zoot

6) How often do you shop in these e-shops?
- Once a week
- Once a month
- Once a year
- Less often

7) What is the average amount of money you spent per shopping?
- Less than 500 CZK
- More than 500 CZK
- More than 1,000 CZK
- More than 2,000 CZK
- More than 5,000 CZK

8) Where do you most often encounter this communication?
- On TV
- On the internet
- On social networks
- On billboards
- On the radio
- In leaflets

9) Are you satisfied with this marketing communication?
- Yes
- No
- I don´t know

10) If you evaluate marketing communication rather negatively, choose the most relevant reason:
- Negative influence of advertising
- Promotion of alcohol or other types of addiction
- Social irresponsibility
- Youth abuse
- Promotion of sex
- Manipulation with people
- Imposing views

11) How do you perceive the influence of marketing communication?
- Positively
- Negatively
- I don´t know

12) How can a commercial arouse your interest?
- Inventiveness, originality
- Humour
- Music – If I like the music, I watch the whole commercial
- Not possible, I never watch commercials

13) Where do you think the influence of advertising is the strongest?
- On TV
- On means of transport
- On the internet
- In the street
- In shops

14) Are you influenced by marketing communication when shopping?
- Yes
- No
- I don´t know

15) Do you encounter promotion of brand by means of influences on social networks?
- Yes
- No
- I don´t know

16) Are you satisfied with this type of promotion?
- Yes
- No
- I don´t know

17) Do you visit the websites of the aforementioned e-shops?
- Yes

- No

18) In general, are you satisfied with their websites?

- Yes
- Ne
- I don´t know

19) Are you satisfied the search there in terms of the clarity and loading speed?

- Yes
- No
- I don´t know

20) How does this website meet your expectations?

- 20 %
- 50 %
- 80 %
- 100 %

Thank you for your time and answers

If you are interested in the topic of this questionnaire and wish to contact me, please use the email danamadzarova@survio.com.

WHY SHOULD LOCAL GOVERNMENTS HAVE A DEVELOPED COMMUNICATION STRATEGY? AN ANALYSIS OF MUNICIPAL COMMUNICATION IN THE CZECH REPUBLIC

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Abstract: The creation of a communication strategy is an indicator of the subject's approach to communication with the public. The article, based on a sample of 160 municipalities of the Czech Republic, empirically demonstrates that an elaborated communication strategy enhances the public value of intangible assets particularly in the following areas: various segments of citizens are better targeted through a greater number of frequented communication channels, municipal employees are more frequently trained in communication issues, crisis communication plans are likely to be prepared. On the other hand, we confirmed that all these factors are limited to some extent by the size of the municipality and the financial resources allocated for communication.

Keywords: communication strategy, municipalities in the Czech Republic, competitive advantage, intangible asset

1 Introduction

A number of studies (Kawa & Anholcer, 2019; Khan & Hasan, 2016; Radjenović & Krstić, 2017) have shown that intangible assets are one of the key sources of competitive advantage for organizations. The possession of appropriate intangible assets (whether of an economic or social nature) affects directly the performance of organizations and gives companies a competitive advantage (Canel et al., 2020), although this is variable over time and always temporary (Kawa & Anholcer, 2019).

Intangible assets have a positive impact on the productivity of organizations and companies, not only in the private but also in the public sector (Canel et al., 2020; Ocak & Findik, 2019). In the public sector, these assets are associated with knowledge and human resources (as opposed to the private sector, where they are largely associated with profit), specifically intellectual and social capital, trust, and reputation (Flatt & Kowalczyk, 2008; Canel & García, 2013). The management of intangible assets in the public sector is less open to market competition (compared to the private sector); it is less concerned with cost reduction and consumer preference, more subject to public scrutiny, influenced by various constraints and, last but not least, affects a greater number of stakeholders. Canel et al. (2020) combined the two concepts of public value and intangible assets to create a new concept: the publicly valuable intangible asset. In this context, they focused their attention on another intangible asset (often neglected in the literature): communication. Some intangible assets are based on perception and therefore would not exist without communication. This is particularly true for the public sector, as public institutions manage public money and therefore have a duty to account publicly for their activities.

The seriousness of the approach to communication can be confirmed by creating a communication strategy. For cities and municipalities, a well-designed communication strategy has positive effects: it can help attract tourists and foreign investment to the municipality (city). Canel et al. (2020) pointed out that the gap between real and perceived performance may indeed indicate a communication problem. If communication is inadequate, then the intangible public value of the public sector organization is lost. On the other hand, well-designed communication based on communication strategy helps public sector organizations create intangible assets that have value to society.

In this study, a sample of 160 municipalities in the Czech Republic is used to examine communication strategy as an intangible asset that generates a specific public value (Bozeman & Johnson, 2015). Our analysis is based on the assumption that the effectiveness rating of the communication depends on the quality of the relationships created between the municipality and citizens. Elected municipal officials choose from three approaches to communication: passive, pragmatic, and participatory (Ochrana et al., 2015). This study emphasizes the pragmatic approach to communication: public involvement in the municipality (city) is part of building its positive image; communication is used only selectively and is based on municipal/regional marketing tools; the citizen is perceived as a client.

The literature has not yet sufficiently explained how to monetize intangible assets (in our case identified with the municipal communication strategy) through certain behaviors of a self-governing municipality. It is not clear what this behavior should look like. Our study extends previous predominantly qualitative assessment (Msibi & Penzhorn, 2010) of the importance of a communication strategy and illustrates (or explains) why it is good to have this strategic document thoroughly elaborated and written down. This is because it sends a clear signal to citizens that the municipality is proactive (not passive, merely fulfilling its legal duty to provide information), does not hesitate to spend money on communication (because it believes it will be socially worthwhile), and prefers a somewhat binding communication plan over intuitive management of its communication with citizens. This first step (i.e. the development of a written communication strategy) is crucial as it highlights, on a non-causal level, the many positive impacts of a proactive approach to communication.

The text of the study is organized as follows: the key concepts of this study are defined in literature review (chap. 2): the intangible asset generating public value and one of its forms - communication, the media types (or communication channels) that municipalities have at their disposal to achieve their communication goals and to affect their media image; public administration and its classification in the Czech Republic are here also characterized. The third chapter formulates the hypotheses, illustrates the conceptual scheme of the research, and describes the survey (target population, sample design, measurement method). In the fourth chapter, the results of the statistical analysis are presented and discussed, including the interpretation of the regression model.

2 Literature review

2.1 Public administration as part of the public sector

The definition of the public sector includes three important aspects related to economic development, control, and public purposes (Canel & Luoma-aho, 2018; Canel et al., 2020). In this sense, the public sector is part of a state-controlled economy: it consists of institutions controlled by the state, it provides public services, it is under public (government) control. Last but not least, it includes all entities or human resources that were created and exist, or are employed, in the public interest (for public purposes). Public control (in the sense of the executive, legislative, and judicial exercise of public authority) takes place at local, regional, national, and international levels. Public organizations are distinguished from private organizations by the following features (Thoenig, 2006): they are collectively owned by members of the political community, they are largely funded

by taxes (more than fees paid by customers), and they are controlled by political forces rather than the market (Liu & Horsley, 2007).

The public sector is characterized by its values (production of collective goods, adherence to due process, democratic accountability) that permeate the activities of public sector employees. Public values become the output of their work and are something that society values, strives for, and achieves through public institutions (Canel et al., 2020).

The public sector includes public administration, which manages public affairs in the public interest. In the Czech Republic, it is divided into central public administration (with national scope, such as ministries and central administrative offices) and local public administration (territorial, i.e. municipalities and regions, and professional). Public administration is a hierarchically organized activity based on relationships of superiority and subordination; decisions are generally reviewed by a higher authority of the public administration for compliance with the law and with the internal acts of higher authorities. Elections are exceptional, the appointing principle prevails in the establishment of the authorities; the monocratic principle of decision-making is more often promoted. However, in self-governing units, there is no vertical hierarchy (no superior/subordinate relationship), decisions are taken autonomously, decisions taken are reviewable only for compliance with the law, the electoral principle prevails, and collective decision-making is common (Ochrana et al., 2015).

2.2 Public sector marketing

Kaplan & Haenlein (2009) pointed out in their study the growing importance of public sector marketing, which can also (but with some differences and limitations compared to marketing for commercial firms) be applied to four basic marketing concepts: product, price, place, and promotion. Although the same rules apply to the marketing communication of cities or municipalities and commercial companies, different marketing tools cannot be used without careful consideration. Marketing principles known from the business sphere may not apply in the public space, as pointed out by Graham (1994). It is necessary to take into account the special nature of public services and their categorization (Laing, 2003). The core of the marketing of the territory (state, region, municipality) should be the institutionalized support of communication between the demand side (citizen, tourist, etc.) and the supply side – state, regional, municipal administration and the service providing organizations it has established or founded.

2.3 Strategic communication as an intangible asset of public organizations

Communication plays a key role in the provision of public services (Canel & Luoma-aho, 2018; Canel et al., 2020). The provision and transmission of information to the public should be seen as a public service. Moreover, active communication enables a municipality to promote its own issues in public discourse. On the other hand, communication is not only a one-way flow of information; communication also involves the transfer of opinions and information from the public to the administration. Without taking into account the public's opinions and suggestions in decision-making processes, the decisions made be out of touch with the reality of practical life in the city.

No unified definition of strategic communication currently exists and it cannot be assumed that researchers will agree on one in the future (Thomas & Stephens, 2015). Strategic communication tends to be defined (Hallahan et al., 2007) as the meaningful use of communication by organizations to achieve their stated missions and goals. It covers six areas: management, marketing, public relations, technical communication, political communication, and social communication/information campaigns. It is the meaningful use of communication to promote and develop the organization’s raison d'etre. A communication strategy sets out the process by which the public and other key stakeholders will be informed about the ongoing activities of the city and how they can be involved in the process (Nielsen & Salomonsen, 2012). The purpose is for the general public to understand the reasons and activities related to the city's governance and see the results achieved. Municipalities (cities) pursue several objectives with their communication strategies:

- Ensure that the public is informed in a timely, understandable and credible manner, including obtaining feedback in the form of citizens' opinions and suggestions (Hong et al., 2012);
- Increase citizen participation in the decision-making processes of the municipality (city) (Bonsón et al., 2019);
- Unify communication tools used for external (outside city hall) and internal (inside city hall) communication.

The communication strategy is usually prepared as a medium-term strategic document; the measures for its implementation are often specified in annual communication plans, which are usually prepared for a period of one year and contain a brief list of communication topics, identifying the substantive and politically relevant issues. The implementation of these themes should be evaluated in a responsible analytical manner and the results of the evaluation should be reflected in the communication activities of the subsequent period.

Communication strategies are divided into internal and external. In terms of internal communication, it is primarily a matter of setting up appropriate communication channels, which are based on the Authority's organizational structure and information concept. External communication fulfills several functions in pursuit of the objectives of the communication strategy. This consists primarily of securing information flows between the municipality and the public in the broadest sense of the word. Secondarily, it is about creating a positive image of the municipality, both for its own residents and residents of the region as a whole, as well as visitors.

2.4 Media image of municipalities

Different types of media and sources of information are categorized based on the level of activity they require of the recipient, how much information the individual has to complete, and how many senses the media simultaneously affects. In this sense (according to the state of being filled with data), the Canadian philosopher and well-known mass media theorist Marshall McLuhan distinguished between hot and cold media (Starosielski, 2014). The media have a profound influence on the public's thinking and behavior; they are a means of engaging the public. It is true that the content of the media has a delayed effect on public attitudes and opinions (Ježek, 2010, 2011; Hoffman, 2013). The topics discussed in the media have a real impact on perceptions of the importance and relevance of these topics with a real impact on their behavior (Hitt & Searles, 2018). According to a recent survey, 61% of Czechs trust the media (AMI Digital, 2021).

Municipalities create their media image in a number of areas such as investment activity, awareness of residents, environment including living environment, tourism. Municipal leaders can bring topics they consider important into the media space and reach out to residents. The basic tools for working with the media are: press conferences, press releases, interviews, press packs, websites, electronic and printed newsletters, lectures and seminars, informal meetings with journalists, press trips. There is also a need for as many people as possible to communicate on behalf of the municipality, as this creates a more credible impression. On the other hand, if too many people communicate, there is a risk of uncoordinated, contradictory statements. Last but not least, media monitoring (offline and online monitoring) should be carried out. A media analysis of the trends over time, media used, communicators, and topics shows the image of the municipality in the media, evaluates the success of press releases and conferences, assesses the media response to various topics,

events, and actions, and calculates the impact of a crisis event on the media image of the municipality (Evstratova et al., 2020).

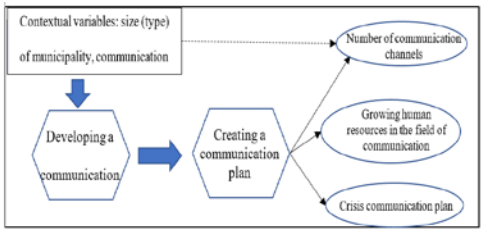
3 Material and methods

3.1 Objectives and hypothesis

We start from the premise that the systematic and conscious creation of intangible assets (in our case, a sophisticated communication strategy) creates public value. However, it is not enough to simply work for the public good; one must communicate the results of one's work/activity to the public and give them as much space as possible to actively participate and engage in the community. It is only through communication (or regular interaction) with stakeholders that intangible assets (such as credibility, social capital) can be created that will be of general benefit. If, through open communication, the needs and expectations of stakeholders are recognized, both intangible assets and public value will guide decision-making and help organizations improve their operations. Canel et al. (2020) argue that public value can only be created in a multi-sectoral and multi-level context that go beyond the capabilities of government, and that public value intangible assets are more effectively created through public-private partnerships. Communication can be effective only if it is made by officers and supported by heads of municipalities.

In line with the principles of social return on investment, we assume that the resources spent on the development of a communication strategy (which for the purpose of our research is understood as an intangible asset that brings some value to society) will pay off because public administration organizations (municipalities) will be more purposeful in the use of communication channels and in development of resources devoted for communication. Municipalities will have further developed a coherent idea how to implement their communication goals. We also assume that municipal communication, as an intangible asset creating a certain public value and also a certain competitive advantage, takes place in a certain environment and depends on contextual variables such as city size, budget, and location.

Figure 1. Conceptual framework



Source: own work

In a comparison of two groups, i.e. municipalities with a written communication strategy (=1st group) and municipalities without a written communication strategy (=2nd group), the following hypotheses are tested:

H1: Group 1 respondents use more communication channels than Group 2.
H2: Group 1 respondents are better prepared for crisis communication than Group 2.
H3: Municipalities with a communication plan take better care of human resource development in communication than municipalities without a communication plan.

Next in hypothesis 4, contextual variables are tested. H4: There is a positive relationship between the number of people involved in communication in government offices and the amount of financial resources allocated to the implementation of the communication strategy.

It is likely that the variety of the palette of communication tools or their variation will increase with the amount of funds that municipalities have allocated and budgeted for communicating with their citizens. It can also be assumed that municipalities that exercise not only autonomous but also increasingly delegated powers have more staff and financial resources at their disposal and are likely to use more communication channels to communicate with their citizens. To test the assumption that the type of municipality (Type I, II, or III)[1] is related to the number of communication channels used, a multiple regression model was created with multiple independent variables including a municipality type variable with three categories: Type I, Type II, and Type III. The dependent variable is the number of communication channels used by the municipality. Since the size of the municipality is related to the type of municipality, the relationship between the number of inhabitants of the municipality and the number of communication channels used to reach them was tested using a multiple regression model. It can be intuitively assumed and suspected that the demographic structure of a municipality (city) becomes more complex as the size of the municipality, i.e. the number of its inhabitants, increases. Since different people prefer different communication channels (Nielsen & Salomonsen, 2012), experienced communication specialists must take this fact into consideration and, as part of the adopted communication strategy, try to diversify communication channels as the population of the municipality grows.

It is clear (and will be shown empirically) that larger municipalities have better opportunities and conditions for communication than smaller municipalities. However, the size of municipalities and the extent of the entrusted powers they exercise are not the only criteria that determine the extent to which municipalities (cities) are communication proactive (this variable is operationalized by the number of communication channels a municipality uses to communicate with its citizens). A multiple regression analysis is used to examine whether there are statistically significant differences between regions in the use of different communication channels, which to some extent relativizes the "size" factor and shows that municipalities can also conduct quality communication regardless of their size.

3.2 Data collection and sample

The data for the analysis was collected by the Department of Strategic Development and Coordination of Public Administration of the Ministry of the Interior of the Czech Republic as part of the project "Implementation Unit of the Strategic Framework for the Development of Public Administration of the Czech Republic for the period 2014-2020". The questionnaire was distributed electronically. The questionnaire survey was conducted between February and March 2021. All municipalities with extended competence (205) were contacted via data mailboxes with a request to distribute it also to other municipalities (municipalities with an appointed municipal authority and municipalities with basic competence) in their administrative district. In addition, the municipal districts of the capital city of Prague (22), which have jurisdiction similar to municipalities with extended jurisdiction, were contacted in the same way. The electronic address of the questionnaire was also published on the website www.kvalitavs.cz.

The individual items of the questionnaire were inspired by the communication strategies of various towns such as Uherský Brod, Moravská Třebová, Palkovice, etc. Demographic questions that were recorded related to the type of municipality and number of inhabitants. It was determined whether the municipality employs (or) hires a graphic designer, whether it has a developed visual style of the municipality. Respondents were also asked about the size of the communications budget

[1] The article uses standard terminology: type I municipalities = all municipalities; type II municipalities = municipalities with a delegated municipal authority; type III municipalities = municipalities with extended jurisdiction. For details see e.g. Potěšil et al. (2019).

and the number of full-time employees dedicated to communications at the town (city) hall. Responses were mostly dichotomous (binary, categorical: Yes = 1, No = 0). An example of the questions used is: "Does your government office have a written and currently valid communication strategy?"

In the dataset, a total of 160 responses (2.6% of the total number of municipalities in the country, i.e. 6,254) were obtained, with the following proportions by type: 4 (18% of the total number) city offices of Prague, 108 (1.8% of the total number) municipalities with basic jurisdiction (type I municipalities), 9 (4.9% of the total number) municipalities with an appointed municipal authority (type II municipalities) and 39 (19% of the total number) municipalities with extended jurisdiction (type III municipalities). Municipalities in all regions of the Czech Republic were contacted. No response was received from the Karlovy Vary Region. The largest number of responses came from the Central Bohemia Region (31), the Moravian-Silesian Region (24), and the Vysočina Region (24). Larger municipalities were represented in the research sample in a higher proportion than small municipalities.

4 Results and discussion

The collected data was analyzed using IBM SPSS 19 software. The following communication channels are used by municipalities (numbers in parentheses indicate the weights or importance of each communication channel in the overall communication mix of municipalities: website (26%), municipal newsletter (22%), social networks (17%), mobile radio application (12%), email or SMS messages (14%), video channel (6%), electronic newsletter (3%).

The vast majority of municipalities (89%) do not have a written strategic communication document. On the other hand, a more detailed analysis suggests that this "intuitive" (non-intentional, non-systematic, non-sophisticated, non-considered) approach to communication is not desirable and municipalities are saving in the wrong place. While it cannot be argued that the written elaboration of a strategic communication concept stimulates municipalities to greater communication activity (causality induced by the "mere" elaboration of a document cannot be sought), it is nevertheless true that municipalities that invested time and resources in the elaboration of a communication strategy (n = 30, M = 5.47, SD = 2.54), use more communication channels (and are thus more active in communication) than municipalities that have not developed such a document (n = 130; M = 3.8; SD = 1.99), t (158) = 3.24, p < .01). The first hypothesis (H1) is thus confirmed. This can be explained by the fact that the preparation of the concept in written form (and thus the expenditure of funds and human resources on this activity) to some extent obliges and creates pressure to meet the set objectives, plan, and recommendations. The written formulation forces a certain amount of thought into the entire concept, and the costs involved are likely to lead to its implementation.

Tab. 1: Relationship between the development of a communication strategy and a crisis communication manual

		Strategy		
		Yes	No	Total
Plan	YES	16 (52 %)	14 (11 %)	30
	NO	15 (48 %)	115 (89 %)	130
	Total	31	129	160

Source: own research

It is clear from tab. 1 that 52% of respondents (surveyed municipalities) that have developed (or had developed) a communication strategy also have a crisis communication plan, which is by 41% (52% - 11%) more than municipalities that have not developed a strategic communication plan. The results of the analysis can be generalized from the sample to all municipalities, as shown by the chi-square test, $\chi^2(1, n=160) = 27.26$, $p < .01$. Municipalities with a developed communication strategy are more likely to be proactive in developing a binding (updated) action plan than municipalities without a written communication strategy. In other words, by developing a communication strategy of strategic importance and taking on a certain commitment subject to public scrutiny, the municipality is creating a basis for purposeful action in this area. It can be argued with relatively high probability that municipalities (almost half of them), having developed a communication strategy, also have a plan for crisis management. This relationship is quite significant (Cramer's V = .41); the strategy and the plan are related. Hypothesis H2 is thus confirmed. On the other hand, the predictive relationship between the two nominal variables is not very strong (lambda = .065): the success rate of correctly predicting that municipalities with a developed communication strategy will also have a crisis management plan is quite low. The data analysis also showed that there is virtually no difference between whether municipalities prepare their own communication strategies or have them developed externally. As a rule, municipalities prefer to prepare plans either for a short period (1-2 years) or for a very long period (more than 5 years).

The plans implementing the communication strategy usually also take into account the development of human resources in the field of communication, as our data show a moderately strong relationship between the two nominal variables, i.e. the development of a communication plan and the training of employees in this direction (see Table 2). Hypothesis H3 is confirmed.

Tab. 2: Relationship between training and communication plan

		Plan		
		Yes	No	Total
Training	Yes	13 (42 %)	19 (15 %)	128
	No	18 (58 %)	110 (85 %)	32
	Total	31	129	160

Source: own research

Although municipalities are far from having a communications department in their government offices (only in 19 cases, i.e. less than 12%), the amount of resources that municipalities spend on communication is quite logically related to the amount of employees taking care of communication there, $\chi^2(12, n=160) = 248$, $p < .01$. The two ordinal variables (budget for communication and number of people dealing with communication issues in government offices) are strongly positively related to each other, as shown by the gamma value (= .802, $p < .01$) based on the data collected. This means that as the amount of funds planned by municipalities for communication increases, the number of staff dealing with these issues also increases. These findings support hypothesis H4.

The funds earmarked for communications are among other purposes used for the payment of a graphic designer (either hired externally or directly employed by the municipality) to develop and maintain a consistent visual style for the municipality. This one of the important jobs of a graphic designer, as a moderate relationship was found between the two variables, $\chi^2(2, n = 160) = 17.34$, $p < .01$, Cramer's V = .330.

Our analysis confirmed the logical assumption that the number of communication channels used by municipalities to communicate with their citizens and self-promote is related not only to the size of the budget allocated to the communication strategy of the city (municipality), but also to the type of municipality (I, II, or III). It was found that the results for municipality types I and II were statistically significant ($\beta = -3.835$, $p < .01$) and ($\beta = -2.761$, $p < .01$), respectively, and were not significant for the city district of Prague ($\beta = -.622$, $p = .414 > .1$). This implies (as expected) that Type I municipalities will produce (use) 3.835 fewer used communication channels compared to Type III municipalities, or Type II municipalities will use 2.761 fewer communication channels compared to Type III municipalities. The comparison in the number of communication channels between Type III municipalities and urban districts in Prague is not statistically significant. Prague municipalities use on average 3.213 more communication tools than Type I municipalities ($\beta = 3.213$, $p < .01$), Type II municipalities use 1.074 more tools than Type I municipalities ($\beta = 1.074$, $p = .034 < .05$). The regression model confirms what can be intuitively suspected: larger municipalities with not only

autonomous jurisdiction but also with extended jurisdiction have more options for reaching their citizens through more communication channels than smaller municipalities.

The type of municipality is generally related to the size of the cadastral territory administered by the municipalities or the number of inhabitants living there. How well the dependent variable (=number of communication channels used by the municipality) can be predicted from the independent variable (=number of inhabitants of the municipality in thousands) was investigated using a regression model with this two variables. 18.2% of the variance of the dependent variable (number of communication channels used by municipalities) can be explained by the variance of the independent variable (number of municipality residents in thousands). In other words, 18.2% of the variance in the data for the number of communication channels used can be explained by changes in the number of inhabitants of the municipality (the more inhabitants a municipality has, the more communication tools it uses in its daily contact with citizens) (R^2, coefficient of determination = .182). Our data fit a statistically significant regression equation y = 3.803 + .034x (x = number of inhabitants of the municipality in thousands and y = number of communication channels used); F(1, 158) = 35.138, p < .01. This result can be interpreted to mean that municipalities will add one new communication tool to the existing ones in use if the population of the municipality increases by a factor of about thirty (i. e. thirty thousand inhabitants). While our data cannot provide an answer to the question of how well municipalities manage their communication strategy, it does show that larger municipalities reflect the demographic diversity of their citizens and seek to reach them through a more diverse array of appropriate communication channels and, consistent with other research, (Zhang et al., 2021) indirectly confirms that the preferred type of media depends on demographic and personal characteristics.

Tab. 3 presents the results of the regression analysis between the independent variable "region" and the number of communication tools used there. The values in the rows are compared with those of the reference regions (in the columns). It turns out that municipalities in the Zlín Region (compared to other regions) try to communicate with their citizens through a larger number of communication channels. For example, compared to the South Moravian Region, there are on average 3.625 more communication tools used (at the statistical significance level p = .01). Although the sample of municipalities in the regions is relatively small and not representative, it can be concluded that the Zlín Region as a whole (more than other regions in the Czech Republic) is trying to have a more varied communication strategy and is trying to reach its citizens using a greater number of different communication tools. However, further research is needed to explain this fact.

Tab. 3. The results of regression of region to the number of used communication tools.

	1	2	3	4	5	6	7	8	9	10	11	12
1												
2	-1.18											
3	-1.08	-.004										
4	-.03	1.04	.98									
5	-.77	.30	.24	-.74								
6	-.30	.78	.72	-.27	.35							
7	-.56	.51	.45	-.53	.09	-.35						
8	-.36	.72	.66	-.33	.297	-.14	.14					
9	1.79*	2.86**	2.80**	1.82	2.44*	2.00	2.29*	2.06				
10	.25	1.33	1.27	.28	.90	.46	.75	.53	-1.14			
11	-1.50	-.42	-.49	-1.47	-.85	-1.29	-1.00	-1.22	-2.90*	-1.67		
12	2.50*	3.58**	3.52**	2.53*	3.15**	2.71*	3.00*	2.78*	1.11	2.33	3.63**	
13	1.75	2.83*	2.77*	1.78	2.40*	1.96	2.25	2.03	.36	1.58	2.88*	.08

1-Moravian-slezian region, 2-Region Vysočina, 3-Central-Bohemian region, 4-Pardubice region, 5-Liberec region, 6-Hradec Králové region, 7-Olomouc region, 8-Ústí region, 9-South Moravian region, 10-Plzeň region, 11-South-Bohemian Region, 12-Zlín region, 13–Prague (capital town); *(p < .05), **(p < .01).
Source: own research

From the data collected, further partial conclusions can be drawn, which together form a picture of how municipal (city) authorities operate in the field of communication. Since many of the employees who are involved in communication in self-government offices are not organizationally grouped in the communication department (or in another department specifically focused on the marketing activities of the municipality or city), it can be deduced that they also perform other agenda that may not be related to the municipality's communication. This may reduce the effective use of communication funds, since the employees in charge of communication at the municipality are primarily paid from these funds. It is questionable whether the strong relationship between the communication budget and the number of officials dealing with municipal communication issues is influenced by whether they fall (or do not fall) under a communications department (or a similar specifically focused department within the organizational structure of the government office). Therefore, the relationship between the budget and the number of municipal employees whose agenda is communication was also examined while controlling for another variable: the existence (or not) of a communications department within the organizational structure of the municipality office (which respondents were also asked about). The analysis showed that the gamma value for the "department" category of the control variable (.999, p < .01) was greater than the gamma value for the "non-department" category of the control variable (.545, p < .05). From this fact it can be concluded that in terms of the effectiveness of municipal communication, it is desirable for municipalities (if they can afford it) to establish a communications department. Of course, the options that the authority has for staffing and funding its activities are most likely related to the size of the municipality. Thanks to properly chosen communication, invisible public values (opinions, attitudes, preferences) are manifested in the organization. A municipality that actively communicates with the public strengthens its position as a trustworthy institution that is generally perceived as open, welcoming, and transparent; its citizens are more likely to perceive its representatives as looking after the interests of citizens and contributing to the general development of the municipality and increasing its attractiveness. Provided that the municipality has a well-developed communication strategy and effectively fulfills its objectives, the credit of the municipality (city) is significantly strengthened both in relation to its citizens and in relation to other actors in the region, a positive media image of the municipality (city, region) is created, the awareness of the locality is increased, and the overall marketing communication of the municipality (city) and the vision contained therein is supported. The communication strategy also aims at building the city's brand and promoting a unified visual style. The results of our study fit in with a growing trend (Canel & Luoma-aho, 2018) currently visible abroad and characterized by an increase in the range of different activities (not only in the sense of communication), tools used (not only in communication), and examples of good practice in public administration in order to build specific intangible assets.

The results of any empirical study should always be evaluated in light of the chosen research design. Public administration research often relies on unique cases and small samples, which makes it difficult to draw robust conclusions (Van Thiel, 2014). Given the relatively small sample size, the study can be considered more of a research probe that empirically confirms certain intuited assumptions or earlier qualitative findings and suggests a particular direction for further research. Future researchers may look at specific examples of good practice in municipal marketing and qualitatively examine the communication strategies of municipalities (cities) in an attempt to identify their common elements or features and to develop a unified methodology for a communication strategy for municipalities in the Czech Republic.

5 Conclusion

This study demonstrates how a publicly valuable intangible asset is built using the example of communication. A communication strategy is a document that in the medium term defines the principles and procedures of information transfer from the municipality to the citizen, but also vice versa from the citizen to the municipality (city) and can strengthen the participation of citizens to make public decisions. It is a first but essential step towards the active (pragmatic) communication of the municipality, which ceases to be an information provider merely fulfilling its legal obligation. Much more attention is then paid to communication: to self-presentation, to the promotion of the municipality (city) and to reaching different segments of the population through multiple communication channels; a crisis communication plan is prepared, and municipal staff are trained in communication issues. As a rule, the municipality establishes a special department within their offices that is exclusively responsible for the communication agenda, hires a graphic designer to manage the uniform visual style of the municipality (city), and builds the brand of the municipality (city) in a targeted and systematic way. Communication becomes an intangible asset with public value. Municipalities with a well-developed and consistently implemented communication strategy serve their citizens and are able to make their locality more attractive, which in turn benefits their inhabitants. Communication can be a means of competitive advantage in the struggle for tourists and investor finance. Unfortunately, this form of competitive advantage is a function of the size of the municipality's cadastral area, or the type of municipality (I, II, and III), and the number of inhabitants living there. Smaller municipalities are at a disadvantage compared to larger ones in this respect and in terms of the funds made available for communication. On the other hand, the results show that it is not only these factors that matter: there are also clear differences in communication activity between the different regions of the country, which relativizes the advantages of large municipalities and suggests that the approach to communication is to some extent an individual matter. In other words, even small municipalities with little financial and human resources can run a quality communication campaign and fight for a competitive advantage in this way.

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Primary Paper Section: A

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VIRTUAL WATER POTENTIAL OF SELECTED COMMODITIES IN CO-OPERATION OF THE SLOVAK REPUBLIC WITH COUNTRIES OF THE WESTERN BALKANS

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Abstract: Our paper rests on two fundamentals: firstly, the EU's initiative to deepen cooperation with and the prospect of its enlargement to the Western Balkans region; and, secondly, the urgency to address sustainable development issues in the international environment. As the virtual water perspective represents an innovative approach in the field of sustainable development, the aim of our paper is to analyse trade-related characteristics based on the water footprint concept (complementary to the alternative RCA/RTA indexes designed to calculate a country's comparative advantage or disadvantage). In our paper, we analyse and evaluate selected commodities traded by the Slovak Republic and the Western Balkans countries in terms of the absolute/comparative advantage related to the national water footprints.

Keywords: Sustainable Development Goals (SDGs); international trade; absolute/comparative advantage; revealed (RCA)/relative (RTA) advantage measurements; water footprint in exports/imports; virtual water; Slovak Republic; Western Balkans.

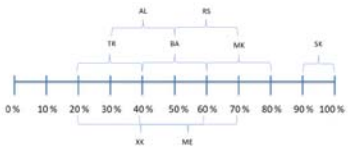
1 Introduction and Problem Formulation

Before their accession to the European Union (EU), the Czech Republic and the Slovak Republic constituted a single contracting party of the *„Declaration on Co-operation Between the Republic of Poland, the Czechoslovak Federal Republic and the Republic of Hungary on the Path for Advancing Towards European Integration"* (of 15 February 1991 – Visegrad Group); jointly they formed a customs union based on the *„Agreement Establishing the Customs Union Between the Czech Republic and the Slovak Republic"* (of 29 October 1992); and they became individual parties of the *„Central European Free Trade Agreement"* (of 21 December 1992 – CEFTA) with Central and East European Countries (CEECs). Čiderová and Kovačević (2015) indicate that as a matter of fact, the 1990s witnessing „centrifugal" disintegration of a number of federal statehoods in Central and Eastern Europe marked parallel „centripetal" attempts of now-independent successor states for (European) integration. Following the geopolitical commitment of the EU member states with regard to Central and Eastern Europe, the reality of „catching-up" in geoeconomic terms fostered progressive participation of CEECs in the respective stages of economic integration framed by B. Balassa (in ascending order: free trade area; customs union; common market; economic union; total economic integration) in 1961.

Therefore, instead of the multilateral CEFTA free trade area and the bilateral customs union, the Czech Republic and the Slovak Republic have participated in the EU's joint customs union (with Andorra, Monaco, San Marino, and Turkey) and even the single European market as the EU customs union's upgrade, since their 2004 EU accession. After the 2007 and the 2013 EU enlargements to the East (Bulgaria, Romania) and West (Croatia) of the Balkan region, Turkey and the Western Balkans Six (Čiderová and Kovačević, 2015) now represent the so-called enlargement countries (Čiderová and Dionizi, 2015; Čiderová – Fejesová – Kovačević, 2015; Čiderová and Kovačević, 2015; Zorkóciová and Petríková, 2018; Čiderová and Kovačević, 2019). Following the 2004, 2007 and 2013 EU enlargements, CEFTA did not cease to exist, but was transformed into CEFTA 2006 (of 19 December 2006) comprising (in alphabetical order): Albania; Bosnia and Herzegovina; Kosovo (UNSCR 1244/1999); Moldova; Montenegro; North Macedonia; Serbia. In this regard the *2021 Communication on EU Enlargement Policy* (European Commission, 2021) states that in the area of trade policy "some progress was made in reducing Kosovo's trade deficit, but Kosovo has not yet ratified the CEFTA additional protocols on trade facilitation and trade in services". Overall, while in the Slovak Republic (SK) the share of exports (goods and services) as % GDP or the share of imports (goods and services) as % GDP lies in the interval between 90% of GDP and 100% of GDP, the same indicators of export perfomance and import intensity spread on a scale from 20% of GDP to 80% of GDP across the enlargement countries (in ascending order):

- in Turkey (TR) in the interval 20% - 40% GDP;
- in Kosovo (UNSCR 1244/1999 – XK) in the interval 20% - 60% GDP;
- in Albania (AL) in the interval 30% - 50% GDP;
- in Bosnia and Herzegovina (BA) in the interval 40% - 60% GDP;
- in Montenegro (ME) in the interval 40% - 70% GDP;
- in Serbia (RS) in the interval 50% - 70% GDP;
- in North Macedonia (MK) in the interval 60% - 80% GDP (Fig. 1).

Fig. 1: Intervals of export performance and import intensity of the Slovak Republic in comparison with the so-called enlargement countries



Source: European Commission (2020); European Commission (2021).

Fig. 1 implies the extent, to which disruptions in international trade may affect an economy. In the globalised world, participation in international trade goes hand in hand with participation in supply chains. International trade generates nearly 300 million jobs globally (corresponding to an estimate of USD 3,450 bil. in distributed wages annually) to produce goods in order to meet the demand in other countries – for illustration, 62 million jobs globally are generated to satisfy EU consumption (SDSN and IEEP, 2020).

On the one hand, according to the *2020 Europe Sustainable Development Report*, most European countries contribute to considerable negative international spillovers in the form of CO_2 emissions, biodiversity loss and water scarcity through trade. On the other hand, all countries would lose from a shift away from interconnected economies to a localised regime of production, as OECD reports (OECD, 2020), and in the EU alone 54 million jobs are generated to produce goods that will satisfy foreign consumption.

In this context, progress in terms of the United Nations 2030 Agenda represented by 17 Sustainable Development Goals (SDGs) necessitates to address negative impacts (Schmidt-Traub et al., 2019), including those accompanying unsustainable supply chains (SDG 12 Responsible consumption and production). "Europe must ensure coherence between its domestic and its international policies," was an appeal made by the *2019 Europe Sustainable Development Report* (SDSN and IEEP, 2019). In response, the EU acknowledges the role of trade policy and sustainable supply chains for the accomplishment of the SDGs and the European Green Deal. In the words of the President of the European Commission U. von der Leyen: "Trade is not an end in itself. It is a means to deliver prosperity at home and to export our values across the world. I will ensure that every new agreement concluded will have a dedicated sustainable-development chapter" (von der Leyen, 2019). Furthermore, the EU's "Farm to Fork" Strategy for a fair, healthy and environmentally friendly food system draws attention to the extent and significance of spillover effects in food supply chains.

Amidst the COVID-19 crisis, having a negative impact on the SDGs (especially SDG 1 No poverty; SDG 2 Zero hunger; SDG 3 Good health and well-being; SDG 8 Decent work and economic growth) in Europe and globally, in the Council conclusions of 19 October 2020 on the "Farm to Fork" Strategy the Council of the EU welcomed the European Commission's intention to develop a contingency plan designed to ensure food supply and food security in times of crisis (Council of the European Union, 2021). In his keynote speech at the 2021 EU Agricultural Outlook Conference J. Wojciechowski made an appeal: "Our emphasis is on sustainable agriculture, on agro-ecology, on practices that conserve soil, restrict CO_2 emissions, and improve water management" (Wojciechowski, 2021).

Although SDG 6 (Clean water and sanitation) is specifically oriented on the issue of water management, as a matter of fact water availability/scarcity concerns all 17 SDGs. According to Hoekstra – Chapagain – van Oel (2019) water footprint assessment represents the study of freshwater use, scarcity and pollution in relation to consumption, production as well as trade patterns, and as such it is an interdisciplinary field. "By nature, the field is integrative, bringing together different disciplines and perspectives, for instance, natural sciences, policy studies, and geographical and supply-chain perspectives. It links water issues to food, energy, and climate and addresses issues of sustainability, efficiency, and equitability of resource use," they claim while emphasising that "indirect drivers of water problems, like incentives to produce water-intensive products in water-scarce regions for export" need to be taken into account, too.

Distance and borders, but also trade barriers and controversies in trade policy, environmental issues (e.g. water footprint), historical context or cultural trends (vegetarian/vegan lifestyle) play an important role in trade. Based on the comparison of selected commodities by Nagyová and Čiderová (2020) over the years 2012-2018 in the case of the Czech Republic and the Slovak Republic in the period before the outbreak of the COVID-19 pandemic, our option of countries covered corresponds with the planned enlargement of the EU to the Western Balkans region (Council of the European Union, 2021). As in the case of the Czech Republic and the Slovak Republic during the pre-accession period, we consider that CEFTA (now CEFTA 2006) continues to provide a framework assisting the Western Balkans region in the process of preparation for EU membership, too. Our focus on the Slovak Republic and five countries of the Western Balkans region is also facilitated by the Euro currency – by being the legal tender in the Slovak Republic and due to unilateral euroisation in Montenegro without the status of a legal tender (Čiderová and Dionizi, 2015).

In terms of the focus of the VEGA research project No. 1/0420/19 the aim of our paper is to analyse trade-related characteristics based on the water footprint concept (complementary to the alternative RCA/RTA indexes designed to calculate a country's comparative advantage or disadvantage). In our paper we analyse and evaluate selected commodities traded by the Slovak Republic and the Western Balkans countries, so we will now proceed with application of the water footprint concept on the background of classical (political economy) concepts/theories of international trade and alternative revealed (RCA)/relative (RTA) advantage measurements in Part 2 Methodology and Part 3 Results. Then, Part 4 Conclusion will summarise our findings and outline their relevance.

2 Methodology

Zábojník – Čiderová – Krajčík (2020) list the following classical (political economy) concepts and theories of international trade:

- The concept of the invisible hand of the market (A. Smith) – each country with a certain *absolute advantage* (lowest production costs) for the production of goods in international trade benefits from the specialisation in the production of such goods.
- The concept of foreign trade deregulation (D. Hume) – achieving the benefits of international trade does not require a significant degree of state intervention in order to achieve a satisfactory *balance* and territorial structure.
- The concept of comparative costs (R. Torrens, D. Ricardo) – involvement in international trade is effective and beneficial for the national economy, even if it has no absolute advantage. The prerequisite for the benefits of foreign trade are *comparative* costs (*advantages*).

"Measuring comparative advantages is not easy at all in practice," Zábojník – Čiderová – Krajčík (2020) argue, pointing out that a method that measures the comparative advantage based on ex-post international trade data in the form of the most common and well-known index (the *Revealed Comparative Advantage* – RCA index) is used.

According to UNCTADSTAT, the "Revealed Comparative Advantage is based on *Ricardian trade theory*, which posits that patterns of trade among countries are governed by their relative differences in productivity"; however, it should be noted that applied national measures affecting competitiveness such as tariffs, non-tariff measures, subsidies and others are not considered in the RCA metric even though the RCA metric can provide a general indication of a country's competitive export strengths, UNCTADSTAT highlights.
A country with a revealed comparative advantage (RCA >1) for product i is interpreted as a competitive producer and exporter of that product relative to a country producing and exporting the same product at or below the world average.

That is,

(1)

$$RCA_{Ai} = \frac{\frac{X_{Ai}}{\sum_{j \in P} X_{Aj}}}{\frac{X_{wi}}{\sum_{j \in P} X_{wj}}} \geq 1$$

Where

P is the set of all products (with i∈P),

XAi is the country A's exports of product i,

Xwi is the worlds's exports of product i,

Σj∈PXAj is the country A's total exports (of all products j in P), and

Σj∈PXwj is the world's total exports (of all products j in P).

Bojnec and Fertő (2012) cite Vollrath (1991) who outlined an alternative specification of the revealed comparative advantage titled as the *Relative Trade Advantage* (RTA) accounting for exports as well as imports and calculated as follows:

Relative Trade Advantage = Revealed Comparative Export Advantage – Relative Import Penetration Advantage, i.e.

RTA = RXA – RMA

When

RXA = (Xij / Xit) / (Xnj / Xnt), i.e.

in the Revealed Comparative Export Advantage indicator X represents exports, i is a country, j is a commodity, t is a set of commodities, and n is a set of countries;

RMA = (Mij / Mit) / (Mnj / Mnt)

in the Relative Import Penetration Advantage indicator M represents imports, i is a country, j is a commodity, t is a set of commodities, and n is a set of countries.

Then,

RTA = [(Xij / Xit) / (Xnj / Xnt)] – [(Mij / Mit) / (Mnj / Mnt)].

Bojnec and Fertő (2012) classify the RTA index in three categories:

- RTA > 0 relates to product groups with a relative comparative trade advantage;
- RTA = 0 relates to product groups in a breakeven point without relative comparative trade advantage or relative comparative trade disadvantage;
- RTA < 0 relates to product groups with a relative comparative trade disadvantage.

Both A. Smith and D. Ricardo would appeal to policymakers "to look at the health of the domestic economy and not focus solely on the trade position. […] Aiming for a trade surplus without examining what needs to be done in the domestic economy to make exports more desirable to the rest of the world would have struck Ricardo as the wrong way to go about it," Yueh (2019) argues. In his paper titled *"Invisible Hand or Ecological Footprint? Comparing Social Versus Environmental Impacts of Recent Economic Growth"* Mikkelson (2019) also suggests that public policy should shift toward enhancement of individual and social well-being in ways more direct and effective, and less ecologically damaging, than reliance on overall growth in gross domestic product (see also Zorkóciová and Palušková, 2019).

Mekonnen and Hoekstra (2011) point out that governments have traditionally adopted a purely national perspective when considering the match between national water supplies and national water demands. In line with such a consideration, a mismatch between national water supplies and national water demands might focus on maximising the first while minimising the latter. Still, the global dimension of water demand patterns tends to be abstracted from. "Since production processes in a global economy can shift from one place to another, water demands can be met outside the boundaries of a nation through the import of commodities," Mekonnen and Hoekstra (2011) argue. In their words, "[a]ll countries trade water-intensive commodities, but few governments explicitly consider options to save water through import of water-intensive products or to make use of relative water abundance to produce water-intensive commodities for export".

In terms of its scope, the *water footprint* concept "is integrative by nature by its applicability at different levels (local to global) and along supply chains (from investment and production to processing, sales, and consumption)" (Hoekstra – Chapagain - van Oel, 2019). Water footprint defined as the volume of water consumed in the production of goods or services represents the combination of the following blue, green and grey elements:

- *blue water footprint* relates to the consumption of the so-called blue water resources such as surface and ground water;
- *green water footprint* symbolises the consumption of rainwater as the so-called green water, which is significant especially in the case of crop production;
- *grey water footprint* is associated with the volume of freshwater needed to assimilate the load of pollutants in order to ensure compliance with the ambient water quality standards in place.

According to Hoekstra (2003), since the introduction of the water footprint concept at the dawn of the millennium, the endeavour to quantify and map the so-called *national water footprints* has represented an evolving field of study.

To calculate the *water footprint* of national consumption particularly *for agricultural commodities*, all agricultural products consumed by the population of the respective country are multiplied by the corresponding product water footprint as follows:

(2)

$$WF_{cons,indir}(agricultural\ commodities) = \sum_{p}(C[p] \times WF^{*}_{prod}[p])$$

Where

$C[p]$ is consumption of agricultural product p by consumers of the respective country (t/yr),

$WF^{*}_{prod}[p]$ is the water footprint of the product (m^3/t).

Then,

(3)

the average water footprint of a product p consumed in the respective country is as follows:

$$WF^{*}_{prod}[p] = \frac{P[p] \times WF_{prod}[p] + \sum_{n_e}\left(T_i[n_e,p] \times WF_{prod}[n_e,p]\right)}{P[p] + \sum_{n_e} T_i[n_e,p]}$$

Where

$P[p]$ is the production quantity of a product p in the respective country,

$T_i[n_e,p]$ is the imported quantity of product p from exporting country n_e,

$WF_{prod}[p]$ is the water footprint of product p when produced in the country considered,

$WF_{prod}[n_e,p]$ is the water footprint of product p as in the exporting country n_e.

Subsequently, it is assumed that "the total consumption volume originates from domestic production and imports according to their relative volumes" (Mekonnen and Hoekstra, 2011).

As an indicator that is geographically explicit, the water footprint refers to the volume of water consumption just like the respective location; thus, we can consider the global average water footprint, or a national water footprint.

In their study oriented on the Czech Republic and the Slovak Republic, Nagyová and Čiderová (2020) focused on foreign trade of the two republics as well as their bilateral trade between 2012 and 2018 in the case of ten selected commodities: wheat; barley; maize; paddy rice; soyabeans; beef; pork; sheep (mutton+goat); sugar beet; sugar cane.
In this paper we will steer our attention in the framework of the VEGA research project No. 1/0420/19 to the Slovak Republic and five countries of the Western Balkans (in alphabetical order: Albania; Bosnia and Herzegovina; Montenegro; North Macedonia; Serbia). Furthermore, out of ten commodities examined by Nagyová and Čiderová (2020), we will streamline our focus on four commodities: wheat, maize, beef and pork. There is a reference to all of these commodities in the masterpiece *"An Inquiry into the Nature and Causes of the Wealth of Nations"* by A. Smith (1776) and the selection of these commodities was motivated by their substitutability (wheat and maize as substitutes; beef and pork as substitutes).

First and foremost, we will compare the global average water footprint with national water footprints of the respective countries that correspond with the selected commodities. Tab. 1 indicates the global average water footprint (l/kg) together with average water footprint (l/kg) in the Slovak Republic and in the countries of the Western Balkans considered (Serbia; Bosnia and Herzegovina; Montenegro; North Macedonia; Albania) for wheat, maize, beef and pork.

Tab. 1: Global average water footprint (l/kg) and national average water footprint (l/kg) in the Slovak Republic and five countries of the Western Balkans for selected commodities

Global average water footprint, l/kg	1,827	1,222	15,415	5,988
Commodities				
National average water footprint, l/kg	WHEAT	MAIZE	BEEF	PORK
SK	**1,097**	**932**	**8,927**	**4,290**
RS	1,486	985	14,180	4,789
BA	1,632	1,036	15,003	5,408
ME	1,486	985	14,180	4,789
MK	1,521	958	14,125	4,951
AL	1,556	1,199	14,693	4,841

Source: National water footprint accounts.

All countries covered in Tab. 1 demonstrate their level of average water footprint (l/kg) for the commodities of our choice below the respective global average water footprint values (l/kg). When taken from the country perspective, individual average water footprints range from 932 l/kg to 8,927 l/kg (SK); from 958 l/kg to 14,125 l/kg (MK); from 985 l/kg to 14,180 l/kg (RS & ME); from 1,036 l/kg to 15,003 l/kg (BA); from 1,199 l/kg to 14,693 l/kg (AL). Across commodities, the national average water footprints spread in an interval from 932 l/kg to 1,199 l/kg (maize); from 1,097 l/kg to 1,632 l/kg (wheat); from 4,290 l/kg to 5,408 l/kg (pork); from 8,927 l/kg to 15,003 l/kg (beef).

3 Results

Data on foreign trade (with goods) of individual countries as well as bilateral trade were taken from the International Trade Centre TradeMap Database (2021), which covers data disaggregated both by partner countries and products. Our analysis documents data for the period 2012-2019, which on the one hand corresponds with the release of data on water footprints, and on the other hand it covers international trade and related international virtual water (Hoekstra, 2013) flows before the outbreak of the COVID-19 pandemic (having significant global impact on international trade) in Europe.

Tab. 2: Bilateral trade balance (in foreign trade with goods) of the Slovak Republic with five countries of the Western Balkans (2012–2019, in thousand Euro)

Balance (EX-IM)	SK-RS	SK-BA	SK-ME	SK-MK	SK-AL
2012	141,252	27,294	12,535	-22,040	20,801
2013	150,814	31,455	31,583	-19,564	37,969
2014	78,076	18,384	35,138	-11,737	33,399
2015	53,933	22,760	29,057	-11,498	35,631
2016	15,312	15,852	20,326	11,533	25,878
2017	6,356	27,168	15,674	30,253	28,402
2018	-11,097	23,608	18,341	6,069	17,379
2019	-57,654	41,560	24,108	12,793	22,331

Source: ITC TradeMap Database (2021)

In terms of bilateral trade balance (in foreign trade with goods) of the Slovak Republic with five countries of the Western Balkans between 2012–2019 (Tab. 2) the Slovak Republic recently (2018-2019) registered a shift from a positive trade balance to a negative trade balance in bilateral trade with Serbia. With Bosnia and Herzegovina, Montenegro and Albania the trade balance of the Slovak Republic continues to be positive; in bilateral trade of Slovakia with North Macedonia an originally negative trade balance turned into a positive one. Data on foreign trade (with goods) of individual countries as well as bilateral trade taken from the International Trade Centre TradeMap Database (2021) show non-existence of bilateral trade (SK-RS; SK-BA; SK-ME; SK-MK; SK-AL) with the selected commodities despite their national average water footprints being below the global average water footprint demonstrated above. This is why figures on trade balance will now be followed by the water footprint balance for the Slovak Republic as well as for the respective Western Balkans countries covered in the case of selected commodities internationally traded between 2012-2019. As international virtual water flows result from multiplying the volume of traded commodity by the corresponding national average water footprint, we will next calculate the water footprint balance for wheat, maize, beef and pork in Tab. 3 – 8 for each country separately.

Tab. 3: Water footprint balance in the Slovak Republic for selected commodities internationally traded between 2012-2019 (in thousand m^3/t)

WF (l/kg)	1,097	932	8,927	4,290
Water footprint balance				
SK	WHEAT	MAIZE	BEEF	PORK
2012	104,698	248,329	-35,190	-251,016
2013	287,656	216,640	-61,802	-390,948
2014	331,516	285,098	-28,897	-334,049
2015	488,008	332,471	-52,669	-363,217
2016	643,629	193,714	-66,417	-489,776
2017	516,684	400,205	-85,539	-503,633
2018	416,688	146,933	-83,048	-479,099
2019	459,278	266,759	-72,166	-441,128

Source: ITC TradeMap Database (2021)

Tab. 4: Water footprint balance in Serbia for selected commodities internationally traded between 2012-2019 (in thousand m^3/t)

WF (l/kg)	1,486	985	14,180	4,789
Water footprint balance				
RS	WHEAT	MAIZE	BEEF	PORK
2012	95,254	2,086,373	21,242	-32,594
2013	153,259	764,855	18,590	-42,732
2014	58,682	2,335,527	15,655	4,559
2015	53,472	2,058,425	6,126	-34,098
2016	65,365	2,025,469	17,059	-34,969
2017	84,258	1,563,300	41,973	-63,914
2018	1,264,378	1,171,521	64,562	-110,310
2019	24,220	2,944,435	14,109	-88,774

Source: ITC TradeMap Database (2021)

Net export of wheat and maize in the case of Slovakia (Tab. 3) leads to water consumption, ceteris paribus. In contrast, net import of beef and pork to Slovakia results in water savings, ceteris paribus.

In the case of Serbia (Tab. 4) net export of wheat, maize and beef leads to water consumption, ceteris paribus. On the contrary, net import of pork to Serbia results in water savings, ceteris paribus.

Tab. 5: Water footprint balance in Bosnia and Herzegovina for selected commodities internationally traded between 2012-2019 (in thousand m^3/t)

WF (l/kg)	1,632	1,036	15,003	5,408
Water footprint balance				
BA	WHEAT	MAIZE	BEEF	PORK
2012	-286	-134,651	-113,018	-26,418
2013	640	-228,911	-230,386	-45,535
2014	-165	-201,044	-356,096	-63,685
2015	-23,894	-216,063	-353,066	-75,701
2016	-29,115	-264,680	-384,497	-71,332
2017	-26,750	-214,887	-329,841	-72,851
2018	-26,070	-225,499	-384,182	-83,527
2019	-7,695	-184,716	-473,210	-79,362

Source: ITC TradeMap Database (2021)

Overall, Bosnia and Herzegovina (Tab. 5) is in the position of a net importer of wheat, maize, beef and pork, which might be interpreted as a tradeoff between conservation of water resources and export earnings, ceteris paribus.

Tab. 6: Water footprint balance in Montenegro for selected commodities internationally traded between 2012-2019 (in thousand m^3/t)

WF (l/kg)	1,486	985	14,180	4,789
Water footprint balance				
ME	WHEAT	MAIZE	BEEF	PORK
2012	-46,825	-8,089	-34,401	-91,101
2013	-44,767	-6,389	-40,300	-96,450
2014	-59,284	-9,840	-49,786	-102,020
2015	-60,681	-13,144	-46,241	-99,262
2016	-41,728	-18,864	-57,500	-106,249
2017	-2,976	-21,673	-60,308	-99,961
2018	-1,639	-26,839	-63,952	-111,718
2019	-4,225	-30,585	-59,811	-98,898

Source: ITC TradeMap Database (2021)

Similarly, Montenegro's position (Tab. 6) of a net importer of wheat, maize, beef and pork might also be interpreted as a tradeoff between export earnings and conservation of water resources, ceteris paribus.

The case of North Macedonia (Tab. 7) as a net exporter of wheat implies water consumption, ceteris paribus. Conversely, net imports of maize, beef and pork registered in North Macedonia suggest water savings, ceteris paribus.

Tab. 7: Water footprint balance in North Macedonia for selected commodities internationally traded between 2012-2019 (in thousand m^3/t)

WF (l/kg)	1,521	958	14,125	4,951
Water footprint balance				
MK	WHEAT	MAIZE	BEEF	PORK
2012	-415	-60,074	-108,042	-54,639
2013	0	-46,722	-99,242	-60,219
2014	1,036	-44,834	-100,810	-52,956
2015	1,831	-52,314	-102,406	-53,624
2016	3,393	-48,282	-102,053	-58,580
2017	17,893	-54,111	-99,920	-58,843
2018	16,296	-32,022	-103,974	-67,200
2019	3,206	-12,038	-113,283	-59,318

Source: ITC TradeMap Database (2021)

Tab. 8: Water footprint balance in Albania for selected commodities internationally traded between 2012-2019 (in thousand m^3/t)

WF (l/kg)	1,556	1,199	14,693	4,841
Water footprint balance				
AL	WHEAT	MAIZE	BEEF	PORK
2012	-14,292	-55,859	-103	-52,772
2013	-65,166	-76,385	-29	-51,876
2014	-4,242	-61,187	0	-24,302
2015	-2,497	-76,312	-44	-28,305
2016	-4,136	-86,782	-44	-27,986
2017	-2,191	-78,148	0	0
2018	-3,307	-101,046	0	-21,407
2019	-601	-106,873	-59	0

Source: ITC TradeMap Database (2021)

All in all, the case of Albania (Tab. 8) being in the position of a net importer of wheat, maize, beef and pork might be interpreted as the case of tradeoff between conservation of water resources and export earnings, ceteris paribus, too.

4 Conclusion

In this paper we focused our attention in the framework of the VEGA research project No. 1/0420/19 on the Slovak Republic and five countries of the Western Balkans (in alphabetical order: Albania; Bosnia and Herzegovina; Montenegro; North Macedonia; Serbia) with the aim analyse trade-related characteristics based on the water footprint concept, i.e. we analyse and evaluate selected commodities traded by the Slovak Republic and the Western Balkans countries in terms of the absolute/comparative advantage related to the national water footprints.

Our option of countries covered corresponds with the planned enlargement of the EU to the Western Balkans region – and just like in the case of the Slovak Republic during the pre-accession period, CEFTA (now CEFTA 2006) was meant to help the candidate countries and potential candidates to prepare for EU membership.

Data on foreign trade (with goods) of individual countries as well as bilateral trade were taken from the International Trade Centre TradeMap Database (2021) covering data disaggregated both by partner countries and products. Our analysis documented data for the period 2012-2019, which on the one hand corresponds with the release of data on water footprints, and on the other hand it covers international trade and related international virtual water flows before the outbreak of the COVID-19 pandemic in Europe. Out of ten commodities examined by Nagyová and Čiderová (2020), we streamlined our focus on four commodities: wheat, maize, beef and pork. The selection of these commodities was motivated by their substitutability (wheat and maize as substitutes; beef and pork as substitutes).

On the one hand, the Slovak Republic has had an overall negative trade balance with Serbia in recent years; on the other hand, the Slovak Republic overall registers an individual positive trade balance with Albania, Bosnia and Herzegovina, and Montenegro (in recent years also with North Macedonia). International virtual water flows resulting from trade with wheat, maize, beef and pork document total positive water footprint balance (i.e. export earnings and water consumption) in these cases:

- net export of wheat, maize and beef in the case of Serbia;
- net export of wheat and maize in the case of Slovakia;
- net export of wheat in the case of North Macedonia;

and total negative water footprint balance (i.e. water savings and no export earnings) in these cases:

- net import of wheat, maize, beef and pork in the case of Albania, Bosnia and Herzegovina, and Montenegro;
- net import of maize, beef and pork in the case of North Macedonia;
- net import of beef and pork in the case of Slovakia;
- net import of pork in the case of Serbia.

Ceteris paribus, in Serbia as one of the largest markets in the Western Balkans region (Zorkóciová and Petríková, 2018), there is further potential in individual bilateral trade (RS-BA; RS-ME; RS-AL) with maize. Even though Serbia could intensify its exports of maize to North Macedonia as well, adherence to the water footprint concept would rather suggest exports of maize from the Slovak Republic (based on the national water footprint of 932 l/kg) to North Macedonia (based on the national water footprint of 958 l/kg).

Additionally, as the 2012-2019 data documented non-existence of bilateral trade (SK-BA; SK-ME; SK-MK; SK-AL) of the Slovak Republic with the selected commodities despite their national average water footprints being below the global average water footprint, in terms of the absolute/comparative advantage concept there is, ceteris paribus, potential for trade creation in bilateral trade of the Slovak Republic:

- i.e. in SK-BA bilateral trade with wheat on the basis of the respective national water footprints for the Slovak Republic (1,097 l/kg) and for Bosnia and Herzegovina (1,632 l/kg);
- i.e. in SK-AL bilateral trade with wheat on the basis of the respective national water footprints for the Slovak Republic (1,097 l/kg) and for Albania (1,556 l/kg);
- i.e. in SK-ME bilateral trade with wheat on the basis of the respective national water footprints for the Slovak Republic (1,097 l/kg) and for Montenegro (1,486 l/kg).

Subject to data availability, future research might incorporate Kosovo (UNSCR 1244/1999) as another enlargement country in the Western Balkans region (Čiderová and Dionizi, 2015; European Commission, 2021), too.

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BK LIQUID MECHANICS
BL PLASMA PHYSICS AND DISCHARGE THROUGH GASES
BM SOLID-STATE PHYSICS AND MAGNETISM
BN ASTRONOMY AND CELESTIAL MECHANICS, ASTROPHYSICS
BO BIOPHYSICS

ACCORDING TO SPECIAL RELATIVITY: SPACE-TIME AND PHILOSOPHY (RECOMMENDATIONS FOR STUDYING IN THE EDUCATIONAL PROCESS)

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Abstract: In this paper we consider the value and sense of Einstein's theory of special relativity, because it examines the determinations of physical law as the regulation of nature according to special relativity, and as the determination of the meaning and evidence of gnoseological and ontological implications to make up a physical theory. Einstein's notion of space and time in the special theory of relativity brought a new understanding of space and time. In the pedagogical process, the effect of interdisciplinary relations should be applied. Einstein's understanding of the laws of physics changed their way of understanding. It is good for the student to perceive the basic differences in the concept of time and space in Newton and Einstein, because he will better understand the selected basic differences between classical and modern physics.

Keywords: Einstein, Special Relativity, Space-time, Invariance, Philosophical foundations, educational process

1 Introduction

Comparing the philosophical background of Einstein's and Newton's views is important for a full understanding of their physical conception of space and time. It is good for the student to perceive the basic differences in the concept of time and space in Newton and Einstein, because he will better understand the selected basic differences between classical and modern physics. We also consider it important to know the philosophical thinking of Ernst Mach in this aspect, because his influence on the special theory of relativity was considerable. We think that learning about the philosophical positions of Newton, Mach, and Einstein will help students better understand the special theory of relativity, as well as the difference between some aspects of classical and modern physics. We try to move from Newton's to Einstein's manner of thinking. We analyse Einstein's theory of special relativity, not the theory of general relativity which is not the object of interest of the present paper. We present what it meant when Einstein abandoned the concept of absolute space and time and the classical principle of velocity-addition. Some thinkers see parallels between the special relativity theory and Kant´s understanding of space and time in his pre-critical period. There are also similarities between Popper's philosophy of science and Einstein's methodology. Interpretations of special relativity theory differ. We can distinguish between hard relativists and soft relativists. Some scientists believe that the length contraction cannot be experimentally verified. Lenin tried to criticise Mach´s understanding of space and time, however, he did not criticise the special relativity theory directly. Einstein formulated his methodological views later – after presenting his special relativity theory. The theory of space and time is closely connected with special relativity theory. For Einstein spacetime is a conglomerate of relative events, on the other hand spacetime is a holistic perspective of measurements. While until his speech they were understood as a correspondence image of reality, after Einstein, laws are considered only as statements about the knowledge we can gain about reality. The most important point in changing the understanding of time and space is their fusion into space-time, as well as leaving the absolute conception of time and space. In teaching physics, it is good to emphasize in Newtonian mechanics the absolute understanding of laws, the separation of space and time, the difference between Descartes' and Newton's perception of the dimension of the body. For Einstein, it is necessary to point out the similarity of ideas with the pre-critical period in Kant, as well as the radical difference in the understanding of the time of the special theory of relativity and Kant in the critical period. At the same time, it is necessary to explain to students the influence of Mach on STR, as well as a certain relationship between STR and Popper's methodology of science. The clarification of the philosophical positions of Newton and Einstein, the philosophical influence of Mach in the teaching of physics, will lead to a deeper understanding of the very essence of STR. The extrapolation of Popper's methodology of science, Mach's understanding of reality, Kant's pre-critical views on space and time in the teaching of philosophy will have the same effect.

2 Relativistic Values

A basic assumption in Newtonian mechanics is that the mass of a body, being one of its inherent characteristics, is independent of its state of motion with respect to the observer. Thus, equal forces impressed upon a body would produce equal accelerations, whatever the instantaneous velocity of the body. Hence, if we continue to apply a force indefinitely, the velocity of the given body would go on increasing at a "constant" rate until it ultimately could exceed any pre-assigned value. This, however, negates the idea that there exists an upper limit, given by the velocity of light in free space, to the velocities that material objects can have. Thus, a given force acting on a body should, in the initial stages, produce an effectively constant acceleration, but its influence should gradually decrease as the velocity of the body increases until finally, as the velocity approaches its limiting value – c – the influence of the force should tend to vanish (Einstein 1965: 1 – 4). Meanwhile, the quantity mg $[mg = m_o f(v)]$ denotes the rest mass of the body, and mg, on the other hand, is referred to as the relativistic mass of the body, which is a new expression from new mechanics of Einstein's Special Theory of Relativity as a very important extension of mechanics with implications for the philosophical foundations (Mc Cauley 1998: 12 – 14). In this paper we explain the sense and the foundations of classical mechanics and the critical implications for Newton's mechanics in the changeover to relativistic mechanics, or from Newton's to Einstein's way of thinking. Relativistic mechanics is a creation of the physical theories that came back from the mechanical sense of Newton.

Albert Einstein initiated an epistemological revolution in 1905 by elaborating the special theory of relativity (STR). Moreover, he did this for logical reasons, since he recognized that Maxwell's electromagnetism and Newtonian mechanics were incompatible with one another. While one theory implied that the velocity of light in a vacuum should have the same value "c" for all directions and all inertial frames of reference, independently of their relative motions, this was forbidden by the other theory.

Einstein, however, removed this paradox through a simple change of the previous concepts of space and time. He considered space and time as being defined by the possible results of measurements. These are subjected to a very precise and completely unexpected condition. The outcome of any measurements of space and time intervals in inertial frames of reference has to be such that when we measure the distance travelled by a light pulse in a vacuum during a measured time interval it must always yield the same value (Mould 2002: 20 – 35). We also stress the fact that Einstein's concept of physical laws influenced the development of quantum mechanics, a theory, moreover, that Einstein didn't accept. Naturally, we can say that his theory of relativity takes into account another restriction that Nature imposes on certain measurements, and that these restrictions are also related to the existence of the universal constant of Planck.

But Einstein saw that this led to a very important question. The principle of special relativity would require that the velocity "c"

be a universal constant for all inertial frames of reference, while Newton's mechanics did not allow for such a velocity.

However, Einstein showed that this problem could be solved by abandoning the concept of absolute space and time (Pathria 1974: 10-25). We should no longer consider space and time as some kind of physical determination but should define space and time by the possible results of measurements of an event. These then allow us to explain the space-time coordinates (x, y, z, t) of any given event in a given frame of reference. When these measurements are performed in another frame of reference for the same event, we get different results(x', y', z', t'). Einstein meant that for inertial frames of reference, these results are related to one another in such a way that a measurement of the velocity of light in a vacuum always yields the same value *c* (Einstein 1997, pp. 394-399). This position changed physics in a very profound way, since it indicated at the time that physical laws should only be considered as statements concerning the knowledge we can acquire about reality. As we mentioned in the introduction, quantum mechanics did confirm this rule, but even today this is not always emphasized (Einstein, Podolski, Rosen 1935: 777 – 780). When a finite limit exists for the smallest measurable distance $ds^2 = \sum_{i=1,2,3} dx_i^2 - c^2 dt^2$ it is meaningless to formulate a physical law that would tell us what happens at a smaller scale, since physical laws should be verifiable, at least in principle. Our usual theories imply, however, that natural laws can be expressed by means of differential equations that are assumed to be valid for infinitely small intervals of space and time. They are only approximations that cease to be valid at an extremely small scale. The laws of classical physics were very good for a certain domain, but they had to be replaced by those of relativistic mechanics and quantum mechanics for larger domains.

To develop more general laws of physics that take into account the existence of a finite limit for the smallest measurable distance, we have to proceed very carefully, since we are entering into unknown territory. Past experience tells us that this has to be a universal constant, such as *c* and *h*. Distance measurements could then be performed by successive juxtapositions of the same smallest measurable length (Hill, 1964: 15-20). When we perform ideally precise measurements of the *x, y, z,* ct space-time coordinates by starting at the origin of the chosen inertial frame of reference, we can only get integer multiples of "*a*" for each of these coordinates. This yields a space-time lattice that depends on the chosen origin and the directions of the reference axes, but this lattice constant "*a*" is always the same. Einstein showed that the laws of classical mechanics have to be modified in such a way that the energy $(E = m.c^2)$ and the momentum $p = m.v$ of a freely moving particle are related to one another by means of:

$$\left(\frac{E}{c}\right)^2 = p^2 + (m.c)^2$$

Since a free particle is unperturbed by external forces, neither its direction of motion, nor the values of p and E can change in the course of time (Beauregard 1949: 87 – 96).

In classical or relativistic mechanics, we describe the motion of a particle by assuming that it has a well-defined position at any particular instant *t*, whether we know this position or not. The rate of variation of this position during a very small time (de/dt) then defines the instantaneous velocity *v*. While it may be difficult to abandon the familiar concept of a space-time continuum, the basic assumptions are in line with the evolutionary trend of classical and relativistic mechanics. Einstein insisted on the essentially constructive nature of thought and more particularly of scientific thought. For relativistic theories, the naturalness or logical simplicity of the premises is very important, as is the inner perfection of all these classical or relativistic theories. The theory of relativity leads to a concept of time that in many ways contradicts intuition. However, only the theory of special relativity will be taken in account here. The main point of importance is the fusion of space and time into four-dimensional space-time by Hermann Minkowski. The meaning of space-time can be demonstrated considering, as an example, the simplest equation of the Lorentz transformations, which are the coordinate transformations of special relativity for inertial systems of uniformly moving systems (Naber 1991: 7 – 30). The relations, which when equated define the Lorentz transformations, further show a difference in the role of the time coordinate from that of the space coordinates; for the term Δt^2 as the opposite sign to the space terms dx_1^2, dx_2^2, dx_3^2.

Then the Lorentz transformation, as a coordinate's dictionary, is defined in such a way that it first makes the equation $dx_1^2 + dx_2^2 + dx_3^2 - dl^2 = 0$ a co-variant equation, that is, an equation which is satisfied with respect to every inertial system, if it is satisfied in the inertial system to which we refer the two given events, like the emission and reception of the ray of light (Eddington 1957: 13 – 15).

The fusion of time and space leads to the concept of space-time in the theory of relativity, and this concept leads to important simplifications. Many such cases can be found in physics, especially where relativistic effects enter into play.

Accordingly, the world is considered as a space-time-block. The points in this block correspond to events. But the flow of time is a purely psychological phenomenon. Seen from a higher perspective, all events of all times and spaces simply exist.

Consciousness at any one time can only reach one three-dimensional plane of this four-dimensional space-time. This plane corresponds to the present moment. But the present is an arbitrary point of reference, arbitrary in the same way as a certain point in space (d'Inverno 1985: 116). In accordance with the special theory of relativity, as a new mechanics different than Newton's theory of physics, certain co-ordinate systems are given preference for the description of the four-dimensional space-time continuum. We call these Galilean co-ordinate systems. For these systems, the four co-ordinates (*x, y, z, t*) which determine an event or – in other words – a point of the four-dimensional continuum, are defined physically. For the transition from one Galilean system to another, which is moving uniformly with reference to the first, the equations of the Lorentz transformation are valid. These later form the basis for the derivation of deductions from the special theory of relativity and in themselves are nothing more than the expression of the universal validity of the law of transmission of light for all Galilean systems of reference (Newton's mechanics) (Nielsen 1935: 10 – 26). Minkowski found that the Lorentz transformations satisfy the following simple conditions. Let us consider two neighboring events, the relative position of which in the four-dimensional continuum is given with respect to a Galilean reference body K by the space co-ordinate differences dx, dy, dy and the time-difference dt.

With reference to the second Galilean system, we shall suppose that the corresponding differences for these two events are dx', dy', dz', dt'. Then these magnitudes always fulfil the condition $dx^2 + dy^2 + dz^2 - c^2 dt^2 = dx'^2 + dy'^2 + dz'^2 - c^2 dt^2$. This validity of the Lorentz transformation follows from this condition. We can express this as follows. The magnitude $dS^2 == dx^2 + dy^2 + dz^2 - c^2 dt^2$, which belongs to two adjacent points of the four-dimensional space-time continuum, has the same value for all selected reference bodies (Gomes 1954: 39 – 41).

If we replace $x, y, z, \sqrt{-1}ct$, with x_1, x_2, x_3, x_4, we also obtain the result that $ds^2 = dx_1^2 + dx_2^2 + dx_3^2 + dx_4^2$ is independent of the choice of the body of reference we call the magnitude "*ds*", i.e. the distance apart of the two events or four-dimensional points. However, we can regard the space-time continuum, in accordance with special theory of relativity, as a Euclidean four-dimensional continuum. The description of the space-time continuum by means of Gauss co-ordinates completely replaces the description with the aid of a body of reference, without

suffering from the defects of the latter mode of description; it is not tied to the Euclidean character of the continuum.

It was Lorentz who, in his monumental work of 1904, gave the formula: $m_c = \frac{m_o}{\sqrt{1-v^2/c^2}}$

For the mass of an electron as a function of its velocity. This formula was obtained on the assumption that electrons in motion underwent Fitzgerald contraction (Kane, Sternheim 1988: 25 – 27). In his paper of 1905, the centennial of which was the reason why 2005 was celebrated as the International Year of Physics, Einstein also touched upon this question, but he did not deceive the formula: $m_c = \frac{m_o}{\sqrt{1-v^2/c^2}}$. Of course, he did obtain the correct expression for the so-called longitudinal mass of the electron and its kinetic energy (see the following section). Critically it was Planck, in 1906, who carried out of systematic study of relativistic dynamics and discovered equations which were to replace the Newtonian equations of motions of a material particle. Planck also obtained correct relativistic expressions for momentum and kinetic energy, and hence, for the function $f(v)$. Nowadays, relativistic formulae are taken for granted in all considerations, theoretical or experimental, on high-energy particles, whether in cosmic rays or man-made machines (Mille 1988: 312 – 316). Relativistic formulae for mass and momentum are employed towards this end, and the resulting design is found to work exceedingly well. Therefore, this may be regarded as indirect but convincing evidence for relativistic expression. According to gnoseological criticism, Einstein's mechanics is only one generalization from Newtonian mechanics. Einstein's opportunity provides a new perspective for the laws of nature. Now there is a new mechanics that comes from Newton's mechanics.

3 The critical statements

Although it may be difficult to abandon the familiar concept of a space-time continuum, the basic assumptions are in line with the trend of the evolution of physics.

Einstein insisted on the essentially constructive and speculative nature of thought and more especially of scientific thought. For physical theories, the naturalness or "logical simplicity" of the premises is very important, as well as the "inner perfection" of all these theories. We applied these rules to establish the foundations of space-time and to test its logical consistency and to show that it has the advantage of removing a severe contradiction that subsisted between relativity and quantum mechanics (Pais 1996: 318 – 320). External confirmation is essential to special relativity, since others physical theories should not only be correct, but also true. This means that they have to be in conformity with observed facts. Their objective is to describe what actually happens or could happen in nature. Regarding the creation of a new theory, Einstein warned, however, against the prejudice that facts by themselves can and should yield scientific knowledge without free conceptual construction (Meessen 2005,: 39 – 45). The evolution of space-time quantization was mainly motivated by a search for greater harmony between various ideas and facts that carry out the basic tissue of relativistic physics (Einstein 1954: 47 – 49).

The name "theory of relativity" has greatly contributed to all sorts of misunderstandings. This name contains a clear reference to an epistemological relativism. But there were also serious thinkers who saw some links between relativity theory and Kantian transcendental philosophy. Kant opted for kinetic relativism, the doctrine claiming that one can meaningfully speak only about motion relative to other bodies. All this happened in Kant's pre-critical period; in his mature period he asserted that space and time are categories inherent in our cognitive equipment which are necessary conditions for our perceptions. But owing to the space category our perceptions can be ordered as coexistent with each other, and, owing to the time category, they can be ordered as succeeding each other (Rosales 1989: 377 – 386). Kant did not proceed in line with the future development of science not only in physics but also in mathematics. The development of formal logic did not prove him right.

The special theory of relativity seemed to satisfy positivistic postulates but did so in another respect. In his original work of 1905 Einstein started by precisely formulating the measurement procedures of such magnitudes as the length of a body in rest and in motion, or the length of time intervals. Einstein's views had a great impact not only on physicists, but also on philosophers. There are, for instance, many striking similarities between Popper's philosophy of science and Einstein's methodology. What Popper called the "hypothetical deductive method" does not differ much from Einstein's teaching on the nature of physical theory. I do not claim that Popper actually borrowed some of his theses from Einstein. I only want to say that our present philosophy of science owes many of its features to Einstein and to his theory of relativity. And because of its exceptional inner perfection and its rich physical content, this theory has been analyzed so many times by various philosophers that we can truly say that without the theory of relativity our present philosophy of science would be different from what it is today. However, I see a corroboration of this idea in Einstein's special theory of relativity, for instance, in the fact that in this theory every observer connected with the inertial frame of reference decomposes space-time into his own space and his own time. In the theory of relativity, every observer can be identified with the system of devices measuring time intervals and space distances (Pauli 1938: 1 – 4). I'm looking forward to developing, according to this paper, a new philosophical result for special relativity as a space-time metric and for it playing a very important role for the physical dimensions of nature. "Kierkegaard's claim is interestingly similar to a well-known claim of Einstein" (Evans 1998: 175); for more about Kierkegaard, see (Binetti, Pavlíková 2019), (Martin, Cobo, Kondrla 2019), (Tavilla, Kralik, Roubalova 2019).

4 Interpretation and other philosophical contexts

The interpretation of Einstein's theory of special relativity is not unequivocal in some opinions. As Novák pointed out in his notable article (Novák 1983: 115), differences in interpretations also exist in some university textbooks. A famous physicist, Professor Václav Votruba, explained the clock paradox in the following way in his book *Foundations of the Special Theory of Relativity* (Votruba 1977). If astronauts fly a spacecraft at a speed close to the speed *c* for 10 years, these astronauts will be two years younger after returning to Earth than their friends who remained on Earth. According to Votruba, the paradox arises when we count the data from Earth from the perspective of the space system on the spacecraft. However, Votruba marked this solution as incorrect, claiming that the non-inertial nature of the spacecraft system would speed up the clock running on Earth, which would not only offset but even cause it to be ahead of time. These changes, which at first look like fantasy, are regarded as objectively valid by Professor Votruba. The well-known university textbook *Concepts of Modern Physics* (Beiser 2003) clearly shows that these are seeming changes. It states that in the twin paradox one brother thinks his brother lives slower in the universe. As Novák said, "in contrast to Votruba, the changes calculated on the basis of the STR are only subjective, that is to say, seemingly according to Beiser" (Novák, 1983: 116). Therefore, Novák proposed the division of special relativity theorists into two groups: the hard relativists, who simply consider the calculations and data of the STR as an objective reality, and the soft relativists, who speak of the influence of the gravitational field and consider the change as seeming. We reject the suggested Hegelian solution of Novák to negate the STR due to the "aging of the paradigm of Einstein's theory of relativity" (Novák, 1983: 117] and to create a negation of the negation of Newtonian physics, as we find it too speculative.

Let's not forget that Minkowski also considered the so-called quasi-present in his constructions. "Minkowski's model of a

relativist world considers a sphere of positive space-time intervals within so-called light cones" (Zeman, 1986: 38); there is an area of quasi-present beyond the boundary of the light cones where the space-time intervals have negative parameters.

There are some critical views on the STR valuation. The well-known physicist Miloš Lokajíček also sees many controversies in the special theory of relativity. He pointed out that the attempts that were made using long-haul planes heading in opposing directions, however, did not confirm any real consensus with the dilation of time (Lokajíček, 2002: 113). He rather weighed the argument that the dilation of time is confirmed by measuring the life of unstable particles. Lokajíček considered the length contraction to be experimentally untestable – cf. (Hsu, Hsu, 1994).

"The abandonment of the traditional conception of space and time based on the idea of a spatial continuum flowing through a temporal continuum coherently leads to the assumption of a space-time continuum (chronotope) in which distances and time intervals vary with the changing the reference system, and together vary, of course, all other sizes to those connected (speed, acceleration, mass)' (Principe 2016: 211). Lokajíček further pointed to the fundamentally different grasp of time, as well as a different grasp of determinism and causality, in the STR and quantum mechanics. The mathematical apparatus of the STR is not very complex; differential equations are used. Similar to classical physics, Laplace's determinism is preserved (Novak, 1983: 116). Quantum mechanics, especially in Copenhagen's interpretation, is indeterministic. The understanding of time in the STR is a quantity that is located outside of Euclidean space. Israeli physicist Rafi Milo attempted to interpret absolute time and absolute simultaneity fully compatible with the special theory of relativity (Milo, 2015). Quantum mechanics uses time to express the amount of change. As Lokajíček pointed out, the perception of time outside the space comes from Gassendi and Newton – cf. (Pancheri 1978) or (Palmerino 2011). Mostepanenko also stated that the STR has not moved on from Newton's idea of time that much (Mostepanenko 1976). Despite the mathematical unification of both the theories of Dirac, the basic approaches to time and determinism are inconsistent in both theories. Lokajíček even doubted the eligibility of grasping time in the sense of the STR, and he proposed redefining the concept of time. While pointing to contradictions in the interpretation of quantum mechanics (Lokajíček, Kundrát 2012), he favoured the understanding of time as quantum mechanics understands it. As we know, alternative concepts of time have appeared in the history of thinking, such as Levinas, who "determines time as an endless duration (durée) that shows the nature of non-coincidence or interruption given always by the central moment of the present moment" (Sucharek 2006: 643].

As is well known, Alfred North Whitehead postulated his own reception of Einstein's theory of relativity. Although Whitehead's reflection relates to the general theory of relativity, it is good to recall that Whitehead rejected the interconnection of physics and geometry, "the consequence of which is the rejection of the general principle of relativity" (Andrle, 2010: 265). Whitehead based his reception on a flat four-dimensional space-time, actually approximating the concept of time to the grasping of the STR. The subject was further developed by several researchers (Mc Henry 2015), (Shaharir 2008). Einstein himself held the view that pure geometry must be physically interpreted if we want pure geometry to become physical.

It is interesting to mention the objections of V. I. Lenin to Mach, especially in connection with his understanding of time. A lawyer and a philosopher, Lenin spoke of contemporary physics in his well-known book *Materialism and Empirio-Criticism* (Lenin 1952). However, he did not criticize Einstein directly, but in particular the co-creator of the STR, Ernst Mach. It is possible to agree with Marek's assertion: "Lenin was not a professional physicist and this contributed to his not being able to follow the scientific meaning of Mach's ideas, though he was speaking about their philosophical consequences" (Marek 1977: 64). Lenin's objections also concerned Mach's understanding of time. Lenin blamed Mach for building "an epistemic theory of time and space based on relativism" (Lenin 1952: 151). Mach, in the intentions of Lenin's criticism, falsifies Newton's view of time as an absolute parameter. Lenin defended the objective character of time. However, we must point out that Lenin's reading of Mach, despite the criticism of idealism and empirio-criticism, cannot be taken as fully correct, as Lenin approached the issues ideologically at some points. On the other hand, Lenin took the reflection of grasping time in the STR only very indirectly. It is apparent that he acknowledged Mach's arguments at some points, but a priori sought to condemn his understanding of time. In principle, however, it is possible to see a defence of Newton and Gassendi's concept of absolute time in Lenin's criticism. Therefore, Lenin did not declare against the fundamental concept of time in the STR. His criticism tended to refer to some of Mach's statements, and we do not think it fully appropriate in all cases. However, it is known that some fanatical Marxist philosophers considered the special (and general) theory of relativity as bourgeois pseudoscience.

The special theory of relativity was evaluated directly by several distinguished philosophers. Karl Popper argued that Einstein created the STR in the position of positivism (Popper 1976). Later, in the sense of Popper's reflection, Einstein dropped the positivist interpretation of the STR. Einstein's STR was also evaluated by Nicolai Hartmann. According to Hartmann, the manifestation of the positivist view of young Einstein was him not speaking of the unity of space and time, but of their inseparability. Hartmann did not dare attack the STR, but he criticized Einstein that space and time remain only on the physical level with him and for not performing an ontological analysis that would deepen the sense of space and time as a categorical apparatus of philosophy (Špůr 2006: 118).

Hermann Minkowski connected space and time into a four-dimensional continuum in 1908. "The four-dimensional Minkowski's variant corresponds geometrically to the space-time in the STR" (Dubnička 2011: 329). The interpretation of time and space in terms of their further mutual relationship within the STR remains an open question. Einstein himself did not understand the STR as a theoretical system but as a heuristic principle at the beginning. Within the formal approach and mathematical description, a four-dimensional description of mechanical movement is also permitted in Newton's physics (Alexeyev 1984: 165). The interpretation of Minkowski's space-time is open in many interpretations.

Einstein in all probability definitively eliminated the idea of the ether from physics. This *quinta essentia* probably most resonated with Aristotle in *De Caelo*; the origin of the term is still mythological. The determination of location with respect to the ether was still part of the arsenal of the physical categorical apparatus until the early 20th century. *Αίθήρ* as a part of physics (from Aristotle) and sometimes even metaphysics (Pseudo-Lullus) survived over two millennia. It seems that the STR banished it from science for good.

It is possible to postulate the methodological question of whether the STR is merely a complement to and refinement of the existing physical image of the world or is a new paradigm (in the sense of Kuhn). We know that a supporter of cumulativism in the development of science "Laudan criticized Kuhn (for the development of the theory of science which was in conflict with actual episodes of the history of science)" (Karaba 2012: 520). In our opinion, from a methodological point of view, the STR is a refinement, a moderating of science in terms of the addition of a new, still missing condition to the existing theory, which will result in its qualitative enrichment. This is how Henri Poincaré looked at the development of physics, for example. In terms of new conditions, the STR places Einstein's two postulates into the already existing physical theory; however, the rupture does not take place, and it is not a new scientific paradigm in the true sense of the word.

5 STR and philosophy – the need of emphasis of the problem in the educational process

A significant problem in the educational system is the lack of emphasis on the relationship between philosophy and physics. As we have shown above, there are significant correlations between STR and philosophy. Teaching in high school is the first, fundamental step to begin to shape the future intellectual. Within this framework, the basic natural science, physics, has its inalienable place. On the one hand, attention is usually paid to the technical level of aids needed to teach physics. On the other hand, especially in high schools, the interdisciplinary relationships between physics and philosophy are not sufficiently clarified, they are on the fringes of attention. There is less room left for the implementation of interdisciplinary relationships. When taking over the special theory of relativity, it is good to indicate the basic ideas of the general theory of relativity at least at the selection seminar within the grammar school. It speaks of Rieman's non-Euclidean curved space, which recognizes Kant's idea. The special theory of relativity, of course, has many philosophical consequences. First of all, it is a complete denial of an intangible and immovable substance, which as an idea that has resonated in physics for more than two thousand years. Already in De caelo, Aristotle defines αιθης, claiming that "neither that which always is, therefore, nor that which always is not is either generated or destructible" (Aristotle 1995, 282b). Classical physics counted on the ether as an immobile entity, with respect to which the position in the absolute sense can be determined. Instead of Aristotle's quinta essentia, STR introduces a postulate about the relativity of motion. It is only possible to talk about the motion of a body relative to one or another frame of reference, but not about absolute motion. While absolute position, absolute rest and absolute motion are ruled out, STR has shown that there is a maximum speed, the speed of light above which it is no longer possible to develop any speed, while the restriction c as the highest speed also applies to speed addition. There is no absolute motion of the body as a motion relative to absolute space. Marxist-oriented physicists interpret the question of space in STR as meaning that space without matter has no meaning, because space is not just a structure where matter moves, but it is a form of its existence. This idea is also illustrated by a certain interpretation of one of the conclusions of the general theory of relativity (hereinafter GTR), to which we will return later. The Marxist explanation of STR's conclusions also relates the non-existence of absolute peace, which is related to the principle of the dialectical nature of reality. This interpretation has opponents from the ranks of philosophers who say that motion is not an immanent property of bodies, because whether it is motion is decided by the question of the position of the observer. The STR has also shown that the concept of a reference system and a coordinate system are not identical. Changes in time are unknown in classical physics, specifically the contraction of length is in turn a manifestation of the relative nature of time. The question of equivalence of reference systems can also be interpreted as meaning that in terms of kinematic description the heliocentric and geocentric systems are equivalent, but they are not equivalent in terms of dynamics, which takes into account the magnitude of acting forces and their relationships.

More comprehensive philosophical consequences, applicable to grammar school teaching, can be perceived especially in connection with the general theory of relativity, which can be taken over by expanding the topics that teachers can perform by 30%, or by increasing physics lessons above the state educational program. Marxist-oriented physicists strive to interpret, in the sense that space and time, in GTR as space-time a form of matter, because its curvature is dependent on mass. The curvature of space-time is a refutation of the idea of Kant, where he considers space and time as separate a priori forms of sensuality, while clearly formulating the necessary Euclidean structure of space. The connection of time and space into space-time also contradicts Kant's and Newton's idea of space. "A. Einstein uses Leibniz's relational conception of space and time in the construction of theory" (Philosophical Foundations of Natural Sciences 1980: 141). This is evident in both STR and GTR. The general theory of relativity has some connection with the search for a unified physical theory. Einstein tried to trace the idea that all theoretical physics was not just a consequence of GTR, but was not as successful as he had not developed a unified field theory, despite the discovery of a connection between the theory of gravitation and non-Euclidean geometry. A parallel can be found in August Comte's effort to methodologically search for the most general laws possible, the invariance of which could be expressed as simply as possible quantitatively.

The development of physical knowledge, even in correlation with philosophy, requires the expansion of the base with new knowledge, which must be at least minimally presented to high school students. The incomprehensible neglect of interdisciplinary relationships between philosophy and physics deprives students not only of key physical facts, but also of the possibility of understanding philosophical consequences, thus depriving them of a large part of the holistic notion of natural phenomena in interdependence. The pedagogical process must be set in favor of the development of interdisciplinary relationships both in the field of teaching philosophy and in the field of teaching physics. The curriculum of both subjects, especially the grammar school, should point to the intertwining of philosophy and physics in the field of STR. The theory of relativity is a field where the plane of physics and philosophy intersects at several points.

6 Conclusion

"It is noted that knowledge and information are the organizing principles of the post-industrial information society" (Pushkarev, Pushkareva 2018: 176). Knowledge and information are also subject to the laws of physics. The special theory of relativity defines a new methodology for physical science, because there are, however, determinations to the measurements. Einstein only clearly formulated his methodological views much later. Physical theory cannot be reduced to a set of measurement results. By mathematical deduction from them one constructs the body of a given theory, but this is by no means a mechanical process. One should invent ways to overcome difficulties; one ponders various possibilities, and sometimes one goes back and modifies initial assumptions and so on (Schrödinger 1954: 74 – 76). Only when the theory of relativity is ready does one derive empirical predictions from it which should be compared with the results of real experiments. In Einstein's view, there are two criteria for the correctness of any physical theory, and one of them is its agreement with experimental results. The new relativistic theory is to learn a sense of space-time, as relative events, and according to the "metric". However, spacetime is a holistic perspective of measurements (Landsberg 1982: 35 – 40). Special relativity is an events theory, because it explains the sense of invariance of physical laws according to inertial systems of references.

The theory of relativity is intimately connected with the theory of space and time. We shall therefore begin with a brief investigation of the origin of our ideas of space and time, although in doing so I know that I introduce a controversial subject. The object of all science, whether natural science, is to co-ordinate our experiences and to bring them into a logical system (Heisenberg 1951: 99 – 105). But normally the theory of relativity is often criticized for giving, without justification, a central theoretical role to the propagation of light, in that it establishes the concept of time on the law of propagation of light. And there are so many others critical judgments, from natural law to the experience, to the new relativity of space and time.

The extensive space between philosophy and physics is also notable in the field of the theory of relativity. Despite the factual context, relatively little attention is paid to the overlap at the educational level. We recommend, first of all, the obligatory inclusion of the theory of relativity in the higher grades of grammar school. We also recommend that in the subject of philosophy as well as in the subject of physics, sufficient space

be devoted to the interdisciplinary contexts of the theory of relativity. In physics, the theory of relativity, cosmology, as well as quantum mechanics can be done in thematic units. In philosophy, it is possible to point out the connection with the theory of relativity especially in Aristotle's cosmology, in Kant's understanding of time and space, in Whitehead, but also in the questions surrounding the methodology of science of Poincaré, Mach, Popper, Kuhn, etc. Certain connections can also be mentioned in the constellation with Lenin's work Materialism and Empirio-Criticism.

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Primary Paper Section: B

Secondary Paper Section: BE

I INFORMATICS

IN INFORMATICS



EDUCATIONAL ROBOTICS AS A MEANS OF DEVELOPING PUPILS' AND STUDENTS' COMPUTATIONAL THINKING

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Abstract: The accelerating development of technology over the past decades has brought many radical changes in all aspects of life and has unquestionably affected the functioning of our society. The expansion of the digital space and the technological innovation in industry, commerce and household have given rise to a large number of new concepts relating to digital and information technology and their use. In the context of supporting these activities and needs, the FEP document has been updated for the educational area Information and Communication Technology in elementary schools but also in general and technical secondary schools. This innovation is built primarily on the development of computational thinking, which is based on two pillars—algorithmization/programming and educational robotics.
The present paper uses educational research to analyse the area of educational robotics as one of the important tools for promoting the concept of developing computational thinking including a description of the specific tools for the implementation of this type of teaching. The aim of the research study was to analyse the current level of pupils' awareness of and practical experience with educational robotics, both in school and in extracurricular activities. The research tool for data collection was an online questionnaire designed by the authors.

Keywords: Teaching computer science, computational thinking, educational robotics, educational robotics tools.

1 Introduction

The development and implementation of the concept of integrating pupils' computational thinking into the curriculum of computer science subjects is currently one of the major challenges of education systems in many countries (Wing, 2014). In a simplified way, digital education responds to the changes in society related to the development of digital technology and their use in various areas of human activity (e.g., Klement et al., 2020, Tang et al, 2020, Román-Gonzáles at al., 2018, Brennan, Resnick, 2013, CSTA & ISTE, 2011, etc.) It includes both education that effectively uses digital technology to support teaching and learning and education that develops pupils' digital literacy and prepares them for life in society and the labour market where the requirements for the knowledge and skills in the information technology segment are growing (Tran, 2017).

This suggests that computational thinking includes information science and uses its knowledge, concepts and fundamental principles. At the same time, it can use programming as a tool but is not dependent on these concepts (Balanskat, 2018, Angeli et al., 2016, Bocconi et al. 2016). The approach that does not make a direct link between computational thinking and the ability to use a specific programming language is the reason for a schism at an academic, legislative and educational level. Some national curricula follow the concept of computational thinking independent of formal programming languages, while others refer to a direct need of programming within the basic definition of the concept (Balanskat, 2018). This framework is the basis for the overall implementation of CT (Computational Thinking) into the curriculum. Each definition of the concept of CT and its area needs to consider the national context (Klement, 2018).

From a didactic and teaching point of view, an important aspect in the development of CT is the practical application of its concepts including algorithmization, decomposition, generalization, evaluation and abstraction (Angeli et al., 2016). If the aim of the revision of the curricula and the development of computational thinking in schools is to train the students in the use of information technology in their lives and on the labour market, it is crucial that they are able to use their skills and abilities. Programming plays an essential role in the practical implementation of the development of computational thinking. According to a study that analysed the upcoming curricular revisions in the area of information science and computational thinking in European countries, thirteen of the countries involved in the research focused their revisions primarily on the development of pupils' skills in problem-solving as well as critical and logical thinking. In the context of this objective, seven of these countries focused especially on the introduction of programming. Seven other countries only extended the already established system of teaching programming to include the concepts of CT development (Bocconi et al. 2016).

2 The sub-areas of computational thinking

Since the beginning of the international debate on the integration of computational thinking in the system of education, there have been attempts to define the specific sub-areas of CT. The primary objective of this process is to concretize the very general definition of the phenomenon of computational thinking which is not suitable for a practical implementation of CT in the school system (Román-González et al., 2017). At present, most national curricular definitions of the concept of computational thinking are based on or largely match the definitions of the characteristics and abilities related to the use of CT according to CSTA and ISTE in 2011. In 2006, the CSTA and ISTE document identified six areas for the K-12 Curriculum, which complements but is not limited to the process of computational thinking, and additional six abilities and skills linked with the concept of CT. Therefore, this definition is based on similarities, skills and approaches that the individual who uses computational thinking should have. Specifically, this includes the abilities of formulation of a machine solution, data handling, data representation by means of abstractions including models and simulations, automation and algorithms, searching for an optimal solution and the application of the problem-solving process to similar problems. Five years later this document was updated in order to emphasise the components of abstraction, automation and analysis (CSTA and ISTE 2011).

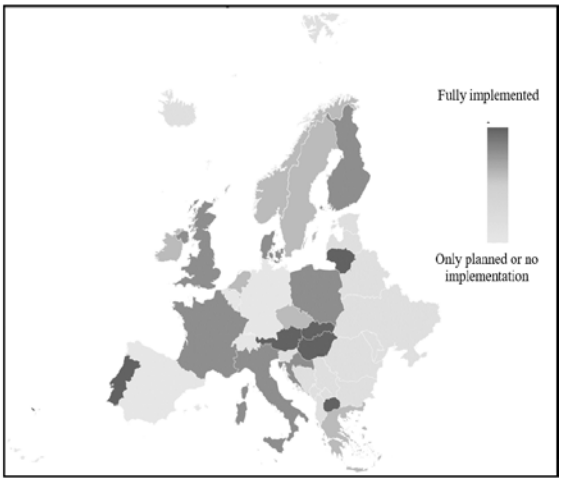


Figure 1 Degree of implementation of CT into European curricula

Later, many authors tried to simplify and reduce these definitions to the basic elements that would describe the essence of the original definitions. Likewise, for educational and didactic purposes the concretization of the areas that define CT is usually carried out by means of a detailed analysis of the CSTA & ISTE document. The following comparative Table 1 shows the sub-components of computational thinking as defined by CSTA & ISTE and the keywords and phrases included in this definition, which the authors of the present paper used to define the corresponding CT skills (Angeli et al., 2020, Bocconi et al., 2016, Wing 2014, Selby, 2012) linked with these concepts that pupils who want to use computational thinking should adopt.

Table 1 Definitions of the areas for the development of computational thinking

Original definition by CSTA & ISTE	Keyword	Corresponding CT skill
Problem formulation for machine solution	Formulation	Syntax, programming
Organize and analyse data in a logical way	Data	Data processing
Represent data using abstractions	Representation	Modelling
Thinking automation using algorithmic thinking	Algorithmic thinking	Algorithmization, automation
Analysis of possible solutions to achieve the most effective combination	The most effective combination	Abstraction, optimization
Generalization and application of a specific problem-solving process	Generalization	Evaluation, debugging, generalization

Although the current approaches to CT considerably vary, a review of the relevant literature and documents suggests that most of the proposed sub-components match in the areas of algorithmization, abstraction, debugging or evaluation, decomposition and generalization (Balanskat, 2017, Bocconi et al., 2016). At the curricular level, any changes to these areas are governed by the specific national concepts of computational thinking (So et al., 2020, Sengupta et al., 2013, etc.)

3 Educational robotics as a supportive tool in teaching focused on the development of computational thinking

One of the most promising educational tools in the development of computational thinking and programming and at the same time a highly valued subject that supports the modernization of the teaching process is educational robotics. Specialized propaedeutic robots and programmable kits are currently proven and very attractive teaching tools. They are extremely effective not only in catching the pupils' interest but they are also an indispensable aid for the visualization of the learning content. For the development of CT in schools, many authors emphasise the use of age-appropriate and specialized learning aids and programming environments such as Scratch, Kodu, Etoys, Ozzobot and Lego We-Do (Tran, 2017). Typically, educational robotics is specifically designed for the needs of schools and focuses on the education of pupils of a specific category and their development in the field of algorithmization, programming, technical thinking, mathematical and geometrical knowledge or the development of creativity. The following table shows the most frequent propaedeutic robots used in primary education and the corresponding programming languages.

Table 2 Propaedeutic robotics and programming languages

Robotic kit	Supported programming language	Default language type
LEGO Mindstorms ev3	RCX Code, C/C++, Java, Visual Basic, Scratch, etc.	Text block language
LEGO WeDo 2.0	Own iconic language, Scratch	ICONIC block language
Ozobot EVO, Bit	OzoBlockly	Text block language
Arduino	C/C++, Scratch	Multiparadigmatic programming language
mBot	mBlock, C++	Text block language
BBC micro:bit	MakeCode, Scratch, Python, JavaScript	Text block language

Most of these educational robots are designed for elementary school pupils and use visual programming languages including text blocks or iconic blocks. This programming method typically uses commands in the form of pre-set blocks that pupils arrange in a programming sequence on the drag and drop principle. This programming method is ideal for beginners due to its simplicity and clarity. Visual programming is also used in didactic games for the teaching of programming and algorithmization.

4 The tools for the implementation of educational robotics

It has been confirmed that educational robotics has an indisputable positive effect on the development of pupils in the field of CT and programming. At the same time, the application of educational robotics as a supportive teaching tool has been demonstrated to minimize pupils' gender differences in their approaches to programming as well as their performance (Rubio et al., 2015). A disadvantage of educational robotics may be the fact that it is relatively expensive and the acquisition costs might often be too high for the schools. Therefore, in the selection of an appropriate educational robotics tool, care should be taken to choose a tool that provides the broadest possible degree of application for a reasonable price.

The following text analyses available products that can be used for the purposes of educational robotics, particularly in terms of their didactic applicability at the different levels of education. This is due to the fact that in the development of CT in schools a number of authors emphasise the use of age-appropriate and specialized learning aids and programming environments.

Table 3 Specific tools for the implementation of educational robotics teaching

Stage	Tool	Tool description	Tool example
Nursery schools	Bee-Bot	Robotic bees, also used with different pads. Using the buttons on the back of the bee, pupils programme the bee and basically create a sequence of steps (algorithm) that the bee then executes.	
Primary schools (stage 1)[1]	LEGO WeDo	Using the LEGO® WeDo 2.0 robotic kit. Pupils build a LEGO robot, create an algorithm in a graphic programming environment and in this way programme the robot. This develops not only their algorithmic thinking but also creativity and engineering skills.	
Lower secondary schools (stage 2)*	LEGO Mindstorms	Using the LEGO Mindstorms Education EV3 robotic kit. Previous experience with Scratch visual programming language is recommended. The principle is similar to that of LEGO WeDo but this kit is more difficult and offers more possibilities in terms of construction and programming.	
Secondary schools (non-technical)	Micro:Bit	Micro:bit is an open-source development kit developed in the UK and supported by the BBC. It is primarily intended for the teaching of information technology. It contains a 5x5 LED matrix and two programmable buttons, compass, triaxial accelerometer (gyroscope), etc.	
Secondary schools (technical)	Arduino	Arduino is a prototype and open platform based on easy-to-use hardware and software. The Arduino programmable boards process inputs and use a programme code to create an output. The Arduino board can be connected to a number of hardware components. Using open-source libraries available on the internet, Arduino can be used for a wide spectrum of projects ranging from extremely simple to highly complex ones.	

Those schools for which educational robotics is unaffordable can use low-cost or free alternative tools suitable for the development of computational thinking and programming skills.

[1] * In the Czech Republic, there are two levels of elementary education-primary and lower secondary. The primary level includes grades one to five (children aged six to eleven years), while the lower secondary level includes grades six to nine (children aged twelve to fifteen years).

There are currently many specialized free-of-charge and freely available online tools and methodologies for the teaching of programming and computational thinking. However, their description would exceed the permissible extent of this paper. Therefore, this will be included in other papers that we are currently working on.

5 Educational robotics from the perspective of elementary school pupils – a research probe

As mentioned above, there are a number of tools on the market for the implementation of educational robotics. Educational robotics has also become one of the important components for the development of the concept of computational thinking in terms of the binding curricular documents. During the two-year transition period this content will also be implemented in the relevant educational documents and should then be delivered in schools. However, a question arises as to whether pupils and teachers are prepared for this type of education and whether they have any previous experience with educational robotics tools, for example in the form of robotic kits. In order to answer this question in a satisfactory way, we have conducted a research study focusing on the practical experience of pupils in lower secondary schools with robotic kits.

The aim of the research study was to analyse the current level of pupils' awareness of and practical experience with educational robotics, both in school and in extracurricular activities. The research tool for data collection was an online questionnaire designed by the authors. This choice was based on the need to address the pupils in selected elementary schools at a time of restricted contact caused by the Covid-19 pandemic. For this reason, the use of an electronic questionnaire was considered as the most appropriate method due to electronic distribution, completion and evaluation.

The questionnaire was designed according to the basic requirements and qualities as specified by Chráska (2016, pp. 164–165). The questionnaire was distributed via e-mail, which in addition to a cover letter included a link which the respondents used to access the questionnaire. The e-mails were sent to computer science teachers or their deputies asking them to complete the questionnaire or forward it to their pupils who were likely to have a positive attitude to computer science (e.g., pupils of mathematics, physics, chemistry, computer science and technical education). The completion of the questionnaire was entirely anonymous. If any respondent was interested in the outcomes of the study, they had the opportunity to leave their e-mail address at the end of the questionnaire. Most of the questions were mandatory which means that the respondents had to enter an answer in order to proceed in the questionnaire. Some of the questions had only one possible answer, while others had multiple correct answers or provided space for a free answer. The questionnaire also included questions identified as optional where the respondents gave their responses only if they were able to answer.

The questionnaire survey was conducted from November 2020 to January 2021 and was completed by a total of 135 respondents—pupils in lower secondary schools. This was followed a period of processing and evaluation of the responses.

Table 4 Structure of the research sample

Attribute	Group	Number	Percentage
Gender	Girls	81	60.0 %
	Boys	54	40.0 %
Grade	6	26	19.3 %
	7	47	34.8 %
	8	37	27.4 %
	9	25	18.5 %
School location	Urban	78	57.8 %
	Rural	57	42.2 %

6 Selected results of the research study

One of the research areas was pupils' interest in the relatively unknown thematic unit aimed at educational robotics in elementary schools. The objective was to identify the degree of interest among elementary school pupils in this thematic unit as one of the important factors for the development of computational and technical thinking and its implementation in classes, educational environment and life of the school.

In many schools, educational robotics is not very popular. If educational robotics is used in classes, it usually oscillates between two poles. The first pole is the use of educational programming languages and developmental environments such as Lego or Arduino. The other pole is represented by "real" programming or scripting languages and devices such as H&S electronic systems and VEX Robotics that allow the development of production applications. For many years, the professional community has been involved in a debate on the two poles; one group emphasise the need for a didactic approach to educational robotics, while the advocates of the other pole support "real" solutions in the teaching process which pupils will use in life or in their later academic career. Although it is not the responsibility of pupils to determine the learning content and its focus, their opinions and preferences during the implementation of this educational concept are a crucial factor that may affect future outcomes and benefits.

For this reason, we focused on an analysis of pupils' interest in educational robotics using the following two questionnaire items: "*Do you know any robotic kits?*" and "*Do you own any robotic kits?*" The set of questionnaire items was used to identify the current level of interest in the education of this thematic unit and pupils' ideas about possible future application of the knowledge and skills because without a clear idea concerning the applicability of the knowledge it is extremely difficult to motivate learners. This concept was used to determine the following research assumption: *Elementary school pupils are interested in the thematic unit focused on educational robotics.*

The responses of lower secondary school pupils are summarized in Figures 2 and 3. The responses were also used to test the research assumption. The figure show cumulative numbers as the respondents could give multiple answers or provide their own answers.

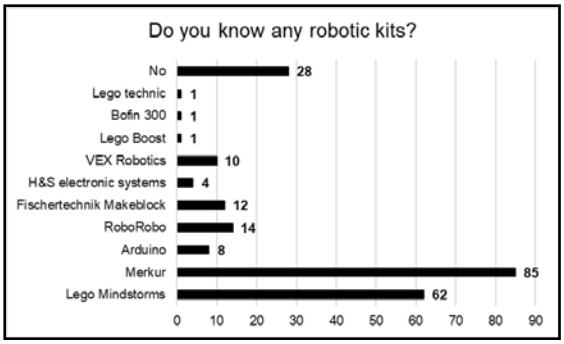


Figure 2 Knowledge of elementary school pupils in the area of robotic kits

The results shown in Figure 2 suggest that most elementary school pupils are familiar with the Merkur robotic kit (37.6 %) and Lego Mindstorms (27.4 %). This result is not surprising because both are widely used and commercially available construction kits with a long tradition (Merkur in particular is very popular in the Czech Republic). For completeness, only 12.4 % of pupils suggested that they did not know any robotic kit, which is considered a positive result.

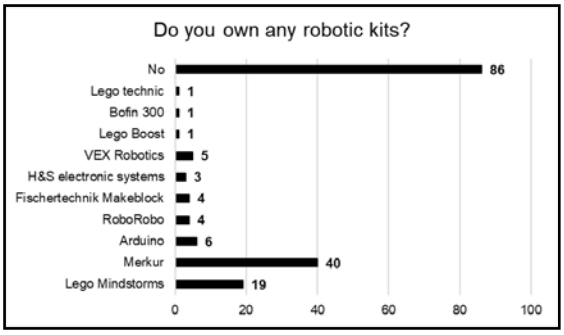


Figure 3 Interest of elementary school pupils in robotic kits

Although the ownership of a particular robotic kit need not always indicate a clear interest, it may suggest a certain liking during pupils' extracurricular activities. An analysis of the results shown in Figure 3 suggests that almost half of pupils (49.4 %) declare the ownership of a robotic kit. The most popular robotic kits are again Merkur (23.5 %) and Lego Mindstorms (11.2 %). This is again considered a positive result because it points to a relatively high degree of pupils' interest in this area. At the same time, ***this result confirms the research assumption***.

At present, there is a significant gender imbalance among professional programmers. Although this trend is known around the world, the reasons why more men than women look for jobs in the computer science sector is unknown. Many research studies refer to problems with women's self-confidence in programming (Rubio et al., 2015). Similar tendencies are also observed among elementary school pupils. Male pupils are often more self-confident in their abilities to learn programming compared with their female counterparts (Cheng, 2019). Nevertheless, most research studies confirm that programming skills and study capabilities in computer science do not differ between boys and girls. The only difference is their approach and motivations to programming, in which girls show a tendency to undervalue their own skills in the field of computer science.

In order to confirm or disprove this tendency in the context of educational robotics, we have included items in the questionnaire that could be used to assess this alleged gender imbalance. The items were as follows: "*Do you work with a robotic kit in your free time?*" and "*Do you attend a club aimed at robotics or robotic kits?*". The design of these questionnaire items made it possible to use the Student's t-test. These items were deliberately not directed at institutional education, where certain gender stereotypes could be expected, but rather at the area of extracurricular education and interest activities. On the basis of the above, the following research hypothesis (H), null hypothesis (H_0) and alternative hypothesis (H_A) were formulated.

The hypothesis was tested on a sample of 135 respondents—boys and girls from lower secondary schools—using the Student's t-test for independent groups with gender as the grouping variable as shown in Table 5.

Table 5 The declared degree of interest in educational robotics by gender

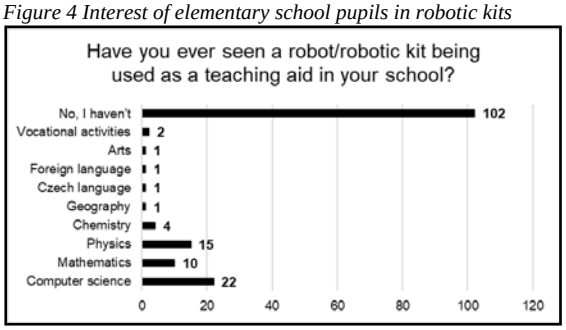
Statement	T-test; grouped by gender, number of respondents 135						
	Group 1 Girls	Group 2 Boys	p	Valid responses Group 1	Valid responses Group 2	Stand. deviation Group 1	Stand. deviation Group 2
Do you work with a robotic kit in your free time?	1.914141	2.006944	0.314445	81	54	0.853599	0.823573
Do you attend a club aimed at robotics?	3.419192	3.333333	0.305268	81	54	0.698828	0.844563

Given that $p > 0.05$ was achieved for both monitored quantities, at the determined level of probability the null hypothesis can be rejected and the alternative hypothesis accepted. Therefore, with a high degree of probability it can be concluded that *there are no differences between the declared degree of interest in educational robotics between boys and girls from elementary schools*.

The last part of the research presented in this paper focused on the frequency of inclusion of educational robotics in the context of institutional education in schools. In order to identify this fact, the questionnaire included the following item: "Have you ever seen a robot/robotic kit being used as a teaching aid in your school?" The aim of this item was to identify whether and in which subjects pupils had encountered educational robotics in their school. Although this area is already included in the FEP Curriculum in the area Information and Communication Technology and there are relevant educational resources (e.g., www.imysleni.cz), it is still a relatively new area and both schools and their teachers now have a two-year transitional period during which they will implement this content in the system of education. This concept was used to determine the following research assumption: *At the moment, elementary school pupils do not have the opportunity to take part in education aimed at educational robotics*.

The responses of pupils from lower secondary schools are summarized in Figure 4. The responses were also used to test the research assumption. The figure again shows cumulative numbers as the respondents could give multiple answers or provide their own answers.

Figure 4 Interest of elementary school pupils in robotic kits



An analysis of the results shown in Figure 4 suggests that the majority of pupils (64.2 %) have so far not encountered educational robotics in the course of their school education. Those who have encountered educational robotics as part of their education mentioned the following subjects: Computer science (13.8 %), Physics (9.4 %) and Mathematics (6.3 %). This is not considered a positive result because it points to an incomplete achievement of the innovated Computer Science FEP Curriculum. However, ***this result confirms the research assumption***.

7 Discussion

According to the Digital Education Strategy Until 2020, schools, teachers and primarily pupils should be provided with new opportunities. A major change to the elementary and secondary school curriculum has been made in order to respond to the current trends and to capture the current needs in education, preparation and subsequent integration of graduates of technical fields in the work process. However, the changes are gradual and until their full integration schools have to tackle the current unsatisfactory situation.

The aim of the present research was to analyse the current state during the ongoing implementation of the curricular reform in a very narrow area of educational robotics and to map and highlight the weaknesses that require attention. The results show that educational robotics is gradually finding its way to Czech schools but so far this journey has been difficult. From the schools' perspective, one of the main problems is finance. Robotic kits are either unaffordable or schools can only purchase a limited number of them which makes teaching difficult.

Another problem is the subsequent process of integration in the education process. The most common and the simplest solution is the establishment of leisure clubs but these clubs include only a limited number of pupils. Another option is the introduction of a core elective subject but its capacity is often limited. Integration in other subjects is difficult as the time for educational robotics is significantly limited due to the absence of a suitable thematic unit in the curriculum. Teachers themselves face problems with insufficient awareness and lack information about new teaching aids. If they decide to use these teaching aids, they often have to rely on resources available free of charge due to financial reasons. Fortunately, there has been a positive shift in this area as teachers were provided with methodological support through the PRIM project (promoting the development of computational thinking). The project involved all faculties of education in the Czech Republic and the objective was to change the orientation of the computer science subject.

However, strengthening the position of computer science subjects in the curriculum is not the end of the process. The results suggest that there is a persisting problem with a large number of unqualified teachers of computer science, which is one of the most suitable subjects for educational robotics. The situation also needs to be improved in the context of teacher training and provision of adequate conditions and background in the area of computer science education.

8 Conclusion

The current trend of implementing computational thinking in national curricula is necessary to modernize the educational systems of developed countries in response to the accelerating technology and the labour market. In many countries, this implementation is linked to the long-announced integration of programming in the national curricula or extends the already established tradition of this type of teaching. The purpose of this modernization is to ensure the equality of elementary education in the field of computer science, which in the past had been left to leisure activities or optional subjects and computer literacy had not been developed across the whole population.

As far as the development of computational thinking in schools is concerned, the greatest benefit is the education of the general population in the area of programming as well as the principles of functioning of modern technology, easier adaptation to emerging new technology as well as the promotion of its creative use at work and in everyday life. Although the concept of computational thinking is not necessarily linked to programming, in the practical implementation of its development in the teaching process, programming is recommended. This practical implementation could use specialized learning aids and tools including propaedeutic programming environments and educational robotics.

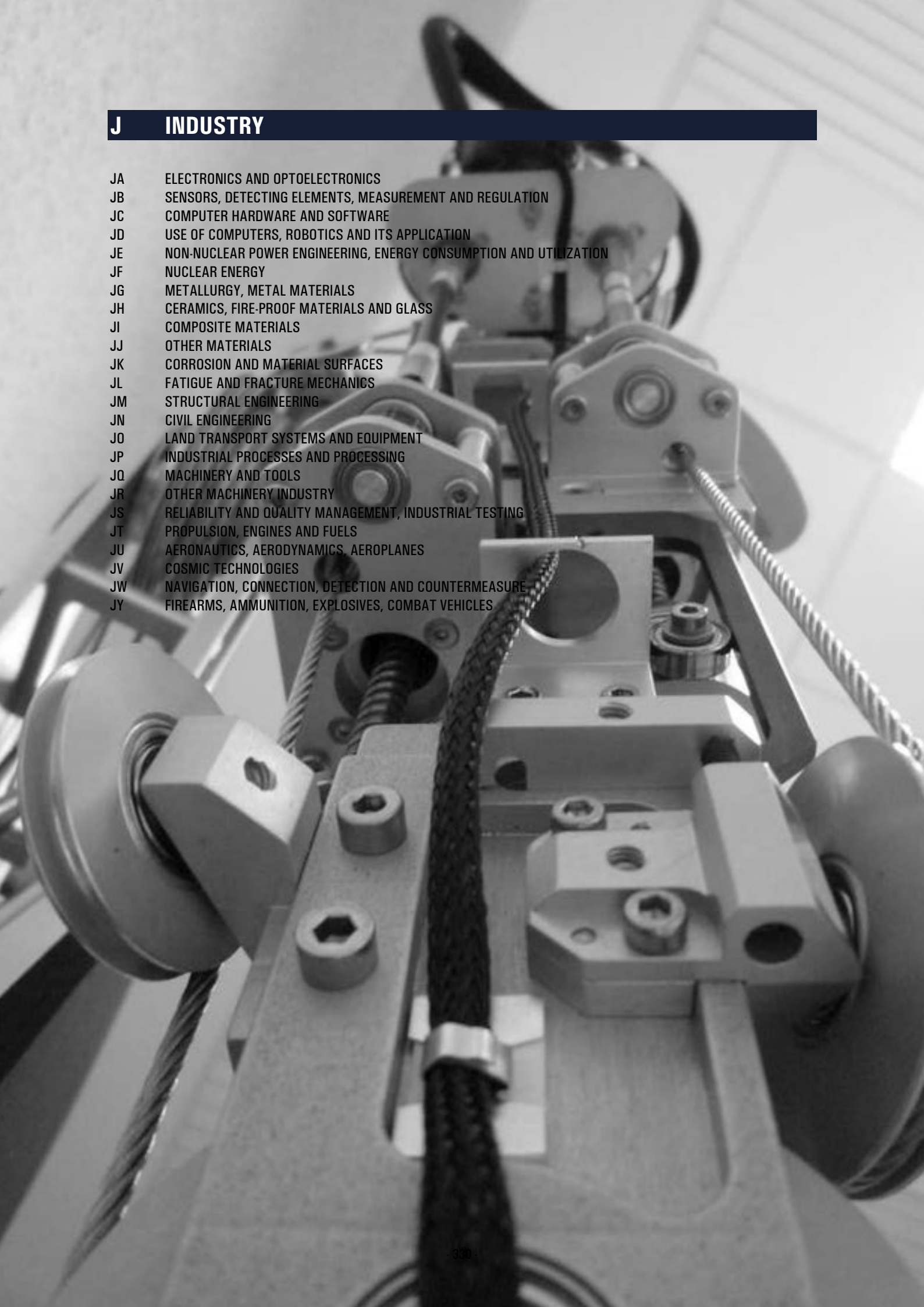
The research study, the purpose of which was to analyse the current level of pupils' awareness of and practical experience with educational robotics both in school and in extracurricular activities suggested several conclusions and recommendations. An important conclusion is that educational robotics is perceived positively by pupils and both boys and girls are interested in this area. We have also managed to disprove one of the frequent prejudices concerning gender imbalance in the field of computer science. It has been confirmed that gender does not determine the interest in educational robotics. This learning content is received in the same way by both boys and girls. A little disturbing is the fact that the majority of elementary school pupils have not encountered educational robotics and we believe there are great reserves and challenges that will have to be addressed in both research and practice.

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Primary Paper Section: I

Secondary Paper Section: AM



J INDUSTRY

JA ELECTRONICS AND OPTOELECTRONICS
JB SENSORS, DETECTING ELEMENTS, MEASUREMENT AND REGULATION
JC COMPUTER HARDWARE AND SOFTWARE
JD USE OF COMPUTERS, ROBOTICS AND ITS APPLICATION
JE NON-NUCLEAR POWER ENGINEERING, ENERGY CONSUMPTION AND UTILIZATION
JF NUCLEAR ENERGY
JG METALLURGY, METAL MATERIALS
JH CERAMICS, FIRE-PROOF MATERIALS AND GLASS
JI COMPOSITE MATERIALS
JJ OTHER MATERIALS
JK CORROSION AND MATERIAL SURFACES
JL FATIGUE AND FRACTURE MECHANICS
JM STRUCTURAL ENGINEERING
JN CIVIL ENGINEERING
JO LAND TRANSPORT SYSTEMS AND EQUIPMENT
JP INDUSTRIAL PROCESSES AND PROCESSING
JQ MACHINERY AND TOOLS
JR OTHER MACHINERY INDUSTRY
JS RELIABILITY AND QUALITY MANAGEMENT, INDUSTRIAL TESTING
JT PROPULSION, ENGINES AND FUELS
JU AERONAUTICS, AERODYNAMICS, AEROPLANES
JV COSMIC TECHNOLOGIES
JW NAVIGATION, CONNECTION, DETECTION AND COUNTERMEASURE
JY FIREARMS, AMMUNITION, EXPLOSIVES, COMBAT VEHICLES

INNOVATION OF CAR SEAT TESTING DEVICE WITH THREE AXES OF LOADING

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Abstract: The comfort of a car seat depends on many parameters of the seat and the characteristics of the people sitting on it. The paper deals with the innovation of a measuring device for testing car seats in laboratory conditions. The device now makes possibility to realize the vertical movement of the car seat and both the horizontal movement in two directions front-rear and left-right. The vertical movement can realized separately or simultaneously with the horizontal movements. Dependent or independent excitation in all three axes perform laboratory testing automobile seats same as when driving a real car. The advantage of laboratory testing is very good repeatability of tests. Long-term durability tests also should be performed in laboratory conditions in a 24-hour testing mode.

Keywords: car seat, multi-testing, multi-axis loading, measurement methodologies, standards

1 Introduction

Testing of car seats in real and laboratory conditions is performed according to relevant standards. These standards are numerous and each corresponds to a specific mode loads a car seat in the car. The comfort of the seat and also the degree of fatigue after driving the car depend on the interaction of the car seat with the human body at the point of contact. Testing of car seats in laboratory conditions requires strict compliance with the prescribed standards, i.e. the subsequent implementation of measured signals in real operation in laboratory conditions, such as simultaneous multi-axis loading.

Therefore, the test equipment must be increasingly sophisticated, allowing load signals to be implemented in all axes independently but also simultaneously. The possibility of performing and comparing tests in the laboratory and in real operation and their uniform evaluation depends on the correct performance of laboratory tests according to the measured signals in the car during real operation. The laboratory equipment, which will enable the loading of the car seat in three axes and will meet the requirements of currently valid standards as [1-4] for the assessment of their properties, will allow their adequate testing in laboratory conditions and also the possibility of comparing measurements from different laboratories.

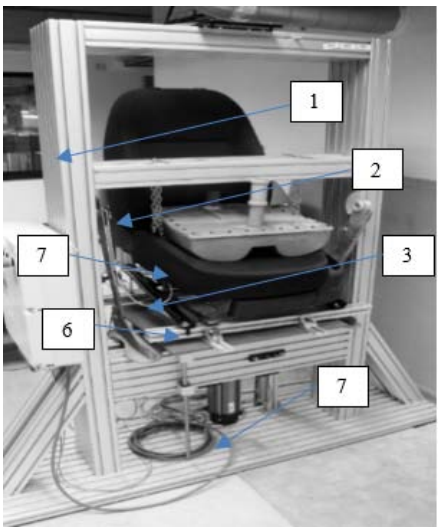


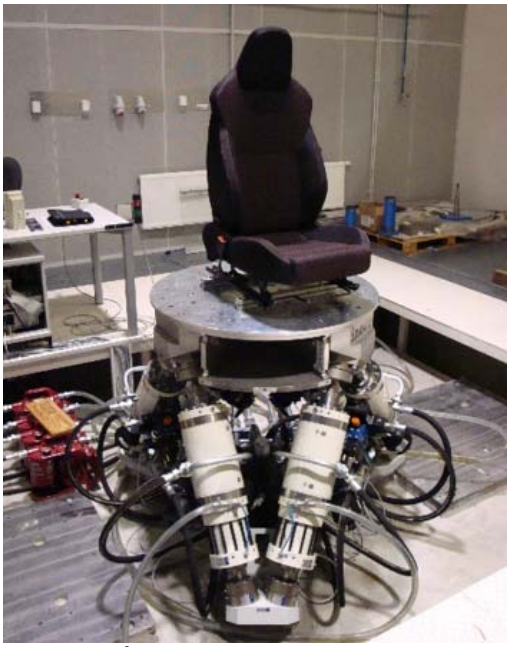
Figure 1 Old testing device

Measurements can be performed in certified laboratories according to a precisely given methodology and the measurement results can be mutually respected. The existing test equipment [5] (Fig. 1, where: Position of fig. 1: 1. Big frame, 2. Small frame, 3. Base frame, 4. Horizontal platform, 5. Vertical actuator, 6. Horizontal actuator, 7. Load) only complied with the standards prescribing the biaxial loading of the car seat, i.e. the vertical load in the "z" axis and the horizontal loading in front of the rear in the "x" axis. Evolution of a dynamic seat test standard proposal for a better protection after rear-end impact describes [6], experimental test-bench development using force control with industrial robots for the analysis of the mechanical response in car seats is described in [7]. Hydraulic stand for testing automatic seats model development [8], laboratory tests of a car seat suspension system equipped with an electrically controlled damper [9], compact system for measuring vibration at different locations of car seat and human driver in dynamic condition [10] provide relevant car seat tests, loading in three axes is demanded. The aim of this paper is to describe the innovative car seat testing device with three axes of loading.

2 Materials and Methods

2.1 Hexapod Control

The effect of mechanical vibrations in the car cabin on the driver and passengers is always multiple, therefore it is necessary to reproduce the same load signals during laboratory testing. For the realization of general movement in space, it is suitable to use a device with 6 degrees of freedom, the so-called hexapod [11] (Fig. 2).


Figure 2 Hexapod

General spatial motion can be realized by means of 6 linear drives, i.e. 3 movements in the x, z, y axes and 3 rotations around these axes. The linear motion of the individual hydraulic motors logically gives the sum the general spatial motion. If we know the course of the movement of at least 2 points in space, it is possible to obtain the necessary linear movements of drives by mathematical transformations, but also based on knowledge of linear movements of drives we can realize the general movement of 2 points in space. The aim of verifying this theory was to measure the general real movements of 2 points in space (in the cab of a car), and their trans-formation into linear movements of drives. Use these linear motions to reproduce back the general real motion of 2 points in space. If this movement can be

realized, we can say that laboratory tests fully correspond to real ones and can fully replace them.

The general spatial movement of the hexapod can be realized by means of 6 linear drives, i.e. 3 movements in the x, y, z axes (Fig. 3), equations (1), (2), (3).

$$\overrightarrow{B(t)} = \overrightarrow{A(t)} + \overrightarrow{AB(t)} \tag{1}$$

$$\begin{pmatrix} X_B \\ Y_B \\ Z_B \end{pmatrix}(t) = \begin{pmatrix} X_A \\ Y_A \\ Z_A \end{pmatrix}(t) + \begin{pmatrix} X_{AB} \\ Y_{AB} \\ Z_{AB} \end{pmatrix}(t) \tag{2}$$

$$\begin{pmatrix} X_{AB} \\ Y_{AB} \\ Z_{AB} \end{pmatrix}(t) = \begin{pmatrix} X_{AB} \\ Y_{AB} \\ Z_{AB} \end{pmatrix} \cdot \begin{pmatrix} \omega x_{AB} \\ \omega y_{AB} \\ \omega z_{AB} \end{pmatrix}(t) \tag{3}$$

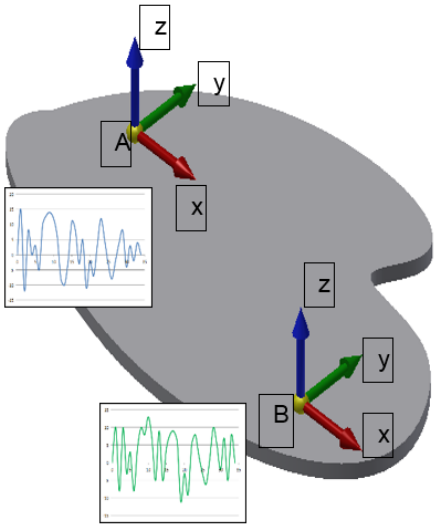


Figure 3 Model of movement

The linear motion of the individual hydraulic motors logically gives the sum the general spatial motion. If we know the course of motion of at least 2 points in space, it is possible to obtain the necessary linear motions of drives by mathematical transformations (1), (2), (3) but also on the basis of knowledge of linear motions of drives we can realize general motion of 2 points in space. The aim of verifying this theory was to measure the general real movements of 2 points in space (in the cab of a car), and their transformation into linear movements of drives. Using these linear motions, reproduce back the general real motion of 2 points in space. If this movement can be realized, we can say that the laboratory tests correspond exactly to the real ones and can fully replace them. In our experience, the repeatability of such laboratory tests is almost 95%. The disadvantage of Hexapod, however, remains the fact that in order to get to a specified point in space, we must use, either a compound movement in the x, z, z axes along a given curve, or gradually realize movements in individual axes, first vertical then horizontal in both directions, result will be the same. The hexapod cannot move abruptly in the x-axis, z-axis and z-axis at the same time. However, this does not completely correspond to the real movement of the car seat during real car operation. It depends on the surface on which the car moves. The measurement results show that the dominant motion is always vertical motion. Additional horizontal front-rear and left-right movements can be added to it. At the same time, all three movements can take place at once, in the given designated axes. Hexapod is not able to realize this. If three independent excitation motors are used, they can be put into operation separately or all three at the same time. In this way, precise movements of the car seat in the car body in real operation can be completely realized. Our innovative device has completely new features and therefore appears to be more suitable than the Hexapod when testing car seats.

2.2 Triplex Control

If three independent excitation motors are used, they can be put into operation separately or all three at the same time. Therefore, it can be fully realized precise movements of a car seat in the car body in real traffic. Our innovative device having new properties and therefore appears in the testing of automotive seats more suitable than Hexapod. Unlike the hexapod, operating the Triplex is quite simple. Each linear actuator is controlled separately, i.e. it can be switched on and off separately. The control of linear actuators makes it possible to realize practically any signal, for example a periodic sine, or a signal measured in the cab of a car. All entered movements can be performed simultaneously and independently. This corresponds to the load on the driver in the cab of the car in real traffic. Vibrations in the vertical or horizontal direction can only load the driver, but also simultaneously.

2.3 Design of new testing device

We have added another horizontal direction of loading left-right in the "z" axis (Fig. 4, where: 1. Upper mobile platform, 2. Lower mobile platform, 3. Linear actuator of vertical, 4. Linear actuator of horizontal, 5. Linear actuator of horizontal). We now have a vertical motion that realizes the vertical excitation that dominates when driving a car in real traffic. This driver has the highest power. In addition, we have two horizontal exciters that realize horizontal movements, i.e. front-rear movement and left-right movement. We could not place a complete car seat with a load on the existing equipment, so we increased the total height of the test equipment to 2700 mm. It also follows from the requirements of the current standard that the seat must be loaded with a freestanding manikin during the test.

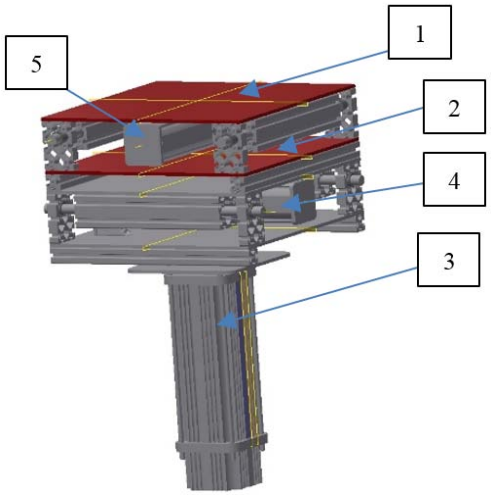


Figure 4 Two horizontal movable platforms

Horizontal movable platform 1 and 2 is on Fig. 5, where: 1. Lower fixed plate, 2. Upper moveable plate, 3. Bearing, 4. Linear guideways.

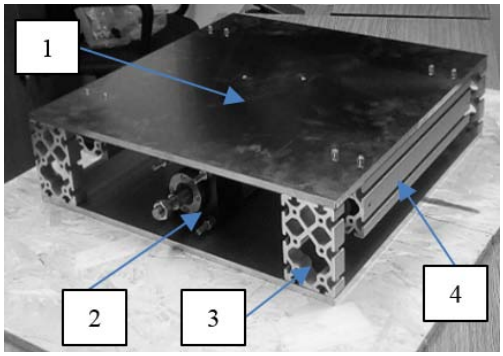


Figure 5 Horizontal movable platform 1 and 2

The concept of horizontal movement was based on the movement of two horizontal plates, which are connected via a linear guide (Fig. 6) and s new linear actuator type GSX40 was chosen for the drive (Fig. 7) where: 1. Corpus linear actuator, 2. Movable shaft, 3. Electrical connection, 4. Control connection, 5. Anchoring. The lower horizontal plate is connected to the vertical actuator, the upper plate is used to anchor the tested seat. The design allows the entire horizontal module to rotate, i.e. rotate in the "z" axis. The device thus becomes universal. We can add two horizontal test signals to the vertical test signal, both front-rear and left-right.

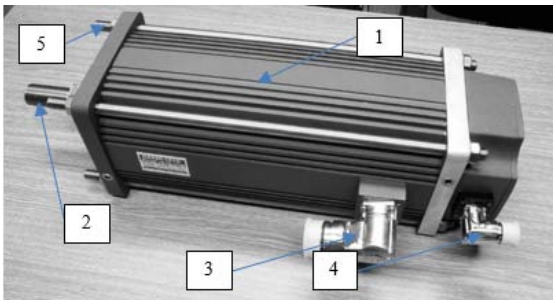


Figure 6 Vertical movement, linear actuator type GSX60

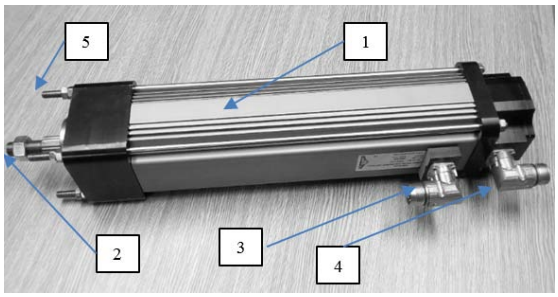


Figure 7 Horizontal movement, linear actuator type GSX40

The overall design concept of the innovated design was based on the assumption of using the Hybrid III test dummy and the H2015 dummy to measure the car seat. Therefore, we had to increase the overall height of the device to 2700 mm. The car seat can now be fully assembled, including the head restraint, and loaded with standard loads. Furthermore, a vertical linear guide has been added to the device, which allows, in case of testing requirements, to keep the load strictly in the vertical axis, i.e. the weight can only move vertically.

2.4 Principles of control and implementation of excitation signals

The actuator is basically an electric motor with a gearbox and a motion screw. This converts the rotary motion of the motor into a sliding motion. The actuator is also equipped with a position sensor which is used for position feedback control. An integral part of the actuator is an external control unit that provides power to the electric motor and implements the position feedback control. The control unit communicates with the parent user system via a serial link (RS 232, RS 485) or uses a standard internet connection. A block diagram of the basic actuator wiring is shown in the Fig. 8.

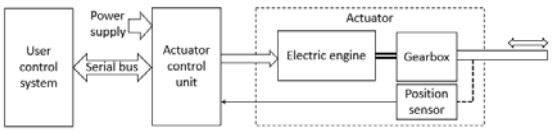


Figure 8 Block diagram of the basic actuator wiring

The user control system is a standard PC with the basic control software installed and included in the actuator delivery. This software is used to set the basic properties of the control unit and the actuator. At the lowest level, it is about setting the basic parameters of the electric motor and position sensor used. This level is handled by the factory settings and does not need to be modified from the user's point of view. The user-modifiable features then at the next level deal mostly with the setting of the starting and braking transient ramps and then the position and speed limit values to make the actuator operation safe in terms of its incorporation into a particular device. Serial line control can also be used for basic positioning, where the actuator linearly travels at the set speed (using the transition ramps) to the desired position and stops there. The final option for serial line control is to program a sequence of positions and speeds that is stored in the control unit and then executed when the start command is sent. However, it is always just a sequence of simple linear position changes at a set speed. Direct position control by the user system in real time is not possible because the serial link is too slow for this type of control. If it is necessary to control the actuator from the user system in real time, an analog control signal is usually used, the magnitude of which is proportional to the desired position value. Only the "start" command is sent over the serial link and the actuator position then follows the analog control signal. A predefined logic input of the controller can also be used instead of the start command. When controlling the actuator's operation, there is no need for basic control software at all and any application that can control the logic input and generate an analogue signal of the desired shape can be used. The actuator control unit can also provide information about its status to the user application using additional logic signals. However, the user system must of course have a unit with an analogue output and logical inputs and outputs. The block diagram of the control is shown in the Fig. 9.

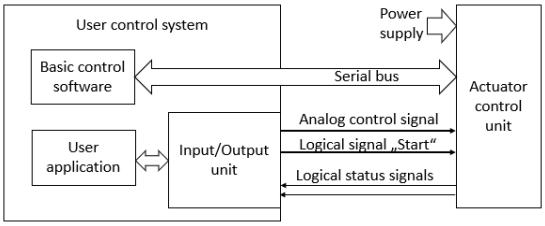


Figure 9 Block diagram of the control

A common PC does not have a basic unit with analogue and logic inputs and outputs and nowadays usually not even a serial RS232 port, but it is not a problem to add these elements to the computer. Nowadays, such units are usually designed as external devices that connect to the PC via a USB port. Thus, no intervention in the computer's HW is needed and even a laptop can be used. A typical example of units with analogue and logic lines are DAQ units from National Instruments. A user application can be created in the Labview programming environment from the same company, which already includes full support for DAQ units. This is also how the control of the actuator control units in the described test setup was solved.

3 Results and Discussion

The innovative device (Fig. 10, where: 1. Big frame, 2. Small frame, 3. Base frame, 4. Horizontal platform 1, 5. Horizontal platform 2, 6. Vertical linear guideways, 7. Vertical actuator, 8. Horizontal actuator 1, 9. Horizontal actuator 2) allows to realize the possibility of vertical loading of the car seat up to 100 kg load and movement of the car seat in the interval +/- 90 mm, at the same time allows to realize horizontal movement of the car seat in the interval +/- 25 mm both in front-rear and in left-right directions. This corresponds to the currently valid regulations for laboratory testing of car seats with the prescribed load.

Three types of signals were designed for the basic tests: Stationary periodic signal SPS1.1, Stationary non-periodic signal SNS1.2. Non-stationary non-periodic signal NNS1.3 (Fig. 11).

Since the device is equipped with three actuators, it is of course necessary to control three control units simultaneously. Thus, three separate analogue outputs for the position demand signals and three digital outputs for the "start" signal are required for

control. In this device, each control unit gives only one "ready" status signal. Thus, three digital inputs are needed to process these signals. The resulting solution for interfacing the actuator control units to the user PC is shown in the Fig. 12.

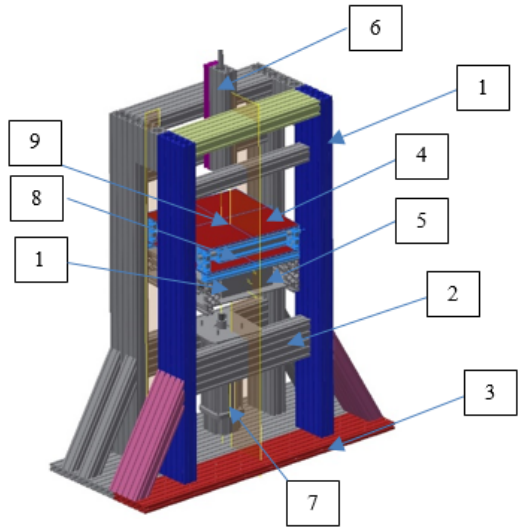


Figure 10 Innovative test equipment

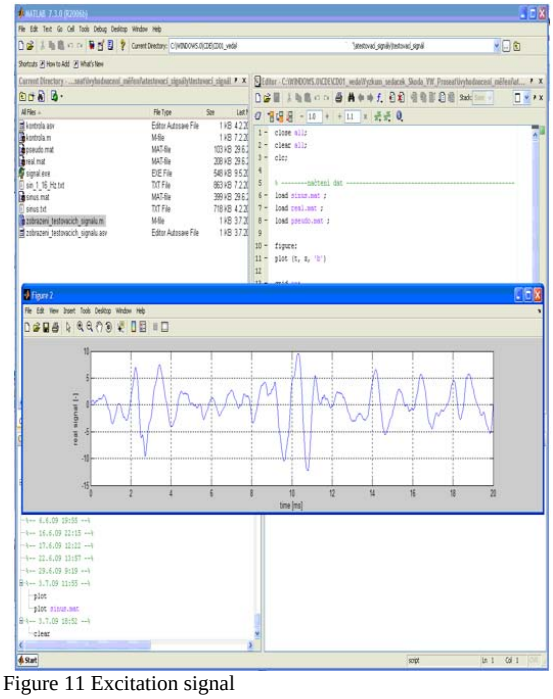


Figure 11 Excitation signal

When controlling positions with analogy signals, it is necessary to maintain a regular sampling frequency of all three control signals so that the synchronization of the three controlled positions is not disturbed. Maintaining accurate sampling is a problem on Windows computers because the operating system does not allow such control. Therefore, the precision hardware timing option of the National Instruments DAQ units is used. The DAQ unit has a precision clock signal that controls the timing of the analogy outputs. Data is taken from buffers which the user application in Labview fills with data in a "batch" manner. So, in essence, you can always just fill the buffers with data before it empties by sending data to the outputs and precise timing is no longer needed. This is already easy to implement even on a Windows application.

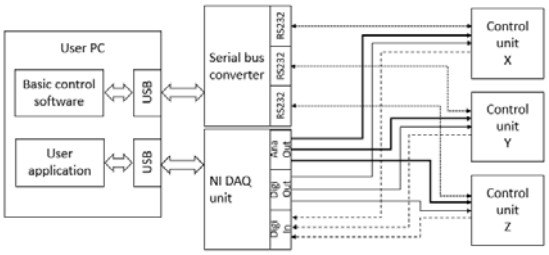


Figure 12 The resulting solution for interfacing the actuator control units to the user PC

The generation of the desired position signals for real-time actuator control is possible in two modes. If harmonic signals are used, the function generator included in Labview can be used. This generator allows the creation of basic periodic signal shapes (sine, triangle, rectangle) with user adjustable values for amplitude, frequency and phase. It can therefore be used to generate any combination of excitation harmonic signals for the three motion axes of the test equipment. The second mode is used when real measured signals are required for control. A data file with a time record of the signals is then used to generate the desired values. The file contains three columns of values defining X, Y and Z axis movements with a fixed time step. During actuator motion control, the user application then reads data from this file and again batch sends it to the NI DAQ unit buffers.

The introduced innovative car seat test device provides three axes of loading thereby exceeding the capabilities of existing device [5] and at the same moment allows independent control of all three axis which is not possible at hexapod [11]. The innovative car seat test device complements and exceeds current patented solutions [12-28].

4 Conclusion

The universal equipment for laboratory testing of automobile seats in the three directions of movement, vertical and both horizontal left-right and horizontal front-back was designed. This meets the requirements of current and future standards for determining the comfort properties of car seats. The main advantage of this device is the possibility of realizing completely independent movements in three axes simultaneously and independently, i.e. independent loading in three directions in the "x" axis, "y" axis and "z" axis. This solution makes it possible to test the car seat independently in one direction, but also in several directions at once, by independent signals. The signals will measured in the car at predetermined places specified by the standard and subsequently implemented on our equipment. Measurement and evaluation of car seat testing will already be the subject of further development and another paper**.**

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Primary Paper Section: J

Secondary Paper Section: JQ

DESIGN OPTIMIZATION OF THE GEARBOX TO ELIMINATE MALFUNCTIONS

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This work is a part of the project KEGA 029TUKE-4/2021 "Implementation of modern educational approaches in the design of transmission mechanisms".

Abstract: The paper deals with gearbox optimization. It is a two-speed bevel-helical gearbox, which is part of the cooling tower drive. The gearbox malfunctions often occurred during operation. For this reason, changes have been proposed to eliminate transmission failure. The changes concerned the bevel gearing as well as the helical gearing, the body of the gearbox and its lubrication.

Keywords: optimization, helical gear, bevel gear, gear box body

1 Introduction

In the production of equipment and machines with higher performance at reduced weight, greater demands are placed on the development of new technologies, which is closely related to the constant improvement of the structure. Tendencies of developed parts are to significantly increase the speed of movement of individual members of the mechanisms, rise of operating temperatures, increase in the load on components and other operating parameters [1 – 4]. These operating parameters bring more demanding theoretical problems. It requires scientific in the design of units, as well as in the design of individual parts of machines [5 – 7].

Each device or machine consists of a large number of components. We would not be able to responsibly design machine mechanisms and the whole machine if we could not recalculate, design and manufacture its elements [8, 9].

A machine part is a building element which, after production, is no longer machined by any further assembly operations and on the other hand, cannot be disassembled into simpler parts. We divide components into simple and complex ones [10 - 13]. The simple parts include, for example key, nut, screw: complex components include for example gearbox housing. The part is most often made of one piece of material.

The components are assembled into assembly units or groups. Such group forms a functional unit. These groups are divided into simple and complex ones [14, 15]. More complex groups can consist of several simpler groups, or of separate components.

An assembly group is called a mechanism when it is used in machines and devices to perform purposeful, useful and unambiguous movements. The mechanism transmits not only motion but also forces and transforms one type of motion into another [16]. The mechanism allows a part or group of parts to move along a predetermined path.

The gear is a three-piece mechanism consisting of a pair of meshing gear wheels and a stationary frame with the axles of both wheels. The gears form a rotating kinematic pair with the frame and the sides of the gearing meshing form the so-called general kinematic pair with a point or line touch [17, 18].

The gearing i.e., the system of meshing teeth on both gear wheels, must meet the basic requirement - to achieve a constant gear ratio between the two gear wheels. In addition, it must meet other functional requirements (high load-bearing capacity and efficiency, smooth and quiet operation, etc.) and production requirements (suitable and productive method of production, inspection and assembly) [19, 20].

The task of the transmission is to ensure the transfer of mechanical energy from the driving machine to the driven machine, while a certain parameter (speed, torque, type of movement, etc.) is modified.

The two-stage bevel gearbox ensures the transfer of mechanical energy from the driving machine to the driven machine. The gearbox is an important part of the cooling tower.

The cooling tower ensures the cooling of the turbine condensers, in which the steam is taken away from its no longer usable energy, while in the cooling towers steam and small water particles escape into the air.

The cooling tower ensures cooling of the turbine condensers. In these cooling towers, steam and small particles of water escape into the air.

The gearboxes for cooling tower are required to be water, dust and temperature resistant. The article is devoted to the optimization of gearing and bearings of a bevel helical gearbox for cooling towers.

2 Requirements for bevel helical gearbox

The request was initiated from the contracting authority. Originally, the line had a two-stage bevel helical gearbox (Fig. 1) for cooling towers, which provide cooling for turbine condensers, which also include this gearbox. This gearbox transmits high power from the electric engine to the input shaft via the countershaft and drives the propeller in the cooling tower through the output shaft. This gearbox malfunctions regularly during operation. The input speed was equal to n_1=1500 min^{-1}, the total transmission ratio was equal to 11.2, the axial distance of helical gearing was equal to 315 mm.



Figure 1. Bevel helical gearbox.

The gearbox is designed to reduce the speed of the drive machine - electric engine, to the input speed of the driven machine in a constant gear ratio. The input shaft is positioned horizontally, the output shaft vertically upwards. The gearbox consists of a bevel gearing and a helical gearing mounted by means of bearings. The maximum engine torque must not exceed 1.7 times the rated torque on the transmission input shaft. This condition can be achieved in operation by regulating the current of the electric engine during starting (two-speed motors, frequency converter, electric engine starter, etc.) or by using a clutch with soft characteristic, it is not recommended to use an asynchronous engine drive with a short - circuit rotor, controlled by direct connection to the grid.

After removing the top cover of the gearbox, damage to the bearing cage was found (Fig. 2), which should ensure even spacing of the rollers around the circumference.



Figure 2. Damaged bearing on input shaft.

After replacing the damaged bearing, the correctness of the meshing of the bevel gears followed (Fig. 3), where the meshing area is determined by the color respectively testing paste. Testing paste is characterized by good adhesion to metal or sliding surfaces, does not dry out and smudge. The teeth are painted with the paste, when the wheels of the gear turn at the point of meshing, the paste is wiped off, and clear imprints appear on the sides. The measurement did not show incorrect meshing or any unevenness on the meshed surfaces of the gears.

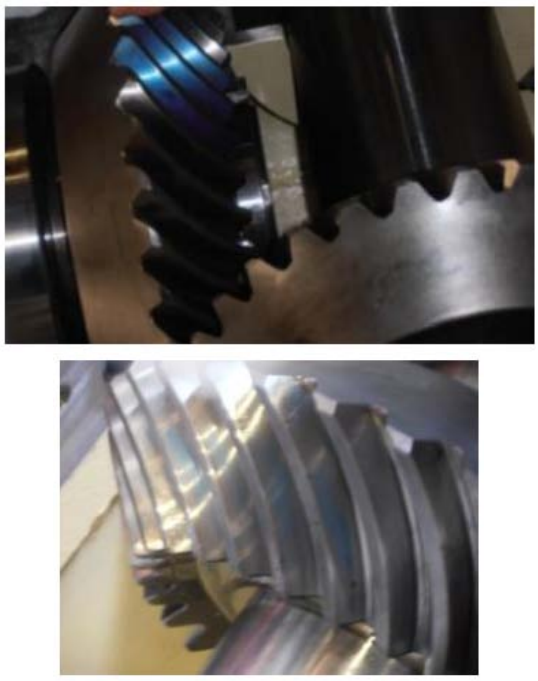


Figure 3. Check of the correct meshing.

The gearbox was lubricated by dipping the wheels in lubricating oil. To eliminate the failure rate, a strength check of the bevel and spur gears was performed, on the basis of which the optimization of the gearbox was designed.

3 Design of transmission optimalization

At the beginning, a new modified material for bevel gears was chosen. Specifically for the bevel pinion, the material steel 16 220.4 was chosen - surface hardened gearing on the sides. The heat treatment of the wheel was designed as cementing and hardening. The tensile strength of this material is 880 MPa, the yield strength is 635 MPa. The material of the bevel face gear wheel was chosen to be from steel 14 220.4 - surface hardened gearing on the sides. The heat treatment of the wheel was designed as cementing and hardening. The tensile strength of this material is 785 MPa, the yield strength is 688 MPa.

For the second spur gear, the material was chosen to be the same as for the first gear i.e., for the helical pinion material, material 16 220.4 - surface hardened gearing on the sides and for the helical gear wheel 14 220.4 - surface hardened gearing on the sides.

The modulus m_{nm} at the mean conical distance was determined from the greater value of bending or contact stress according to [21].

The calculation of the modulus from bending stress:

$$m_{nm} = f_F \cdot \sqrt[3]{\frac{K_F . M_{kI} . \left(\frac{1}{\psi_L} - 0{,}5\right) . cos^2 \beta_m}{z_1 . z_C . \sigma_{F\,limb}}} \quad (1)$$

where f_F is auxiliary factor for calculating the gear modulus [mm], K_F is coefficient of additional loads for bending calculation, M_{k1} is torque on the pinion, [Nm], Ψ_L is conical value of relative width, β_m is gearing helical angle, [°], z_1 is pinion number of teeth, z_c is planar wheel number of teeth, σ_{Flimb} is bending fatigue stress of material [MPa].

Modulus calculation from contact:

$$m_{nm} = f_H \cdot \sqrt[3]{\frac{K_H . M_{kI} . cos\,\delta_1 . cos^3 \beta_m . \left(\frac{1}{\psi_L} - 0{,}5\right) . (u_1{}^2 + 1)}{z_1{}^2 . z_C . u_1{}^2 . \sigma 2_{Hlim}}} \quad (2)$$

where f_H is auxiliary factor for calculating the pinion pitch circle, K_H is coefficient of additional loads for contact calculation, δ_1 is half apex angle of the pinion rolling cone [°], u_1 is transmission ratio of first bevel stage, σ_{hlim} is contact fatigue stress of material [MPa].

According to this standard, the modul of bending for spur gear is determined by:

$$m_n = f_F \cdot \sqrt[3]{\frac{K_F M_{k1}}{\psi_m z_1 \sigma_{FP}}} \quad (3)$$

where f_F is the bending coefficient for bevelled teeth, M_{k1} is the input shaft torque, ψ_m is the tooth width coefficient, z_1 is the number of pinion teeth, σ_{FP} is the permissible bending stress for the disappearing load.

The modul value of the contact stress for spur gear was determined by [21]:

$$m_n = f_H \cdot \sqrt[3]{\frac{K_H M k_{k1} (i+1)}{\psi_m \cdot z_1^2 \cdot i \cdot \sigma_{HP}^2}} \quad (4)$$

where f_H is the coefficient for bevelled teeth subjected to contact, M_{k1} is the input shaft torque, ψ_m is the tooth width

coefficient, z_1 is the number of pinion teeth, i is the ratio number, σ_{HP} is the permissible contact voltage for the disappearing load.

For the first stage of bevel gearing the transmission ratio was determined to be 3.55 and for the second stage, helical gearing transmission ratio was determined to be 3.15.

Modulus of the first stage for bevel gearing with eloid shape was calculated from bending and contact equations, and then the normalized value of the modul m_{nm}=7mm was chosen, with the modul on the outer front plane is m_{te} = 11.076mm.

For the second stage of helical gearing, the modulus was determined from the bending and contact equations on the basis of which the value of normalized modulus was chosen to be m_n=8mm.. The proposed modules were used for calculation of all needed gear wheels dimensions.

Lubrication of the bevel and helical gearing for the first and second stage upper bearings is ensured by means of pressured oil, which is integrated into the gearbox by a pump. The purpose of the pressure oil is not only to lubricate but also to cool the first and second gears of the gearbox. Lubrication of the bevel pinion bearing is by immersion in the oil filling and at the same time by injecting oil from the distribution from the pump.

Cooling of the gearbox is provided by an axial fan, which is located on the input shaft of the gearbox where the heat transfer to the surrounding area as well. The shaft seal of the gearbox is secured by rotary o-ring seals (Fig.4).

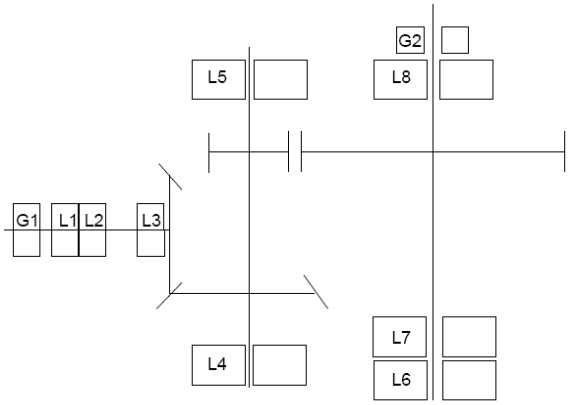


Figure 4. Scheme of gearbox bearings and seals.

The gearbox is tightly closed and can operate in dusty, humid and chemically harmless environments that do not degrade the oil filling and do not contaminate the sealing ability of the rotary seals. The gearbox housing is divided, and the connection surfaces are sealed with a sealant. The interior surfaces of the gearbox are painted with oil-resistant paint.

The inside of the gearbox is connected to the surrounding atmosphere by an air vent, which is in the pouring plug, to which it is necessary to connect an air hose with an outlet outside the diffuser.

Heating of the oil is achieved by means of a heating spiral (Fig.5). The temperature and quantity of oil in which the heater is immersed must be such that the temperature of the heater does not exceed a flash point of 10 °C. The heater must be switched off and cooled before removal.



Figure 5. Heater.

The purpose of the heating coils is to heat the oil in the gearbox to operating temperature, which makes the gearbox ready for 100% load at any given time.

If the temperature is lower than +5°C, the thermostat will switch on the heaters. Heaters are switched off after the oil reaches temperature of +10°C .

Finite element analysis of the gearbox was performed. The condition for the successful mastering of this issue is the creation of a computational model for solving the problems of static deformation analysis by the finite element method. The first step is to create geometric 3D model of gearbox body. The next step was to define the material properties of gearbox body. The material from which the gear wheel was made was replaced in the study for solving FEM tasks, by using material constants which characterize the material. Basic material properties such as Young's modulus of elasticity, the modulus of rigidity and Poisson's number were used. A finite element type of the Tetra type was used (Fig. 6).

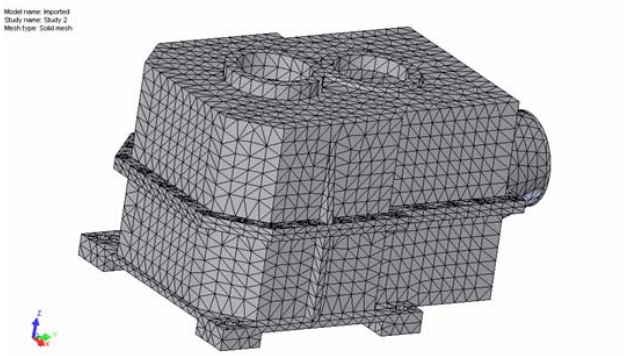


Figure 6. Finite element creation.

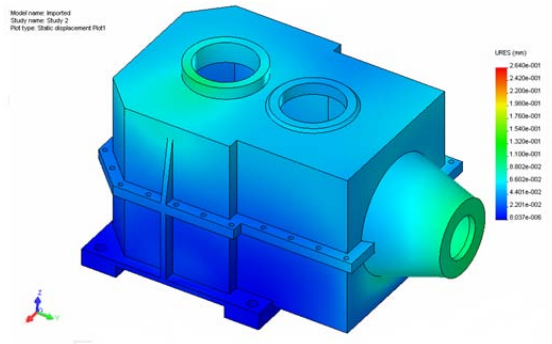


Figure 7. Deformation analysis.

Deformation analysis of the gearbox body confirmed the correctness of the design of the modifications. The gearbox housing complies.

4 Conclusion

The two-speed bevel gearbox ensures the transfer of mechanical energy from the driven machine to the driven machine. The

gearbox is an important part of the cooling tower. To eliminate the fault, an analysis was performed, on the basis of which the optimization of this gearbox was proposed. The design of bevel gears and spur gears, the design of bearings, the design of special accessories for gearboxes intended for cooling towers, the design of gearbox lubrication and the analysis of the gearbox housing using the finite element method were performed. The proposed modifications have led to the elimination of failures.

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Primary Paper Section: J

Secondary Paper Section: JO, JQ, JR, JT

PROBABILITY DISTRIBUTION OF TIME DURATION OF MANUAL OPERATION IN THE PRODUCTION OF GLASS EYES

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Abstract: When precise planning of capacities and times of production is needed, there must be precise data for calculation. Not all operations have to have a normal time duration distribution. Counting with average values or use values from guessed distribution can lead to mistakes in actual production planning. This article aims to determine time probability distributions to manual operations. Tests of goodness of fit are used to search for more suitable distributions. This approach is presented in a case study of glass eyes manufacturing. Results show that there can be differences between the estimated normal distribution and another more suitable one. By using tests of goodness of fit to define the correct distribution, more precise production and capacity planning results can be achieved.

Keywords: Capacity planning, Duration distribution, Manual processing, Production planning, Tests of goodness of fit

1 Introduction

Activities in production processes have not only a normal distribution of time duration. [1] This must be taken into account in calculations of production capacity and planning. Precise data about the time duration of operations is needed to have a more precise simulation model of the production system. Nowadays, there is more and more use of computer simulations of production processes and systems. Companies are trying to have highly accurate simulated systems. Simulations are then used for different kinds of improvement efforts. Production planning, layout design [2], or enhancement of productivity and efficiency of the process [3,4], these are just some of the possible applications of the production system simulation.

To get a relevant result from the simulation a valid data and its probabilities must be found. That is why a right probability distribution should be chosen. [5] The use of probability distributions to evaluate time can be seen, for example, in [6].

The aim of this paper is to define the probability distribution of the duration of production of one whole glass black eye in the glass eyes production process.

2 Methods

An operation that should be tested must be firstly sampled – more measurements give a better result. For our purposes, 40 measurements are considered as enough data samples to describe the distribution well. A Few extra measurements should be made for the case when some of the measured samples must be eliminated.

2.1 Goodness-of-Fit Tests

A Shapiro-Wilk test could be used to test the normality of the distribution of the duration of sampled operation. The test is used for the determination of if the normal distribution models the data. The Shapiro-Wilk test tests a null hypothesis that sample x_1 to x_n came from normal distribution. The test statistic is described by equation (1) below

$$W = \frac{\left(\sum_{i=1}^{n} a_i x_{(i)}\right)^2}{\sum_{i=1}^{n}(x_i - \bar{x})^2} \quad (1)$$

Where $x_{(i)}$ is the i-th order statistic, $\bar{x}$ is the sample mean, coefficients a_i can be given by equation (2)

$$(a_i, \ldots, a_n) = \frac{m^T V^{-1}}{C} \quad (2)$$

Where C is a vector norm, vector m is made of the expected values of the order statistics of independent and identically distributed random variables sampled from the standard normal distribution, V is the covariance matrix of normal order statistics.

If the resulting P-value for an alpha level of 0.05 is less than 0.05, the null hypothesis is rejected, so data are not normally distributed.

The Kolmogorov–Smirnov test is a test of the equality of probability distributions. It quantifies a distance between the empirical distribution function of the sample and the cumulative distribution of reference distribution. The test statistic is in equation (3) below.

$$D_n = \sup_{-\infty<x<\infty} |F_n(x) - \Phi(x)| \quad (3)$$

Where F_n is the distribution function of the sample and Φ is the reference distribution.

For practical use, statistical software that makes all the calculations should be used.

2.2 Probability distribution of time duration of glass eyes production

The process where the determination of time duration distribution was applied is handmade manufacturing of glass eyes (Figure 1).



Figure 1: Produced black glass eye with wire loop

The process consists of several steps. Firstly, the wire loop is joined to the glass tube. Then the eye is formed on the loop in a fire and formed in a mold. Also, a diameter check is made at the same time. After that, eyes are slowly cooled down, and tubes are broken off. By using pliers, the remaining glass from the tube is cleaned off the wire loop. Eyes are then stored; packing depends on the type of customer's requirement. Several process phases can be seen in figure (Figure 2) bellow.



Figure 2: Process phases of glass eye production

For the whole glass eye production, a 40 measurement was done, a sample consists of values ranging from 53.17 to 86.08 seconds. Data were collected by direct measuring in production.

Tests of goodness of fit were used to determine which distribution fits best on the real sample of measured time durations of production operations. For practical use, Statgraphics 18 software was used.

3 Results

Firstly the measured data sample was analyzed, and test to normality was done.

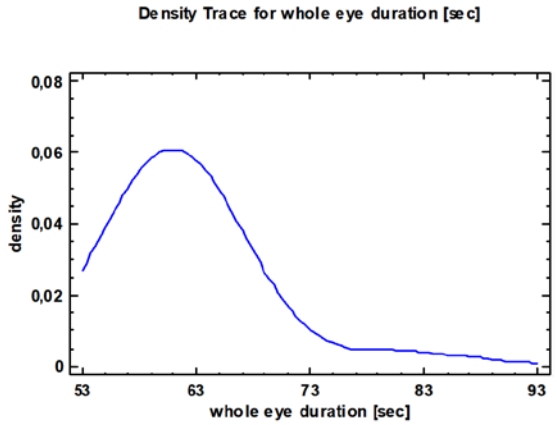


Figure 3: Density trace of whole eye duration

Figure (Figure 3) shows a density trace for whole eye duration. A density trace is essentially a smoothed histogram, which shows the shape of the distribution from which the sample comes. The trace is constructed by counting the number of observations within an interval of fixed width as it is moved along the x-axis, and weighting them in such a way as to give a smooth estimate of the underlying density function.

Tab. 1: Tests for Normality for whole eye duration

Test	*Statistic*	*P-Value*
Shapiro-Wilk W	0.849568	0.0000878465

Table (Tab. 1) shows the results of several tests run to determine whether whole eye duration can be adequately modeled by a normal distribution. The Shapiro-Wilk test is based upon comparing the quantiles of the fitted normal distribution to the quantiles of the data. Since the smallest P-value amongst the tests performed is less than 0.05, we can reject the idea that whole eye duration comes from a normal distribution with 95% confidence.

For the measured data a four probability distribution were chosen to fit together with normal distribution for comparison.

Tab. 2: Fitted distributions

Larges Extreme Value	*Logologistic*	*Lognormal*	*Weibull*	*Normal*
Mode = 59.6326	Median = 61.4672	Mean = 62.3265	Shape = 8.04743	Mean = 62.3318
Scale = 4.49172	Shape = 0.0495829	Standard deviation = 6.09377	Scale = 65.4393	Standard deviation = 6.50424
		Log scale: mean = 4.12763		
		Log scale: std. dev. = 0.0975392		

Analysis in table (Tab. 2) shows the results of fitting 5 distributions to the data on whole eye duration. The estimated parameters of the fitted distributions are shown above

3.1 Goodness-of-Fit Tests for whole eye duration

Tab. 3: Kolmogorov-Smirnov Test

	Larges Extreme Value	*Logologistic*	*Lognormal*	*Weibull*	*Normal*
DPLUS	0.0876279	0.0814483	0.131888	0.21272	0.155656
DMINUS	0.104243	0.0911314	0.088552	0.191852	0.102562
DN	0.104243	0.0911314	0.131888	0.212727	0.155656
P-Value	0.777486	0.893946	0.501194	0.0525548	0.288327

Table (Tab. 3) shows the results of tests run to determine whether whole eye duration can be adequately modeled by various distributions. P-values less than 0.05 would indicate that whole eye duration does not come from the selected distribution with 95% confidence.

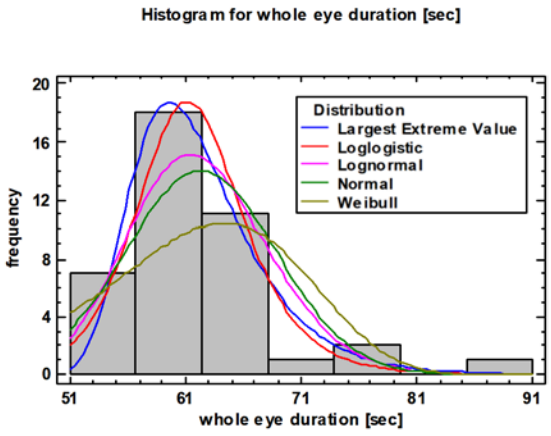


Figure 4: Histogram for whole eye duration

Graph in figure (Figure 4) shows a frequency histogram for whole eye duration. In this plot, 7 intervals have been formed ranging from a lower limit of 51.0 to an upper limit of 91.0. The number of data values in each interval has then been tabulated. The plot shows these frequencies. In addition, the probability density function for the fitted largest extreme value distribution has been superimposed on the histogram. If the distribution fits well, the top of the bars should be relatively close to the line.

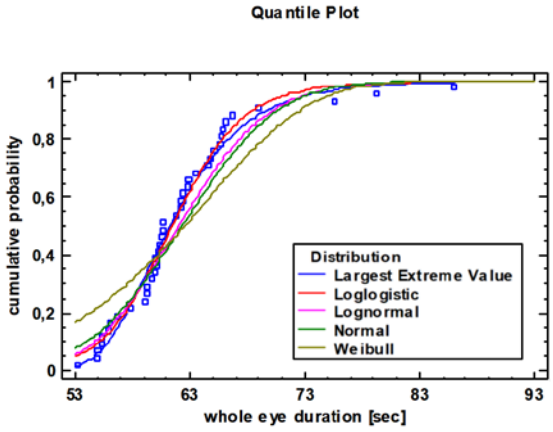


Figure 5: Quantile Plot

The quantile plot in figure (Figure 5) shows the empirical cumulative distribution function together with that of the fitted distribution. If the distribution fits the data well, the points should lie close to the curve.

Tab. 4: Comparison of Alternative Distributions

Distribution	*Est. Parameters*	*Log Likelihood*	*KS D*
Largest Extreme Value	2	-124.126	0.104243
Loglogistic	2	-125.966	0.0911314
Laplace	2	-126.356	0.122156
Logistic	2	-127.588	0.0935
Lognormal	2	-128.263	0.131888
Inverse Gaussian	2	-128.289	0.130251
Birnbaum-Saunders	2	-128.293	0.130268
Gamma	2	-129.143	0.137018
Normal	2	-131.156	0.155656
Weibull	2	-138.91	0.212727
Uniform	2	-139.751	0.489183
Smallest Extreme Value	2	-143.643	0.23873
Exponential	1	-205.299	0.573872
Pareto	1	-261.813	0.618123

Table (Tab. 4) above compares the goodness-of-fit when various distributions are fit to whole eye duration. According to the log likelihood statistic, the best fitting distribution is the largest extreme value distribution

4 Discussion

The result shows that the manual production of glass eyes is should not be described by the normal probability distribution. The other probability distribution should be chosen to use capacity planning or simulation of the production system. Based on the Kolmogorov-Smirnov test of goodness of fit, a Loglogistic distribution with a P-Value of 0.893946 looks like the best distribution to describe the probability of duration of glass eye production. The second best-fitted result is with P-Value 0.777486 Largest Extreme Value distribution. By comparing distribution by Log Likelihood statistic, the best fitting is the Larges Extreme Value distribution. One of these (Larges Extreme Value and Loglogistic) distributions should be chosen to represent this process. Then a generator of random numbers can be used to simulate the duration of glass eye processing.

An example of uncertain activity duration is modeled in [7], where the fuzzy number and discrete-event simulation are used. The modeling of the simulation of the tablet coating, granulation, and nano-milling processes are discussed in [4], where probability distributions are just assumed. The goodness of fit method could search for the most fitting distributions for each process segment. A different approach for fitting probability distribution is introduced [8].

In [9] analytical, and Monte Carlo simulation approaches to evaluate probability distributions of interruption duration indices are described. In [1] well-fitted probability distributions of operation durations are used for capacity planning with a positive result.

5 Conclusion

A capacity or production planning can be calculated wrongly by incorrectly identifying the probability of time duration of operations in the production system. This can also be seen by using of wrong probability distribution in production system simulation. These wrong applications could lead to more significant mistakes and related costs. That is why a proper determination and verification of probability distribution of planned operation should be done. The approach to determining the probability distribution by using tests of goodness of fit was presented above.

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