

PSYCHOLOGY IN AND AROUND US

International Thematic Proceedia



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Editors:

Bojana Dimitrijević, PhD, Faculty of Philosophy, University of Niš, Serbia
Damjana Panić, Msc, Faculty of Philosophy, University of Niš, Serbia



University of Niš
Faculty of Philosophy
Department of Psychology
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INTRODUCTION

Publication titled "Psychology in and around us" is thematic proceedings from the Thirteen International Conference "Days of Applied Psychology" held in 2017 at the Faculty of Philosophy, University of Niš, Serbia. This is a traditional annual nonprofit international scientific and professional conference. The developmental dynamics of this scientific and professional gathering of psychologists and related professionals can be elaborated at several levels – there are more authors and more quality papers presented each year; professional exchange is increasing, being a primary objective of the conference, beginning with the first one held in 2005. Participation of psychologists with different narrow professional profiles gives the possibility to offer knowledge, experience, and professional observations from other branches and the fields of psychology.

International thematic proceedings "Psychology in and around us" consists of 23 scientific papers which have been written by foreign authors from Bulgaria, Italia, Slovakia, Bosnia and Herzegovina, Montenegro, as well as from domestic ones from various Serbian universities. Papers are organized into the following thematic sections: 1. Educational Psychology; 2. Individual differences, multiculturalism and psychological measurement; 3. Clinical and Forensic Psychology; 4. Health Psychology; 5. Family and Social Psychology, and 6. Organizational Psychology.

A thematic proceedings "Psychology in and around us" is devoted to various psychological areas. It is an attempt to illuminate new research problems and possibility to apply theirs' findings in the fields of applied psychology. The Proceedings try to cover new psychological problems from the scientific and research perceptive through the articles which strive to comply with high methodological standards. The articles selected for publishing are dealing with novel, relevant, and diverse topics, which were presented during the conference. Each section is wide area with various aspects concerning the main topic.

In the section of Educational Psychology readers can find how model of experimental learning theory can be applied in teaching, as well as to meet the achievements and limitations of the application of sociometric methods in the field of education. Procrastination and the ways of coping with examination situation in high successful and less successful students are also concerned. Specific type of communication trough the forms of Augmentative and Alternative Communication (AAC) for those with deficits in the use of verbal oral and written communication due to various difficulties, congenital impairments or acquired conditions, disorders, and injuries is also mentioned.

The section of Individual differences, multiculturalism and psychological measurement deals with various actual topics and problems such as new forms of self-presentation via internet and social networks (Instagram, Facebook,

selfies), the correlation between certain personality traits in students, as well as the adjustment of adolescents from the perspective of personality models. Psychometric evaluation of several new instruments is available as well. The link between psychology and art is also mentioned.

The importance of Metallization and Psychological Mindedness for research purposes, but also in therapeutic process and modalities of treatment are pointed out in the part of Clinical and Forensic Psychology. It is followed with an attempt to comprehend an intergenerational transmission of social trauma based on psychoanalytic concepts to some social phenomena. This section includes also information of how affects have influence the cognition, volition, and other psychical processes. Different attitudes of forensic psychiatric examination and evaluation of affects in criminal law field and cases are presented, as well as other necessary elements for forensic psychiatric expertise.

In the section of Health Psychology readers can introduce with various aspects of stress, wellbeing, and related concepts, such as relationship between physical activity, depression levels, and stress intensity, intercultural aspects in the experiences of stress and wellbeing in Chinese students. Life satisfaction of young people through the link between self-esteem and the locus of control is also explored.

The importance and actuality of the self-efficacy and family relations, ways of eliciting compassion and forms of self-presentation in everyday life, and how they are related with life goals are presented in section of Family and Social Psychology. Here are also some information about virtual reality through the forms of cyberbullying among adults and teenagers.

The Proceedings ends with Organizational Psychology topics, including aspects of leadership in complex dynamic systems, relationship between organizational commitment, job satisfaction, and organizational citizenship behavior of employee, as well as predictors of the attitude towards the innovative product.

All papers went through the review procedure, and proceedings as a whole, by four foreign reviewers. We would like to thank to the reviewers who, with their expert opinions and relevant assessments, contributed to the quality of the publication.

Niš, August 2018

Editors:
Bojana Dimitrijević, PhD
Damjana Panić, Msc

Educational Psychology

QUASI-EXPERIMENTAL RESEARCH OF THE MODEL OF EXPERIENTIAL LEARNING THEORY IN TEACHING¹

Abstract

The main goal of this study was to find out whether there are differences between the group that has studied by experience based on Kolb's model and control group regarding the interest in education, perception of teaching, and differences on achievement on test. Questionnaire Perceptions of Science Survey was used before the experimental program, which included classes based on Kolb's learning model, and after the experimental program. The central assumption is that there are differences between experimental and control groups on retest in terms of perception of teaching and interest in education. Second hypothesis claims that there are no differences between the experimental and control group in results in achievement on the final exam. The study was conducted at the Faculty of Philosophy in Banja Luka and it included 30 students from Department of Pedagogy and 30 students from Department of Psychology. Students were assigned to experimental and control groups based on lists obtained from students' office. The results have shown that in general there is statistically significant difference between subjects who attended classes based on the experiential learning theory and control groups on achievement on exams. The experimental and control group of Pedagogy are significantly different in the results on the final exam. On the other hand, study did not indicate a significant difference regarding students of Psychology and their achievement on final exam. The results also show that there is a significant difference between the test and retest situation for both experimental groups regarding the perception of teaching and interest in education.

Key words: experiential learning, perception of teaching strategies, interest in education, academic achievement

Introduction

Kolb's experiential learning theory works on a four-stage cycle of learning: concrete experience, reflective observation, abstract conceptualisation and active experimentation. It views learning as an integrated process that will be effective only if a learner can execute all four stages of the model (Kolb & Kolb, 2005). The core of the model is description of the learning cycle – how experience is translated into concepts which in turn are used as guides for new experiences

¹ Corresponing authors: marijadulic@hotmail.com; marija.dulic@ncr.com and milica.drobac@ff.unibl.org

(Kolb, 1976). Kolb views learning as a process in which social knowledge is created and recreated in the personal knowledge of the learner (Kolb, 1976). This theory is often introduced in college education as the medium from which new teaching methods and pedagogical strategies can be created.

Main problem of this research can be represented with the question: does Kolb's approach to learning offer some advantages, and more importantly, does it contribute to general satisfaction with teaching process and teaching efficiency in regard to other alternative models of learning?

In this research, we tried to examine differences between students that used Kolb's methods for experiential learning and students that did not use experiential methods, all the while bearing in mind their interest in education and teaching process, their perception of pedagogical strategies and achievements in the exam. In fact, the assumption is that there is a difference between experimental and control group on scores on the applied questionnaire on post-test. Practical goal of this research is to create an alternative program based on the theory of experiential learning so it could be integrated in academic education and teaching process.

Previous research indicate that methods of experiential learning can indirectly increase motivation and satisfaction with teaching process (Gressler, 2002). Results presented by Williams (1990) show that students who learned through experience can acquire knowledge and experience the teaching process in a better and long-term way. Basic assumption of this research is that students who acquire knowledge based on the experience and conduct (self) evaluation could observe teaching process in a better way, and that they would show higher interest in teaching process than the students who do not acquire knowledge based on experience and do not conduct (self) evaluation. There is a great number of research that show that groups that acquired knowledge through theory of experiential learning achieved better test scores at the exams. Research by Specht and Sandlin (1991) illustrated that experimental group of the bookkeeping students was more successful in the final exam. Siegel, Khursheed, and Agrawal (1997) argued that group that used Kolb's theory while studying achieved better results during final exams. Stiernborg, Zaldivar, and Santiago (1996) also concluded that experimental group of medical nurses was more successful on retest in relation to the control group, while results demonstrated by Kuzmanović, Blagojević, and Vujičić (2016) show that students of informatics and technology that used Kolb's continuous learning cycle were more successful than the ones that used only one style of learning.

Considering the above, we expect to see differences in achievement of those that learned from the experience and were practicing (self) evaluation from those that did not learn from the experience and did not practice (self) evaluation and evaluation of the lectures on the final exam, regarding the subjects that were included in this research.

Method

Participants

The study included 30 students from Department of Pedagogy and 30 students from Department of Psychology and it was conducted at the Faculty of Philosophy in Banja Luka. Students were assigned to experimental and control groups based on lists obtained from students' office. The participants were 4th year students of Psychology study program and 3rd year students of Pedagogy program who attended regular academic subjects of Educational Psychology (one for each study group) in the same semester, which the study included.

Instruments

Evaluation of pedagogical strategies and students' interest for teaching process is a modified questionnaire (Suzić, 2005), originally Perceptions of Science Classes Survey (Dedić, Rosenfield, & Ivanov, 2008; Kardash & Wallace, 2001). In this study, it presented a test and retest situation. This custom questionnaire is made up from five factors that are related to different aspects of pedagogical strategies and learning environment (Bernando, Limjap, Prudente, & Roleda, 2008). Factor Pedagogical strategies refers to commitment and effort lecturers invest in a teaching process. Interest in teaching is a factor that refers to lecturer motivation or his level of indifference towards teaching. Student interest in teaching and perceptions of competence is a factor that refers to the attitude of the students towards a teaching process and their interest for it. Passive learning evaluates the activity or passivity of the students during the lectures, but it also evaluates how teachers are lecturing their classes and what they expect to gain. Scoring and feedback refers to final grades, or indicators of success and devotion.

Procedure

This research was conducted during academic year of 2014/2015. During regular lectures in the second semester, experimental groups were exposed and applied a program created on the basis of Kolb's theory of experiential learning, while control group applied regular didactic teaching program. Control groups were exposed to frontal and group form of teaching process, without evaluation and self-evaluation. Lecturer did not have any feedback, and the students recorded and noted already done solutions after the lecture was over.

In the experimental groups, individual and group work was present, but students were also obligated to self-evaluate and to evaluate the lecture, that is to say, to review what they have done and learned during the teaching period, and to link new material with things that were already familiar to them. In the experimental groups, students were encouraged to use different learning strategies while constantly sharing the experience with each other, which is in line with the main postulate of the theory of experiential learning. In that way, this group of learners could execute all four stages of

Kolb's model when learning new unit: having an experience about that unit, reviewing or reflecting on that experience, making questions, conclusions and hypothesis and finally planning. The last stage means also new experience which is providing a never ending cycle of learning (Kolb & Kolb, 2005). The main differences between experimental and control group were interactive methods (role playing), learning from the experience, lecture evaluation and self-evaluation. Affective component was also present, because students talked about their feelings during the lecture, what they liked or did not like, what would they change. All four groups (one experimental and one control group from each study group) were subjected to the entry test (test) before the application of experimental program and they were subjected to the exit test (re-test) at the end of the semester, when the data from the final exam was collected. Experimental and control groups had two practical classes a week, and test score included results of the final exam on two subjects that were covered in the study.

Statistical analysis was performed using 2x2x2 mixed model ANOVA analysis for all of the five factors, with pre-test and post-test measurement as within subject factor and experimental condition (experimental vs. control) and study program (psychology vs. pedagogy) as between subject factors.

Results

A significant difference was found between experimental and control group in changes of scores on perceived pedagogical strategies when comparing pre-test and post-test scores, $F(1, 56) = 36.17, p < .001$. From Figure 1, it is visible that this effect was due to greater increase in pedagogical strategies ratings for experimental group compared to control group.

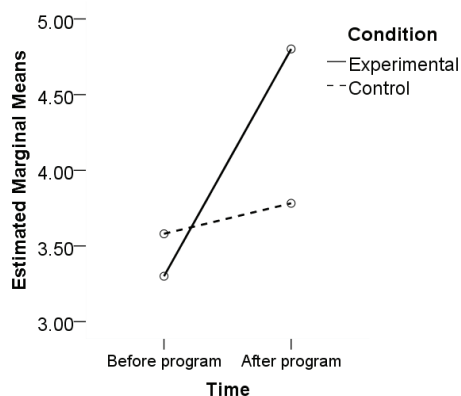


Figure 1. Experimental program effect on perceived pedagogical strategies.

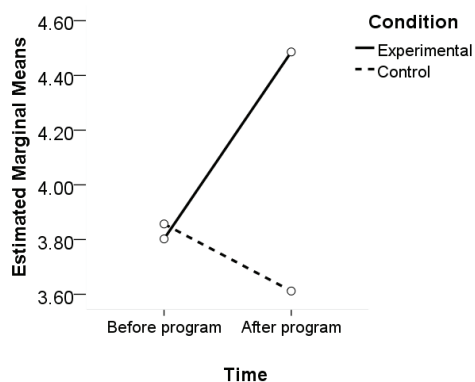


Figure 2. Experimental program effect on interest in teaching perception.

Experimental and control group differed in their ratings of lecturer's interest in teaching on pre-test and post-test scores, $F(1, 56) = 24.14, p < .001$. Based on results presented on Figure 2, we can conclude that interest in teaching as perceived from the control group declined, while increasing in experimental group at the same time. Participants in experimental condition were also more interested in the teaching process and had more positive attitudes towards it in the post-test measurement unlike pre-treatment measurement, when compared to control condition participants, $F(1, 56) = 11.44, p < .01$, whose interest in teaching and their perceptions of competence reduced even further that the baseline level.

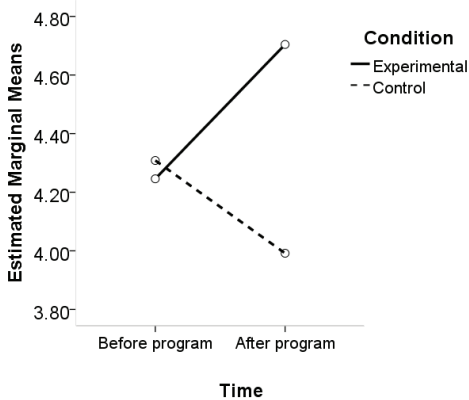


Figure 3. Experimental program effect on student's interest in teaching and perceptions of competence.

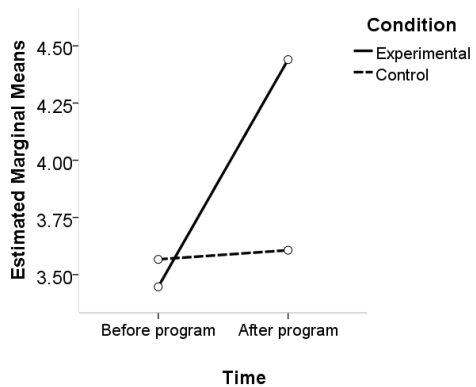


Figure 4. Experimental program effect on passive learning.

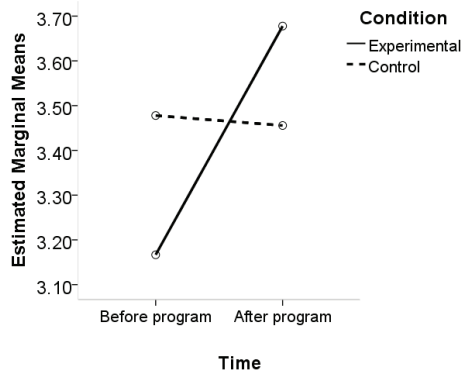


Figure 5. Experimental program effect on scoring and feedback.

The scoring and feedback scale was the only scale with the insignificant difference between experimental and control conditions, when comparing differences in post-test measure against pre-test measure, $F(1, 56) = 1.81, p < .185$.

The results have shown that there is a difference between control and experimental group on all factors in post-test measure, except on factor scoring and feedback considering the effect of experimental program. Interaction between pre-test, post-test and Psychology and Pedagogy study group is not demonstrated as significant for any of the factors, however when including condition effect the three-way interaction effect became significant for pedagogical strategies, $F(1, 56) = 11.13, p = .002$ and interest in teaching, $F(1, 56) = 6.48, p = .014$.

Table 1
Differences in achieved results on the exam – Pedagogy study program

Condition	N	M	SD	SE _M	t	p
Experimental	15	78.20	11.32	2.92	2.07	.047
Control	15	68.47	14.21	3.66	2.07	.048

From the results shown in Table 1 it can be seen that there is a difference between Pedagogy study program students that learned from experience ($t = 2.07, p < .05$) than control group, regarding the achievement on the exam (Halstead & Martin, 2002; Siegel et al., 1997; Specht & Sandlin, 1991).

Table 2
Differences between achieved results on the exam – Psychology study program

Condition	N	M	SD	SE _M	t	p
Experimental	15	81.60	10.18	2.63	1.56	.130
Control	15	75.40	11.52	2.97	1.56	.130

Unlike Pedagogy study program group, it has been shown that there are no statistically significant differences in the achievement on the final exam for the students of Psychology study program (Table 2).

Discussion

One of our main assumptions in primary phases of this research was that there might be differences between experimental and control groups on retest regarding the way of experiencing teaching process and pedagogical strategies, and that these differences would also be shown in student's level of interest for teaching process, that is to say, for the given lecture. The results show that these differences are present, which is in line with earlier research (Williams, 1990). It begs to question why experimental group students evaluate lecture of the given study subjects as higher quality, than the control group of students do. This data could be observed as the result of working methods of the researchers which originated from theory of experiential learning. By inducing experiential learning in the

experimental groups, we did not change only the way of students' knowledge acquiring – what is evident is that the type of teaching process that was based on the given theory also included characteristic behaviour and following researcher qualities: interpersonal skills, feedback skills and continuous monitoring of group and individual work of the students and himself (Ajduković, 2003). We assume that the answer lies in different teaching access and methods (Nichols & Miller, 1993; Šuvalija et al., 2016). During lectures held to the experimental groups, students were allowed to use their own experience that included emotional component, they were tying theories with practical examples and tying knowledge they had with knowledge they were learning at that moment. On the other hand, activity of the control groups ended with already offered solutions and with exposing to theory material without any practical examples, and without any review of what has been learned and done, without any evaluation. We can assume that this non-traditional approach to learning might have been connected to changes in perception of the teaching process at the experimental group of students, which is in line with earlier research of the experiential learning (Tulbure, 2011). In both control groups, role of a lecturer was more direct and more oriented on task solving and student activities, and earlier research showed that as long as lecturer is more in control of teaching process, the students are less productive and less interested for teaching process (McGoldrick et al., 2000; Kolb & Kolb, 2005).

Experiential learning is an approach to learning that opens a way for something to be learned by using an affective characteristic that every student adjusts to himself personally (Cleave-Hogg & Morgan, 2002). Just because students during lectures went from something they knew and what they already experienced, they adjusted the learning process, in fact the learning process was made to correspond to the individual. As long as students are pleased with learning process, and as long as it is familiar to them and they can adjust the way they learn, they will experience it more positively (Cleave-Hogg & Morgan, 2002). The abovementioned assumption was also backed up with results of this research.

As far as experience is concerned, what control groups of students were lacking during learning process was an emotional component. By introducing new factor in the teaching process that was not of cognitive nature exclusively, and by bypassing the characteristics of traditional teaching method, some differences were to be expected. Results of this research indicate higher level of interest for the teaching process in retest situation, at experimental group of students. Obtained data could be interpreted via explanations about feedback. Feedback encourages students and offers them an insight for their achievement in mastering the given assignment, which further affects their devotion and motivation. Some earlier research showed that teaching methods that use feedback information and connect learning material with real life experience positively affect the level of student's satisfaction with the teaching process (Vojinić & Stojčić, 2012). These indicators also could be interpreted as an answer of the students to novelties in the teaching process (McGoldrick, Battle, & Gallagher, 2000).

In the experimental groups, students were gaining knowledge during lectures by using personal experience as a first step, then they were deliberating like future experts, and at the end of the lecture they went back to the personal experience. The reason for increased interest for the lecture that was being held can be found in evaluation and self-evaluation at the end of the lecture, which were significant factors of our research. Since it is assumed that learning from experience, more than other alternative learning methods, develops and concerns itself with individual preferences and possibilities (Cagiltay, 2008), significance of the experience, that is to say, opinion of every individual student is the factor that could lead to differences in evaluation of teaching process, but it could also lead to differences in student's interest for the lecture itself. The only factor that did not show any significant difference between test and retest situation is factor named Scoring and feedback. It would be interesting to research why students, even when they are pleased with their teaching process and even when they get appropriate feedback, are not pleased with their test scores. Main reasons for this could be found in long-term experience of the students and their personal characteristics, like, for example, locus of control.

Vranešević, Mandić, and Horvat (2007), argued that students who were interested in the given lecture, and who evaluated teaching process higher, would get better test scores in the final exam. However, data obtained in this research was slightly different. Experimental group of Psychology study program students did not get better test scores in the final exam comparing to control group of students. Finding an explanation for this result, we should have in mind that students of Psychology may be more familiar with non-didactic teaching methods or even more interested in the course subject than students of Pedagogy. Factors like time spent on preparing for an exam, individual characteristics, such as motivation, or current conditions should be considered as well. Final test scores of experimental group of Pedagogy study program students were better than final test scores of control group of students. Previous research have shown that better academic achievement had those students that used interactive learning methods in relation to the ones that used more traditional learning methods (Nichols & Miller, 1993; Šuvalija et al., 2016). The group that learned in exclusively innovative way had evaluated lectures as lectures of higher quality, they showed higher interest for it, and they also achieved better test scores, (Halstead & Martin, 2002; Marinović, 2014; Siegel et al., 1997; Specht & Sandlin, 1991; Stiernborg et al., 1996; Kolb & Kolb, 2005). As far as achievement in final exam is concerned, different factors could influence final test score, such as work and study habits, and general abilities.

What separated two groups of participants in this research were active participation in the lecture, feedback, learning from experience and self-evaluation as additional resources that were present at experimental groups of participants. Experimental groups of students were not only more engaged during the teaching process, but they were also allowed to learn as they see fit, that is to

say, to learn from their own experience and to turn every new learned material in new experience, which could lead to higher motivation and better achievement on final exam (Kolb & Kolb, 2005). Besides that, after the frontal teaching method applied by the lecturer during theoretical lecture, control group of students were only present on practical classes where introduction to each of these was also given in a frontal way. Only during main part of the given practical lecture students were allowed to actively engage in the teaching process. Experimental groups of students, on the other hand, used interactive teaching methods during the whole class. Besides this concept, they evaluated their devotion and quality of every lecture, and they also proposed contents that could improve the given lecture and raise it to a higher level. This means that experimental group of students shaped the given lecture. If we take earlier research (Ajduković, 2003) into the consideration, experimental group of students was encouraged to think about their knowledge and study department and they were encouraged to express the satisfaction with their academic experience, which could have resulted with assessing a teaching process as higher quality in retest situation.

The results show that experiential learning is an area not explored enough, but they also indicate that this is a construct that has a great practical value for Educational Psychology, Psychology of Pedagogy, and for Psychology of Learning. With this study we supported the assumption that theory of experiential learning can find its meaning and value in academic teaching by introducing new elements to the teaching process, and by respecting personal characteristics of each student individually and their continuous and interactive process of learning through personal and social knowledge.

Implications for future research

As far as further research go, theory of experiential learning could be applied and introduced to other Faculties and other study programs. Also, by including higher number of participants we could come to more concrete findings and their generalization. It is our assumption that future research that deals with theory of experiential learning should include application of Kolb's Learning Style Inventory (Kolb & Kolb, 2005). It is certain that this research, by introducing learning styles as variables, has potential to be enriched and upgraded, which could lead to more interesting empirical findings about strategies of learning.

Taking into the consideration that this kind of research, in a way, is a pilot research, all weaknesses that follow it should be considered as useful guidelines for future researchers. It could be observed as a solid ground for future practical research of the theory. Biggest achievement of this research is its investment in teaching process of targeted lectures, whose content could be used for forming a program that could be part of academic classes, which is one of the strongest points of this research.

With meticulously executed steps, especially practical, this study allows certain conditions to be created for achieving more credible conclusions in the future. We consider this study as an entry point for some next research, but also as a way of applying a theory of experiential learning in different spheres of psychological research and practice.

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Marija Dulić & Milica Drobac-Pavićević
 University of Banja Luka,
 Faculty of Philosophy, Republic of Srpska

KVAZI-EKSPERIMENTALNO ISTRAŽIVANJE MODELA TEORIJE EKSPERIMENTALNOG UČENJA U NASTAVI

Apstrakt

Osnovni cilj ovog istraživanja bio je ispitati da li postoje razlike između grupe koja je učila iskustveno prema postavkama Kolbovog modela i kontrolne grupe kada je riječ o zainteresovanosti za nastavu, percepciji nastave i postignuću na ispitu. Upitnik Evaluacija pedagoških strategija i zainteresovanost studenata za nastavu korišten je prije eksperimentalnog programa, koji je obuhvatao časove vježbi zasnovane na Kolbovom modelu iskustvenog učenja, i nakon eksperimentalnog tretmana.

Centralna pretpostavka govori da postoje razlike između eksperimentalne i kontrolne grupe na retestu u pogledu zainteresovanosti za nastavu i percepcije nastave. Druga hipoteza ukazuje da nema razlike između kontrolne i eksperimentalne grupe na rezultatima na završnom ispitu. Istraživanje je sprovedeno na Filozofskom fakultetu u Banjoj Luci i uključilo je 30 studenata sa odsjeka za Psihologiju i 30 studenata sa odsjeka za Pedagogiju. Studenti su razvrstani u eksperimentalnu i kontrolnu grupu na osnovu spiska dobijenog iz studentske službe. Rezultati su pokazali da uopšteno postoji statistički značajna razlika između studenata koji su prisustvovali vježbama baziranim na teoriji iskustvenog učenja i kontrolne grupe u postignuću na ispitu. Eksperimentalna i kontrolna grupa studenata Pedagogije značajno se razlikuju u rezultatima na završnom ispitu. Sa druge strane, studija nije pokazala značajnu razliku kada je riječ o studentima Psihologije i njihovom postignuću na završnom ispitu. Rezultati takođe pokazuju da postoji značajna razlika između test i retest situacije kod obje eksperimentalne grupe kada je riječ o percepciji nastave i zainteresovanosti za nastavu.

Ključne riječi: iskustveno učenje, stilovi učenja, percepcija nastavnih strategija, zainteresovanost za nastavu, akademsko postignuće

THE APPLICATION OF SOCIOMETRY IN THE FIELD OF EDUCATION – ACHIEVEMENTS AND LIMITATIONS¹

Abstract

School class has shown to be an ideal context for the application of sociometry, whereby its application can serve two purposes – scientific research purpose and practical one. In this paper, we strive to define the term *sociometry*, to analyze and critically examine basic theoretical and methodological assumptions of Moreno's sociometry, to explain its basic characteristics, to point to the specifics of basic sociometric procedures and methods. Special attention is paid to the possibilities of applying sociometric techniques in the field of education. Research conducted in the field of interpersonal relationships in small groups are of great importance for school educational work due to the possibility of their further improvement, in order to create optimal conditions for successful socialization of children and youth. We indicate the importance and possibilities of applying sociometry in educational research, as well as in teachers' practices. It is possible to notice the sociometric status of each student by using sociometry, which could be the basis for the improvement of social relations among students. However, it seems that the application of sociometric techniques in the field of education meets certain problems and difficulties, which we want to indicate. The difficulties primarily relate to the complexity of pedagogical phenomena, the unilateral nature of data collected by sociometry, the significance of broader social factors in studying interpersonal relationships, characteristics of school climate, etc.

Key words: sociometry, education, school, students' interpersonal relations

Introduction

The appearance of sociometry is related to Jacob L. Moreno, an American sociologist and psychiatrist. His ideas were the inspiration for the first two decades of exploring the structure of small groups. As an eclectic scientist (physician, therapist, sociologist), his intention was to develop systematic standardized procedures for the studying of interpersonal relationships that exist within small (or relatively small) groups (Corbetta, 2003; Fox, 1987). The term *sociometry* was created on the model of some similar scientific terms such as *biometry* and *psychometrics*. The term is formed by the synthesis of the Latin word *socius* – friend, and the Greek word *metrum* – measure. The very word itself points to both the qualitative characteristics of a group and the possibility of quantitative

¹ Corresponding author: marija.markovic@filfak.ni.ac.rs

study of the characteristics of the group, which Moreno particularly emphasized (Moreno, 1962).

Sociometry can be defined as an experimental and/or non-experimental research technique aimed at identifying and measuring interpersonal relationships within groups (Bordens & Abbott, 2008; Corbetta, 2003; Kocić, 1981), i.e., as a mathematical research of the psychological characteristics of population (Moreno, 1962). Based on a given criteria, participants evaluate each other along some socially relevant dimension (friendship, for example), after which the patterns of these assessments are analyzed in order to determine specific characteristics of social structure of the given group and/or determine sociometric status of each individual in the group (Krnjajić, 1981).

Basic theoretical and methodological assumptions of Moreno's sociometry

Moreno's sociometry is based on a specific anthropological-philosophical understanding of human, a spiritualistic-idealistic understanding of society, an original methodology and a theory of transformation of society on the basis of sociometric analysis. Generally, sociometry consists of a sociological theory, a social therapy and a sociological methodology. All these three elements are closely related to one another and condition each other, although their scientific value is very different. All of them, however, are based on a general anthropological-philosophical theory (Lukić, 1962).

In his attempt to explain human behavior, Moreno attaches considerable importance to *spontaneity* and *creativity* of individuals (Moreno, 1962). Moreno thinks that every person is a spontaneous and creative being by nature, but because of living in a social organization that systematically suppresses and destroys spontaneity and creativity, we are used to feeling, thinking and working in a stable, routine and mechanical way (Lukić, 1962).

The next important concept for understanding Moreno's sociometry is connected to the term *telos* (Lukić, 1962; Moreno, 1962; Fox, 1987), which in free translation denotes *transmission, connection*. Moreno defines *telos* as an intangible relationship between people, which allows them to act on one another from a distance, without any sensory touch, or as a process that attracts individuals or rejects them. However, Moreno thinks that *telos* is something that is imposed on individuals from the outside, as a form of collective connectivity that is adopted during life in a particular social structure. Another basic notion that Moreno introduces is the concept of a *social atom*, which is defined as an element composed of numerous *telos* structures (Moreno, 1962).

Moreno thinks that every society is organized in a way that does not correspond to personal wishes of individuals. Therefore, it is necessary to differentiate an *official organization* of the group (*officially, external society*) from its *psychological*

organization (the so-called *sociometric matrix*). While an exterior structure of the society is relatively easy to establish and describe, an internal structure of a group could be discovered by the application of some specific sociometric methods (Moreno, 1962). According to Moreno, the discovery of sociometric structure of the group will serve as a starting point for the reorganization of the given group on the basis of mutual desires and needs of its members – i.e., *sociometric revolution*. His sociometric methods are aimed at realizing the real sociometric situation by putting people whose social connections we want to establish in action.

In an effort to put his idea of the sociometric revolution into practice, Moreno has developed several original sociometric methods and procedures (Moreno, 1962), which are aimed at enabling accurate measurements, i.e., quantitative expression of qualitative social phenomena. In this respect, Moreno's methods are divided into two types.

The first type consists of those methods that are based on determining the existing sociometric structure of the group and/or the position of the individual in it – *sociometric test*, i.e., *sociometric questionnaire*, which seems to be more methodologically correct term to use (Kocić, 1981; Krnjajić, 1992; Krulj et al., 2007; Stevanović, 2001). The data collected by sociometric questionnaire can serve as a basis for the understanding of the existing structure of the social group – the *scientific purpose*, as well as for the reorganization of the group – *practical purpose*.

The second group of Moreno's methods consists of his "*dramatic*" methods, which are aimed at a specific *psycho-* and *socio-* therapy of individuals and groups. *Psychodrama* is designed for examination (and therapy) of individuals, and *sociodrama* for examination (and therapy) of groups. In these methods, the activist and experimental side of Moreno's methodology comes to the forefront, at the expense of the quantitative-mathematical one. Moreno believes that psychodrama, sociodrama and other methodical methods represent the means for the release of spontaneity and creativity.

We should also mention the *role tests* and *role plays* which measure dramatic behavior of a subject. They allow us to discover the degree of differentiation that a particular culture has reached in a person, as well as the way in which the person interprets that culture. The influence of a particular culture reflecting in the personality of the individuals is expressed by the diversity of roles that each individual can adopt. A role test can measure the cultural age of a subject. The relationship between the chronological and the cultural age can be termed as a *cultural ratio*.

However, sociometric questionnaire forms the backbone of all sociometric research and has been widely applied in various social sciences.

The possibilities for the application of sociometry in the field of education

Since education is, by its very nature, an interpersonal process, sociometry has been applied in the field of education from the beginning of its use. As sociometry allows an individual to be viewed both as an individual and as a member of a group, and the group as a significant way, form and means of upbringing in the process of socialization of that individual, it has found quite wide application in the pedagogical research. Moreno conducted research and applied the results of that examination in a large educational institution even before the publication of his first book in 1934 (Stevanović, 2001). As sociometric technique can be used on a group of 15–30 members, it makes it suitable for the application in the groups such as school-size classes (Krulj et al., 2007). It has been established that school class represents an ideal field of application of this technique, because it could contribute to the discovery of a network of relationships among students and the disclosure of the real structure of the group, which is most often not known to teachers (Corbetta, 2003). Therefore, sociometric questionnaire is considered as a useful instrument that can best assist a teacher in gaining insight into interpersonal relationships among students (Dahlke & Monahan, 1949) as well as in intervening in the direction of positive social development of all students and their involvement in many different (formal and informal) groups, i.e., collectives (Potkonjak & Bandur, 1999; Smiljanić-Čolanović, 1972; Spasenović, 2008).

Sociometry provides a reliable and systematic method for examining peer relationships in various circumstances, especially in school environment, where peer relationships are generally considered in the context of a classroom (Košir & Pečjak, 2005; Potkonjak & Bandur, 1999).

The information collected by the use of sociometric techniques can help a teacher to take measures for changing, innovating and improving the situation in the educational group in relation to an individual and in relation to the whole group. For example, a teacher could try to contribute to peer acceptance of a student who has low sociometric status in the group through advisory work with him or through the work on the development of social skills of a given student. Teachers could also apply different forms of teaching and various interactive methods in teaching, thereby creating opportunities for positive interactions among all students in the classroom, in order to contribute to the development of positive social relationships among them.

For example, in the study conducted by Van den Berg et al. (2012), the effect of an experimental manipulation of distance between classmates on peer affiliations and classroom climate were examined. The research was conducted on a sample of 651 10 to 12 year-old children (48% boys) from 27 Grade 5 and Grade 6 classrooms of 23 schools. Participants were assigned to an experimental or a control condition. Peer nominations and likeability ratings were used before and after the manipulation of distance in order to assess peer affiliations. In the

experimental group, children who did not like each other were placed closer together for several weeks in order to promote more positive peer relations. The effects of the decrease in distance between pupils led to higher likeability ratings for children who were perceived most negatively at the beginning of the school year. It was also found that there was a decrease in peer-reported victimization and social withdrawal nominations. The reduction of physical distance to disliked peers here generalized to a larger effect on the overall classroom climate and on group cohesion. Sociometric data were initially used in order to introduce different classroom seating arrangement, which showed as a tool to improve liking among peers and reduce peer-reported problem behaviors in the classroom.

Development of positive interpersonal relationships between students and between teachers and pupils is one of the basic educational tasks of the school (Krnjajić, 1981). Numerous authors point to the importance of peer acceptance and positive social relations (Bordens & Abbott, 2008; Krnjajić, 1981, 1992, 1993; Krulj et al., 2007; Smiljanić-Čolanović, 1972; Spasenović, 2008; Stevanović, 2001). It is known that collectives characterized by positive interpersonal relationships between students, as well as between teachers and students, provide optimal conditions for the successful socialization of children and youth. The existence of favorable climate for learning and the establishment of positive interpersonal relationships are closely interconnected, and both depend on the ability of teachers to understand the needs, problems and aspirations of students and to direct their behavior. However, one should bear in mind the fact that a learning climate not only depends on the relationships that exist among students themselves, but also from the general atmosphere in the school (Đorđević, 1981).

The results of sociometric research unambiguously confirm that the psychological structure of the group deeply differs from its social structure, and where the official organization of the group so deeply differs from the psychological needs of its members we can expect dissatisfaction and social conflicts (Krnjajić, 1981; Šušnjić, 1995).

In order to collect sociometric data, the following categories of questions can be given to the respondents (Terry, 2000): a) *friendship* questions (to name his or her best friends); b) *direct preference* questions (to name the three children he or she likes the most/least); c) *acquaintance* questions (to name all of the children with whom he or she hangs around); d) *task specific* or *indirect preference* questions (to name the children with whom he or she likes to play or would like to sit next to). The use of each of the categories of questions has shown to have certain strengths and weaknesses, which should be considered in every research.

Besides the stimulus that has been given to the respondents, researchers have to make a decision about methods for collecting sociometric choice information. The primary methods which are usually used are: a) *peer-nomination method* – each participant is being asked to nominate others according to a specific stimulus criterion such as friendship or liking; b) *rank-order method* – each participant is being asked to order individuals in terms of his/her preferences on

specific criterion such as friendship or liking; c) *peer-rating method* – participants are asked to rate on a Likert-type scale the extent to which others meet a specific criterion, usually liking or playmate; d) *method of paired comparisons* – participants are asked to make preference choices based on the presentation of all possible dyadic choices in the concrete sociometric group. The most commonly used methods are *peer-nomination method* and *peer-rating method*. However, each of the mentioned methods has certain advantages and disadvantages regarding their metric characteristics, which should also be considered (Poulin & Dishion, 2008; Terry, 2000). For example, peer rating methods were shown to have considerably higher reliability than nomination methods (Maassen et al., 2005; Terry, 2000). It should be noted that sociometric assessments have certain specific characteristics when conducted with students of different age due to maturation which affects the nature of peer relationships that also should be considered (Poulin & Dishion, 2008; Van den Berg et al., 2015).

Two methods of quantitative analysis of gained sociometric information are usually applied (Terry, 2000). The *first data processing method*, known as *social network analysis*, is aimed at detecting structural components of a group such as network density, group cohesion, group egalitarianism, and also methods to determine subgroups and cliques. The *second data processing method* is aimed at discover the specific relationships that an individual has in a particular group, such as: social acceptance and rejection, social status, social isolation, and social visibility.

Regarding the *sociometric status* of students, the most commonly used classification systems are those developed by Koe et al. (Coie et al., 1982, as cited in Košir & Pečjak, 2005) and Newcomb and Bukowski (1983, as cited in Košir & Pečjak, 2005). According to these systems, students can be classified into five groups: *popular students*, who are quite loved by many peers and rarely unloved; *rejected students*, who are often unloved or insufficiently loved; *controversial students*, those who are both loved and unloved; *neglected students*, who receive very few positive and negative nominations, and *average students*, who receive the average number of positive and negative nominations.

According to sociometrists, the structure of the group consists of several forms of mutual relations. The most common are the following: *reciprocal pairs* (A chooses B, B chooses A), *triangle* (A chooses B, B chooses C, C chooses A), *quadruple* (A chooses B, B chooses C, C chooses D, D chooses A), *chain* (A chooses B, B chooses C, C chooses D, etc.) and the *star* (everyone chooses the same person) (Krnjajić, 1981). The so-called *clicks* or *subgroups* are formed by the establishment of these relations, which at the initial stage of their formation are subjects to certain modifications of a structural and functional nature, after which a relative stabilization of the structures is commonly present. Sociometric technique has proven to be very useful for the identification of clicks within the classroom (Alba, 1973; Berg, 2001; Krnjajić, 1981; Festinger et al., 1966).

It is obvious that social behavior of students of different sociometric status varies, which greatly influences whether and to what extent a particular student

will be accepted by other members of the school collective. Although social skills and behaviors have been shown to be associated with peer acceptance or rejection, the obtained correlations are not very high. It is clear that acceptance or rejection are conditioned by other personal factors, such as school achievement, socioeconomic status of the family, intelligence, physical attraction, etc. In addition, it is important to emphasize that between social behavior and peer acceptance a two-way influence exists. Thus, for example, the finding that low-status students often behave aggressively suggests that such behavior contributed to the establishment of a status of rejection, but it is also justifiable to assume that socially unacceptable behavior could be a consequence of dissatisfaction with the personal status within the group (Spasenović, 2008).

Sociometric technique can be used as an independent research technique (Maassen et al., 2005), or it can be applied as one of the applied techniques in a wider research (Sobkin & Lykova, 2015; Van den Berg et al., 2012), which primarily depends on the subject, the aim and the concrete tasks of a particular research. Also, whether the sociometric technique will be labeled as experimental and non-experimental depends from the nature of the study in which it is applied (Berg, 2001; Bordens & Abbott, 2008; Dahlke & Monahan, 1949; Kocić, 1981; Stevanović, 2001).

When it comes to other Moreno's methods, there are certain possibilities for the application of psychodrama and sociodrama in the school context, which are usually used in this context for certain diagnostic mental-hygienic and educational purposes (Stevanović, 2001; Zachariah & Moreno, 2006).

Previous consideration clearly shows that examination of interpersonal relationships is a fairly complex task, despite the fact that the very technique is most often claimed to be simple. This primarily suggests that when researching interpersonal relations we could not exclusively rely on a sociometric questionnaire in the very form which was designed and applied by Moreno. Sociometric procedures must be further developed and improved (Kocić, 1981).

Still, neither the development nor the improvement of the sociometric technique (although it significantly contributes to a more successful examination of interpersonal relations) can guarantee success if we exclusively rely on its application during the examination of the relationships in the group. Therefore, the sociometric technique must be supplemented by other techniques. In addition, in order to provide additional data and notifications, as well as to check the results obtained by sociometric techniques, all the techniques of pedagogical and psychological testing, such as observation, survey, interviewing, testing, scaling and others can usefully be applied (Kocić, 1981). It should be noted that Moreno himself was partly aware of these facts, since he considered the interview as an integral part of the sociometric approach (Moreno, 1962).

However, sociometric questionnaire and interview have limited value in studying interpersonal relationships in a group, because of the fact that the data derived from their use should be considered in the light of broader social

relations (Dahlke & Monahan, 1949). The need for a more comprehensive study of interpersonal relationships with the application of research techniques other than sociometry primarily arises from the complexity of pedagogical phenomena (Krnjajić, 1993). According to Potkonjak (1981, p. 39): "interpersonal relations should be understood in all their dialectics, i.e., without neglecting any component of these relations: the form of expression, content, activity, action, the status of the factors of those relationships (individual, group, collective), their dynamism, development and variability."

Furthermore, it is necessary to point out that Moreno's sociometry, as well as the theoretical conception and research method he proposed are not without weakness. Moreno's philosophy, a significant part of his sociological theory (sociometric revolution) and his entire sociatry (treatment of society based on the results of sociometric research) are completely unacceptable from the scientific point of view (Lukić, 1962; Smiljanić-Čolanović, 1972; Stevanović, 2001; Šušnjić, 1995).

The greatest value of Moreno's sociometry is certainly the method of research (Krnjajić, 1992; Kuvačić, 1995; Lukić, 1962; Smiljanić-Čolanović, 1972; Stevanović, 2001). First of all, this refers to the sociometric questionnaire that has become the common good of many sciences. According to Šušnjić (1995, p. 706): "the methodological benefits from sociometric tests in relation to classical tests (intelligence measurement tests, psychoanalytic tests) are in the facts that: a) the sociometric test is applied to all individuals who are in an interrelated emotional relationship, but not only on the selected sample; b) an artificial situation in which an individual feels as a passive object of the questioning is avoided, and instead of that a natural "cooperation in a collective action, fully aware and for his own account" is achieved; c) the choice is always related to a clearly defined criterion". A sociometric questionnaire provides important hypothetical indications that can serve as a valuable material in the study of a human group. It primarily reveals: 1) the internal cohesion of the group; 2) the potential leaders of the group, and 3) provides indications of possible conflicts in the group (Kuvačić, 1995). This technique is useful in three ways. First, it is a means for *individual "diagnosis"*, with the aim of identifying the dominance-dependence and isolation relationships, the affinity (sympathy and friendship) and the conflict (antipathy and hostility). Secondly, it is a tool that illuminates the relative structure of the group, the communication networks, informal hierarchical organization, pathways of information flow, gossips flow, orders, etc. Finally, it provides a method for studying the psychology of the group, the identification of tensions, the existence of social stratification, racial barriers, religion, language, gender, age, etc. (Corbetta, 2003).

The complexity of sociometric procedures application will depend on the degree of differentiation in the particular group. However, prior to the realization of sociometric research in a particular group, it is necessary to gain the readiness of subjects to realize and better understand the actual structure of the group, as well as for researchers to make adjustments in terms of the ability of respondents

to understand the questionnaire. Ignorance of the essence of a sociometric survey can also arise as a particular difficulty, which is why we should work on its affirmation and wider social acceptance through its promotion in the community. Fear and resistance of the respondents can also represent an additional difficulty, not so much because of the questionnaire itself, but because of its possible negative consequences. On the one hand, an individual feels a certain fear to get to know his position in the group, because it may be uncomfortable and difficult for him to become fully aware of his real position in the group. On the other hand, resistance can arise from a fear which the respondent feels at the very thought that others can find out about his sympathies and antipathies, as well as to which position in the group he is striving for. Therefore, the first task of the researchers before collecting sociometric data would be to be aware of the mentioned difficulties and to try to eliminate them (Moreno, 1962).

Generally, some objections can also be made in terms of the *metric characteristics* of this technique, primarily related to its *reliability*, *validity* and *objectivity* (Kocić, 1981; Krnjajić, 1993; Kruljet al., 2007; Kuvačić, 1995; Lukić, 1962; Wasserman & Faust, 1994). *Reliability* is sometimes quite problematic, concerning the crucial impact of the moment in which the research is conducted. The influence of the instant mood, instant feelings, is often dominant, especially when students of lower grades of primary school and pre-school children are examined. In addition, respondents' answers are so-called subjective truths, which may not necessarily be objective as well (Lukić, 1962). It is also debatable whether individuals are truly aware of the existing characteristic of interpersonal relationships in the group (Krnjajić, 1993; Wasserman & Faust, 1994). The inability to provide true anonymity, in fact, leads to the reduction of reliability of sociometric research, due to possible negative consequences and strong suggestiveness characteristic for children (children are most often chosen by individuals who are praised and emphasized by the teacher) (Kocić, 1981). It is not easy to provide *validity* in sociometric research as well, since it depends, in fact, on the selection of criteria, and the criteria depend on the aim of the research (Kocić, 1981). Likewise, in some cases, the question of *objectivity* can be posed about the data collected by sociometric technique. A sociometrist can be biased, subjective because of his personal interest in the topic of the research, and therefore can see a distorted, rather than a real image of the society (Lukić, 1962). Moreno himself was aware of the given difficulties, which is the reason why he insisted on the process of *objectification of the researcher* (Moreno, 1962).

The controversial problem in studying interpersonal relations is to determine the boundaries of derived generalizations. Although this problem is common to all scientific research in the field of social sciences, it seems particularly difficult in terms of studying group behaviors, as well as in studying dyads (affective relations between pairs of children or adults). The most common problems are related to the following variables: group size, sex, age, subculture, interest, activity, motor skills, intelligence, external appearance of the respondent, and all the possible combinations of these characteristics (Krnjajić, 1993).

Regarding the use of results of sociometric research for group restructuring, the question arises about whether it is possible and whether it is justified to do so. This is, in particular, a case where sociometric examination is carried out in a classroom. When such a children's group has already been formed, such changes are not possible and are to be avoided for pedagogical reasons.

Furthermore, sociometric research in certain cases can be problematic for suggestibility reasons, especially when applied at a younger age. When answering questions from the questionnaire, students are asked to distance themselves from certain members of their group (class, for example), to separate members of their collective into those with whom they will hang out, who they like, who they reject. This is problematic because it is possible that they do not have previously formed attitudes in that regard, and that they have no negative feelings towards the individuals (or at least not so clearly expressed), so if they did not receive such task would not rejected them. This is especially characteristic for younger children, but (due to strong suggestiveness) the problem can occur in older respondents as well, especially if sociometric research is carried out in a group that was briefly together and when members did not have enough time to get to know each other, or when they have not yet differentiated their feelings (affections and antipathies) towards other members of the group (Kocić, 1981). For this reason, it is particularly problematic, according to Kocić (1981), to demand a negative choice. However, it should be emphasized that opinions of different authors on the use of negative choices are divided (Dahlke & Monahan, 1949; Hayvren & Hymel, 1984; Bell-Dolan et al., 1989, as cited in Košir & Pečjak, 2005; Spasenović, 2008; Terry, 2000).

In relation to sociometric research, other questions also arise. One of them refers to the number of choices respondent can make – whether it is necessary to limit the number of allowed answers or not. The opinions of different authors on this issue are divided as well (Dahlke & Monahan, 1949; Kocić, 1981). However, the unlimited nominations procedure has been found to produce a more reliable and valid assessment of sociometric peer status than the limited nominations approach (Terry, 2000).

Conclusion

Sociometric techniques have been established in the field of education from the very beginning of its use. School class proved to be the ideal field for the application of this technique. As sociometry allows the individual to be viewed both as an individual and as a member of a group, and a group as a significant way, form and means of upbringing in the process of socialization of that individual, it has found quite wide application in the educational research.

The most valuable of Moreno's sociometry is certainly the method of research, which primarily refers to the application of a sociometric questionnaire that has become the common good of many sciences. A certain democratic character, the

tendency to gather information on the studied phenomena during the very process of operation of these phenomena and putting the respondents into the role of active subjects in the research process are characteristic for sociometric research. The data collected by sociometric research in the field of education can serve to make certain research conclusions, as well as to implement certain measures in relation to an individual and in relation to the whole group which would be aimed at changing, innovating and/or improving the situation in the educational group.

However, certain objections have been raised to Moreno's method which are primarily related to the question of whether during sociometric research the reality of the situation on which Moreno insisted really exists, the difficulties in determining the metrical characteristics of sociometric technique, the question of justification of group restructuring based on the results of sociometric testing, the possibility of suggestive actions on respondents, whether it is justifiable to allow making negative choices, number of choices that respondents can make, etc. Nevertheless, it should be said that some of the criticisms are not only characteristic for sociometric research, but also represent difficulties that arise in other pedagogical research. These difficulties primarily arise from the complexity, dialectic nature and specificity of education itself as a subject of study of pedagogy science, and the nature of the research instruments used in pedagogy.

Education is, by its nature, interpersonal phenomenon, which makes sociometric research possible and significant from the aspect of pedagogy as a science, and from a practical aspect. Sociometric techniques can be used in pedagogy as the only research technique or as one of the applied techniques. Whether the sociometric technique will be used as the only research technique or as one of the applied techniques primarily depends on the concrete subject of the research, the goal and the concrete tasks of the research. However, it seems that the application of sociometric techniques in the field of education encounters certain problems and difficulties that should be considered in every research. Therefore, authors should bear in mind and strive to overcome the difficulties with which sociometric technique in the field of education is faced, when operationalizing the research.

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Marija Marković

Univerzitet u Nišu,

Filozofski fakultet, Srbija

PRIMENA SOCIOMETRIJE U PROUČAVANJU VASPITANJA – DOMETI I OGRANIČENJA

Apstrakt

Školsko odeljenje se pokazalo kao idealna oblast primene ove tehnike, pri čemu primena sociometrijske tehnike može služiti dvema svrhama – naučno-istraživačkoj i praktičnoj. U radu se definiše pojam *sociometrija*, analiziraju i kritički sagledavaju osnovne teorijsko-metodološke postavke Morenove sociometrije, ukazuje na njene osnovne karakteristike i na specifičnosti osnovnih sociometrijskih postupaka i metoda. Posebna pažnja u radu poklanja se sagledavanju mogućnosti primene

sociometrijske tehnike na području vaspitanja. Proučavanje interpersonalnih odnosa u malim grupama od izuzetnog je značaja za vaspitno-obrazovni rad u školi zbog mogućnosti njihovog daljeg unapređivanja, radi stvaranja optimalnih uslova za uspešnu socijalizaciju dece i mladih. Ukazuje se na značaj i mogućnosti primene sociometrije u radu istraživača u oblasti vaspitanja i nastavnika. Primenom sociometrije moguće je uočiti *sociometrijski status* svakog od učenika, što će predstavljati osnovu za poboljšanje socijalnih odnosa među učenicima. Ipak, čini se da primena sociometrijske tehnike na području vaspitanja nailazi na određene probleme i teškoće, na koje želimo da ukažemo. Teškoće se prevashodno odnose na složenost pedagoških fenomena, jednostranost podataka prikupljenih sociometrijom, značaj širih društvenih faktora u proučavanju interpersonalnih odnosa, specifičnosti škole klime i sl.

Ključne reči: sociometrija, vaspitanje, škola, interpersonalni odnosi učenika.

Gordana Đigić,
Snežana Stojiljković,
University of Nis,
Faculty of Philosophy, Serbia

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Bojana Mikić
Secondary School St. Sava,
Kladovo, Serbia

PROCRASTINATION AND COPING WITH THE EXAMINATION SITUATION OF EXCELLENT AND LESS SUCCESSFUL HIGH SCHOOL STUDENTS¹

Abstract

This study is concerned with the procrastination and the ways of coping with examination situation of high school students. The research goals were to explore differences between high successful and less successful students in the regard to procrastination and coping with the examination situation, to investigate relations between these variables, as well as to investigate the possibility of predicting school success by the degree of procrastination and dimensions of coping with examination anxiety. The research sample consisted of 315 high school students. Instruments used in the research are: Scale of General Procrastination (Lay, 1986), Scale of Coping with the Test Situation (Sorić, 2002), and Questionnaire for Students aimed to register students' school performance measures. The results show that excellent students express lower procrastination in comparison with their less successful peers. When it comes to coping with examination situation, differences between excellent and less successful students were found on the dimensions: problem-solving orientation, focusing on seeking help, and imagination/distraction. Also, significant correlations of procrastination with the dimensions of coping with the test situation were found: of the negative direction with the dimension problem-solving orientation, and of the positive direction with dimensions emotional confrontation, imagination/distraction, and focusing on seeking help. Regression models show that it is possible to predict school success by the measures of investigated variables, but such predicting model does not work on the sample of students with general school success lower than excellent. There are no differences in the degree of procrastination and different styles of coping with examination anxiety between boys and girls. The research results indicate the importance of encouraging constructive coping strategies with the test situation among students, as well as their skills to manage learning activities.

Key words: procrastination, coping with test anxiety, school success, high school students

¹ Corresponding author: gordana.djigic@filfak.ni.ac.rs

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Introduction

Among the numerous factors of school success, factors related to student's personality are of considerable importance. This study is concerned with motivational and emotional traits of students' personality in relation to academic success, focusing on differences in the procrastination and coping with examination anxiety between excellent and less successful high school students. Dealing with examination situation, students often react with fear and anxiety because of possible negative outcome which could be an obstacle for their further advancement. In order to avoid stressful situation, persons with high anxiety are prone to prolonging or delaying their obligations, i.e., to procrastination in starting work on tasks (Solomon & Rothblum, 1984). Such behavior could be seen as one among numerous factors of the lower achievement or failure.

Delaying tasks is the main feature of procrastination². Procrastination could be defined as "the act of needlessly delaying tasks to the point of experiencing subjective discomfort" (Solomon & Rothblum, 1984, p. 503). Behavior for which there are no serious intentions to execute is not considered as procrastination because there is no discrepancy between intentions and behavior (Anderson, 2003). Procrastination refers to the delaying of important tasks and undertaking less important activities instead of important ones. For example, students who procrastinate at the faculty do not postpone their other daily activities (Milgram, Batori, & Mowrer, 1993). Some authors suggest that procrastination could be considered as a personality trait because of its time and situational stability, as well as because of its similarity to conscientiousness as described by Costa and McCrae (Costa & McCrae, 1992, as cited in Steel, 2007).

Procrastination is mostly seen as a maladaptive form of behavior. This is supported by the findings that indicate the link between procrastination and low self-esteem, self-handicapping, depression and anxiety (Beswick, Rothblum, & Mann, 1988; Ferrari, 1994). Also, procrastination can also have a protective function because it can help to avoid dealing with unpleasant and sometimes unnecessary tasks (some problems can be later resolved without any effort). The positive effect of procrastination is the avoidance of stress, possible failure and unpleasant feelings such as shame and guilt (Fee & Tangney, 2000; Petrović, Zlatanović i Pavlović, 2014; Pychyl, Lee, Thibodeau, & Blunt, 2000). It means that procrastination can be understood as a mechanism for protecting self-esteem.

There are various explanations why some individuals are prone to delay. Many cases of delays originate from the lack of conscientiousness (Fee & Tangney, 2000) or from bad time management (Ferrari & Emmons, 1995). Usually people procrastinate to avoid tasks they see as unpleasant. In young people the reason can be the fear of social exclusion, or the need to spend time with peers to be better accepted (Kennedy & Tuckman, 2013; Živčić Bećirević, Smojer Ažić, & Martinac Dorčić, 2014). According to the reasons for the delay, it could be distinguished

² The word is derived from the Latin word *procrastinare* which means *delay for tomorrow*.

three types of procrastinators (Ferrari, Ozer, & Demir, 2009): 1) the avoiding type is characterized by the dominant fear of failure; 2) arousal type or thrill-seekers enjoy the euphoria related to the last-minute fulfillment of obligations, and 3) for decisional procrastinators it is difficult to make decisions, which further relieves them from responsibility for the outcomes.

Procrastination is a complex construct consisted of cognitive, behavioral and affective components (Solomon & Rothblum, 1984). This is indicated by definitions of procrastination as the awareness that a person should, perhaps even would like to complete a task but did not do it within the expected or planned time frame (Senecal, Koestner & Vallerand, 1995) or as the unnecessary postponement of the activity that a person intends to finish, especially when the level of emotional discomfort increases (Lay & Schouwenburg, 1993; Solomon & Rothblum, 1984).

Numerous studies are concerned with the academic procrastination, i.e., with the tendency to always or almost always delay academic tasks and to experience the anxiety associated with the disposal (Rothblum, Solomon, & Murakami, 1986; Senecal et al., 1995). Students prone to procrastination begin to learn much later than optimal time and they can easily be disturbed by other activities instead of learning that is highlighted as one of the main features of procrastinators (Ferrari, Johnson, & McCown, 1995; Milgram, Sroloff, & Rosenbaum, 1988). Such behavior can have a negative impact on students' learning and academic success (Clark & Hill 1994; Padilla Vargas, 2017; Solomon & Rothblum, 1984). Delays contribute to non-fulfillment or delay in commitments, mechanical learning, anxiety in test situation, dropping out of learning when more attractive alternatives are available and poor test results (Lay & Schouwenburg, 1993).

Academic procrastination is also associated with negative affective outcomes such as a higher level of depression and anxiety and a lower level of self-esteem (Lay & Schouwenburg, 1993; Senecal et al., 1995; Solomon & Rothblum, 1984). The avoiding model of academic procrastination implies that students with an expressed fear of failure become more worried and anxious as the deadline for performing task is coming. In these situations, one of the ways to reduce anxiety is to avoid unpleasant stimuli, which reinforces avoidance behavior (Ferrari et al., 2009).

Research data indicate that even 80–90% of students show procrastinating behavior (Elis & Knaus, 1977, O'Brien, 2002, as cited in Steel, 2007); about 75% perceive them selves as procrastinators (Potts, 1987, as cited in Steel, 2007), and almost 50% procrastinate consistently and in problematic degree (Solomon & Rothblum, 1984). Usually students substitute fulfilling obligations with activities like sleeping, playing or watching television (Pychyl et al., 2000). Lower academic success comes as the natural consequence of such behavior.

One of the main reasons for procrastinating behavior is an attempt to avoid failure and anxiety regarding the test situation. Therefore, it seems important to include also the test anxiety in this study of motivational and affective factors of school success.

Examination anxiety occurs in situations when our abilities, achievements or interests are evaluated, which means that it is about situational anxiety (Spielberger & Vagg, 1995). It is about the multidimensional construct that involves cognitive, affective, physiological and behavioral reactions on the evaluation situations (Hong, 1998). Examination anxiety could be defined as behavioral and psychological response of individual who is worried about negative consequences in situations of the evaluation of their achievement (Zeidner, 1998). Concerns about upcoming exams and possible achievement create pressure on a person who consequently manifests a series of physiological and cognitive responses (Jelić, Popov, & Sretković, 2014). The examination anxiety may occur as a transient state related to the actual or imaginary test situation, or as a relatively stable personality trait (Spielberger & Vagg, 1995).

Numerous studies have shown that test anxiety influences academic achievement. Moderately expressed test anxiety can have motivating influence. But, as its intensity is higher, it starts more and more to obstruct cognitive processes (attention, memory, thinking process) necessary for the successful task performance (Živčić Bećirević, 2005), leaving a number of unpleasant and negative consequences to the lives of students (Erceg Jugović & Lauri Korajlija, 2012; Sorić, 2014).

A modern widely accepted understanding of test anxiety highlights two key aspects of this phenomenon: emotional and cognitive, which correspond to the dimensions of emotionality and concern (Cassady & Johnson, 2002). Emotionality, as a component of test anxiety, can be recognized through physiological manifestations such as increased galvanic skin reaction, rapid heart rate, dizziness or nausea (Cassady & Johnson, 2002; Hembree, 1988), or through subjective awareness about increased autonomous excitement (Schwarzer, 1984). Researches show that emotionality itself does not lead to the decrease in performance, it happens only when individual experiences a high level of concern, which represents a cognitive component of test anxiety (Cassady & Johnson, 2002; Schwarzer, 1984). Cognitive reactions to assessment situations refer to thoughts that are commonly taken up by the individual and are focused on the feeling that he/she is not ready for the test situation, for assessment of his/her own achievement compared to the achievement of others and for potential failure and its consequences, among which the loss of self-esteem is particularly important (Cassady & Johnson, 2002; Depreeuw, 1984; Hembree, 1988). Some studies (Depreeuw, 1984) show that 80% of students with pronounced test anxiety are moderately or intensively worried about later confrontation with similar exams, mainly due to the loss of self-esteem. Also, students may be worried that their test performance will discredit the image they want to achieve in the eyes of their parents, teachers and peers (Leary & Kowalski, 1995). Meta-analyses of numerous studies confirm that the cognitive aspect of test anxiety is associated with the decline in performance of students (Bandalos, Yates, & Thorndike-Christ, 1995; Hembree, 1988; Williams, 1991).

In our study test anxiety was also examined as a multidimensional construct which includes four dimensions: orientation to problem solving, emotional confrontation, focusing on seeking help and imagination /distraction (Sorić, 2002), which actually represent different styles of dealing with the test situation. It can be said that the dimension of dealing with emotions corresponds to the emotional component of the test anxiety. Other dimensions correspond to the cognitive component, referring to different orientations (more or less constructive) in the test situation or on disturbing thoughts.

Researches conducted in USA and UK indicate a high frequency of test anxiety in students' population. Namely, test anxiety was identified in 25–30% of students (Zeidner, 1988). Also, numerous research results show negative correlation between test anxiety and general academic achievement (Erceg Jugović & Lauri Korajlija, 2012; Eum & Rice, 2011). This can be explained by the higher excitement of the autonomous nervous system of students with a highly expressed test anxiety (when compared to those who do not express it), as well as by their concern for themselves and thoughts that are not relevant to the task, which interferes with the attention and performance both during the learning process and in the test situation (Mohorić, 2008; Spielberger & Vagg, 1995). These results indicate that test anxiety is important factor which impedes students' achievement.

Method

The aim of this study is to investigate procrastination and coping with examination situation in high successful and less successful high school students, differentiated by achieved average grade. The research objectives are to examine: 1) What is the expression degree of procrastination and of particular dimensions of coping with examination anxiety in the high school students sample; 2) Whether there are statistically significant differences between high successful and less successful students in terms of the expression of procrastination and particular dimensions of coping with examination situation; 3) Whether there are statistically significant correlations between procrastination and dimensions of coping with examination situation (in the whole sample, and especially in the subsamples of high successful and less successful students); 4) Whether the measures of procrastination and dimensions of coping with examination situation are statistically significant predictors of school success (in the whole sample, and especially in the subsamples of high successful and less successful students); 5) Whether there are statistically significant gender differences in the degree of procrastination and different dimensions of confrontation with examination anxiety.

The research sample is consisted of 315 fourth grade high school students from Niš, 128 (40.6%) boys and 187 (59.4%) girls.

The study is focused to procrastination and coping with test anxiety as the factors of school success. School success is determined on the basis of students' average grade achieved at the end of the previous school year. Students with excellent school success (average grade over 4.50) were classified as high successful (212 students or 67.3%) and those with lower school success (very good, good and satisfying – average grade lower than 4.50) were classified as less successful (103 students or 32.7%). This classification is also close to students' satisfaction with their own school performance: correlation between categories based on the average grade and on satisfaction with achieved school success expressed in two categories (satisfied / not satisfied) is $r = .579$, $p < .000$.

Procrastination represents a deliberately delaying the commencement or completion of an assignment (Solomon & Rothblum, 1984). It is measured by the General Procrastination Scale (Lay, 1986) which consists 20 items in the form of five-point scale, for example: "I usually buy even an essential item at the last minute"; "I am continually saying: I'll do it tomorrow". The total score is in the range from 20 to 100 (height of a score indicates the degree of procrastination). According to the author, the reliability of the internal consistency is high: $\alpha = .82$ (Lay, 1986), as well as the reliability obtained on our high school students sample: $\alpha = .81$.

The second variable investigated through this study as a factor of school success is examination anxiety, which is understood as behavioral and psychological response of a person who is worried about the negative consequences in situations of evaluation of achievement (Zeidner, 1998). It is operationalized through expressed degree of ways of coping with examination anxiety, measured by the Scale of dealing with examination situation (Sorić, 2002) consisted of 25 items in the form of five-point scale, which describe different orientations in coping with examination situation. Items are classified into four subscales related to four dimensions representing different styles of coping: 1) problem solving orientation (eight items such as: "I was completely concentrated on solving tasks."); 2) emotional confrontation (seven items such as: "I tried to overcome the feeling of panic that overwhelmed me."); 3) focusing on seeking help (three items like this one: "I tried to use the help of others."), and 4) imagination – distraction (seven items such as: "I imagined the reactions of people from my environment if I got a negative rating."). Higher scores obtained on the subscales mean higher expression of the coping styles. Sorić (2002) reports about satisfactory reliability coefficients for all subscales (Cronbach Alpha ranged from .75 to .83). The Cronbach Alpha coefficients obtained on our research sample are in the range from .65 for emotional confrontation, then .70 for imagination/distraction and .79 for problem solving orientation, up to .83 for focusing on seeking help.

Students involved into the research sample were examined during the regular school lessons. Before administering questionnaires, the purpose of the study was explained; students were informed that participation in the research is voluntary and anonymous and that the collected data will be used exclusively for the research purposes.

Obtained data were processed in the SPSS 21 package. The Cronbach Alpha coefficient was used as a measure of the reliability of applied instruments.

Descriptive statistical measures were used to estimate the level of expression of measured variables and t-test was used to determine differences between groups. Correlations between investigated variables were established by computing Pearson's coefficient. Predicting models were tested by the regression analysis.

Results and discussion

First of all, the expression degree of procrastination and dimensions of coping with examination anxiety in our high school students sample was established (Table 1).

The average degree of procrastination obtained on the whole sample means neutral position of our examinees along this dimension. This finding does not confirm expectation based on previous research results which indicate high procrastination among students (Pychyl et al., 2000; Solomon & Rothblum, 1984). Generally, students from our sample do not express high tendency toward procrastination. Thanks to this, they are able to meet high requirements in high school, and most of students from the sample achieve excellent school success. Among dimensions of coping with examination situation, the highest value is obtained on the problem-solving orientation (average score per item is significantly higher in comparison with all other dimensions, differences between average scores per item are ranged from .24 to .48, all significant at the level $p < .000$) and the lowest values are obtained on dimensions related to distracting thoughts and to emotional experience in examination situations, although all styles of dealing with examination anxiety are expressed at the moderate degree. The highest expressed problem-solving orientation, that could be seen as the only constructive way of coping with examination situation (among four investigated dimensions of examination anxiety), is also in accordance with generally high school success of our examinees.

Table 1
Measures of procrastination and dimensions of coping with examination situation obtained on the whole sample

	Range of scores	Min	Max	M	SD	Average score per item
Procrastination	20-100	28.00	85.00	56.09	11.78	2.80
Coping with examination anxiety:						
Problem solving orientation	8-40	11.00	40.00	29.35	5.75	3.67
Emotional confrontation	7-35	7.00	35.00	22.40	5.63	3.20
Focusing on seeking help	3-15	3.00	15.00	10.03	3.34	3.43
Imagination/distraction	7-35	10.00	35.00	22.35	5.60	3.19

Then high successful and lower successful students were compared in terms of the expression of procrastination and particular dimensions of coping with examination situation (Table 2).

Table 2
Differences between excellent and less successful students in the measures of procrastination and dimensions of coping with examination situation

	School success	M	SD	t	p	Correlations with the average grade
Procrastination	Less successful students	59.30	11.91	3.38**	.001	$r = -.21^{**}$ $p < .000$
	Excellent students	54.52	11.42			
Problem solving orientation	Less successful students	27.74	6.15	-3.36**	.001	$r = .26^{**}$ $p < .000$
	Excellent students	30.13	5.39			
Emotional confrontation	Less successful students	22.38	5.96	-.052	.958	$r = .06$ $p < .302$
	Excellent students	22.41	5.47			
Focusing on seeking help	Less successful students	10.86	3.09	3.22**	.001	$r = -.24^{**}$ $p < .000$
	Excellent students	9.63	3.39			
Imagination/distracton	Less successful students	23.39	5.36	2.37*	.019	$r = -.14^{*}$ $p < .011$
	Excellent students	21.84	5.66			

Note. * $p < .05$; ** $p < .01$.

Statistically significant differences between two groups of students were found in all dimensions, except emotional confrontation as a style of coping with examination anxiety. Excellent students more incline to problem solving orientation in dealing with examination situation, while less successful students are more likely to procrastinate, as well as to focus on seeking help and to use imagination/distracton as the styles of coping with examination anxiety.

Also, correlations between students' average grades and the measures of procrastination and dimensions related to the styles of coping with examination anxiety were computed. These results confirm the same conclusions. Lower procrastination, as well as lower focusing on seeking help and imagination/distracton, but higher orientation to problem solving is related to higher school success.

These results mostly confirm the expectations. Although the procrastination is of the moderate degree in examined students sample, its correlation with school success is confirmed in both statistical procedures (means differences and correlation coefficients). Obviously, deliberately delaying work on assignment (Solomon & Rothblum, 1984) affects lower learning achievement and school success. When it comes to examination anxiety, our results are in accordance with numerous previous findings which suggest significant correlation of negative direction between examination anxiety and school success (Arambašić, 1988; Erceg Jugović & Lauri Korajlija, 2012; Eum & Rice, 2011). As it is suggested by certain authors (Schvarzer, 1984), the results of our study show that emotional aspect of examination anxiety is less relevant for school success than its cognitive component: the only dimension whose degree doesnot correlate with achieved school success is emotional confrontation. Also, excellent students show higher problem-solving orientation in examination situations in comparison with students who achieve lower school success. Due to their constructive way of coping with examination anxiety, excellent students invest more efforts in tasks solving, so they are more successful. On the other side, students with lower school success choose less effective ways like reliance on others or dealing with disturbing thoughts that draw their attention from the task itself (Spielberger & Vagg, 1995).

The next task was to explore correlations between procrastination and dimensions of coping with examination situation (Table 3). Correlations were computed for the whole sample and for the subsamples consisted of excellent and less successful students.

Table 3
Correlations between procrastination and dimensions of coping with examination situation

		Procrastination		
		Correlations obtained in the whole sample	Correlations obtained in the sample of excellent students	Correlations obtained in the sample of less successful students
Problem solving orientation	<i>r</i>	-.45**	-.42**	-.43**
	<i>p</i>	.000	.000	.000
Emotional confrontation	<i>r</i>	.15**	.05	.17*
	<i>p</i>	.007	.597	.012
Focusing on seeking help	<i>r</i>	.38**	.34**	.36**
	<i>p</i>	.000	.000	.000
Imagination/ distraction	<i>r</i>	.27**	.19*	.27**
	<i>p</i>	.000	.049	.000

Note. * $p < .05$; ** $p < .01$.

It could be seen that procrastination significantly correlates with all dimensions of coping with examination situation. The highest correlation coefficient (moderate correlation of negative direction) is obtained between procrastination and problem-solving orientation. It means that students who are more problem solving oriented in dealing with examination anxiety are less prone to procrastinate. Students who are stronger oriented to problem solving are concentrated on the task and think about the request and rely on their own knowledge. So, this aspect of examination anxiety mobilizes the energy needed for resolving actual situation. Such behavior is the opposite of the procrastination. Other correlations show that students are more likely to procrastinate if they have higher expressed other styles of coping with examination situation related to emotional experience (emotional confrontation), thinking about bad consequences of potential failure, especially in interpersonal relations (imagination/distraction) or to seeking help. Based on obtained correlations, it could be concluded that students from our sample who express higher procrastination are mostly avoidant and arousal type of procrastinators (Ferrari, 2009) – they tend to avoid unpleasant feelings and thoughts, but they also fall in euphoria related to the last-minute fulfillment of task seeking help during the examination. Our results are in accordance with previous results about the connection between procrastination and examination anxiety (Cassady & Johnson, 2002).

Correlations obtained on two subsamples (excellent and students with lower success) are quite similar (correlation between two sets of correlations is $r = .989$, $p < .011$). So, it could be said that the relation between procrastination and styles of coping with examination anxiety is independent of students' school success.

The next analysis was aimed to investigate if it is possible to predict school success by the measures of procrastination and dimensions of dealing with examination anxiety. Hierarchical regression analysis is performed in two steps: the first step involves procrastination as a predicting variable; at the second step dimensions of dealing with examination anxiety are added as predictors of the average grade. The same procedure is performed on the sample in a whole, as well as on each particular subsample (excellent and less successful students).

The analysis conducted on the whole sample (Table 4) shows that both regression models are statistically significant, but the second model explains greater amount of variance in school success (11.7%). Procrastination is significant predictor (of negative direction) of school success when it is involved as the only predicting variable, but when the styles of coping with examination anxiety were added in predicting model, procrastination lost its significant particular contribution, while all dimensions of coping with examination situation showed significant particular contribution to predicting average grade as the measure of school success. This finding also suggests that, if students from our sample procrastinate, they try to avoid examination anxiety.

Table 4

Hierarchical regression analysis – prediction of students' school success by the measures of procrastination and dimensions of coping with examination situation (whole sample)

Criterion variable: average grade	Significant particular predictors	Beta	<i>t</i>	<i>p</i>	Model summary
Step 1	Procrastination	-.210	-3.79	.000	<i>R</i> = .21 <i>R</i> ² = .04 <i>p</i> < .000
Step 2	Problem solving orientation	.157	2.47	.014	<i>R</i> = .34 <i>R</i> ² = .12 <i>p</i> < .000
	Emotional confrontation	.137	2.08	.039	
	Focusing on seeking help	-.129	-2.11	.035	
	Imagination/distracton	-.154	2.27	.024	
Predictors included in predictive model, step 1: procrastination					
Predictors included in predictive model, step 2: procrastination, problem solving orientation, emotional confrontation, focusing on seeking help, imagination/distracton					

When two subsamples are observed separately, the results are different. Both regression models performed as two steps of hierarchical regression analysis on the subsample of excellent students (Table 5) are statistically significant. Model involving all predictors also explains higher percent of variance in school success (14.1%), but this time the only particular predictor with significant contribution (of negative direction) is focusing on seeking help.

Table 5

Hierarchical regression analysis – prediction of students' school success by the measures of procrastination and dimensions of coping with examination situation (subsample of excellent students)

Criterion variable: average grade	Significant particular predictors	Beta	<i>t</i>	<i>p</i>	Model summary
Step 1	Procrastination	-.273	-4.11	.000	$R = .27$ $R^2 = .07$ $p < .000$
Step 2	Focusing on seeking help	-.177	-2.40	.017	$R = .37$ $R^2 = .14$ $p < .000$
Predictors included in predictive model, step 1: procrastination					
Predictors included in predictive model, step 2: procrastination, problem solving orientation, emotional confrontation, focusing on seeking help, imagination/distracton					

It could be seen that procrastination as the only predictor explains a little bit greater amount of variance in school success in the group of excellent students when compared with the whole sample. So, we can say that procrastination has more disturbing influence on school success in the group of the most successful students than in the group of students with lower school achievement. It might be the consequence of the pressure to which excellent students are exposed because of their own and others' (parents', teachers', peers') high expectations related to their school success. Focusing on seeking help as a strategy of coping with examination anxiety with significant contribution in the second step of tested prediction model, could be also understood as excellent students' tryal to achieve expected high results in the examination situation, although it is not successful way to achieve success.

Regression analysis performed the same way on the less successful students' subsample gives quite different results (Table 6).

Table 6
Hierarchical regression analysis – prediction of students' school success by the measures of procrastination and dimensions of coping with examination situation (sample of less successful students)

Criterion variable: average grade	Significant particular predictors	Beta	<i>t</i>	<i>p</i>	Model summary
Step 1	-	-	-	-	$R = .01$ $R^2 = .00$ $p < .961$
Step 2	-	-	-	-	$R = .29$ $R^2 = .08$ $p < .12$
Predictors included in predictive model, step 1: procrastination					
Predictors included in predictive model, step 2: procrastination, problem solving orientation, emotional confrontation, focusing on seeking help, imagination/ distraction					

Nor the first and the second predicting model are significant and there is not any significant particular predictor of school success among investigated variables. It could be concluded that differences in school success among less successful students could not be explained by investigated predictors. It is likely that some other conditions (for example: the amount of invested efforts, attitudes toward school tasks, other personal characteristics of students, factors influencing from their families and social environment etc.) determine the average grade of non-excellent students.

Finally, differences between boys and girls regarding to measures of school success, procrastination and dimensions of coping with examination situation are investigated (Table 7). Existing research data are not consistent about gender

differences both in school success (Matthews, Cameron Ponitz, & Morrison, 2009) and in academic procrastination (Ozer & Ferrari, 2011). Our research results show that there are no significant differences in these variables between boys and girls.

Table 7
Differences between boys and girls in the measures of school success, procrastination and dimensions of coping with examination situation

	Gender	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
School success (average grade)	boys	4.39	0.72	-1.47	.144
	girls	4.50	0.60		
Procrastination	boys	55.35	11.04	-.93	.352
	girls	56.59	12.27		
Problem solving orientation	boys	29.05	5.29	-.78	.434
	girls	29.55	6.05		
Emotional confrontation	boys	22.64	6.84	.26	.798
	girls	22.45	5.51		
Focusing on seeking help	boys	10.10	3.24	.31	.757
	girls	9.98	3.42		
Imagination/ distraction	boys	22.72	5.76	.95	.342
	girls	22.10	5.49		

Some of previous researches indicate higher examination anxiety in female examinees, while some authors estimate that women are only readier to report about their anxiety (Arambašić, 1988). Differences are not registered in our sample that could be understood as the real absence of the differences or explained by the equal readiness of boys and girls to report about their examination anxiety.

Conclusion

Procrastination and test anxiety are more or less present in all students. This research confirmed the connection of school success with these phenomena, especially in excellent students. Our findings reinforce the idea that students who procrastinate do so trying to avoid confrontation with unpleasant feelings, disturbing thoughts or seeking help in a test situation in order to avoid possible failure. Also, when it comes to the test anxiety, it has been found that its cognitive component is more relevant for school success. Starting from these findings, it is possible to create different ways to help students in overcoming procrastinating behavior and test anxiety. For example, schools could organize workshops where students would exchange their experiences and suggest each other some strategies and techniques, such as setting realistic goals and planning learning activities, using appropriate learning methods involving a greater number of repetitions before exam, using relaxing strategies, etc. Students who are prone to procrastination should be encouraged to make a decision to start

learning and eliminate possible attention distractions, as well as to improve their own time management skills. Taking all these into account, it is important that teachers help students to recognize the meaning and practical importance of the learning material for everyday life and their own future activities. More frequent and continuous school examination and assessment could stimulate students to be continuously in the process of learning and so overcome procrastinating behavior. Also, being frequently in test situations, students could learn how to deal in a constructive way with examination anxiety.

Finally, it should be emphasized that two thirds of the examined sample were consisted of students with excellent school success. Besides a possible impact of such sample structure on the research results, it is also open the question how to explain extremely high school success of examined students. Since there were examined high school students, their high academic performance was expected because this is a high selected part of students' population. However, such distribution of school success indicates the need to review the assessment criteria.

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Gordana Đigić,
Snežana Stojiljković
Univerzitet u Nišu,
Filozofski fakultet, Srbija

Bojana Mikić
Srednja škola „Sveti Sava“,
Kladovo, Srbija

PROKRASTINACIJA I SUOČAVANJE SA ISPITNOM SITUACIJOM KOD ODLIČNIH I MANJE USPEŠNIH UČENIKA GIMNAZIJE

Apstrakt

U radu je prikazano istraživanje koje se bavi prokrastinacijom i načinima suočavanja sa ispitnom situacijom kod učenika srednje škole. Cilj istraživanja bio je da se ispituju razlike između visoko uspešnih i manje uspešnih učenika u pogledu prokrastinacije

i suočavanja sa ispitnom situacijom, da se ispituju odnosi između ovih varijabli, kao i mogućnost predviđanja školskog uspeha na osnovu izraženosti prokrastinacije i dimenzija suočavanja sa ispitnom anksioznošću. Uzorak obuhvata 315 učenika gimnazije. U istraživanju su korišćeni sledeći instrumenti: Skala opšte prokrastinacije (Lay, 1986), Skala suočavanja sa ispitnom situacijom (Sorić, 2002) i Upitnik za učenike za prikupljanje podataka o školskom uspehu učenika. Rezultati pokazuju da odlični učenici manje prokrastiniraju u poređenju sa manje uspešnim vršnjacima. Kada je reč o suočavanju sa ispitnom situacijom, razlike između odličnih i manje uspešnih učenika postoje na dimenzijama: orijentacija na rešavanje problema, fokusiranje na traženje pomoći i maštanje/distrakcija. Takođe, utvrđene su značajne korelacije prokrastinacije sa dimenzijama suočavanja sa ispitnom situacijom, i to negativnog smera sa dimenzijom orijentacija na rešavanje problema, a pozitivnog smera sa dimenzijama emocionalno suočavanje, maštanje/distrakcija, i fokusiranje na traženje pomoći. Regresioni modeli pokazuju da je moguće predviđanje školskog uspeha merama ispitivanih varijabli, ali i da ovakav prediktivni model ne radi na poduzorku učenika čiji je opšti uspeh niži od odličnog. Mladići i devojke se ne razlikuju po stepenu prokrastinacije i po izraženosti različitih stilova suočavanja sa ispitnom anksioznošću. Rezultati istraživanja ukazuju na značaj podsticanja konstruktivnih strategija suočavanja sa ispitnom situacijom kod učenika, kao i razvijanja veština upravljanja aktivnostima učenja.

Cljučne reči: prokrastinacija, ispitna anksioznost, školski uspeh, učenici gimnazije

APPLICATION OF AUGMENTATIVE AND ALTERNATIVE COMMUNICATION IN INCLUSIVE EDUCATION¹

Abstract

Augmentative and Alternative Communication (AAC) is a specific type of communication intended for people with complex communication needs, who manifest deficits in the use of verbal oral and written communication due to various difficulties, congenital impairments or acquired conditions, disorders and injuries. The purpose of using one of the forms of ACC is the realization of functional communication as a compensation for severe speech-language impairments in the expression or comprehension of spoken or written language. The basic goals for AAC intervention are person's independence and participation in activities, cognitive skill development, social competence, generalization of skills, proactive approaches to problem behavior and the acquisition of new knowledge and experience. So, AAC methods used to supplement or replace speech or writing can be a permanent addition to a person's communication or a temporary aid. Although an AAC can be extremely useful, there are some barriers in its application in the compared Balkan countries (Serbia and Greece). Finally, the conclusion is focused on the possibilities to include ACC in teachers' practice.

Key words: persons with disabilities, inclusive education, alternative and augmentative communication, aided ACC, unaided ACC

Introduction

Impaired or non-existent verbal communication may be the most serious obstacle to the social and educational development of persons with disabilities. Classical education systems all over the world rely solely on the verbal channel of communication, automatically marginalizing the communicative and educational needs of a large number of people, with impaired or non-existent verbal communicative abilities. The cause of such specific communication needs is not unique. It is a rather wide range of disorders of different types and etiologies that can cause them, so, accordingly, the correct and early professional multi-disciplinary assessment of the needs of the person as well as adequate types of communication support is of most important.

¹ Corresponding authors: cecagrcka@yahoo.gr and dragana.bjekic@ftn.kg.ac.rs

Alternative and Augmentative Communication (AAC) can be a means to help someone to understand something, and a means of themselves expression. Although the concept of *Alternative or Augmentative Communication* is pretty old and well known to all (represents the concept of replacing or supplementing oral or written verbal communication by using different symbols or technical aids), there is a need to familiarize ourselves with this concept and to look at the possibilities and limitations for its application in inclusive education in Balkan countries.

Communication as support for development

An individuum doesn't become a person without social partners and social interactions with them. Brunt (2017) emphasized two basic processes that determinate the formation of human subjectivity: activity and communication. Communication is a core of social interaction as developmental process. It is an essential part of personal development. It helps individuals to express themselves in the most effective way. At the same time, communication is essential to building self-concept and supporting self-esteem.

Development of communication skills as support for personal development is an obvious manifestation of development in the social context. Communication development for young children includes gaining the skills to understand and to express thoughts, feelings, and information (Gooden & Keerns, 2013). At the later ages, communication skills of speaking, listening, reading and writing are becoming more important. Specific terms for these skills are: communicative skills or/and communicative competence. Communication competence, as wider concept than communicative competence, comprises the systems of knowledge, abilities, skills and motivational disposition needed for successful communication (Zlatić & Bjekić, 2015).

Educational environment is based on these communicative skills. The majority of students use speech as their primary communication mode (Andzik, Schaefer, Nichols, & Chung, 2017). High level of these communication and academic skills may be achieved when students have reliable access to effective communication supports. But, development of these communication skills (verbal communication skills, or verbal communicative skills) is one of the potential barriers of educational success.

Whether the students are learning different courses and doing different school activities (math, science, reading, or writing), information is exchanged through various methods of communication (Calculator, 2009). At the same time, communication is necessary to indicate needs for assistance and clarification; requesting and providing information, objects, and actions; establishing and maintaining social closeness with others; and a variety of other purposes (Calculator, 2009). Students equipped with adequate communication means are

better prepared to participate actively in the classrooms, especially in inclusive classrooms. The success of inclusion of students with complex communication needs depends on the manner how educational system responds to their needs. One of the modalities of inclusive support in these situations is augmentative and alternative communication and equipment.

Augmentative and alternative communication

Augmentative and Alternative Communication (AAC) is a specific type of communication intended for people with complex communication needs, who manifest deficits in the use of verbal oral and written communication due to various difficulties, congenital impairments or acquired conditions, disorders and injuries. ACC has the potential to enhance communication, language, and literacy outcomes for children with complex communication needs (Andzik, Schaefer, Nichols, & Chung, 2017).

The purpose of using one of the forms of ACC is realization of functional communication as a compensation for severe speech-language impairments in the expression or comprehension of spoken or written language. The basic goals for AAC intervention are person's independence and participation in activities, cognitive skill development, social competence, generalization of skills, proactive approaches to problem behavior and the acquisition of new knowledge and experience. So, AAC methods used to supplement or replace speech or writing can be a permanent addition to a person's communication or a temporary aid.

AAC systems are classified into two types: aided and unaided (Mirenda, 1999, 2003). As known, today there are many different systems for AAC support – unaided AAC (includes gestures, signs etc.), low-tech aided AAC systems (e.g., picture books or communication boards), high-tech AAC systems (e.g. speech-generating devices, mobile technologies with AAC “apps”), and as recent research shows (Light & McNaughton, 2014) some other mainstream communication apps and social media tools can be used too (e.g., Facebook, Twitter, Instagram etc.).

The communication impairments may result from developmental, acquired, progressive, long-term or acute conditions, neurological diseases (e.g., cerebral palsy, learning difficulties, autism, Parkinson's, Multiple Sclerosis or Motor Neuron Disease or other conditions like stroke, cancer, brain injury etc). So, it is important to define well what the communicative competence is for individuals using AAC systems, because we have to be able to make necessary intervention, aimed to develop their communicative competence, and communication competence as wider competence.

According to Light (1989) the definition of Communicative Competence for individuals using AAC systems has three central organizing constructs: (a) functionality of communication; (b) adequacy of communication, and (c) sufficiency of knowledge, judgement, and skills to communicate. Her recent research paper

(Light and McNaughton, 2014) shows that this theoretical framework is still current and useful, although AAC systems are changing and evolving, as well as communication needs of people with disabilities. We have to understand and discriminate well when AAC system primarily involves augmenting to speech and writing and when it functions primarily as an alternative to natural speech and writing, because the different communication needs manifest in the use of different AAC systems and strategies and different environmental engagement (AAC is interpersonal communication and multimodal in nature, just like any other communication). However, AAC use implies that interaction is much more reliant on strategies other than natural speech to enhance existing communication efforts (Alant, Bornman, & Lloyd, 2006).

Calculator (2009) reported of multiple benefits associated with the inclusion of students who rely on AAC as their primary means of communication: increased access to the general education curriculum; better instructional objectives; improved uses of AAC in the classroom; increased social participation-frequency of interaction with classmates; higher academic expectations. But, Calculator (2009) considered some barriers to effective ACC usage in inclusive classrooms: absence of support for implementation of sophisticated ACC devices; level of teachers' knowledge and skills to use ACC functionally; the absence of necessary support from inclusive education specialists; lack of educational benefits (not only social) in the inclusive context supported by ACC.

Now, we come to the crucial part for our inclusive educational systems. Inclusive teaching means recognizing, accommodating and meeting the learning needs of all students. It means acknowledging that students with disabilities have a range of individual learning needs and that they are members of diverse communities. Realization of goals of students with disabilities education is based on the differentiation and individualization of teaching (Bjekić, Obradović, & Vučetić, 2012). Teachers have new role and a specific position in any e-environment for student with disabilities, especially for those using AAC systems. They have to use new teaching elements: active facilitation, coordination, management, tutoring etc, and be prepared to use basic knowledge about disability.

In order to analyze barriers in educational systems in two Balkan countries (Greece and Serbia), first, we all have to understand the disability and the functioning. It is well known that the disabilities are best defined with biopsychosocial approach, according to ICIDH-2 (integrating the medical and social model of disability). That means that we have to recognize the need of each person for medical care and treatment, as well as the need for social-environmental changes aimed to overcome the social barriers for people with disabilities and their complex communication needs. We have to pay attention at the importance of context in communication, issues on multimodality, and descriptive strategies for understanding interaction, interpersonal nature of communication competence, as well as individual's abilities and needs. That means that we have to recognize for each person not only personal communicative needs and communication

demands, but also to make environmental changes (including their partners in communication) to make possible the participation of people with disabilities in all areas of social life.

ACC systems in early educational intervention in Greece and Serbia

Early intervention in inclusive educational system is extremely important, especially for children who aren't able to communicate in typical way. If children express their communicative and communication needs in socially unacceptable ways (e.g., aggressive or destructive), AAC systems can be used to replace this socially unacceptable forms with conventional forms of communication (Romski & Sevcik, 2005).

As research shows (Romski & Sevcik, 2005), AAC systems should be used early, during the period when a young child with communication problems is just developing communication and language skills, to prevent failure in communication and language development, and it seems that the use of AAC does not appear to hinder speech development, on the contrary it can support the development of spoken communication. There is also a benefit for children with cognitive disability (developing language skills through AAC can contribute to make functional cognitive gains). So, it seems that we can and we should use AAC systems with infants, toddlers, and preschoolers with a variety of severe disabilities (Romski & Sevcik, 2005). Of course, there is a need for specific education and cooperation between the parents, therapists and teachers, as well as for the other subjects in child's environment to make possible the progress in adaptive and communicative development of the child. There is a need to establish national policy in this field in Balkan countries, since the early intervention and continuously education with use of AAC systems are of extremely importance for the child development.

But the early intervention is just a first step in inclusive education, so there is a need for appropriate support of students at any age. That means that we have to make a national policy, national standards for AAC and appropriate health care policy (financial-medical coverage of the equipment). That also means that we have to prepare our teaching staff well (that includes curricula changes in teachers' education, national platform for AAC symbol systems, provide better technical equipment at schools, systematically work on change of attitude and different approach to inclusive education and disability itself etc.). There are started the problems for Balkan countries.

First of all, the "old fashion" separate education (mainstream and special schools apart) is still present in the teacher's attitudes, and as known, teachers' attitudes to inclusive education and teaching of students with disabilities, are very important (Elhoweris & Alsheikh, 2006; Pijl, 2010; Vujačić, 2011). But, unfortunately,

some teachers do not have positive attitudes towards inclusive education, citing a lack of personal knowledge and skill for teaching students with special needs, an area that was not sufficiently covered in their basic teacher training. (Pijl, 2010). Indeed, there is a problem with a lack of proper and adequate teacher education (pre-service and in-service) for real inclusive education (Obradović, Bjekić, & Zlatić, 2011) at any level of education in Balkan countries. Although the legislative regulation is different in EU and non-EU Balkan countries, the systematic approaches to empowering teachers to teaching students with disabilities are the same in Balkan countries: yet, teachers' preparation to work and teaching students with disabilities still are not adequate. For example, AAC systems are not a part of mainstream teachers' education either in Greece or in Serbia. Some basic knowledge about AAC is in the curricula only at the universities of special education, but if we really want to include students in mainstream schools, is it enough? As known, the AAC systems are not universally and not the same for all the users, the adequate choice of the AAC depend on individuals needs. Although, there is some basic preparation we have to make and some basic knowledge that school community have to implement in daily life. Otherwise, how can we make students with complex communication needs a part of school social community? Can they have any contact with their peers? What does the environmental adjusting mean? Do students with disabilities have right to communicate with other people besides their family and therapist? We have to make some changes in order to reduce barriers and ensure appropriate supports as required (the issue of selection and customization of AAC systems when it is possible and necessary).

Another problem in both countries (Greece and Serbia) is the cost of AAC systems. Environmental modification necessary for the full participation of people with disabilities in all areas of social life starts from school. But, the whole concept of AAC is rather expensive and the Balkan countries are struggling with economic issues. We should have better computer equipment in schools at any level, but it constitutes one of the problems. The intervention to enhance communicative competence necessitates intervention with not only the individual with complex communication needs but also partners in the environment. There should be at school level an educational team consisted of trained speech therapists that can cooperate with classroom teachers, inclusion support teachers, instructional assistants, with parents and students, in order to overcome social barriers, and to work cooperative using AAC systems, creating classroom structures to educate heterogeneous groups of students (Soto, Muller, Hunt, & Goetz, 2001). Unfortunately, we don't have such kind of adequate support in our schools.

Conclusion and educational implications

Augmentative and Alternative Communication is a specific type of communication intended for people with complex communication needs.

Although ACC is a useful technique in inclusive educational settings and formative teaching and educational procedure, implementation of it is insufficient. In order to implement the AAC communication in inclusive educational systems, there is a need to establish national policies in Balkan countries. It is necessary to organize a specific teaching staff education (including student-teachers and practicing teachers) for implementing AAC systems in educational system.

Some implications for practice of ACC teaching integration are suggested: 1) Teachers should consider the individual student when considering AAC options (Andzik et al., 2017). According to the participation model, framework for ACC considerations includes (a) identification of a child's participation patterns and communication needs across environment and (b) providing detailed of insight of the opportunity barriers (policies, practice, attitude, knowledge, skills) and access barriers (motor skills, cognitive/linguistic skills, literacy skills). For making decisions on the most appropriate ACC system for specific child, it is necessary to take a feature-based matching assessment. Through assessment, observation, and AAC system trials, with embedded data collection, this process matches the specific needs of the child to the individual features of AAC systems. The most adequate ACC technique for one person depends on learning/developmental priorities for the person, her/his skills and abilities, her/his and family's preferences, current and future communication needs; and the environments in which and the people with whom the person is likely to interact; 2) Teachers should be trained to work in educational environment with ACC supports and communication systems, to use a number of assistive technology tools, to work in collaborative team (Andzik et al., 2017); 3) Teachers may choose to teach related skills with classmates in the same activity and to teach communication skills exhibited by classmates (Calculator, 2009); 4) It is useful to provide a training for parents and to empower collaboration of teachers, parents and students in ACC environment to enhance communication outcomes of students with complex communication needs (Andzik et al., 2017).

Last, but not least, we have to spread the information about the AAC system, with aim to approach as many people we can in order to make everyday life activities easier for all the people with disabilities. There is a need of providing a specific teaching staff education (not only pre-service but also in-service teachers) so they can be well prepared for implementing AAC systems in educational environment.

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Svetlana Obradović

*Special vocational high school and lyceum for SEN students,
Katerini, Greece*

Dragana Bjekić

*Univerzitet u Kragujevcu,
Fakultet tehničkih nauka u Čačku, Srbija*

PRIMENA AUGMENTATIVNE I ALTERNATIVNE KOMUNIKACIJE U INKLUZIVNOM OBRAZOVANJU

Apstrakt

Augmentativna i alternativna komunikacija (eng. Augmentative and Alternative Communication – AAC) ili potpomognuta komunikacija je specifična vrsta komunikacije namenjena osobama sa kompleksnim komunikativnim potrebama. Radi se o osobama koje manifestuju deficite u korišćenju jezika i govora iz različitih razloga, bilo zbog kongenitalnih ili stečenih poremećaja, disfunkcija ili povreda. Osnovni cilj korišćenja određene vrste AAC (potpomognute komunikacije) je realizacija funkcionalne komunikacije kao kompenzacije za ozbiljna oštećenja u ekspresiji i/ili razumevanju pisanog ili usmenog jezika. Specifični ciljevi primene AAC vezani su za omogućavanje sto samostalnijeg i nezavisnijeg učestvovanja osobe u aktivnostima, razvoj kognitivnih sposobnosti, poboljšanje socijalne kompetencije, razvoj veština, formiranje proaktivnog stava prema rešavanju problema i sticanju novih znanja i iskustava. Na taj način, metod potpomognute komunikacije koji se koristi kao zamena ili dopuna govora ili pisanja može biti trajni ili privremeni dodatak u komunikaciji koju koristi osoba. Iako primena AAC sistema može biti veoma korisna, postoje prepreke u njihovoj primeni u balkanskim zemljama koje su u ovom prikazu navedene (Srbija i Grčka). Konačno, zaključak je fokusiran na mogućnosti uključivanja AAC sistema u nastavnu praksu.

Ključne reči: osobe sa invaliditetom, inkluzivno obrazovanje, augmentativna i alternativna komunikacija (potpomognuta komunikacija)

**INDIVIDUAL DIFFERENCES,
MULTICULTURALISM,
AND PSYCHOLOGICAL
MEASUREMENT**

PSYCHOLOGY AND ART – ENCOUNTER OR INEVITABILITY¹

Abstract

Relationship between psychology and art or art and psychology represents a field of analysis and interpretation in the context of theoretical turmoil, controversy and proving that lasts for decades. Two currents collide in terms of attitude, tendency and complexity. On the one hand psychology as a science with its clear object and method of research, logical norms, and formal categories and on the other hand art with its incoherence, intuitive mode of thinking, empiricism instead of empiria, and reductionism versus analysis. The aim of this work is to present the tendency in development of psychology and how the position of art in psychology has changed accordingly, as well as to demonstrate the implementation of psychology in different segments of art, depending on theoretical tendencies and approaches. The objective of the work is integration of basic psychology theory, given through representation of psychoanalytic (S. Freud) and analytic (K. G. Jung) views and interpretations of art with a special emphasis on Jung's theory of archetypes and collective unconscious, on one side and on the other hand previous research of the theoreticians on artistic expression of film, which represent strengthening of Jung's theory (M. Ziggoti, W. Indik, J. Campbel). Some of the examples of previous research on the subject of applying psychology in interpretation, interpretation and analysis of artwork will also be presented in this work. It is a fact that psychology is present in the art from the very beginning of the artistic creation because art presents a certain view of the world and the way of understanding it. Psychology is not only present in the act of creation, but also in the act of experiencing the artistic work, i.e., it is not just about the artist and his personality, but also about the reception of artistic work by the observer. This interactive process represents a specific psychological-artistic continuum which is worth the attention of both psychologists and artists.

Key words: psychology, art, interpretations, psychoanalysis, archetypes

Introduction

There is a connection between psychology and art that, we can freely say, is inseparable. The artist projects his psychological being through the art media and the created work is the product of this projection. As a creative process, art is a deep psychological process. In its research, psychology of art integrates art, philosophy and aesthetics, with the study of consciousness, visual perception and various psychological theories.

¹ Corresponding author: medojevic@t-com.me

History of the relationship between psychology and art

In the centurial history, scientific psychology has almost continuously researched art, starting with the famous Fechner's measuring of aesthetic phenomena by methods of experimental aesthetics, followed by Freud's psychoanalysis and Jung's depth psychology, which, among other things, illuminated the unconscious motivations, conflicts and development of artists, as well as the use of symbols and mechanisms of collectively unconscious in artistic creation. Later on there was an inevitable crossover of theoretical and practical disciplines, so gestaltists speak of the laws of composition and of the expression as an aestheticized step forward from everyday perception, semiotics speak about aesthetic code and the laws of its use in art as a mode of interpersonal communication, behaviourists speak about the connection of aesthetic dimensions of artistic work with neural correlates, cognitivists speak about the factor structure of the artistic psychological space, structuralists speak about the ways and the meaning of the internal construction of the artwork, and so on. The psychology of art examines, among other things, the creative process of the author and the way the work is comprehended by the individual. The question of the aesthetic value of the work is beyond the scope of the psychology of art. The psychology of art should answer the question of how one work of art was created, how a work of art is formed within the artist, and how the viewer apprehends it. In its research, the psychology of art includes art, philosophy (metaphysics and phenomenology) and aesthetics, with the study of consciousness and visual perception.

Predrag Ognjenovic wrote that there are indeed valid reasons for skepticism to various attempts of measuring and experimenting in the examination of the phenomenon of art. There is a risk that empiricism will prevail over practical experience, and rough reductionism over analysis. It can be compared with an anatomist who thinks he must kill a man to dissect a corpse and examine its composition! It is clear that these evil souls of the empirical approach have already sporadically emerged in the sciences that examine art, turning the public (and especially the artists themselves) against the empiricism as a whole. So, the science is portrayed as a destroyer of fine tissue of the art, a destroyer whose intent is merely an introduction to detail, and not an understanding of the entirety. However, should we, like a child would do, break the head of our doll just to see how she closes her eyes?

Psychology shares the fate of other sciences that explore art, including boundaries. Although, apart from these common problems, it also has some of its own, deriving from the very specific relation of this discipline to the phenomenon of art (Ognjenović, 1997).

Psychology in art

Sometimes the art confuses us – or better yet, it confuses our mind, which is accustomed to logic in the system that organizes the world around us. Very often different currents in aesthetics express an insurgency because of the use of psychological instruments in the assessment and analysis of art and a work of art. Psychology is present in the art from its very beginnings; it is completely logical that our feelings, motives, unconscious content are projected through the artwork. Also, we cannot ignore the argument that supports psychology in art - psychology is present during the creation of an artwork, as well as in the moment of the observers encounter, that is, the viewer and the work of art.

Art in Psychology

The need for psychology to find its place when art is concerned is the mere fact that art is the result of specific phenomena of the spiritual life of artists. Art in Psychology finds its place whenever the meaning of art is examined, when the personality of an artist is examined, by an analysis, when some form of creation becomes an artwork, and there is also a consideration about the essential difference in the process of creating an artistic piece and its experiencing.

Psychology and art

Psychoanalytic theory and art. When analyzing the psychoanalytic understanding of the creative process, Freud distinguishes primary and secondary thinking processes. Primary processes occur in the form of mechanisms: movement, condensation, substitution and symbolization of instinctive needs. Secondary processes are characterized by the ability to voluntarily delay satisfaction and create a plan for achieving satisfaction; meeting needs with certain objects in real life, rather than by substitution, displacement, fantasy, which ignore the needs of real objects. Thus, secondary processes are labeled as tolerance to frustration, flexibility in discovering real alternatives, logical programming of sequences of behavior in achieving the goal (Baron, 1965). By discussing the role of sublimation in the creation of artistic and scientific works, many representatives of this psychological school try to analyze the motivation of artists for creative work, dealing with artistic communication and discussing the psychology of artists. The basic psychoanalytic attitude in relation to artistic creation is that creativity is objectification, mostly appearing in a transformed form of suppressed desires or complexes.

On one hand, in the creations of the human spirit in the field of culture art and social life, participate the libido and destrudo and on the other hand,

eros and tanatos (Freud, 1968). In further theoretical reflections on art in the field of psychology, the essence of art is defined as sublimation, catharsis, and regression in the service of Self (Kris, 1970). The term sublimation is the term that Sigmund Freud took from chemistry literature, same as with the concept of energy, which he took from physics. Sublimation according to Freud, is the ability to replace some genuinely sexual goal with another one – no longer sexual, but psychologically close. Psychoanalysts later expanded it to one of the successful defense mechanisms which consists of the replacement of object of forbidden instinctual pulsation by some other object that is hierarchically higher, spiritual, socially acceptable, which also allows the restraint of the urge. Art, as well as the whole culture, would thus be a subliminal action and an outcome, and the artist would sublimate some of his instinctive need through his work and artistic act. That is, he would satisfy his urges, but not before he neutralizes them. (Radovančević, 2003). Regarding catharsis, Freud starts from the fact that every artist is somewhat neurotic because of the unresolved conflicts in himself, since the main trigger for the creation is neurosis. The mechanism of catharsis is the release of internal tension and is identical in both art and neurosis, and the common output is a symbolic function. Catharsis is the release of the impulse trapped in unresolved conflicts. Rudi Supek also believes that artistic creation is close to neurosis due to its function of catharsis, the purification of emotional tension caused by complexes. He believes that in artistic expression there are always two opposite tendencies – the tendency to express our feelings, aspirations and personal problems, and the tendency to give a general significance to our personal aspirations, to adapt them to other people, and also – camouflage our perception (Supek, 1968). Regression, as a third term significant for the understanding of art, Ernst Kris explains through “regression in the service of the ego”, saying that regression in the ego service (primitivization of the ego function) does not occur only when the ego is weakened – in dreams, imaginations, psychoses, but also during many types of creative processes (Kris, 1970). The concept of regression in the service of art is also used by S. Freud. He explains art as a regression mechanism, which in fact means returning to earlier forms of development in childhood, since a child occasionally appears in every artist. M. Klein (Klein, 1963) develops the theory of “artistic sublimation”, “projective identification”, and “reparation”, as defense mechanisms important for understanding the internal processes of the creator. Art sublimation, according to M. Klein, reveals the roots of symbolic creativity in “depressive state in childhood”. She thinks that a child is prone to aggressive and destructive impulses directed towards loved ones, which, after the child has adopted them, continue to exist within it in a certain way. Fear of its own destructive instincts causes the child to feel a depressing fear of losing a loved one, and the desire to renew them in a new way. With the help of art, children give expression to their aggressiveness, as well as re-create objects that they fear their destructive desires can destroy (Klein, 1963). In 1946, Klein introduces the term “projective identification” into psychoanalytic literature, which, besides the

term “unconsciously”, becomes one of the key concepts of psychoanalysis. Klein says: “Many parts of hatred turned towards the ego, now turn to the mother. This leads to a certain form of identification that becomes a prototype for aggressive object relations. The name of these processes should be “projective identification” (Mandić & Ražić, 2006). Since then, the term “projected identification” has been used in many ways. In projective identification, Segal says, separated parts of the ego and internal objects are projected onto an external object, which thus becomes owned, controlled and identified with the projected parts. Projective identification has many goals: it can be directed to avoid separation from an ideal object, or it can be directed to control a bad object in order to avoid the danger. Different parts of the ego can be designed with different goals: bad parts of ego can be designed to get rid of, control, attack or destroy such an object; good parts can be designed to avoid separation, to guard against bad internal events, or to repair an outer object by some kind of primitive reparation (Segal, 1974). In Psychoanalysis, reparation is a mechanism by which the object is reconstructed, since it was previously mentally and psychologically destroyed (Krstić, 1988).

From the above, it can be concluded that sublimation in the psychoanalytic conception of art, as well as in the creative process, plays an important role. Therefore, the motivational component of this mechanism is extremely important. Also, we have seen that the other defense mechanisms – catharsis, regression, artistic sublimation, projective identification, reparation – have remained dominant. Radivoj Kvašček believes that there is a great inconsistency in the psychoanalytic interpretation of the contents of the artwork, as well as that there is an inconsistent relation to the meaning and role of the symbol. Many psychoanalysts consider that the symbol is not a simple relationship between the idea and the image, but that the relationship between the image and the meaning of a single symbol is multiple; the symbol is over – determined in the sense that it is often conditioned by various psychic situations and tendencies, all of which in some way participate in it. Kvašček also thinks that the true meaning of a symbol should be determined after conscientious examination of the whole mental situation of a person, his past and present (Kvašček, 1976). However, many psychoanalysts tend to primarily use the sexual symbolism, and refer to libido as the main driving force in processing subconscious tendencies into the conscious contents, ideas and images. We will draw attention to another critic of psychoanalytic symbols. Rudolf Arnheim opines that in the psychoanalysts’ analysis, we find the tendency to regard the art object as a representation of other objects, such as the mother’s womb, genitalia or the artist’s father and mother (Arnheim, 1971).

Jung’s analytical theory and art. Jung emphasized that both areas, psychology and art, despite their differences, are in a rather close relationship. He says that “these relationships rest on the fact that art is essentially a psychological activity and that art, like any other human activity derives from psychic motives, should be an object of psychology” (Jung, 1977). In his discussions on the subject of relationship between psychology and art, Jung talks about the autonomous

creative complex, explaining to us that the work of art gives a built-in image which is available to the analysis if we consider it as a symbol. Jung argues that "the source of the work of art cannot be sought in a personal unconsciousness of the author, but in the sphere of unconscious mythology, whose original images represent the general good of mankind" (Jung, 1977). This sphere Jung called "collective unconsciousness" and thus distinguished it from "personal unconsciousness". Art and other forms of creativity have the power to be in contact, to connect with the "collective unconsciousness" and bring significant insights into both creative processes and elements of culture that are transmitted through the generations in the mind and spirit of man; according to Jung, art as a psychological process is, in fact, the assimilation of cultural experiences that makes them visible to a wider audience. All cultural experiences are summarized in the collective unconsciousness, which is central to Jung's psychology. According to Jung, great artworks and significant scientific discoveries have their starting point and source in the collective unconsciousness. In contrast to the psychoanalytic approach, which deals with the personal, individual aspect, he puts the emphasis on the archetypal approach to the personalities of "great individuals" and their deeds, believing that the collective unconsciousness contains experience and knowledge which in depth and essentiality go beyond the personal experience contained in personal unconsciousness. Ivan Nastović points out that it was only by the discovery of the collective unconsciousness by Jung, as a basic new orientation in deep psychology, a true understanding of the personality of the creators and the creative process became possible, because the subject of study became precisely what is transpersonal (i.e., archetypal) in this process (Nastović, 2010). For Jung, psychology and artistic creativity, despite their differences, stand in close-knit relationships. These relationships rest on the fact that creativity is essentially a psychological activity, and if it is, then it can and should be subjected to psychological consideration. With this statement, however, he also gave a limitation on the application of the psychological point of view. He says: "Only that part of the art which exists in the process of artistic design can be the subject of psychology, but not the part that makes the true essence of art. This second part, as a question – what is art in itself, can never be the subject of psychology, but only artistic – aesthetic observation" (Jung, 2006). Jung, in discussing the work of art and its creation, thinks that there are two kinds of different possibilities of an artistic work's creation. One is sentimental and the other one is naïve. In a liberal translation, introvert and extrovert. The introvert attitude is distinguished by the confirmation of the subject and its conscious intentions and goals in relation to the requirements of the object, while the extrovert attitude is distinguished by the subordination of the subject to the requirements of the object. In the sense of art, he thinks that the question of meaning has nothing to do with art. When we talk about the relationship between psychology and art, then we are already distancing ourselves from art and standing outside it, and we cannot act differently but to speculate, we have to interpret in order for things to get the

meaning. We need to transform the life into images, into meaningfulness, into concepts. Jung believes that the work of art should be viewed from the outside, and only then that work of art becomes an image that has a meaning. Then, what was previously a pure phenomenon, now becomes something that is related to other phenomena, and only then it gets a meaning, has a certain role, serves certain purposes, conducts meaningful actions. When we get to the point where we are able to see all of this, then we have the feeling that we have learned and explained something. Thereby, according to Jung, science is satisfied (Jung, 1997).

Examples of the use of Jung's notions in literature on film art. Many authors, using Jung's elementary notions (individuations, shadow hero, anime and animus) tried to introduce psychology into the analysis and interpretation of art. We will mention only the ones who were explicit in using the mentioned terms. Marko Zigoti analyzed the use of the concepts of individuation and shadow in the film through the prism of Jung's theory. He states that the patterns of archetypes remain constant, but images are changed in accordance with external, personal or cultural relations, which says that in film art there is no significant difference when the dominant emotions, or the expression of emotions, are in question. Also, he uses the notion of compensation in explaining the popularity and acceptability of the film, linking the role of the collective unconscious, considering film watching and fairy tale reading as similar processes because of the use of universal codes manifested through images of figures – king, queen, witch etc. What we find interesting is that, in his opinion, psychoanalytic sign has more relevance to the creative mind, while the symbol corresponds more with the audience (Zigoti, 1976). Anyhow, the process of redefining the symbols and signs that viewers comprehend through art, can be observed in a multilayered manner, using psychological, theoretical frameworks. The next author worth mentioning in the context of the relationship between psychology and art, and in the context of film art, is William Indick. He analyses classic characters in modern films, as well as mythological structures of the archetypal character of Superhero. He states that the Hero is a central figure in film experience, and also an integral part of archetypes in a collective unconscious of American culture.

The Hero embodies the shared hopes and ideals of the culture that creates it. It comes to unification and identification with a collective hero, who makes this archetype so powerful. This unification and identification refers to, what Jung called, the "transcendent function of myth and dreams" (Indick, 2004). In Jung's psychology, myths are collective dreams, and on the other hand, dreams are personal myths. They are an individual expression of unconscious personal problems, and as such, they are enhanced in visions and projected onto the screen. The experience of a modern myth in the form of a film is in a Jungian sense a transcendent experience, where the personal, individual consciousness of existence is integrated into a collective one, through the collective cultural archetype. It comes to a collective encounter on an individual level. It seems that films about superheroes contain the most direct image of an archetypal hero

marked by Jung. Another author that we can not bypass is Joseph Campbell. Campbell, in accordance with Jung's psychology, saw the hero's primary role as himself, and his adventure as an adventure of life. According to Campbell, the focus is exclusively on the path of Hero, the events that arose after his birth and his childhood, and before the fall and death (Campbell, 1949).

Conclusion

Whether the relationship between psychology and art can be regarded as an encounter or inevitability will be answered differently by a psychologist and an artist – and both will have clear arguments. It remains true that art had existed long before psychology became an official science. However, art would not be art without psychological processes which were not even called by their real name at the time when psychology was not yet an official science. With psychological terminology and theoretical frameworks, we can tame art and enter the trap of empiricism and reductionism, but art will always offer a new excuse to become independent, as well as become and remain an eternal topic and inspiration to psychologists. Artists use psychological processes unconsciously, and psychologists use psychological knowledge to understand art consciously. Demystification of art is not the goal of psychology. On the contrary, sometimes psychology is degraded because of art.

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Danijela Rakočević Medojević

*Fakultet za poslovni menadžment,
Bar, Crna Gora*

UMJETNOST I PSIHOLOGIJA – SUSRET ILI NEMINOVNOST

Apstrakt

Odnos između psihologije i umjetnosti ili umjetnosti i psihologije, predstavlja višedecenijsko polje analize i interpretacije, u kontekstu teorijskih previranja, osporavanja i dokazivanja. Sukobljavaju se dvije struje, stava, tendencije i kompleksnosti. Sa jedne strane psihologija kao nauka sa svojim jasnim predmetom i metodom istraživanja, logičkim normama i formalnim kategorijama i sa druge strane umjetnost sa svojom nekoherentnošću, intuitivnim modusom mišljenja, empirizmom umjesto empirije i redukcionizmom nasuprot analize. Ovaj rad ima za cilj da predstavi tendencije u razvoju psihologije i kako se mjesto umjetnosti u njoj mijenjalo u skladu sa tim, kao i da predstavi kratak presjek primjene psihologije u različitim segmentima umjetnosti u zavisnosti od teorijskih pravaca i pristupa. Predmet rada je integracija sa jedne strane bazičnih postulata psihologije, datih kroz prikaz psihoanalitičkog (S.Frojd) i analitičkog (K.G. Jung) pogleda i tumačenja umjetnosti, sa posebnim akcentom na Jungovu teoriju o arhetipovima i kolektivnom nesvesnom, sa jedne strane i dosadašnjih istraživanja teoretičara filmskog umjetničkog izraza koji predstavljaju potkrepljenje Jungove teorije (M. Ziggoti, W. Indik, Dž. Kempbel). Takođe, u radu će biti prikazani i primjeri nekih od dosadašnjih istraživanja na temu primjene psihologije u interpretaciji, tumačenju i analizi umjetničkog djela. Nepobitna je činjenica da je psihologija u umjetnosti prisutna od samih početaka umjetničkog stvaranja, jer umjetnost predstavlja svojevrsan pogled na svijet i način njegovog razumijevanja. Takođe, psihologija nije samo prisutna u činu stvaranja već i u samom činu doživljavanja umjetničkog djela, to jest, ne tiče se samo umjetnika i njegove ličnosti već i recepcije umjetničkog djela od strane posmatrača. Taj interaktivni proces predstavlja jedan svojevrsan psihološko-umjetnički kontinuum koji zavređuje pažnju kako psihologa tako i umjetnika.

Ključne riječi: psihologija, umjetnost, interpretacija, psihoanaliza, arhetipovi

SOCIALIZATION AND SELF-PRESENTATION ON FACEBOOK: ROLE OF PERSONALITY TRAITS AND SELFIES¹

Abstract

The aim of this research is to determine the relation between Self-presentation and Socialization and seeking for sexual partners with personality traits and types of selfies, as well as to examine differences between users of social networks Facebook and Instagram. The sample consisted of 369 respondents ($f = 327$), aged 18–40 ($M = 24.36$, $SD = 4.98$). Personality traits were measured by HEXACO questionnaire (Lee & Ashton, 2016), Self-presentation and Socialization, and seeking for sexual partners by Psycho-Social Aspects of Facebook Use Scale (Bodroža & Jovanović, 2016) and selfie-taking by Questionnaire of selfie-taking (frequency of taking certain types of selfies) designed for research purposes. The results showed that Socialization and seeking for sexual partners was positively correlated with emotionality ($r = .12$, $p < .05$), and negatively correlated with Honest–Humility ($r = -.23$, $p < .01$), Agreeableness ($r = -.12$, $p < .05$) and Conscientiousness ($r = -.17$, $p < .01$). Self-presentation positively correlated with Emotionality ($r = .22$, $p < .01$), while correlation with Extraversion ($r = -.26$; $p < .01$), Conscientiousness ($r = -.20$, $p < .01$) and Honest–Humility ($r = -.36$, $p < .01$) was negative. Personality traits significantly predicted Socialization and seeking sexual partners ($R^2 = .09$, $F(6, 362) = 6.22$, $p < .00$) and also Self-presentation ($R^2 = .21$, $F(6, 362) = 16.45$, $p < .00$), just as selfie-taking predicted the same constructs – Socialization and seeking sexual partners ($R^2 = .07$, $F(5, 363) = 5.16$, $p < .00$) and Self-presentation ($R^2 = .05$, $F(5, 363) = 3.88$, $p < .00$). The obtained results are consistent with theoretical findings that the internet can serve as a compensatory place, more appropriate for emotionally unstable individuals, predominantly introverts. Also, respondents who use Instagram in addition to Facebook are more inclined to making selfie photos, so it is assumed that the functions of self-presentation and socialization are more pronounced on this social network, which may be the subject of interest in some future research. The obtained findings provide some new information concerning the structure of relations between measured constructs. Because of the low percentage of explained variance and unequal gender distribution on sample, results should be interpreted with caution.

Key words: self-presentation, socialization and seeking for sexual partners, selfie, Facebook, HEXACO

¹ Corresponding author: tina.janjic95@gmail.com

Introduction

Using social networks and, in particular, the social networking Facebook has become a global trend that has great impact on the social life of people (Bargh & McKenna, 2004). Each social network has its own specific field of action, however, Facebook continues to dominate when it comes to the number of users (Internet World Stats – Usage and population statistics, 2016) and the area of the spheres in which significant impact can be identified.

By reviewing the relevant literature in this field, we found that researchers Nadkarni and Hofmann (2012) proposed a model for the use of Facebook, according to which users of this social network are primarily motivated to use it in order to satisfy two basic social needs – the need for belonging and the need for self-presentation.

Well known social psychologists Baumeister & Leary (1995) described the phenomenon of need for belonging as the need for forming and maintaining strong and stable interpersonal relationships. Such a need and its fulfillment are connected with the effects that the need for belonging attains on the cognitive and emotional field. Researchers often disagree about whether the need for belonging can be maintained through social networks (Kim & Lee, 2011, as cited in Nadkarni & Hofmann, 2012), and there are disagreements in that domain (Lou, 2010).

Facebook allows users to satisfy their needs by communicating with others, thus representing a place where social contacts form, but also maintain existing ones. In order to meet the needs for belonging, on Facebook a person can seek to actively search for friends or partners on social networks, or tend to establish close contacts in a virtual environment.

An “offline to online trend” describes the phenomenon that socialization, or the realization of close contacts with others, is transferred from “offline” to “online” environment (McKenna, Green, & Gleason, 2002). According to researchers (McKenna & Bargh, 2000), there are three important differences in comparison with online communication, which significantly affect the behavior of users on the Internet: a) greater anonymity; b) reducing pressure from the physical appearance; c) greater control over the communication process.

The important question that arises here is who is more comfortable with such an environment: people with difficulties in offline communication such as introverts, aggressive or socially anxious or extroverts who are socially adapted and who easily realize social contacts? In the first case, we can refer to the theory of compensatory use or Poor-Gets-Richer (Kraut et al., 2002) which assumes that the social network is a place where individuals who experience difficulties in offline interactions would have the most benefit from the use of social networks. On the other hand, there is a Rich-Gets-Richer hypothesis that the Internet is just another platform for communication with friends and contacts made offline (Kraut et al., 2002). Since there are theoretical evidence for both

possible solutions, authors Moore and McElroy (2012, see Bodroža & Jovanović, 2016) concluded that extroverts and introverts have different motives for social networks use. The extroverts should make the dominant motive for the use of the opportunity to make additional contacts on social networks, while introverts with low self-esteem and more difficult to get offline contacts should in this way make additional efforts to become popular online (Zywica & Danowski, 2008; see Bodroža & Jovanović, 2016). Hughes and collaborators (2012) found that conscientiousness is less involved in online behavior and in the use of the Internet, probably because they are engaged in offline activities and they considered the Internet only a distraction from their tasks (Ross et al., 2009).

The self-presentation is the second factor from the proposed model by Nadkarni and Hofmann (2012). It is based on the assumption that the profile that represents the person on the social network is an idealized image of a person, rather than something that might represent it in the right light. Baumeister (1982) speaks of two main motives, that is, about two basic groups of motifs that lie at the basis of self-expression. The first one is based on the tendency to gain affection and approval of others, the so-called 'impression management'. The person is making great efforts in order to gain the affection of other people and that the impression that she creates in others is just as it suits her, i.e. others see that a person possesses the characteristics that she really likes to possess. Acquiring more extreme cues that may indicate signs of dependence on the achievement of a particular goal suggests that it is an incursion or a conjuration. The second motive is somewhat different, it is the tendency of a person to approach his objectively to the ideal self. In doing so, it shows the aspiration, the active aspiration, towards the self-presentation of the public self as it wants to do its real self. Baumaister (1982) called such an effort 'self-construction'.

Research interests have already been focused on researching the behavior of self-presentation on the Internet, where the choice of Facebook profile picture (Back et al., 2010; Starno, 2008) and other online photo-sharing behaviors (DiMicco & Millen, 2007; Fox & Rooney, 2015; Gosling et al., 2011). The majority of time spent on social networks consists of viewing some profile, which can be viewed as idealized, other pictures, and status updates others (Pempek et al., 2009). Such information about how others are doing can affect how people see themselves can affect the self-perception of the person, so that its behavior is directed precisely in the direction of building an ideal image of oneself, which has already been described as "impression management" (Baumaister, 1982).

This work also focuses on behavior of taking selfie photography. The phenomenon of selfie photography is not so new, but it is still viewed as an unexplored construct, because it is prone to frequent changes that researchers have difficulty following. Selfie is defined as "self-portrait photography of oneself (or of oneself and others) taken with a camera or camera phone held at arm's length or pointing at a mirror, which is usually shared through social media" (Sorokowska et al., 2016). According to a study by Katz & Crocker (2015) in the

USA, 98% of participants (aged 18 to 24) took selfies, 46% had shared selfies in the past day, and 69% tend to share selfies three to 20 times daily. Some of the researchers also examined the different reasons for taking and posting selfies: self-presentation and identification, feedback from peers, and experimentation with looks, accessories and environment (Katz & Crocker, 2015; Kiprin, 2013, as cited in Dhir et al., 2016). Frequent selfie-takers are more likely to compare their appearance to that of others. Selfies provide more opportunity to take a closer look into one's appearance (i.e., high accessibility). Greater exposure to their own image might lead to more frequent social comparison. The Social comparison theory postulates that human beings have a basic instinct to compare ourselves with others to evaluate our own abilities and opinions (Festinger, 1954).

Selfie photographs often occur in the context of self-representation on social networks. Also, based on their frequency, the level of engagement on social networks, ie the level of socialization of users can be measured. It is assumed that their role in both cases is very important.

When it comes to personality, a large portion of the quoted literature lists the personality traits as one of the correlations of behavior on social networks, which is why this work especially focused on researching the relations with personality traits. Although the widely accepted approach to personality, through the Five Factor Model (McCrae & Costa, 1997), the Six factor HEXACO model by Ashton and Lee (2007), which represents its modification or alternative, represents an equally good option that we have decided in this paper, because HEXACO has a dimension more, in addition to allowing a new empirical approach. In addition to the dimension of Honest-Humility as the sixth factor and the changed dimension of Neuroticism, that is now represented by Emotionality, the model remains almost the same, keeping the dimensions of Extroversion, Agreeableness, Conscientiousness, and Openness.

In many works, researchers have made efforts to explore the relationship between personality and self-taking behavior. Gosling and associates (2011) find that when it comes to extroversion, because of their natural sociability (Knežević et al., 1997; Nadkarni & Hofmann, 2012), the extroverts post photos more, changing profiles often and more actively on social networks, for unlike introverts, which was confirmed in some other studies (Gosling et al., 2011; Sorokovska et al., 2016). By reviewing the literature we can find that research has confirmed the connection between online behavior and various personal traits, where high Extraversion, high Openness to experience, high Neuroticism and low Conscientiousness are isolated as good predictors of different behavior on the Internet (Eftekhar et al., 2014; Rian & Ksenos, 2011, according to Baiocco et al., 2017). Emotional instability in some authors (Forest & Vood, 2012; Seidman, 2013, as cited in Baiocco et al., 2017) was justifiably linked to making selfie photographs, as the internet can be a safer place for self-presentation than the real environment.

Based on the literature review, it is clear that the problems of self-presentation and socialization on social networks and, in this case, on the social

network Facebook, which have been mentioned, have been for some time taking the attention of the researchers. The premise assumed by the authors of these works relates to the examination of the linking of the personality trait, as relatively permanent behavioral characteristics and frequency of certain types of selfie photographs, as well as the examination of their predictive value, with the phenomena of self-presentation and socialization on the social network of Facebook. It is expected that the results will be consistent with the assumptions made by authors in their theories and earlier empirical findings.

Method

Sample

We used a convenient sample that comprised of 369 respondents – 327 female subjects, from 18 to 40 years old ($M = 24.36$, $SD = 4.98$). Most of the respondents were graduated and ungraduated students (75%), while the other 25% graduated from primary school or high school. The data was collected by the users of Facebook, and the questionnaire was filled in online.

Measures

Psycho-Social Aspects of Facebook Use Scale (PSAFU; Bodroža & Jovanović, 2016). We use this scale for operationalization for Self-presentation and Socialisation and seeking for sexual partners. Respondents gave answers on a five-grade scale of Likert scale.

HEXACO Personality Assessment Inventory (Lee & Ashton, 2016). This model proposes the existence of six personality dimensions – Honesty–Humility (H), Emotionality (E), Extraversion (X), Agreeableness (A), Conscientiousness (C) and Openness (O). We used the 100 items version scale, and the answers were given on the five-grade Likert scale.

Questionnaire of selfie-taking behaviour. The questionnaire was designed for the purpose of this research and contains questions about the frequency of taking a certain type of photographs, that are recognized as frequent among the youth population on the social network Facebook: Selfie in front of a mirror; Selfie in the bathroom; Selfie at college, school and work; Selfie in bed and 'Duckface' selfie. The questionnaire lists these 5 types of selfis and we asked respondents to indicate how many self-photographs of a particular type are on their Facebook profile, on a scale of 6 categories (0; 1–3; 4–5; 6–10; more than 10; more than 20).

Results

Table 1 shows the descriptive statistical indicators of the variables we used in the research.

Table 1
Descriptive Statistics

Variables	Min	Max	Mean	SD	Skewness	Kurtosis	α
Age	18	40	24.36	4.98	1.35	1.64	
Self-presentation	1	5	2.30	1.05	.62	-.43	.89
Socialization and seeking for sexual partners	1	4.22	2.13	.72	.91	.08	.70
Honesty-Humility	1.31	5	3.67	.61	-.55	.12	.80
Emotionality	1.56	4.88	3.41	.59	-.24	-.11	.78
Extraversion	1.31	4.81	3.27	.70	-.31	-.24	.87
Agreeableness	1	4.50	2.86	.63	-.03	-.12	.82
Conscientiousness	1.69	5	3.64	.61	-.41	-.10	.83
Openness to experience	2	5	3.92	.57	-.42	-.18	.79
Selfie in front of a mirror	1	6	1.87	1.21	1.74	2.62	
Selfie in the bathroom	1	6	1.36	.83	3.04	10.39	
Selfie at college, school and work	1	6	1.85	1.05	1.51	2.37	
Selfie in bed	1	5	1.38	.76	2.34	5.58	
'Duckface' selfie	1	5	1.21	.58	3.72	16.88	

The link between Facebook's self-presentation and personality traits was investigated using the Pearson linear correlation coefficient. The mean negative correlation between the Self-presentation on Facebook and the dimensions of Honesty-Humility was obtained, the negative but low correlation with Extraversion and Conscientiousness and the positive low correlation with Emotionality (shown in Table 2).

Table 2
Pearson correlations between personality traits and Self-presentation

	H	E	X	A	C	O
Self-presentation	-.36**	.22**	-.26**	-.10	-.20**	-.04

Note. ** $p < .01$.

Also, Pearson's linear correlation coefficient checked the link between Socialization and search for sexual partners on Facebook with personality traits. The results show that Socialization and seeking sexual partners on Facebook are negative and low correlate with Honesty-Humility, Agreeableness, and Conscientiousness, while in a low positive relationship with Emotionality (Table 3).

Table 3
Pearson correlations between personality traits and Socialisation and seeking for sexual partners

	H	E	X	A	C	O
Socialization	-.23**	.12*	-.04	-.12*	-.17**	.01

Note. ** $p < .01$; * $p < .05$. Correlation between Socialization and O is .003, but is rounded at .01 since consistency in data presentation.

For the purpose of checking how good personality traits can predict the Self-presentation on Facebook and Socialization and search for sexual partners on Facebook, we used multiple regression analysis.

Table 4
Predictive values of personality traits on Self-presentation on Facebook

Independent Variable	β	$r(DV)$	spc^2
Honesty–Humility	-.33***	-.36	-.31
Emotionality	.19***	.22	.19
Extraversion	-.16**	-.26	-.14
Agreeableness	.06	-.10	.06
Conscientiousness	-.09	-.20	-.08
Openness to experience	.04	-.04	.04

Note. β – standardized beta; $r(DV)$ – zero-order correlation; spc^2 – part correlation; *** $p < .0001$; ** $p < .01$; R Square = .214, $R = .463$, $F(6, 362) = 16.453$, $p = .00$.

The results show (Table 4) that on the basis of personality traits we can predict statistically significant 21.4% variance, the significant predictors of Self-presentation on Facebook are negative Honesty–Humility and Extraversion, while Emotionality makes a positive contribution. Each predictor realizes a relatively independent contribution to the overall variation in the presented model, with the Honesty–Humility dimension independently explaining close to 10% of the variance on the criterion.

Table 5
Predictive values of personality traits on Socialisation and seeking for sexual partner

Independent Variable	β	$r(DV)$	spc^2
Honesty–Humility	-.21***	-.23	-.19
Emotionality	.11*	.12	.10
Extraversion	.07	-.04	.07
Agreeableness	-.04	-.12	-.04
Conscientiousness	-.17**	-.17	-.15
Openness to experience	.06	.01	.06

Note. β – standardized beta; $r(DV)$ – zero-order correlation; spc^2 – part correlation; Correlation between Socialization and Openness to experience is .003, but is rounded at .01 since consistency in data presentation; *** $p < .0001$; ** $p < .01$; * $p < .05$; R Square = .093, $R = .31$, $F(6, 362) = 6.216$, $p = .00$.

According to the results (Table 5), on the basis of personality traits, we can statistically significantly predict 9.3% of socialization variances and search for sex partners on Facebook. Significant predictors of this dimension are negative Honesty–Humility and Conscientiousness, while also a low but positive

contribution is achieved by Emotionality. There is no multicollinearity among the predictors, so the percentage of variances that we explain with these variables is partially independent of each other.

We also checked the multiple regression analysis and how well on the basis of self photographs we can predict the Self-presentation on Facebook and Socialization and search for sexual partners on Facebook.

Table 6
Predictive values of selfie on Self-presentation on Facebook

Independent Variable	β	$r(DV)$	spc^2
Selfie in front of a mirror	.06	.17	.05
Selfie in the bathroom	.16*	.21	.13
Selfie at college, school and work	.02	.09	.02
Selfie in bed	.02	.08	.02
'Duckface' selfie	.03	.09	.03

Note. β - standardized beta; $r(DV)$ – zero-order correlation; spc^2 – part correlation; * $p < .05$; $R Square = .051$; $R = .225$; $F(5, 363) = 3,881$, $p = .00$.

The results show (Table 6) that self-photographs statistically significantly explain 5.1% of the variance of Self-presentation on Facebook, can be significantly predicted only on the basis of Selfie in the bathroom, and this is positive, while other types of selfis do not make statistically significant predictive contribution in explaining the given phenomenon. The semiparcial contribution is almost negligible.

Table 7
Predictive values of selfies on Socialisation and seeking for sexual partner

Independent Variable	β	$r(DV)$	spc^2
Selfie in front of a mirror	.06	.17	.05
Selfie in the bathroom	.06	.15	.05
Selfie at college, school and work	.07	.16	.07
Selfie in bed	.11*	.17	.10
'Duckface' selfie	.09	.17	.09

Note. β - standardized beta; $r(DV)$ – zero-order correlation; spc^2 – part correlation; * $p < .05$; $R Square = .066$; $R = .258$; $F(5, 363) = 5,156$, $p = .00$.

According to the results obtained in our research (Table 7), a statistically significant variation of 6.6% self-image is achieved in explaining Socialization and seeking sexual partners on Facebook. Among the given predictors, only Selfie in bed produces a statistically significant positive contribution, and this is relatively negligible in this case.

In order to check whether respondents who have Facebook accounts and Instagram accounts differ in the frequency of possession of a particular type of selfie, we used nonparametric technique Mann Whitney U Test.

Table 8
Mann Whitney U Test on differences between Facebook and Instagram users on frequency of selfie-taking type

Dimensions	Instagram Account	Mean Rank	<i>r</i>	<i>p</i>
Selfie in front of a mirror	Yes	210.02	.28	.000
	No	155.06		
Selfie in the bathroom	Yes	191.40	.12	.087
	No	177.34		
Selfie at college, school and work	Yes	203.50	.21	.000
	No	162.87		
Selfie in bed	Yes	198.06	.17	.001
	No	169.38		
'Duckface' selfie	Yes	195.09	.16	.002
	No	172.93		

Note. *r* - effect size.

According to the results obtained (Table 8), respondents who, besides the Facebook account, have an Instagram account, have statistically significantly more frequent selfie types: Selfie in front of a mirror; Selfie at college, school and work; Selfie in bed, and 'Duckface' selfie.

Discussion and Conclusions

The results showed that, when it comes to the phenomenon of the Socialization of the Facebook social network, there are correlations with the personality traits, and besides having a statistically significant correlation, some of them can be viewed as predictors of this behavior. The negative correlation with the trait extroversion suggests that introvert individuals tend to own self-presentation on Facebook. We can understand such findings on the basis of the assumption that introverts are more difficult to make contacts in the offline environment and in this way they make additional efforts to become popular online (Zywica & Danowski, 2008; see Bodroža & Jovanović, 2016). The results also

show that in this context, negative extraversion, or introversion, can be viewed as a predictor, which further enhances the conviction of the stability of the relationship between these two constructs.

Significant positive correlation has been achieved with a trait emotionality, and according to the findings of the author (Forest & Wood, 2012; Seidman, 2013, as cited in Baiocco et al., 2017), emotionally unstable people on the Internet find their own safety. Such a kind of safe environment can provide these people with a level of readiness to approach behavior that can lead to their own exposure to various forms of social interaction, before a person dare of such behavior in the offline environment.

A trait conscientiousness generates a negative correlation that is expected, as the results of some other studies find similar data that justify that high-level individuals are more engaged in activities in the real environment, and they perceive the Internet as an activity that can draw attention from more important tasks (Ross et al., 2009). We can accept this explanation in the dimension Socialization and seeking for sexual partners on Facebook, where we find the correlation of only with a little bit lower intensity.

The Honest–Humility dimension achieves a negative medium-intensity correlation, and this is the strongest link seen both as a correlation and as a predictor. This dimension, according to the author Međedović (2012), has amorality on the opposite. People low on this personality dimension, according to the authors (Ashton et al., 2006), show high levels of slyness/deceit, pretentiousness and greed. Bearing in mind that the behavior of self-presentation involves behaviors aimed at creating a picture of yourself that is not real, but in accordance with our desires and expectations of ourselves, including consciously manipulating the impression of others in expectation of affection, etc., it is not difficult to understand the findings. Almost ten percent of the variables can be predicted through this line in the dimension Self-presentation on Facebook, which confirms the importance, but also potentially a somewhat more complex relationship between these two variables.

According to the results of the regression analysis, when we bring the predictive value of the personality traits into question, we see that the only conscientiousness is not a statistically significant predictor, and when it comes to other dimensions, the direction of regression coefficients is the same as when it comes to correlations, while the strength itself is somewhat smaller. Thus, the personality traits retain an important role in the prediction where more than 20% of the total variance is explained, and each of the three personality traits, that make statistically significant contributions, are relatively independent.

Socialization and seeking for sexual partners is a dimension that is to achieve social contacts on the social network of Facebook with a wide range of behaviors, and in the examination of the latent structure it was originally a dimension related to the dimension of the self-presentation (Bodroža, Jovanović, & Popov, 2008), in order to stand out in the factor of socialization in the revision of

a questionnaire related to behavior on the social network of Facebook (Bodroža & Jovanović, 2016). It has statistically significant correlations with four personality traits: Honest–Humility, Emotionality, Agreeableness, and Conscientiousness.

The dimension of Honest–Humility correlates negatively, which points to the characteristics of amorality, slyness/deceit, pretentiousness, and greed, which we have already mentioned (Ashton et al., 2006). This correlation may arise from an Internet environment, because it involves the beginning of new relations, and does not provide sufficient authenticity (Suo, Wan, Zou, & Liu, 2012; Williams, 2006) and transparency (Meijer, 2009). It should be borne in mind that the correlation has been achieved with low intensity and that we can not understand this phenomenon as clearly as the one obtained with the self-presentation.

Emotionality, or emotional instability, here, achieves a low positive correlation with the dimension of Socialization and seeking for sexual partners on Facebook. This only points to the possibility that the Internet really represents a platform that can serve to establish social contacts for individuals who are unsure of themselves and show the behavior of emotional immaturity.

Also, the low agreeableness characteristic of those who realize more scores on this scale, and the anger that represents the opposite side of this dimension (Ashton et al., 2006) can be a characteristic of a person who appears especially in situations where others in these networks do not meet the expectations that a person could pose or grudges against those who have hurt them.

The hypothesis of whether the theory of “Poor-Gets-Richer” or “Rich-Gets-Richer” (Kraut et al., 2002) is more accurate, according to the results of this study, supports the fact that individuals who experience difficulties in offline interactions would have the most benefit from the use of social networks. Such a hypothesis is supported by results that unambiguously indicate that more scores on these dimensions will be achieved by persons with low-likelihood personality traits from the HEXACO model, except when it comes to the dimension of Emotionality. Therefore, in accordance with this kind of features, more effort is being put into establishing a wider network of social contacts and self-presentations on the Facebook social network (Amichai-Hamburger, Wainapel & Fox, 2002).

Posting selves is a desirable but in some way a expected behavioral pattern on social networks, especially on the social network Facebook. Therefore, in this paper, we assumed that more frequent posting selfies could help predict the need for socialization and self-presentation on the Facebook network. Some researchers find that behavior is related to posting selfies photos associated with low honest-humility (Hilbig & Zettler, 2009; Chirumbolo & Leone, 2010; as cited in Baiocco et al., 2017), giving an explanation that people could post more selfies as a strategy to seek admiration and to take advantage of others to reach their own social goals on the expense of communality on social networks.

The results, however, did not show that on the basis of the number of posted selfie photographs, or the number of a particular type of selfie photography, one of these behaviors can be predicted. The results showed however that the impact is

not at all negligible. So the phenomenon “selfie in the bathroom” until recently very popular on social networks has a statistically significant correlation and predictive coefficient on the dimension Self-presentation on social networks. This kind of selfie photography is a phenomenon that is often seen, so it is not surprising that such a trend will attract those people who come to social networks with the aim of displaying in the light that is socially desirable (Fox & Rooney, 2015; Sung, Lee, Kim, & Choi, 2016). We can also understand the type of selfie that is photographed from the bed and posts on social networks, which, on the other hand, is more frequent in the dimension of Socialization and seeking sexual partners. Sexual connotation should be excluded here, since a photograph taken out of bed is often not the one that represents a person in an ‘attractive way’, but rather a need to remain in contact with people “since the eyes are opened”. According to Goffman (1959), human beings try to manage the impression that others have of them by packaging or changing their appearance or behavior, which is called self-presentation. Also, Walther (1992) said that computer-mediated communication has made selective self-presentation possible because messages can be edited and individuals have more time for better presentation of the self. Messages that are transmitted in this way do not necessarily need to be textual, but also visual. Hancock and Toma (2009) extended the scope of selective self-presentation to photographs, based on Walther’s proposition, because photos can be selected and digitally altered for self-presentation using technology. Thus, selfies are an effective way to construct ideal self-image (Halpern, Katz, & Carril, 2017), and specific selfie-taking is a means for selective self-presentation behaviour (Kim, Lee, Sung, & Choi, 2016). Because they are more exposed to the photographs of others, there is a need for them to present themselves in ways in which their photos will be “competitive” with those of others selfie-takers, which is in line with the assumptions of the Theory of Social Comparison.

When it comes to the number of photos put by respondents on social networks, as the results show, the average value is very small. The reason for this can be found in a random sample of our research that shows that respondents who have been presenting place on average very few selfie photos on social networks and therefore the abovementioned results should be interpreted with caution. Perhaps on a sample that represents a non-stuttering population or students from a faculty of various orientations, the results related to the frequency of photography would have been different. The reason may also be that Instagram’s social network took over primacy when it comes to photos (Phua, Jin, & Kim, 2017). A confirmation of such an assumption is seen in the results of this study where Table 8 shows that a proportion of the respondent who owns Facebook and Instagram post average more photos than a Facebook users. However, such results are expected in line with the findings of our research, as Instagram is a network for sharing photos in the first place, which can not be said for Facebook.

This research has shown that Facebook’s behavior is related to socialization and self-presentation in line with those provided by the theory and the empirical

findings of other researchers, at least as regards personality traits as correlates and predictors of such behavior. It remains, however, completely unequivocally related to the frequency of setting up a particular type of selfie photography. Perhaps it would be more useful in future surveys to examine a more structured and dimensional questionnaire, and to include a wider domain of the line, than to observe the assumption based on insufficiently secure results. There remains a need to further examine behavior on other social networks, possibly Instagram, which could provide future researchers in this field with new theoretical insights and practical implications.

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Tina Janjić

Nikola Goljović

Univerzitet u Nišu,

Filozofski fakultet, Srbija

SOCIJALIZACIJA I SAMOPREZENTACIJA NA FEJSBUKU: ULOGA OSOBINA LIČNOSTI I SELFİ FOTOGRAFIJA

Apstrakt

Cilj ovog istraživanja jeste da ispita povezanost između fenomena samoprezentacije i socijalizacije i traženja seksualnih partnera na društvenoj mreži Fejsbuk sa osobinama ličnosti i osređenim vrstama selfi fotografija, kao i da ispita razlike u učestalosti određene vrste fotografija na Fejsbuku i Instagramu. Uzorak čini 368 ispitanika ($\bar{z} = 327$), starosti od 18–40 ($M = 24.36$, $SD = 4.98$). Za operacionalizaciju su korićeni inventar ličnosti HEXACO (Lee & Ashhton, 2016), Upitnik psihosocijalnih aspekata upotrebe Fejsbuka (PSAFU; Bodroža & Jovanović, 2016) i Upitnik o pravljenju selfi fotografija dizajniran za potrebe ovog istraživanja. Rezultati su pokazali da je moguće predvideti pomenute fenomene vezane za upotrebu Fejsbuka na osnovu osobina ličnosti uspešnije nego preko selfi fotografija, a dobijeni koeficijenti korelacije i regresije u skladu su sa prethodnim istraživanjima. Takođe, ispitanici koji pored Facebooka koriste i Instagram skloniji su pravljenju selfie fotografija, pa se pretpostavlja da su funkcije self-prezentacije i socijalizacije izraženije na ovoj društvenoj mreži, što može predstavljati predmet interesovanja nekih budućih istraživanja.

Ključne reči: samoprezentacija, socijalizacija i traženje seksualnih partnera, selfi, Fejsbuk HEXACO

ADJUSTMENT OF ADOLESCENTS FROM THE PERSPECTIVE OF THE BIG FIVE PLUS TWO MODEL¹

Abstract

The purpose of this paper was to assess the extent to which dimensions of a seven-factor, lexical model can account for variability in different indicators of adolescent adjustment. These indicators included internalizing mental health problems (measures of depression, anxiety, and stress/tension); substance use behavior as measured with frequency of alcohol and cigarette use, as well as presence of at least one episode of reported drunkenness; and academic performance as indicated by an average school grade. The sample consisted of 327 adolescents, 14–19 years of age ($M = 16.15$, $SD = 0.88$) from various schools (educational profiles). In the total sample, 147 participants were male (45%). The only trait associated with average school grade was Conscientiousness, but the correlation was weak ($r = .168$, $p < .01$). High Neuroticism was a significant predictor of all three measures of negative affects, with Extraversion contributing negatively to prediction of Depression, and high Aggressiveness contributing to prediction of Anxiety and, particularly, to the prediction of Stress/Tension factor (in line with the proposal found in literature on the externalizing nature of Stress/Tension affective state in youth). Furthermore, all three measures of substance use behavior were predicted by low Conscientiousness. High Extroversion predicted both habitual drinking and reports of having been drunk (with the small negative contribution of Aggressiveness as the predictor of reported being drunk). Finally, the frequency of cigarette use was also positively associated with Neuroticism.

Key words: adolescents, alcohol, tobacco, personality, big seven, stress, depression, anxiety

Introduction

Lexical paradigm and Big Five Plus Two model

When choosing a starting set of variables/attributes for building an organizing taxonomy for numerous possible personality attributes, lexical studies are based on a premise that all the traits that shape social adaptation are inscribed

¹ Corresponding author: nikola.v.m.cirovic@gmail.com

in language. There are two approaches used within the “lexical paradigm” - one is an “emic” approach which results in a personality structure that is indigenous to a certain language, and the other approach consists of testing cross-cultural replicability of specific “emic” personality structures with an aim to discern those that are replicable or “etic” structures (Saucier & Goldberg, 2001; Saucier, 2003, 2008). The number of personality traits, found mostly by the means of exploratory factor analysis, varies across different languages. Most of these studies, whether they are concerned with an “emic” or an “etic” structure, can be grouped into clusters of those that advocate five (e.g. Digman, 1990), six (e.g., Lee & Ashton, 2008), and seven (e.g., Almagor, Tellegen, & Waller, 1995, Saucier, 2003) factors/traits (for overview see Saucier & Goldberg, 2001; Saucier, 2008). When it comes to seven-factor “etic” taxonomies, two are prominent in the literature – the first found by Tellegen and Waller (1987, as cited in Tellegen, 1993) in English and replicated firstly in Hebrew (Almagor, Tellegen & Waller, 1995) named “Big Seven” and the other which is discerned by Saucier (2003, 2008) during an attempt at replication of Hebrew and Filipino “etic” structures in English, named “Multi-Language Seven” which is deemed by the author as qualitatively different “etic” structure than that of the “Big Seven”.

The first lexical study in Serbian language (Smederevac, 2002) was performed using the methodology developed by Tellegen and Waller. These authors applied random sampling principles, thus not taking every word that can be taken as a personality descriptor but only the first such word from every n-fold page in the dictionary of a given language. Second, Tellegen and Waller applied nonrestrictive criteria, meaning that unlike the traditional lexical studies, one would also sample evaluative personality descriptors along with descriptors that refer to mood states which are extended to encompass the usual/habitual behavior (Almagor et al., 1995; Tellegen, 1993). Adding personality descriptors with evaluative meaning into exploratory factor analysis resulted in additional two factors, besides five factors that corresponded to the traditional “Big Five”, and these are Positive Valence (with descriptors such as “special” and “extraordinary”) and Negative Valence (e.g., “evil”). Other factors in the “Big Seven” also bear somewhat different names than those in the traditional “Big Five” (Digman, 1990) and these refer to Positive and Negative emotionality instead of Neuroticism and Extraversion (which according to the authors is a more precise delineation of temperamental dispositions as a result of encompassing mood states descriptors), Dependability (which corresponds to Conscientiousness), Agreeableness, and Conventionality (reversed Openness; Almagor et al., 1995; Tellegen, 1993).

It is worth noting that the original study in Serbian found a seven-factor structure to best describe the data in an interpretable way. Furthermore, six out of these factors corresponded well with “Big Seven” dimensions. However, Positive Emotionality did not emerge within a seven-factor structure in this study and there was also a factor named Emotional Control which is not a part of Tellegen and Waller’s model. Also, the Agreeableness factor was formed with negative

descriptors (such as “mocks others” and “criticizes others”) on its positive pole, and hence was named Disagreeableness (Smederevac, 2002).

Next, what follows is the description of the traits of the seven-dimensional model named ‘Big Five Plus Two’ (Smederevac, Mitrović, & Čolović, 2010) which are based on the lexical components derived from Serbian personality descriptors (Smederevac, 2002). Firstly, Neuroticism factor with subcomponents of Anxiety (with the content reflecting social rather than general anxiety), Depression (measured as cognitive vulnerability to states of sad affect, pessimistic explanatory style, negative image of the self), and Negative Affect (prone to general dissatisfaction, bitterness, and fear). The second factor is Extraversion specified with components of Sociability, Benevolence (being actively involved in initiating and sustaining harmonious interpersonal relations) and Positive Affect (reflecting differences in levels of optimism and energy). Furthermore, Conscientiousness is subdivided into Persistence (ambitious pursuit of one’s own goals), Self-discipline (reflecting an attitude toward duties), and Cautiousness. Openness to experience consists of two components – Intellect and Novelty Seeking (Smederevac, Mitrović, & Čolović, 2010). Finally, as previously mentioned, Disagreeableness factor (Smederevac, 2002) which is specified as Aggressiveness in ‘Big Five plus Two’ model is divided into subcomponents of Anger (impulse control), Uncooperativeness (hostility, vindictiveness), and Tough-mindedness (Smederevac, Mitrović, & Čolović, 2010).

The two dimensions spanning the self-evaluation/esteem latent space are the following. Firstly, a Positive Valence factor which has two subcomponents – Positive self-image (reflecting one’s attitude towards one’s own talents and abilities) and Superiority (one’s tendency to put a strong emphasis on one’s own importance both in word and in action). Secondly, a Negative Valence factor capturing somewhat more depressive aspects of self-worth evaluation in Negative Self-Image component, as well as, Manipulativeness component tapping into one’s view of oneself as immoral, extremely assertive, and as someone who takes advantage over people (Smederevac, Mitrović, & Čolović, 2010).

Defining Adjustment in Adolescence: a working definition

Some authors differentiate between ‘adaptation’ as a more permanent form of relating to the interpersonal and psychological environment (i.e., personality style), reserving the term ‘adjustment’ for a temporary state of adaptation (Divac-Jovanović & Švrakić, 2016). In this paper, we set our goals to the assessment of adjustment difficulties. However, psychological adjustment is a complex, multidimensional construct and only different aspects of it can be measured reliably with varying degrees of success. For instance, a meta-analysis by Lavigne and Faier-Routman (1992) on the psychological adjustment of adolescents suffering from different physical disorders found four types of outcomes used as

adjustment measures in studies on this topic. These were the following: an overall estimate of adjustment provided by an interview or a broadly conceptualized questionnaire, an estimate of adolescent's self-esteem (self-concept), and a measure of a more specific internalizing or externalizing mental health problem.

Achenbach's (Achenbach, 1966) factor analysis of developmental mental health problems yielded two principal factors, the first being Externalization-Internalization bipolar component and the other that concerns severity of the psychopathology. The externalization pole of the first principal factor was highly loaded with anxiety and inhibition-ridden difficulties such as phobias, fearfulness, worrying, depression and somatic complaints; whilst the externalization pole was primarily specified with destructive and impulsive behavioral problems. Later, Achenbach and Edelbrock (1978) went on to name these two broad-band syndromes "Undercontrolled" and "Overcontrolled" syndromes with more narrow problems such as anxiety, depression, delinquent and aggressive behaviors encompassed within these broad categories.

Modeling the "externalizing spectrum" of mental health problems in a large-scale twin study Krueger et al. (2002) found that a latent Externalizing factor could be structurally modeled with substance dependence (alcohol and drugs), antisocial/conduct problems, and lack of restraint (a personality trait) as observed variables. The aforementioned study was conducted on an adolescent sample and found that patterns of co-occurrence between the three externalizing/disinhibitory behaviors, fitted in a hierarchical model just described, could be explained by the latent factor that is highly heritable. Another line of evidence in support of the covariation between substance use and delinquent/aggressive behavior comes from a study of juvenile offenders ($N = 544$; Helstrom et al., 2004). These authors found a link between parent-rated aggressive (externalizing) behavior in adolescents and adolescent self-reported frequency of alcohol, cigarette, marijuana and "hard" drugs use (the link is not found for internalizing problems and substance use). Furthermore, they found that the relationship between delinquent behavior and marijuana (and "hard" drugs) use was mediated by alcohol and tobacco use.

Besides having relevance for externalizing behavioral problems (Krueger et al., 2002; Helstrom et al., 2004) alcohol and cigarette use is also examined in relation to health-risk behaviors. A large-scale Youth Risk Behavior Surveillance study conducted in the United States (Eaton et al., 2005) found 43% of high school students had used alcohol (making it the most endorsed health risk behavior) and 23% had smoked cigarettes in days before the survey ($N = 13.953$). Misuse of alcohol and other substances it also found in other measures of health risk behaviors (e.g., Smederevac et al., 2009, as cited in Obradović & Dinić, 2010) among hazardous driving, unprotected sexual intercourse, neglect of one's health, etc.

A suitable conceptualization of internalizing mental health problems is offered by Clark and Watson (1991) and is known as a Tripartite model of negative affects. In short, by analyzing discriminant and convergent validity patterns of

widely used instruments for measuring anxiety and depression, Clark and Watson (1991) demonstrated that the two affective states share a common variance due to a nonspecific, higher-order latent factor of Negative Affectivity (indicating the state of general distress). Moreover, each of the two, besides being loaded by this common factor, has a specific separate factor which differentiates depression (lack of Positive Affectivity, PA – anhedonia) and anxiety (a somatic component of heightened arousal; hyperarousal factor). The Tripartite model was reproduced in samples of university students, adults, adult psychiatric patients (Watson et al., 1995). The model was also tested in child and adolescent psychiatric patients and it was found to approximate the data well, except for that the factor of NA, which represents the overlap between depression and anxiety, was found to be of the same first-order as the factors representing the variance specific to the two affective states (Joiner, Catanzaro, & Laurent, 1996).

Later, with the work of Lovibond and Lovibond (1995, 1998) there has been a further differentiation of the general distress factor into components of Depression, Anxiety, and Stress (the latter is exhibited as irritability, difficulty relaxing, lack of patience and 'nervous' arousal) and the result of it was an instrument Depression Anxiety Stress Scales (DASS) with its short form DASS-21. Finally, in a large-scale British study ($N = 1794$) Henry and Crawford (2005), building upon the work of Lovibond and Lovibond, used Confirmatory factor analysis to compare the fit of alternative structural models to the data. These authors proposed the Quadripartite model to account for the structure of DASS-21. This model posits three orthogonal factors of Depression, Anxiety and Stress, each accounting for the specific variance in its items, and the fourth factor of General Distress orthogonal to the first three accounting for the nonspecific variance in all the items of DASS-21. The Quadripartite model showed a superior fit in the adolescent sample with a mean age of 13.62 years ($N = 484$; Szabo, 2010). However, reviewing the research literature on the DASS structure in adolescence Szabo (2011) posited that the developmental nature of the Stress factor is most questionable and that it can be reliably measured via self-report in adolescents older than 15 years.

Furthermore, there couldn't be found a sharp border between the internalizing and externalizing mental health problems, and this is largely manifested in the comorbidity of the two (see Lilienfeld, 2003 for review). Particularly illustrative finding for this matter comes from a typological approach to personality studies (Robins, John, Caspi, Moffitt, & Stouthammer-Loeber, 1996) where it's shown that the Undercontrolled type of personality (in boys) exhibits a high degree of both internalizing and externalizing problems (45 % of the participants classified in this group exhibit both kinds of adjustment problems). Undercontrolled personality type is attributed to both low resilience (adaptability) and low capacity for control (lack of emotional regulation; Robins et al., 1996) which underlie this personality type. Thus, both sorts of maladjustment show some level of interrelatedness possibly mediated by ineffective regulatory mechanisms of one's own cognition and behavior.

Finally, studies aiming to predict adjustment levels in children and adolescents, within the framework of personality and individual differences, frequently take academic achievement into consideration. Swedish longitudinal study (Sigvardsson, Bohman, & Cloninger, 1987) of the development spanning from childhood to adult age found that individual differences in Personality Maturity factor (reflecting behavioral regulatory mechanisms) correlate highly with school motivation and concentration. Likewise, the aforementioned study of personality types (Robins et. al, 1996) showed that the Undercontrolled type (in boys) had the lowest school performance (as well as school conduct) of all three types of adaptation (Resilient, Under-, and Overcontrolled) as rated by school teachers (Robins et al., 1996). This could be lead to an assertion that academic achievement could to some extent reflect one's ability to regulate one's own behaviour and hindering emotional impulses, i.e., one's effortful control.

The aim of this paper is to examine the ability of stable personality dispositions as specified in the lexical model of Big Five Plus Two (Smederevac, Mitrović, & Čolović, 2010) to serve as a framework for understanding different aspects of adjustment in adolescence. Namely, here the focus will be on the internalizing mental health problems as conceptualized in the Tripartite model of negative affects, light substance use (focusing on early alcohol and tobacco consumption), and academic achievement.

Method

Participants and Procedure

The sample consisted of 327 participants with 147 males (45%), age 14–19 years ($M = 16.15$, $SD = .88$), recruited from various vocational schools (medicine, engineering, gymnasium, law and administration). All the participants not of legal age (< 18 years) had to provide parental written consent for taking participation in research. The questionnaires were taken during school classes.

Measures

Big Five Plus Two - short version (BF+2-70; Čovlović, Smederevac, & Mitrović, 2014) is a 70 item questionnaire designed to measure 7 dimensions of the BF+2 model described in detail in the introductory section (with 10 items per scale). The short version is derived from the original operationalization of the model based on the factor loadings of the items on their first component (Smederevac, Mitrović, & Čolović, 2010). Items are endorsed on a 5-point Likert scale. The reliabilities of the scales of the instrument in this sample are all above .78 (see the results section) which is important to emphasize because the instrument was developed and tested on samples of adults.

Depression Anxiety Stress Scales (DASS-21; Lovibond & Lovibond, 1995) assess negative affective states with three scales, 7 items each, tapping

Depression – cognitive pessimism, low self-esteem; Anxiety – the subjective experience of anxiety and the concomitant somatic complaints; and Stress/Tension which assesses individual's difficulty relaxing, irritability and persistent physiological arousal. The instrument was tested with Confirmatory factor analysis in the sample of Serbian students with an adequate model fit and the internal consistency of scales above .81 (Jovanović, Gavrilov-Jerković, Žuljević, & Brdarić, 2014). The exact factor structure was reproduced in an adolescent sample with the internal consistency above .82 (Jovanović, Žuljević, & Brdarić, 2011). Participants are asked to respond on a 4-point Likert scale indicating the presence of specific unpleasant affective experiences in the two weeks period prior to the testing occasion. In our sample, the internal consistency (Cronbach's α) ranges from .80 to .84 for the three scales, and .92 for the entire instrument.

Substance Use. Given the importance of substance use for both externalization mental health problems and health risk behaviors, substance use was operationalized in this study with three specific questions regarding alcohol and tobacco/nicotine use. These two substances, along with the Cannabinoids, were most frequently associated with the term "soft" drugs in the literature on addictive behaviors (Janik et al., 2017) and are more easily attainable by adolescents than other psychoactive substances. The three items are the following: frequency of alcohol use, the frequency of tobacco use, and the presence of at least one drunkenness episode². If these three items were combined into a scale, their reliability (Cronbach's α based on standardized items) would be .68. However, they are analyzed separately in order to gain more insight into potential differential patterns of personality predictors.

Frequency of alcohol use was measured with a single item with response alternatives ranging from 1 to 6. The meaning of the alternatives is as follows: 1 – *I don't drink alcohol*, 2 – *once in a few months*, 3 – *once a month*, 4 – *a few times a month*, 5 – *once a week*, 6 – *a few times a week*.

Frequency of tobacco use was measured with a single item with response alternatives ranging from 1 to 4. The meaning of the alternatives is as follows: 1 – *I don't smoke*, 2 – *once a week*, 3 – *a few times a week*, 4 – *every day*.

Drunkenness episode is a single binary item/question in which the participant is asked to indicate whether he/she ever experienced what they felt would be *a loss of control over alcohol intake*. Originally, this item asked for the age the participant was when he/she had experienced the loss of control over drinking (had "too much alcohol") and subsequently felt intoxicated ("drunk"). However, we decided to use a dichotomized version of the variable (with higher value indicating the presence of at least one alcohol intoxication in the personal history).

² Also, the social stigma surrounding the use of alcohol and tobacco is less pejorative than the social stigma of people using marijuana and so-called "hard drugs" (such as benzodiazepines, heroin and cocaine). This may be an important consideration given the circumstances of group testing, such as it was in this study. Also, there is an important issue of the limited variance in regard to inquiring into the use of substances other than alcohol and tobacco (i.e. low endorsements rates) which would preclude statistical analysis.

Average grade achieved during the previous academic year is aimed at assessing the level of academic performance.

Participants also took another personality questionnaire based on the biosocial model of R. Cloninger – Belgrade Adolescent Personality Inventory (BAPI; Džamonja-Ignjatović, Milovanović, & Dukanac, 2014), the findings of which are not reported here.

Data Preparation and Analysis

Firstly, five participants with more than 3% missing data were removed. Missing data were imputed with the Expectation-Maximization method after testing for the presence of randomness in the missing data (as indicated by non-significant the Little's MCAR test)³. Two multivariate outliers were removed, leaving 320 participants in the final sample.

Results

Descriptive Statistics

Firstly, Table 1 provides the descriptive statistics for the scales of BF+2, demonstrating that scales are normally distributed (with *skewness* and *kurtosis* that do not exceed 1) and reliable (with α values mostly above .78). This is to say that the application of the instrument in the sample of adolescents is adequate. Furthermore, Depression and Anxiety scales are positively skewed, which is expected since these scales tap into unpleasant affective states. However, Stress scale appears to have higher endorsements rates than both of the aforementioned scales which is a trend found in other research reports on the DASS-21 (e.g. Jovanović et al., 2014).

Table 1
Descriptive statistics (BF+2-70 & DASS-21)

		<i>M</i>	<i>SD</i>	<i>Sk</i>	<i>Ku</i>	α
BF+2	Neuroticism	2.24	0.86	0.72	-0.25	.89
	Extraversion	3.95	0.71	-0.85	0.38	.88
	Openness	3.96	0.60	-0.48	0.13	.78
	Aggressiveness	2.81	0.86	0.25	-0.57	.86
	Conscientiousness	3.47	0.81	-0.19	-0.68	.88
	Positive Valence	3.41	0.75	-0.08	-0.28	.87
	Negative Valence	1.94	0.66	0.74	0.22	.82
DASS-21	Depression	1.59	.62	1.43	1.92	.84
	Anxiety	1.61	0.60	1.29	1.42	.80
	Stress	2.29	0.69	0.31	-0.64	.82

³ Two of the scales have a significance level of Little's MCAR test between .01 and .05 (Aggressiveness and Stress) but the patterns of missingness are negligible.

Reviewing Table 2, we find that only 27.5 % of adolescents report not drinking alcohol, while the majority reports drinking at least occasionally. Almost half of the sample (41%) reports having felt drunk at least once so far. Certainly, such a high percentage of adolescents reporting a drunkenness episode can in part be attributed to the wording of the item inquiring about whether a participant felt that he/she had had “too much alcohol” and “got drunk”. However, the variance of the Frequency of tobacco use appears to be restricted as the vast majority of the sample (76.3%) reports not to be smoking.

Table 2
Endorsement rates of substance use items

		Frequency	Percent
Freq. of alc. use	not drinking	88	27.5
	once in a few months	67	20.9
	once a month or more	117	36.6
	once a week or more	47	14.7
Freq. of tobacco use	not smoking	244	76.3
	once a week or more	30	9.3
	everyday	45	14.1
Drunkenness episode	never had one	186	58.1
	had at least one	134	41.9

Inspecting the Table 3, it can be found that all personality dimensions correlate with all measures of the internalization problems (Depression, Anxiety, and Stress), the only exception is the absence of correlation between Openness and Anxiety. In the next section, regression models will be used in order to reduce the number of dimensions that can serve as predictors for internalization problems. Next, both Frequency of alcohol and tobacco use along with Drunkenness episode correlate positively with Negative Valence, and negatively with Conscientiousness. Furthermore, tobacco use and drunkenness episode correlate positively with Neuroticism. Also, there is a weak, positive correlation between Aggressiveness and Anxiety. Finally, Average school grade is only related to Conscientiousness.

Table 3
Intercorrelations between personality dimensions and adjustment measures

	Neuroticism	Extraversion	Openness	Aggressiveness	Conscientiousness	Positive Valence	Negative Valence
Depression	.79**	-.43**	-.19**	.36**	-.45**	-.28**	.38**
Anxiety	.64**	-.25**	-.05	.39**	-.31**	-.17**	.31**
Stress	.64**	-.27**	-.12*	.59**	-.33**	-.19**	.34**
Freq. of alc. use	.11	.09	-.04	.13*	-.24**	.03	.18**
Freq. of tobacco use	.24**	-.02	-.06	.06	-.27**	.00	.12*

Drunkenness episode	.15**	.08	.03	.05	-.27**	.01	.15**
Average grade	-.09	.02	.01	.02	.17**	-.01	.01

Note. ** $p < .01$, * $p < .05$.

Regression models

Inspection of Table 4 reveals that combined traits of BF+2 model explain 66% of the variance of Depression measure (DASS-21) with Neuroticism as a strong predictor and Extraversion as barely significant one (Table 5). Furthermore, the model of Anxiety explains 44 % of the variance with significant predictor contributions by Neuroticism and Aggressiveness. Also, both Neuroticism and Aggressiveness are significant predictors of Stress/Tension mood state (here the role of Aggressiveness is more pronounced), together with weak contributions by both Positive and Negative Valence.

Table 4
Regression coefficients (R) and coefficients of determination (R²) for the models tested for internalization and substance use variables

Independent variable/regression models	R	R ²	F(7, 312)	p
Depression	.81	.66	85.28	.00
Anxiety	.66	.44	34.69	.00
Stress	.75	.56	56.36	.00
Freq. of alc. use	.34	.12	5.78	.00
Freq. of tobacco use	.35	.12	6.23	.00
Drunkenness episode	.37	.14	6.99	.00

Table 5
Regression models for internalizing mental health problems

	Depression			Anxiety			Stress		
	β	t	p	β	t	p	β	t	p
(Constant)		4.71	.000		.852	.395		2.76	.006
Neuroticism	.70	16.76	.000	.57	10.67	.000	.47	10	.000
Extraversion	-.09	2.2	.029	.01	.16	.871	.01	.25	.806
Openness	-.03	-.86	.392	.07	1.49	.135	.01	.34	.731
Aggressiveness	-.01	-.24	.809	.17	2.96	.003	.48	9.59	.000
Conscientiousness	-.06	-1.44	.151	.01	.16	.874	.03	.56	.579
Positive Valence	-.03	-.65	.518	-.07	-1.32	.189	-.12	-2.42	.016
Negative Valence	.06	1.41	.161	.01	.11	.913	-.10	-1.98	.048

Furthermore, inspection of Table 4 reveals that combined traits of BF+2 model explain 12 % of the variance of Frequency of alcohol use with Extraversion as a positive predictor and Conscientiousness as a negative predictor (Table 6). It is worth noting here that the Negative Valence variable fails to reach the level

of significance staying just above the conventional threshold of .05. Combined traits of BF+2 model use explain 12 % of the Frequency of tobacco use variance with Neuroticism (positive contribution) and Conscientiousness (negative contribution) as statistically significant predictors. Finally, 14 % of the variance of the Drunkenness episode variable can be attributed to BF+2 traits with the sole contributions of Extraversion in a positive direction as well as Aggressiveness and Conscientiousness in the negative direction. Again, Negative Valence and Neuroticism contributions approach significance.

Table 6
Regression models for substance use variables

	Freq. of alc. use			Freq. of tobacco use			Drunkenness episode		
	β	<i>t</i>	<i>p</i>	β	<i>t</i>	<i>p</i>	β	<i>t</i>	<i>p</i>
(Constant)		2.56	.011		2.69	.007		4.18	.000
Neuroticism	.03	.47	.636	.23	3.44	.001	.12	1.8	.072
Extraversion	.24	3.63	.000	.10	1.48	.140	.23	3.42	.000
Openness	-.060	-1.03	.305	-.05	-.78	.436	.03	.58	.562
Aggressiveness	-.02	-.28	.776	-.13	-1.81	.072	-.14	-1.97	.050
Conscientiousness	-.26	-3.88	.000	-.27	-4.14	.000	-.31	-4.76	.000
Positive Valence	.01	.19	.844	.13	1.91	.057	.02	.31	.753
Negative Valence	.14	1.93	.055	.01	.15	.880	.13	1.74	.083

Discussion

The aim of this paper was to examine different aspects of adjustment of adolescents in relation to their personality traits as conceptualized in the Big Five Plus Two model (BF+2; Smederevac, 2002; Smederevac et al., 2010). However, the choice of variables aimed at measuring adjustment or adjustment difficulties was rather pragmatic. Firstly, as part of internalizing mental health problems, this study encompassed measures of Depression, Anxiety, and Stress as operationalized by DASS-21 (Lovibond & Lovibond, 1995) which is based on the study of the structure of negative affective states posited in the Tripartite model (Clark & Watson, 1991; Watson et al., 1995; Joiner et al., 1996). Second, this study used three items to assess the frequency of alcohol and cigarette use, and at least one episode of the loss of control over drinking (see Method section). This was done in order to measure substance use habits as part of both externalizing spectrum of mental health problems (e.g., Krueger et al., 2002) and health risk behaviors (e.g., Eaton et al., 2005). Finally, an average grade attained during the academic year prior to the one the survey took place was used in efforts to ascertain a global measure of cognitive effectiveness.

Depressive mood state as measured by DASS-21 scale (Lovibond & Lovibond, 1995) can be strongly predicted by measures of Neuroticism ($\beta = .70$, $p < .01$), and

to a much lower extent – Extraversion ($\beta = -.09, p < .05$). This is most likely in part due to the content overlap between DASS-21 Depression scale and the Depression subcomponent of the latent factor of Neuroticism in the BF+2 model (Smederevac, Mitrović & Čolović, 2010). Furthermore, this is consistent with the Tripartite model of negative affects (Clark & Watson, 1991) discussed in detail in the introductory section. According to a meta-analysis of the relation between Five-Factor Model and depression, depression is associated with low Extraversion, high Neuroticism, and low Conscientiousness (Hakulinen et al., 2015). However, in our sample Conscientiousness, although moderately correlated with Depression scale ($r = -.450, p < .01$) doesn't make an incremental contribution to prediction of the Depression over and above the contributions of both Neuroticism and Extraversion.

In our adolescent sample, Anxiety was moderately related to Neuroticism ($\beta = .57, p < .01$) and to some extent Aggressiveness ($\beta = .17, p < .01$), with both contributions being positive. Again, the correlation with Neuroticism could in part be attributed to the content overlap because, as mentioned in the introductory section of this paper, the trait Anxiety is a subcomponent of the Neuroticism factor. On the other hand, Aggressiveness as it is defined in BF+2 model reflects frequency and intensity of impulses for aggressive reactions and one's ability to control these impulses. This latent factor is manifested as anger/hostility, impatience and intolerance, along with excessive assertiveness and arrogance (Smederevac, Mitrović, & Čolović, 2010). This same pattern of joint contributions of Neuroticism ($\beta = .47, p < .01$) and Aggressiveness ($\beta = .48, p < .01$) is also observed within the model of predictors of the Stress/Tension scale. Here, the role of Aggressiveness is even more pronounced than it is in the case of the Anxiety scale. One plausible explanation based on the literature on biosocial models of personality (Cloninger, 1987) regards the so-called "approach-avoidance conflict" which occurs in the individuals temperamentally high in Harm Avoidance (Neuroticism) and Novelty Seeking (which manifests itself with lack of impulse control and approaching behavior) and renders an individual susceptible to adjustment difficulties. Furthermore, stress and anxiety could result from social/interpersonal maladjustment, with Aggressiveness or Disagreeableness (Smederevac, 2002) making an adolescent particularly vulnerable to disruptive ways of relating to others. Finally, there are also weak but significant incremental contributions of Positive ($\beta = -.12, p < .05$) and Negative ($\beta = -.10, p < .05$) Valence in the prediction of Stress scale over and above the contribution of Neuroticism and Aggression, both in negative direction. This implication of self-evaluation dimensions in needs further examination

The pronounced contribution of Aggressiveness to the prediction of Stress/Tension scale lends support to a hypothesis asserted by Szabo (2011) after reviewing the literature on the developmental changes in the structure of the descriptors that load on the aforementioned factor. This author asserts that the irritability and impatience items of the Stress/Tension latent dimension may, in fact, reflect anger and externalization problems in youth.

In this paper, it is shown that Conscientiousness is negatively related both frequencies of alcohol ($\beta = -.26, p < .01$) and tobacco use ($\beta = -.27, p < .000$), as well as a tendency to report having at least once lost control over drinking while risking alcohol intoxication ($\beta = -.31, p < .01$). This finding could reflect the role in the regulation of behavior that Conscientiousness has with the subcomponents of self-discipline and persistence. Lack of restraint is related to the latent factor of Externalizing behavioral problems, with substance use being one of the reflective indicators of the latent factor (Krueger et al., 2002). Furthermore, Extraversion served as a predictor for both the frequency of habitual drinking ($\beta = .24, p < .000$) and reported lost control over drinking ($\beta = .23, p < .000$) at least on a single occasion (drunkenness episode). Moreover, Aggressiveness is also a significant predictor of Drunkenness episode variable ($\beta = -.14, p = .05$) but the relation between the two variables is weak and in opposite direction.

Finally, the Negative Valence dimension, reflecting negative self-evaluation, correlates with both items related to alcohol use in our study. However, these contributions of Negative Valence stay just above the conventional threshold of significance of $< .05$ but this finding should be interpreted with caution since one-item measures are likely to be fraught with measurement error. Simms, Yufik, and Gros (2010) found that Negative Valence is a non-specific predictor of most of the personality disorder symptoms. Furthermore, a study by Obradović and Dinić (2010) found a small positive contribution of Negative Valence to prediction of the substance use, along with the contributions of Conscientiousness and Neuroticism (thus departing somewhat from our findings). More in accord with our findings is a 24-year long longitudinal study of children born into unwanted pregnancies in Czech Republic. Here, it is found that childhood ratings of Conscientiousness and Extraversion are related to adult drinking behavior (Kubička, Matejček, Dytrych, & Roth, 2001).

The frequency of tobacco use was also predicted by Neuroticism ($\beta = .23, p < .000$), besides the aforementioned relation to low Conscientiousness. Partly consistent with this finding is the large-scale research by Terracciano and Costa (2004). They found that adult and elderly smokers (in United States) differed from never-smokers on Neuroticism (higher in smokers), Conscientiousness and Agreeableness (lower in smokers).

Finally, in line with the regulatory role of Conscientiousness is the finding on the correlation between average school grade as an indicator of academic performance and this dimension of the BF+2 model ($r = .168, p < .01$). This is in accord with previous findings on the contribution of Conscientiousness in the prediction of academic performance in undergraduate students while controlling for the scholastic aptitude measures (Conrad, 2006).

The limitations of this study mostly concern the conceptualization and operationalization of adjustment and maladjustment in adolescents. In short, the externalizing problems are poorly specified and operationalized in our research. We used only three single-item measures for assessing the extent of the use of

psychoactive substances – namely alcohol and nicotine/tobacco - since their use presents one of the health risks in both adolescents and adults. We did not include any of the measures intended to assess the conduct problems which represent a large portion of the maladjusted behaviors in adolescents.

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Nikola Ćirović

Univerzitet u Nišu,

Filozofski fakultet Niš, Srbija

Aleksandar Rangelov

Institut za onkologiju i radiologiju,

Beograd, Srbija

PRILAGOĐENOST ADOLESCENATA IZ PERSPEKTIVE MODELA VELIKIH PET PLUS DVA

Apstrakt

Cilj ovog rada bio je procena razmere u kojoj dimenzije sedmofaktorskog, psiholeksičkog modela mogu objasniti varijabilnost različitih indikatora prilagođenosti adolescenata. Ovi indikatori obuhvatali su internalizujuće problem mentalnog zdravlja (mere depresije, anksioznosti i stresa/tenzije); korišćenja

psihoaktivnih substanci merenog učestalošću upotrebe alkohola i duvana, kao i prisustvom izveštaja makar jedne epizode pijanstva; kao i akademsko postignuće indikovano prosečnom školskom ocenom. Uzorak se sastojao od 327 adolescenata starosti 14 do 19 godina ($M = 16.15$, $SD = 0.88$) različitih edukativnih profila/škola. U ukupnom uzorku, 147 ispitanika je muškog pola (45%). Jedina crta povezana sa prosečnom školskom ocenom bila je Savesnost, ali je korelacija bila slaba ($r = .168$, $p < .01$). Visok Neuroticizam bio je značajan prediktor svake od tri mere negativnih afekata, sa Ekstraverzijom koja je negativno doprinosila Depresiji, a visokom Agresivnošću koja je doprinosila predikciji Anksioznosti, a naročito skale Stres/Tenzija (što je u skladu sa predlogom u literaturi o eksternalizujućoj prirodi stanja stresa/tenzije kod mladih). Takođe, svaka od tri mere korišćenja substanci ima nisku Savesnost kao prediktor. Povišena Ekstraverzija predviđa kako učestalost konzumacije alkohola, tako i izveštaja o postojanju pijanstva (sa malim negativnim doprinosom Agresivnosti kao prediktora izveštaja o pijanstvu). Konačno, učestalost korišćenja duvana takođe je pozitivno povezan sa Neuroticizmom.

Ključne reči: adolescenti, alkohol, duvan, ličnost, velikih sedam, stres, depresija, anksioznost

THE RELATIONSHIPS BETWEEN SELF-ESTEEM, INCLINATION TOWARDS SELF-HANDICAPPING BEHAVIOR, AND PROCRASTINATION IN STUDENTS¹

Abstract

Procrastination is the act of unnecessary task delaying to the point of experiencing subjective discomfort (Solomon & Rothblum, 1984). The study was conducted with the aim of determining the correlation of procrastination to self-esteem and self-handicapping behavior, the correlation of procrastination to socio-demographic variables (year of study, parents' pressure to finish the studies, employment), as well as to identify the determining relations of self-esteem and self-handicapping behavior on procrastination. The sample is consisted of 115 students of all years of Bachelor study at the University of Niš. The construct of procrastination is operationalized through Lay's General Procrastination Scale (Lay, 1986), Self-esteem through Rosenberg's Self-Esteem Scale (Rosenberg, 1979) and Self-handicapping behavior through a Questionnaire for the assessment of self-handicapping (Mitrović, Smederevac, & Čolović, 2010). The results show a significant correlation between Procrastination and Self-esteem and all subscales of Self-handicapping behavior, except the subscale for External handicaps for interpersonal area. The greatest correlation is determined between the subscale of Internal handicaps in achievement area ($r = .559, p < .05$). Furthermore, the results showed that there was no statistically significant correlation between Procrastination and the year of study, Procrastination and parents' pressure to finish studies, nor is there a correlation between students' Procrastination and employment. Regression analysis shows that Self-esteem and Self-handicapping behavior could explain 34.3% of the mutual Procrastination variance. Results point towards Internal handicaps in achievement area as significant predictor of Procrastination (represents 31.2% of mutual variance). The findings indicate the possibility of predicting students' Procrastination in the area of Self-handicapping behavior, in Internal handicaps in achievement area.

Key words: procrastination, self-handicapping behavior, self-esteem, students

¹ Corresponding author: marinasudimac@gmail.com

Introduction

Earl of Chesterfield, a contemporary of Johnson, Phillip Stanhope (1749), advised, "No idleness, no laziness, no procrastination, never put off till tomorrow what you can do today." (Steel, 2007). Why is it then students always put off their obligations? In order to answer this question, we used the concept of self-esteem and self-handicapping behavior as potential indicators of procrastination.

Researchers, including Steel (2007), have been prolific in exploring procrastination. The results are divided into four major sections: task characteristics, individual differences, outcomes, and demographics. For the purposes of this research, investigating whether a correlation between procrastination and individual differences exists was the most interesting. Attempts to specify the relationship between procrastination and individual differences have been abundant. Neuroticism, as one aspect of individual differences is considered along with its other four aspects: 1) Irrational beliefs, 2) Self-efficacy & self-esteem, 3) Self-handicapping, and 4) Depression (Steel, 2007).

According to Ferrari (1992) correlational studies have reported a relationship between procrastination and low self-confidence and self-esteem, high states of anxiety, depression, neurosis, forgetfulness, disorganization, non-competitiveness, and lack of energy (Beswick, Rothblum, & Mann, 1988; Effert & Ferrari, 1989; Ferrari, 1989; Lay, 1986, 1987, 1988).

Procrastination

Procrastination is occasionally used in a positive sense. Several writers have mentioned it as a functional delay or as avoiding rush (Chu & Choi, 2005; Ferrari, 1992). The positive form of procrastination, as the subsequent historical analysis indicates, is secondary in usage. Procrastination is most often considered to be the irrational delay of behavior (Akerlof, 1991; Burka & Yuen, 1983; Ellis & Knaus, 1977), which reflects the dictionary definition: "to defer action, especially without good reason" (Oxford English Reference Dictionary, 1996; Steel, 2007).

Researchers have focused on academic procrastination (delay of study-related activities in students' population). Academic procrastination can be explained as deliberate postponement of starting or finishing an important academic activity (Schouwenburg, 2004). According to Hussin and Sultan (2010), students procrastinate (postpone) creating and handing in presentations, and Schouwenburg includes procrastinating the performance of administrative tasks related to the academic context (Idžanović, 2016). Estimates have indicated that up to 70 percent of college students consider themselves procrastinators (Schouwenburg, 1995, as cited in Klingsieck, 2013) and that 50 percent procrastinate consistently and problematically (for example, Solomon & Rothblum 1984; Klingsieck, 2013).

Social cognitive theory is particularly adequate for explaining the complex relationships of academic procrastination, academic self-efficacy, and academic achievement in the context of student learning. Academic procrastination in college students demonstrates a lack of self-control and, when combined with lower self-efficacy for academics, can lead to lower academic achievement (Bandura, 1997; Burka & Yuen, 1983; Judge & Bono, 2001). Dweck suggests that learned helplessness is characterized by the belief that both failures and successes are caused by external factors (Dweck & Reppucci, 1973, Luchow, Crawl, & Kahn, 1985).

Procrastinators' thoughts of self-doubt and inadequacy increase the chance of failure and induce feelings of guilt and depression (Steel, Brothen, & Wambach, 2001). Solomon and Rothblum (1984) state that the main difference between students who procrastinate because of aversiveness of the task and those who procrastinate because of fear of failure is that the latter also report high anxiety and low self-esteem.

Active procrastinators, on the other hand, like to work under pressure. When faced with last-minute tasks, they feel challenged and motivated, and that feeling immunizes them against the kind of suffering common in passive procrastinators. Different cognitive pathways and affective responses interact to produce different behavioral patterns: active procrastinators are persistent and able to complete tasks at the last minute. Passive procrastinators, on the other hand, are more likely to give up and fail to complete tasks (Chu & Choi, 2005).

If a person perceives an event as contingent upon his own behavior or his own relatively stable characteristics, it has been termed this a belief in internal control (Rotter, 1966). Whereas the locus of control work deals with perceptions of control over events or outcomes, the present formulation begins with beliefs that may set up the locus of control beliefs, namely, perceptions of control over the basic attributes that influence these events and outcomes (such as one's competence, other people's honesty, or the fairness of institutions). By beginning earlier in the psychological chain, the present formulation suggests the underlying factors that may produce or prevent perceptions of control over subsequent events (Dweck & Leggett, 1988).

Procrastination was considered a self-handicapping behavior that leads to wasted time, poor performance, and increased stress (Chu & Choi, 2005). Murray & Warden (1992) indicate that despite the frequent observation that people tend to internalize success to a greater extent than failure, the prevailing assumption in the literature concerning self-handicapping is that self-handicappers internalize success and externalize failure to an even greater extent (that is, to an extreme extent).

Self-handicapping behavior

Berglas and Jones (1978) contended that underachievement is a self-handicapping strategy in which a student subconsciously creates impediments

to his or her performance in evaluative situations. Purportedly used by individuals with tenuous opinions of their competence (Darley & Goethals, 1980), a self-handicapping strategy is described as “any action or choice of performance setting that enhances the opportunity to externalize (or excuse) failure, thus enabling the individual to avoid or discount negative implications of a performance” (Murray & Warden, 1992; Urdan & Midgley, 2001).

According to the classification scheme of Arkin and Baumgardner (1985), self-handicaps can be either external (e.g., task difficulty) or internal (e.g., reduced effort). Also, self-handicaps can be acquired (e.g., drug ingestion) or claimed (e.g., test anxiety) (according to Murray & Warden, 1992). The motivation for self-handicapping is often to protect one’s self-esteem by giving oneself an external reason, an exit if one fails to do well (Berglas & Jones, 1978; Smith, Snyder, & Handelsman, 1982; Steel, 2007). Given that this is a nuanced point, delays due to procrastination or to self-handicapping should be behaviorally similar, and we can expect them to be empirically related (Steel, 2007).

Covington (1992) defines handicapping as “the creation of some impediment to one’s performance — either imagined or real, so that the individual has a ready excuse for potential failure” (Urdan & Midgley, 2001).

Urdan and Midgley (2001) point out that most research dealing with examining performance outcomes associated with handicapping has found that self-handicappers perform worse than non-self-handicappers do. Indeed, some have argued (and demonstrated) that self-handicapping is part of a vicious cycle in which handicapping leads to lower achievement, thereby creating a greater need to handicap (Garcia, 1995; Zuckerman Kieffer, & Knee, 1998).

Self-esteem

Self-esteem as a component of self-concept is defined as an individual’s set of thoughts and feelings about his or her own worth and importance, that is, a global positive or negative attitude toward oneself (Rosenberg, 1965; Martín-Albo, Núñez, Navarro, & Grijalvo, 2007). There is an evidence that students with low self-esteem feel better about themselves after being told they performed poorly on an exam if they self-handicap than if they do not (Feick & Rhodewalt, 1997). Although there appear to be some esteem-protective effects of handicapping, there is also an evidence that handicappers are not fooling themselves when they handicap. For example, self-handicappers tend to have lower self-esteem than non-handicappers have (Covington, 1992; Eronen et al., 1998; Ferrari, 1991). Covington (1992) reported that even when students had convinced others that their performance did not reflect lack of ability, they still described themselves in self-deprecatory terms such as “lazy” and “shiftless” (Urdan & Midgley, 2001).

It appears that people’s general sense of self-worth is determined by three distinct factors: (a) their positive and negative feelings about themselves, (b) their

specific beliefs about themselves, and (c) the way that they frame these beliefs (Pelham & Swann, 1989).

As fear of failure was associated with neuroticism, it is connected with both low self-efficacy and low self-esteem (Ellis & Knaus, 1977). Numerous studies have shown that low self-esteem is related to procrastinating behaviors, whereby feelings of worthlessness lead to avoidance of tasks that might result in failure (e.g. Ferrari, 2000), although the directionality of the relationship is not yet clear (Klassen et al., 2010). Independent of fear of failure, it has also been argued that self-efficacy and self-esteem have direct links to procrastination and performance (Bandura, 1997; Burka & Yuen, 1983; Judge & Bono, 2001; Steel, 2007). The study of self-esteem is essential in psychological research because it has been associated with, among other aspects, psychological well-being, self-handicapping strategies and defensive pessimism (Rodríguez, Cabanach, Valle, Núñez, & González-Pienda, 2004), and academic achievement (Fiz & Oyón, 1998; Mestre, García, Frías, & Llorca, 1992). Focusing on academic self-esteem as an example of specific self-esteem, we have demonstrated that global and specific self-esteem have decidedly different correlates. Global self-esteem appears to be heavily affective in nature and tends to be associated with overall psychological well-being. Specific self-esteem, in contrast, being more judgmental and evaluative, appears to have a more cognitive component and tends to be more strongly associated with behavior or behavioral outcomes (Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995).

The construct of locus of control is developed within the theory of social learning. Rotter's theory of social learning is directed towards predicting behaviors in relatively specific situations and, therefore, it emphasizes the role of cognitive and motivational factors in explaining behaviors in the context of social situations. The fundamental postulate of the theory is that the possibility of a certain behavior appearing in the function of a person's expectation that it will lead to the desired outcome (Rotter, 1966, Štuc, 2016).

The locus dimension affects self-esteem: attributions to internal, ego-related causes for success increase self-worth relative to external ascriptions for success, while self-ascriptions for failure to internal causes decrease self-esteem. For example, failure due to low ability results in a greater loss of self-esteem than attribution of failure to bad luck or to hindrance from others (Betancourt & Weiner, 1982).

In studies on intrinsic motivation (i.e., interest in and enjoyment of an activity for its own sake), there is considerable evidence that negative performance feedback can reduce interest in a task (Weinberg & Ragan, 1979; Reeve, Olson, & Cole, 1985). However, if individuals have the opportunity to self-handicap prior to receiving negative feedback, they may be protected from the negative motivational consequences of failure feedback. They may therefore be more likely to evaluate a task positively and more motivated to return to a task than an individual who has no way to cushion the emotional blow of failure (Deppe & Harackiewicz, 1996).

Method

The main goal of this study was to examine the relations between procrastination, self-esteem and self-handicapping behavior of students. Precisely, we want to examine whether students' procrastination could be predicted by their self-esteem and self-handicapping behavior.

The general problem of this research was to examine how much of the variance of the procrastination in students can be explained by the variance of their self-esteem and self-handicapping behavior.

In order to explain the research problem, the following specific objectives were set: 1) to examine the relations between procrastination and self-esteem of students and the relations between procrastination and self-handicapping behavior; 2) to examine what is the best predictor of procrastination in students (some aspects of self-handicapping behavior or self-esteem).

The main hypothesis we set up was that there is correlation between procrastination and self-esteem and correlation between self-handicapping behavior and procrastination.

Sample and procedure

Research was conducted on the sample of 115 respondents of both sexes and all years bachelor academic studies at different faculties of University of Niš. The sample included 34 male (29.6% of total) and 81 female respondents (70.4% of total), aged 19–24 years ($M = 22.51$, $SD = 1.60$). Online snowball sampling method was used.

Measures

In the present study, three self-description questionnaires were used:

The Lay Procrastination Scale (Lay, 1986). It is a 20-item true-false measure of dispositional levels of procrastination. Subjects were asked to assess their level of agreement with items such as "I am continually saying I'll do it tomorrow" on a 5-point Likert-type scale. Higher scores indicate higher level of procrastination. The version for students was used in this study. Its validity and reliability have been demonstrated in a variety of contexts (Lay, 1987, 1988, Kusyszyn, 1990; Diaz-Morales, 2006). The reliability of scale this study was Alpha Cronbach = .825.

The Rosenberg Self-Esteem Scale RSES (Rosenberg, 1965). It consists of 10 items, statements that refer to self-respect and self-acceptance rated on a 5-point Likert-type scale, ranging from 1 (*totally disagree*) to 5 (*totally agree*) (Martín-Albo et al., 2007). Items refer to global self-evaluations (how worth the respondent thinks he or she is), whereby 5 of them have a positive direction, and 5 have a negative direction. Reliability of the Self-esteem Scale in our sample was .826.

Questionnaire about self-handicapping behavior SH (Smederevac et al., 2009). It consists of 34 items which are supposed to be rated according to a

5-point Likert scale for responses. Each item represents a combination of external, or internal handicaps which a person uses in order to justify potential failure in interpersonal area or in achievement area. Scale SH ($\alpha = .896$), consists of 4 subscales: I – External handicaps in interpersonal area (consists of 10 items) ($\alpha = .703$); II – Internal handicaps in interpersonal area (consists of 12 items, $\alpha = .864$); III – Internal handicaps in achievement area (consists of 7 items, $\alpha = .683$); IV – External handicaps in achievement area (consists of 5 items, $\alpha = .727$). Cut-off for Overall self-handicapping behavior is 44 points.

Results

The results in Table 1 indicate that the average score on a scale Procrastination ($M = 74.69$), Self-esteem ($M = 30.30$), Overall self-handicapping behavior ($M = 98.33$), and all subscales External handicaps in interpersonal area ($M = 25.94$), Internal handicaps in interpersonal area ($M = 31.31$), Internal handicaps in achievement area ($M = 24.85$), and External handicaps in achievement area ($M = 16.23$) is in the range of the theoretical average.

Table 1
Descriptive statistics (Minimum, Maximum, Means, and Standard Deviations, N = 115)

	<i>Minimum</i>	<i>Maximum</i>	<i>M</i>	<i>SD</i>
Procrastination	56.00	98.00	73.69	9.75
Self-esteem	21.00	40.00	30.30	4.61
Overall self-handicapping behavior	75.00	133.00	98.33	12.82
External handicaps in interpersonal area	17.00	39.00	25.94	5.14
Internal handicaps in interpersonal area	22.00	48.00	31.31	5.32
Internal handicaps in achievement area	15.00	33.00	24.85	4.16
External handicaps in achievement area	11.00	23.00	16.23	2.43

In an effort to examine and present the correlation of variables precisely, we used Pearson's coefficient of correlation. This analysis included 7 variables, which were examined in various combinations. One of the basic hypotheses was to examine the correlation between procrastination and self-esteem. There is a statistically significant negative low correlation between self-esteem and procrastination Table 2. Pearson's coefficient of correlation is negative and low, which indicates that procrastination decreases if self-respect increases.

Table 2
Pearson's coefficient of correlation between Procrastination and Self-esteem

	Procrastination
Self-esteem	-.27**

Note. **significant on the level of .001.

The results presented in Table 3 show that there is a positive correlation between Procrastination and Overall Self-handicapping behavior. However, one subscale of Self-handicapping behavior - External handicaps in interpersonal area was not in statistically significant correlation with procrastination. The high level of corelation was found between Procrastination and Internal handicaps in achievement area.

Table 3
Pearson's coefficient of correlation between Procrastination and Self-handicapping behavior

	Procrastination
Overall Self-handicapping behavior	.40**
External handicaps in interpersonal area	.08
Internal handicaps in interpersonal area	.29**
Internal handicaps in achievement area	.56**
External handicaps in achievement area	.35**

Note. **significant on the level of .001

According to the research goals, the data were processed using the multiple regression analysis procedure (enter). Table 4 shows that the Regression model was significant ($R = .586$, $R^2 = .343$, $F = 11.38$, $p < .000$) and that the group of predictors, consisting of Self-handicapping behaviors (Internal handicaps in achievement area, External handicaps in achievement area, Internal handicaps in interpersonal area, and External handicaps in interpersonal area) and Self-esteem, explains 34.3% ($R^2 = .343$) of variance on the procrastination scale.

Table 4
Multiple regression analysis (enter): Self-handicapping behavior and Self-esteem as predictors of Procrastination

	R	R^2	F	p
All predictors (Self-esteem and Self-handicapping behavior)	.59	.34	11.38	.000

Some predictor variable correlated with the criteria variable but their partial regression coefficient was not statistically significant. Partial regression coefficients do not depend exclusively on the correlation between the predictor variable and the criteria variable, but on the inter-correlation among the predictor variables themselves and this is the reason why we have not excluded predictor

variables whose regression coefficient was not statistically significant so that we do not lose the information which these predictor variables imply.

Values in bold are standardized Beta coefficients and they are statistically significant. Of total number of variables, only one stood out as a statistically significant predictor of procrastination – Internal handicaps in achievement area which is the best predictor of procrastination ($\beta = .518$, $p < .001$). This variable makes a unique contribution to explaining the level of procrastination. Positive β coefficient means that this aspect of handicapping behavior contributes positively to procrastination.

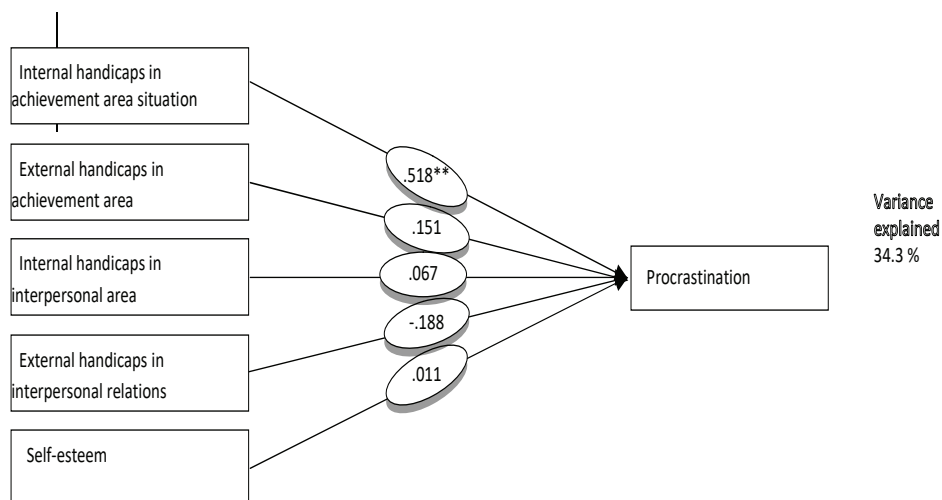


Figure 1. Partial contribution of each predictor variable separately in the prediction of procrastination; ** significant on the level of relevance .001.

Variable Internal handicaps in achievement area stood out as significant predictor of procrastination ($R = .559$, $R^2 = .312$, $F = 51.33$, $p < .000$). The results in Table 5 represent that there is 31.2% of variance that can be explained with Internal handicaps in achievement area.

Table 5
Prediction of Procrastination based on Internal handicaps in achievement area

	<i>R</i>	<i>R</i> ²	<i>F</i>	<i>p</i>
Internal handicaps in achievement area	.60	.31	51.33	.000

Discussion

Research has shown that students who have lower scores on the scale of self-esteem tend to procrastinate more than those who have high scores on the

scale of self-esteem. Research results are in accordance with the Meta-analysis conducted by Steel (2007), which indicates the existence of low correlation between procrastination and self-respect. Klassen et al. (2010) found that beliefs about global self-esteem were also significantly negatively correlated with procrastination ratings across contexts. When people with low self-esteem were confronted with an achievement situation in which they expected to fail, they took steps to protect their self-esteem by withdrawing effort, thereby creating an explanation other than lack of ability for the failure (i.e., lack of effort) (Urdañ & Midgley, 2001).

The results have also confirmed the main hypothesis – that there is a statistically significant correlation between self-handicapping behavior and procrastination. Previous research has shown that students procrastinate in order to have an excuse for the expected failure and, in this way, protect their feeling of self-worth. In Steel's meta-analysis, the average correlation between self-handicapping and procrastination was .46 (Steel, 2007). This research has shown very similar results because the coefficient of correlation between Procrastination and overall score for Self-handicapping behavior is .399. Procrastinators tend to spend more time on projects if they are likely to fail (Lay, 1990). Similarly, procrastinators were experimentally shown to enter voluntarily into conditions or to engage in activities that self-handicapped their performance on evaluative tests (Ferrari, 1991). Results of people who rated themselves as high on measure of everyday, habitual procrastination were more likely than others to self-handicap by actually procrastinating (Ferrari & Tice, 2000).

Out of five indicators of Procrastination, only Internal handicaps in achievement area proved to be a statistically significant predictor of Procrastination. Considering that β coefficient value of this predictor is positive, it is to be expected that students who state that they use internal handicaps as modus vivendi in situations of achievement will be more prone to procrastinate.

Internal handicaps which are used as an alibi for potential failure in the field of achievement, have a much higher price than the external. In order to be persuasive, a person is forced to attribute potential failure to personality traits. Some characteristic can be more acceptable for an individual than seeing oneself as insufficiently capable or intelligent. These characteristics include laziness, perfectionism, focusing problems or insufficient organization. If these characteristics are considered with the function of excuses, then it is most likely that for an individual's self-respect it is much easier to accept oneself as a lazy person than an incapable. Similarly, it is much easier to view oneself as a perfectionist consumed by details which prevent someone from being efficient than to doubt in one's own capabilities. These are persons who have a great problem with self-discipline and procrastination of immediate satisfaction in exchange for long-term goals. Such hedonistic tendencies present a realistic obstacle for accomplishment but they can also be a persuasive convincing alibi for not accomplishing the desired goals (Čolović, Smederevac, & Mitrović, 2009).

Moreover, if concern about failure can be alleviated by using a self-handicap, it is possible that the self-handicapper will experience a “freeing up” of attention, because protection is in place as he or she begins the task. The self-handicapper may be free to focus attention on the impending performance evaluation (Deppe & Harackiewicz, 1996).

Conclusion

Our research has shown that there is significant relation between Self-esteem and Procrastination within our sample. Students who procrastinate tendentially have lower scores on Self-esteem scale. As far as relation between Self-esteem and Procrastination is in question, individuals with low Self-esteem who expect failure create explanations which are used for keeping the self-respect levels. In everyday life, deadlines are extremely important, and when they are present people procrastinate. A realistic view on procrastination is more important than a moral judgment. Instead of labelling persons as procrastinators and non-procrastinators, it would be wiser to think about the contextual and process variables that induce procrastination and that moderate the outcomes (van Eerde, 2003).

Some of the results obtained in this research confirm earlier findings and contribute to better consideration of relations between procrastination and self-handicapping behavior. The main limitation of this research could be seen in the fact that there are many reasons why students procrastinate, such as individual differences, task characteristics, outcomes, and demographics. As one of the possible causes of academic procrastination, avoidance of tasks due to their weight as well as fear of failure were also cited, although, fear of failure is the most common reason for avoiding the beginning of work (Solomon & Rothblum, 1984). Results which concern the relation of self-handicapping behavior and procrastination of research should be used as guidelines for future research. They should be pointed towards seeking more of the specific causes of found relations.

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Marina Sudimac

Darko Hristov

Maja Savić

Nikola Đorđević

Univerzitet u Nišu,

Filozofski fakultet, Srbija

POVEZANOST SAMOPOŠTOVANJA, SKLONOSTI KA SAMOHENDIKEPIRAJUĆEM PONAŠANJU I PROKRASTINACIJE KOD STUDENATA

Apstrakt

Prokrastinacija je nepotrebno odlaganje izvršavanja zadataka do tačke kada osoba zbog toga oseća nelagodnost (Solomon & Rothblum, 1984). Istraživanje je sprovedeno sa ciljem utvrđivanja povezanosti prokrastinacije sa samopoštovanjem i samohendikepirajućim ponašanjem, povezanosti prokrastinacije sa sociodemografskim varijablama (godina studija, pritisak roditelja da se završe studije, radni odnos), kao i utvrđivanje determinišućih uticaja samopoštovanja i samohendikepirajućeg ponašanja na prokrastinaciju. Uzorak u istraživanju činilo je 115 studenata svih godina osnovnih akademskih studija Univerziteta u Nišu. Prokrastinacija je operacionalizovana preko Lejeve skale generalne prokrastinacije (Lay, 1986), Samopoštovanje preko Rozenbergove skale samopoštovanja (Rosenberg, 1979) i Samohendikepirajuće ponašanje preko Upitnika za procenu samohendikepiranja (Mitrović, Smederevac i Čolović, 2009). Rezultati istraživanja su pokazali da postoji značajna povezanost prokrastinacije sa samopoštovanjem i svim subskalama samohendikepirajućeg ponašanja osim subskale Samohendikepiranje spoljašnjim uzrocima u interpersonalnim odnosima. Najveća povezanost postoji između subskale Samohendikepiranje unutrašnjim uzorcima u situacijama postignuća ($r = .559, p < .05$). Takođe, rezultati su pokazali da ne postoji statistički značajna povezanost između prokrastinacije i godine studija, prokrastinacije i pritiska roditelja da završe studije kao ni povezanosti između prokrastinacije i radnog odnosa studenata. Regresiona analiza je pokazala da samopoštovanje i samohendikepirajuće ponašanje mogu objasniti 34.3% zajedničke varijanse prokrastinacije. Takođe, rezultati su pokazali unutrašnje uzroke u samohendikepiranju u situacijama postignuća kao značajne prediktore prokrastinacije (što predstavlja 31.2% zajedničke varijanse). Rezultati ukazuju na mogućnost predviđanja prokrastinacije studenata u samohendikepirajućem ponašanju, unutrašnjim uzrocima u situacijama postignuća.

Ključne reči: prokrastinacija, samohendikepiranje, samopoštovanje, studenti

DEVELOPING A HIERARCHY-FREE INVENTORY OF LEARNING STRATEGIES: BLILS (BANJA LUKA INVENTORY OF LEARNING STRATEGIES)¹

Abstract

The review of expert literature shows that there are a few psychometrically validated and globally used inventories of learning strategies. Nevertheless, there are several issues related to their use. First, in these operationalizations the focus is on the higher hierarchical levels within the proposed learning strategies structure; the contribution of individual learning strategies to successful learning is rarely analyzed on its own. Furthermore, the authors of extant inventories treat the phenomena from the reflective measurement perspective, although – as we argue – such approach is not compelling neither from a psychometric nor from a substantive viewpoint. Finally, some of these instruments fail to incorporate some contemporary learning techniques, which were promoted thanks to the development of digital technologies (e.g., using flash-cards on digital media, participating in MOOCs) or which were massively popularized relatively recently (e.g., mind-maps, speed reading). Therefore, we aimed to develop a comprehensive inventory of relevant learning strategies used in secondary and higher education and to test its criterion validity by correlating it with GPA. Further, we wanted to empirically compare the predictiveness of the usual factor-level scoring against the item-level scoring. Based on the literature review and a pilot study we conducted, we identified 40 learning strategies (affective and motivational aspects were not included). Each learning strategy was represented with a single item, with participants responding on a five-level scale dependent on the frequency of the use. In this study, the sample consisted of 402 high-school students (50.2% females). In line with our hypotheses, the results indicate that imposing a factor structure is not only theoretically questionable, but it also diminishes the instrument's criterion validity when compared to item-level analysis which was controlled for potential overfitting. We discuss why it is important to turn focus to lower-level assessment of learning behaviors and why psychologists should abandon strict adherence to the reflective approach when developing measures.

Key words: learning strategies, academic performance, high-school students

¹ Corresponding author: sinisa.lakic@ff.unibl.org

Introduction

Through available meta-analysis (Crede & Kuncel, 2008; Credé & Phillips, 2011; de Boer, Donker-Bergstra, & Kostons, 2012; Richardson, Abraham, & Bond, 2012) we now have enough evidence that the use of particular learning strategies — purposefully-initiated learner behaviors which facilitate learning (derived from de Boer, Donker-Bergstra & Kostons, 2012) — has an effect on educational achievement. Although the estimated parameters have been only small to moderate in magnitude, due to the importance of education and its influence on global economy and well-being of the community, this finding is immensely relevant. Namely, the finding provides an empirical foothold for the practitioners who can campaign for teaching effective learning strategies and deliver such programs in practice. Obviously, one of the first practical steps for those activities is getting an insight into the use of effective and ineffective learning strategies through administering an adequate instrument to the target learners.

Indeed, a number of inventories of learning strategies and related concepts have been developed and used globally. Some of the best known² are: MSLQ (Motivated Strategies for Learning Questionnaire; Pintrich, Smith, Garcia, & McKeachie, 1991), ILS (the Inventory of Learning Styles; Vermunt, 1994), LASSI (Learning and Study Strategies Inventory; Weinstein, Schulte, & Palmer, 1987; Weinstein, Palmer, & Schulte, 2002), R-SPQ-2F (The revised two-factor Study Process Questionnaire; Biggs, Kember, & Leung, 2001). Among these, the most cited is the MSLQ, whose user manual was cited 3456 times according to the Google Scholar on February 28, 2018. This questionnaire comprises 31 items targeting three broad motivational areas of learning (value, expectancy, and affect) assessed via six subscales and 50 items targeting three broad learning strategies areas (cognitive, metacognitive, and resource management) assessed via additional nine subscales (Pintrich, Smith, Garcia, & McKeachie, 1993).

Aside from being the most popular inventory of learning strategies, the MSLQ is also a paradigmatic instrument when it comes to the procedure of the development of the typical inventory of learning strategies. As was the case with other mentioned instruments, the authors first hypothesized a theoretical hierarchical³ structure with a number of higher-order concepts (e.g., Elaboration, Critical thinking). Each concept was represented with several indicators which are operationalized by individual items (two examples for Elaboration: “When I study for this class, I pull together information from different sources, such as lectures, readings and discussions.” and “I try to relate ideas in this subject to those in other courses whenever possible.”). In the next step, factor analysis was used to explore

² Schellings (2011) provides an exhaustive list of 21 relevant instruments.

³ By hierarchy we mean any form of a structure “that has at least two levels with a one-to-many mapping of elements in the higher level to elements in the lower level” (Markman, 1999 and Novick & Hurley, as cited by Logan & Crump, 2011). This implies that not only higher-order, but also first-order factorial structures are hierarchical in their character.

and refine the latent structure upon which measures of internal consistencies were presented as a final evidence of the appropriateness of the scales. When it comes to criterion validity, the analyses were focused on the level of subscales, although the user manual (Pintrich, Smith, Garcia, & McKeachie, 1991) provides readers with correlations of individual items with final grades⁴.

The latent variable modeling approach was also used in two recent papers explicitly revisiting the MSLQ. Based on the fit indices obtained from a confirmatory factor analysis, Hilpert and colleagues (Hilpert, Stempien, van der Hoeven Kraft, & Husman, 2013) concluded that out of 15 scales only three scales should be kept with six indicators each, and thus, one should discard all cognitive learning strategies from the instrument (e.g., Rehearsal, Organization, Elaboration, Critical thinking). On the other hand, Dunn and colleagues (Dunn, Lo, Mulvenon, & Sutcliffe, 2012) concentrated on analyzing only two scales – Metacognition and Effort regulation – through both exploratory and confirmatory approach. They concluded that out of 16 items one should discard half of them, including some items that were reported to have largest correlations with GPA in the original MSLQ manual. All in all, we find three important issues with the aforementioned methodological practices used when developing and validating MSLQ and other learning strategy inventories.

First, we believe that the described approach to the development of learning strategies inventories is severely misguided due to the dominant methodological practice in the mainstream academic psychology and the mainstream scale development literature (for a cogent overview of the misguided practices, see Rossiter, 2011). Namely, we argue that the MSLQ and other inventories of learning strategies cannot be soundly defined and treated as reflective latent structures. In other words, Elaboration, Organization, Resource management and other constructs should not be conceptualized as latent variables (properties, attributes, dispositions) extant in learners and being responsible for tendencies in individual behaviors; if one wants to make a higher-level taxonomy of such constructs they should be conceptualized as formative constructs whose delineating characteristics are completely defined by researchers through their expert knowledge and content similarities among the items. Obviously, if a researcher would be solely interested in modeling individual differences and identifying respective dimensions in learning behaviors (e.g. investigating learning styles) then a reflective model could be an appropriate one. We believe that most researchers and practitioners who want to change how students approach their learning, are more interested in classifying and assessing the benefits of the use of various self-regulated behaviors. To put it simply, the focus should be on the behaviors and not on the learners. This is also partly reflected by naming of the scales in the MSLQ, where names evidently refer to groups of strategies and not properties of learners. In addition, we should not forget that by adopting a reflective model and its widespread methodology one introduces another systematic bias in the extant instruments; the structures of the well-known learning strategy inventories

⁴ The MSLQ is more of an exception when compared to other inventories with regard to presenting correlations for individual items.

were significantly influenced by researchers' attempts to write down content similar items which would eventually result in sufficient within-scale correlations enabling proper grouping of items and "satisfactory" indices of internal consistency.

Secondly, we believe that by focusing on hierarchically higher constructs – be it of reflective or formative nature – researchers might miss important conclusions about the benefits of using individual learning strategies. For instance, already the data from the MSLQ user manual (Pintrich et al., 1991) provides insight into the significant variability of individual item-grade correlations within the subscales which sometimes speak for important differential effects. In some cases individual items had better predictive validity compared to the subscale scores (see Organization subscale), while in others the set of items belonging to the same subscale had opposite predictive signs (e.g. Help seeking behaviors). Interestingly, very recently more focus has been placed on the importance of individual items within the personality inventories with regard to their criterion validity in contrast to the domain or facet levels (Möttus, 2016; Seeboth & Möttus, 2018).

Our final issue with the popular extant inventories of learning strategies is that they do not – adequately or at all, include recent learning opportunities provided by new technologies. For example, those inventories miss to ask learners if they attend massive online open courses (MOOCs), deliberately watch educational video materials posted online, use flash-card applications enabling spaced repetition memorization, or use specialized concept organization applications. We believe that a significant share of learners – especially at the university-level – might effectively use such behaviors while learning.

Therefore, with this study we aimed to develop a content- and criterion-valid contemporary inventory of learning strategies that could be used with both secondary education and higher-education learners. We attempted to encompass as many as possible relevant individual learning behaviors and, by doing so, we were not interested in establishing a clustering/hierarchical structure conceptualized as a latent variable model. Nevertheless, in order to investigate the value of item-level analysis we hypothesized that individual learning strategies would reliably predict the GPA variance and that this prediction would be at least as good as what would be achieved by a reflective, latent variables approach. To test this hypothesis we decided to empirically compare several prediction models: a full set of individual strategies, a set of selected individual strategies, and a set of latent variables which would result from a commonly employed factor analysis.

Method

Procedure of item development

The first step taken when developing our instrument named BLILS (Banja Luka Inventory of Learning Strategies; Lakić, Damjanić, & Šain, 2015) was to review the extant learning strategies inventories. From the pool of thus collected items

we selected those that seemed content-relevant and indicated only one specific learning behavior, i.e. we ensured that the item-targeted behavior was exclusively dedicated to a single indicator. Therefore, a number of original items were combined and reworded, after which we added several items for behaviors that were not included in the extant instruments⁵. The final wording of all items and their intended functioning was checked through cognitive interviews conducted with two students with exceptional academic achievement. The interviewees were further probed to find out whether they used additional strategies in their learning.

The total number of items amounted to 61, out of which 21 items were not considered in this study since they targeted affective-motivational aspects of learning (e.g., self-efficacy beliefs, motivational interventions, procrastination issues, parent pressure). Thus, we were left with 40 proper learning strategy items. Where necessary, we adapted the wording for a high-school context (the master version of the instrument was developed for the university level). The participants were provided with a five-step graded scale (from 0 = *never* to 4 = *almost always*) to rate how frequently they used a particular learning strategy while studying for school subjects.

Participants

We collected 402 valid anonymous responses from students attending four different public high-schools in the city of Banja Luka. Gender composition was well-balanced (202 females, 50.2% of the total sample) and 96.2% of students were either 16 or 17 years old. In addition to responding to the BLILS, the participants provided a number of demographic and school-related data (e.g., GPA). The principals of the schools gave their approval to conduct the study.

Data analysis

We used descriptive statistics to explore responses on individual items. Exploratory factor analysis (principal axis with oblique rotation) was used to explore a factorial structure on the matrix of item intercorrelations (polychoric coefficients). The associations among the items, factor scores and GPA were analyzed using correlational analysis and multiple regressions. To analyze data we used freely available software JASP 0.8.4 (JASP Team, 2018) and R version 3.3.3 (R Core Team, 2017) with packages psych (Revelle, 2017) and multicon (Sherman, 2015).

⁵ In this process we were primarily inspired by the MSLQ, which is an instrument in the public domain. We should, however, state that we followed all principles of the fair use of intellectual property and that none of the items were intended to be verbatim copied.

Results

To acquaint a reader with the BLILS content, we first show the most and the least reported learning strategies. Then, we show the predictiveness of a model with all items included, followed by a model with only selected items. Next, we conduct an exploratory factor analysis used to extract latent variable solutions. Finally, we directly compare all identified models with respect to their predictive validity.

The frequency of using individual learning strategies

Table 1 presents five most frequently used learning strategies, whereas Table 2 presents five learning strategies that were the least reported in our sample. The list of the most frequently reported learning strategies contains some behaviors that are known to be popular among the students (e.g., re-reading study materials, rehearsing, see e.g., Pintrich et al., 1991). On the other side, among the least reported ones are those related to peer-learning, using flashcards, attending online courses, and using audio recordings – all those behaviors that we would expect to be more frequently used by students at a higher, university level of education. Importantly, we observed that all response options were endorsed by students, regardless of the relative difficulty of the items.

Table 1
The most frequently reported BLILS items

<i>Items</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Only when I am sure that I understood all parts of the materials I read, I move on to study another material.	3.00	1.18	0	4
After I finished learning a part, I rehearse (either aloud or silently) in order to evaluate how well I learned the material.	2.86	1.32	0	4
I study in silence.	2.87	1.29	0	4
When studying, I evaluate how well I adopted the material I learned	2.86	1.22	0	4
I learn by re-reading study materials several times	2.74	1.21	0	4

Table 2
The least frequently reported BLILS items

<i>Items</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
I study together with my classmates when we question each other.	0.72	1.06	0	4
I study with my radio turned on.	0.71	1.19	0	4
I memorize keywords by using flashcards which have a term defined on the opposite side.	0.49	0.93	0	4
I attend online courses (e.g., Coursera, EdX, Udacity) related to the subjects I attend this school year.	0.36	0.89	0	4
I make audio recordings of lectures and I listen to those afterwards.	0.21	0.72	0	4

Individual learning strategies as predictors of GPA

The full model composed of all 40 items as predictors accounted for the exceptional amount of the GPA variance ($R^2 = .39$, *adjusted* $R^2 = .32$, $F(40, 358) = 5.73$, $p < .001$). Nevertheless, it is well-known that the sheer number of predictors is on its own an extraneous factor in explaining the variance of a criterion, contributing to the phenomenon of overfitting (Babyak, 2004; Freedman, 1983). In order to control for overfitting conclusions we decided to randomly divide our sample into two equal subsamples of $N = 201$, after which we decided on a minimum value of a correlation to serve as a cutoff value for a predictor to be considered in future analysis. Such a sample splitting procedure is a simple and recommended procedure for model validation (Good & Hardin, 2009). When it comes to a specific measure to be considered as an evidence of statistical stability, we opted for a Bayes factor (BF_{10}) of 3.0 against the point null hypothesis with noninformative stretched beta prior of 1 (Wetzels & Wagenmakers, 2012). This value equaled to the absolute value of sample correlation of $|r| = .188$, with alpha values for statistical significance being exactly $p = .01$ and with 95% credible intervals having a lower bound of at least $|r| = .05$. In other words, only those items whose correlations on both subsamples were equal or larger to .19 ($|r| \geq .19$, $p < .01$) were included in the final model. Naturally, by using this strategy we limited a number of potentially important individual strategies, but we remind the reader that the very purpose of this part of our study was to compare the predictabilities of differently derived models and not to identify all effective learning strategies.

Following the aforementioned procedure, we observed 11 items having correlations with GPA larger than the cutoff level in both subsets. After we combined the subsets, the minimum zero-order correlation obtained was $r(400) = .21$, CI [.11, .30], $BF_{10} = 494.1$, thus showing the high support for systematic associations among these individual behaviors and GPA. Moreover, the model composed of 11 predictors explained a substantial portion of the variance both in the subsamples (sample 1: $R^2 = .37$, *adjusted* $R^2 = .33$; sample 2: $R^2 = .30$, *adjusted* $R^2 = .26$) and when those were combined ($R^2 = .31$, *adjusted* $R^2 = .29$) with all p -values for the tested models being smaller than .001. Table 3 shows the zero-ordered correlation coefficients, as well as standardized regression coefficients and squared semi-partial correlations within the total sample. The sum of squared semi-partial correlations indicates that around 14% of the variance GPA shares only with specific items, while the rest of it (17%) can be attributed to common variance shared among the items.

Table 3
BLILS items selected through cross-validation correlational analysis

<i>Items</i>	<i>r</i>	<i>r₁</i>	<i>r₂</i>	<i>sr²</i>	<i>β</i>
When I need to learn a list of concepts, I make my own associations in order to memorize them more easily (e.g. I make acronyms, I visualize a relationship)	.32	.42	.23	.01	.12
While studying, I evaluate how well I adopted the material I learned	.21	.21	.23	.00	.00
I precisely plan periods of time and/or the amount of materials I will learn during one session of learning	.22	.24	.22	.00	.05
I study regularly throughout the school year, and not only before tests.	.33	.36	.29	.01	.15
After I complete a study session, I evaluate how much I achieved in comparison to what I planned	.26	.29	.24	.00	.05
If there is a shortened summary of a text I mostly learn from it	-.24	-.19	-.29	.03	-.17
When I learn I also use textbooks and other texts not belonging to assigned readings (note: shortened summaries are not considered here)	.24	.20	.26	.00	.05
I try to learn by memorizing by heart	-.21	-.22	-.19	.06	-.26
In class, I ask a teacher to clarify things I don't understand well	.25	.24	.27	.01	.11
In class, I take notes	.36	.43	.28	.02	.15
I learn by using other digital materials which do not belong to assigned learning materials (e.g. software, educational websites, blogs, video materials)	.22	.20	.23	.00	.06

Note. r_1 and r_2 denote correlations on two data subsets ($N = 201$ each); sr^2 = squared semi-partial correlation.

Exploratory factor analysis of the BLILS

In order to mimic the usual procedure of developing reflectively based measures, we conducted an exploratory factor analysis on the whole sample. Since the responses were given on ordinal categorical scales with many items having markedly asymmetric distribution which might spuriously influence the factor solution, we decided to conduct the analysis on a matrix of polychoric correlations (see Holgado-Tello, Chacón-Moscoso, Barbero-García, & Vila-Abad, 2008; Timmerman & Lorenzo-Seva, 2011, and Yang & Xia, 2015 for a discussion on advantages of using polychoric correlations). The important decision researchers need to make is to decide on the number of significant latent variables to be retained in the analysis, since those provide an evidence of construct validity for the scales they want to develop. Although the experts did not come to an unambiguous solution of this problem, parallel factor analysis has been championed as an optimal empirical solution in many simulations conducted (Cho, Li, & Bandalos, 2009; Crawford et al., 2010; Timmerman & Lorenzo-Seva, 2011; Yang & Xia, 2015). At the same time there are sensible arguments to consult scree plots, particularly when the solution suggested by parallel analysis does not show a conspicuous

pattern (Steger, 2006; Zwick & Velicer, 1986). Indeed, parallel factor analysis on polychoric correlations suggested to retain 7 common factors, while at the same time we observed three factors with distinctly elevated eigenvalues on a scree plot (see Figure 1). We decided to extract both the seven-factor and three-factor solution in order to satisfy both approaches when deciding on a number of latent variables, and having in mind that a recent paper (Hilpert et al., 2013) suggested a greatly simplified structure of the MSLQ by retaining only three factors.

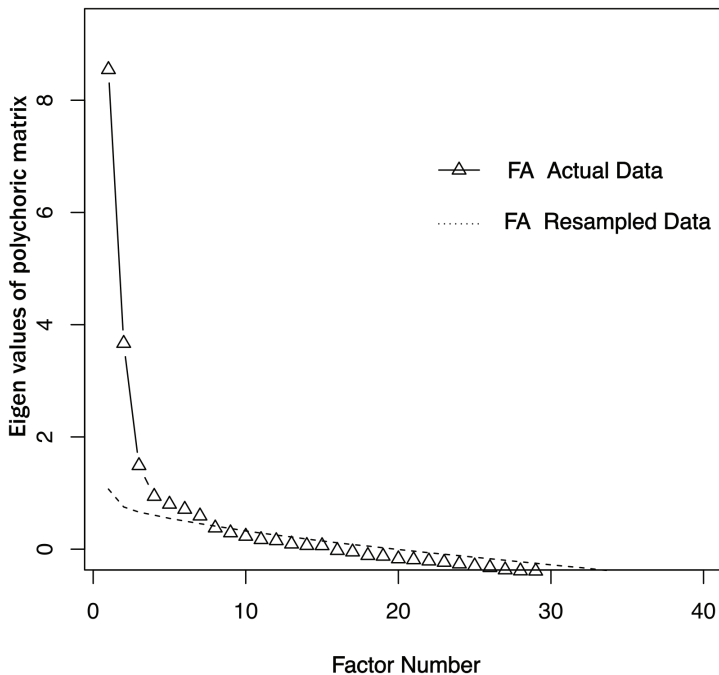


Figure 1. Scree plot of parallel factor analysis on polychoric matrix of correlations.

The three-factor solution explained 36.0% of the common variance of learning strategies. The first factor – General self-regulated learning was mainly defined by metacognitive activities (planning, monitoring and rehearsal-related evaluating), but it also included marker variables from other conceptual domains (e.g., elaboration through making own mnemonics or visualization techniques). The second factor – Supplemental learning strategies saturated less frequently reported learning activities, which comprised Elaboration (attending online courses, reading additional texts), Monitoring (keeping a written learning log), Retention strategies (using flashcards) and Social learning behaviors (learning

together with peers). Finally, the third factor – Controlling sonic environment was defined by items related to the use of external sounds when learning (positively: learning in silence positively, and negatively with selected music on, with radio on, with TV on). Interestingly, we observed moderate positive correlations between GPA and General self-regulated learning ($r = .36, p < .001$) and Controlling sonic environment ($r = .25, p < .001$), whereas Supplemental learning activities did not correlate with GPA at all ($r = -.03, p = .53$). Additional inspection showed the evidence for the differential effect of 11 individual learning strategies representing the supplemental strategies; namely, some of them correlated positively with the GPA (reading additional materials, peer-learning, keeping a learning log) while three of them correlated significantly negatively (speed reading, learning from shortened summary texts prepared by former cohorts of students, verbatim rehearsal).

Obviously, a seven-factor solution provided a more complex picture. Since the purpose of the study was not to explore this factor structure in detail we give here only a short description of the factors, starting with their labels based on the item content: Metacognitive strategies, Organizing strategies, Rehearsal and understanding, Seeking help from teachers, Controlling sonic environment, Memorizing and speed-learning, Learning from shortened summaries. The highest correlations among the factors were below .50 (the two largest ones were .46 and .44), thus all identified factors were distinct from a statistical viewpoint. That said, some factors either had only two marker variables with high factor loadings or their composition varied significantly content-wise, making it hard to interpret them theoretically as proper latent variables. Having these issues in mind, we decided to operationalize the identified variables as factor scores rather than using sum scores.

Comparing criterion validity of individual learning strategies against reflectively derived measures

By using multiple regressions⁶ with relevant criteria (amount of shared variance, difference between the sample and expected population amount of shared variance, Akaike information criterion), we compared the criterion validity of four different models we considered in this study. As Table 4 shows, the full model containing all individual strategies still shared the largest amount of variance with GPA. For the reasons already mentioned (overfitting) and considering the AIC values, either a model with 11 individual learning strategies or the seven-factor model should be preferred if there were a need to select only one among them. There was, indeed, a rather negligible difference in predictiveness between these two models; however, apart from the aforementioned theoretical issues with

⁶ We checked for multicollinearity, outliers and heteroscedasticity, and found no violation of assumptions for conducting multiple regressions.

the seven-factor solution, the facts that two out of seven scales did not correlate with GPA at all, and that one would need to have all 40 items (and possibly more in order to develop scales which would satisfy traditional psychometric recommendations) to calculate the proper sum scores, speak for the 11 individual learning strategies. Finally, the three-factor solution shared noticeably less variance with GPA compared to other models.

Table 4
Comparing regression models

<i>Model</i>	<i>R²</i>	<i>Adjusted R²</i>	<i>AIC</i>	<i>p</i>
All individual strategies	.39	.32	812.4	< .001
Selected individual strategies	.31	.29	808.3	< .001
3-factor model	.23	.22	833.4	< .001
7-factor model	.29	.27	808.9	< .001

Discussion

The purpose of this study was twofold. First, we wanted to develop and empirically test a new instrument for assessing students' use of learning strategies. Secondly, and more generally, we wanted to question how justified it is to continue applying dominant and widely recommended psychometric procedures when developing not only learning strategies inventories, but also psychological measures overall. In contrast to what is usually done when pursuing such goals, to a large degree we disregarded construct validation procedures, and instead, we concentrated on content and criterion aspects of validity. We believe that the results shown lend support to our premises: that the BLILS is a promising inventory of learning strategies and that more attention should be given to alternatives to reflective, latent variables models, at least in this domain.

One of the strongest arguments for the BLILS adequacy is its criterion validity with the large amount of variance explained through each model tested ($R^2_{min} = .22$), which was accompanied with the finding that a number of individual study behaviors correlated notably with GPA. Specifically, for 18 out of 40 items we observed correlations larger than .15, while there were 24 items with correlations larger than .10⁷. Although done at the university level, the findings of the meta-analytic studies by Richardson, Abraham and Bond (2012) and Crede and Phillips (2011) might serve as a coarse comparison to MSLQ⁸: the estimated parameters

⁷ These are the results for the linear correlation coefficients, while one could expect even larger estimates if we used polyserial correlations since item-levels are ordinal categorical variables.

⁸ Unfortunately, to our knowledge no similar studies were conducted to explore the effects of learning strategies on GPA at the secondary education level. Indeed, the level of educational setting could be regarded as a potential moderator; therefore, this comparison should be taken with caution.

of correlations of proper learning strategies scales with GPA was at maximum .23, with most of the correlations being between .10 and .20. In other words, the magnitude of effects of individual BLILS items equals or surpasses the effects of related composite scales of learning strategies within the MSLQ.

Aside from its criterion validity, we believe there are other desirable features of our inventory. For example, we included behaviors related to using new technologies, while still keeping the number of items less than some other inventories (e.g., 40 compared to 50 or more items related to proper learning strategies in MSLQ). This was also made possible by choosing not to develop internally consistent (sub)scales. To create an adequately internally consistent scale, an author needs to formulate several items with similar, partially overlapping content, rather than cover it with a single item where possible. In addition, we ensured that all of BLILS items were worded in positive direction (i.e., without using negations). We also opted for a five-point response scale where each option was labeled, substantively suitable, and easy to understand (from *never* to *almost always*). These two decisions should have led to higher validity of responses. Finally, it is interesting to note that all options on all items were chosen which indirectly speaks for the appropriateness of the response scales.

In spite of the positive qualities mentioned, we are aware that there is a legitimate question of how to use our instrument without having a smaller number of variables to operate with. We argue that the BLILS should be used both as a research and diagnostic tool by solely concentrating on individual items and not calculating sum scores (although there is a possibility to use factor analytic solutions). Understandably, a larger number of units to analyze makes a work more complex and time-demanding; nevertheless, we showed that one could select a smaller number of particularly effective strategies and to concentrate only on those. Before doing that, it would be well-advised to replicate our findings on a sample that is related to the population of interest. Although using individual items obviously asks for more effort from a researcher, we believe that benefits outweigh the costs. There are evidences that this is true for other aspects of psychological assessment, especially when criterion validity is of the utmost importance; the most representative examples of switching focus to hierarchically lowest levels are recent modeling of the importance of individual items in personality inventories (Brown & Sherman, 2014; Möttus, Kandler, Bleidorn, Riemann, & McCrae, 2017; Seeboth & Möttus, 2018).

We are aware of several limitations of our study, which also limit our conclusions about the BLILS. For instance, we show here only the results on the sample of high school students. We cannot estimate to what degree the level of education moderates not only the use of individual strategies, but also their effectiveness. We are currently in the process of collecting data on university students, and hopefully, we will have some answers soon. Secondly, we surveyed average tendencies in learning across different subjects and used GPA as the only criterion of school achievement. It is obvious that different school subjects assume

different learning outcomes composed of knowledge, skills and attitudes; thus, it is very plausible that the type of a subject should have a moderating role on the effectiveness of the strategies. In future studies it would be possible to explore the functionality of different strategies within various subjects, for which individual subject grades or standardized test scores could be used as criteria. Overall, this lack of referential values across different contexts will hinder the use of the BLILS for diagnostic purposes. To obtain these we will need to combine a series of studies in various contexts. The practitioners should also have in mind that many items might have a satisfactory match in items from other inventories, so in theory it would be possible to retrieve information from earlier studies. That said, our claims about the strength of criterion validity of the BLILS are limited, since we did not simultaneously administer other inventories to compare that empirically.

To conclude, we see this paper as a contribution to the state of affairs in exploring learning strategies. We believe that the BLILS covers well the content domain of contemporary learning strategies, and represents a promising instrument both for researchers and practitioners. Our results are obtained on a moderately large sample, which could be considered as representative enough for high school students in the region. Moreover, we hope that this paper will turn readers' attention to the issue of uncritical applying of dominant psychometric procedures on psychological and educational phenomena. Specifically, we advise readers to always critically assess whether latent variable model is justified in the first place, and we – together with recent calls from other researchers (e.g., Möttus, 2016) – advise them to place more value on individual items, not only in this domain of research, but in others as well.

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Siniša Lakić

Milana Damjenić

Sandra Grahovac

Univerzitet u Banjoj Luci,

Filozofski fakultet, Republika Srpska

RAZVOJ NEHIJERARHIJSKOG INVENTARA STRATEGIJA UČENJA: BLILS (BANJA LUKA INVENTAR STRATEGIJA UČENJA)

Apstrakt

Pregled ekspertske literature pokazuje da postoji nekoliko psihometrijski validiranih i globalno upotrebljivanih inventara strategija učenja. Međutim, prisutno je nekoliko problema u vezi s njihovim korištenjem. Kao prvo, u tim operacionalizacijama fokus se stavlja na hijerarhijski više nivoe unutar predložene strukture strategija učenja; rijetko se analizira kakav je doprinos pojedinačnih strategija uspješnom učenju. Nadalje, autori postojećih instrumenata tretiraju dati fenomen iz perspektive reflektivnog mjerenja, iako je – kako mi tvrdimo – taj pristup neuvjerljiv kako sa psihometrijskog tako i sa supstantivnog stanovišta. Konačno, neki od tih instrumenata ni ne uzimaju u obzir savremene strategije učenje koje su se uvriježile zahvaljujući razvoju digitalnih tehnologija (npr. korištenje kartica za učenje na digitalnim medijima, učestvovanje u masovnim internet kursevima), te one koje su relativno nedavno zamašno popularizovane (npr. mape uma, tehnike brzog čitanja). Iz tog razloga, naša namjera je bila da razvijemo obuhvatan inventar strategija učenja koje učenici koriste u srednjoškolskom i fakultetskom kontekstu, te da testiramo njegovu kriterijsku valjanost koreliranjem sa postignutom prosječnom ocjenom. Nadalje, željeli smo i empirijski uporediti prediktivnost uobičajenog skorovanja na nivou faktora naspram skorovanja na nivou stavki. Na osnovu pregleda literature i obavljene pilot studije, identifikovali smo 40 strategija učenja u užem smislu riječi (u šta nismo uključili afektivne i motivacione aspekte). Svaka od strategija učenja je bila zastupljena pojedinačnom stavkom, a ispitanici su davali odgovore na petostepenoj skali u zavisnosti od učestalosti njenog korištenja. Uzorak u ovoj studiji su činila 402 srednjoškolca (50.2% ženskog pola). U skladu sa našim hipotezama, rezultati sugerišu da je nametanje faktorske strukture ne samo teorijski upitno, nego ono snižava kriterijsku valjanost instrumenta u poređenju sa analizom na nivou stavki, što važi i u slučaju kada se kontroliše potencijalno precijenjena saglasnost modela i podataka. U radu obrazlažemo zašto je važno usmjeriti fokus na niže nivoe ponašajne procjene pri učenju i zašto bi psiholozi trebali prestati striktno se pridržavati reflektivnog pristupa kada razvijaju svoje instrumente.

Ključne riječi: strategije učenja, akademsko postignuće, učenici srednjih škola

PSYCHOMETRIC EVALUATION OF THE FRUGALITY SCALE ON A SAMPLE OF SERBIAN-SPEAKING INDIVIDUALS¹

Abstract

The aim of the study was to analyze the psychometric properties of the Serbian translation of the Frugality Scale (Lastovicka, Bettencourt, Hughner, & Kuntze, 1999). Verification of instruments dimensionality was performed by conducting Principal components factor analysis on a sample of 379 respondents (77.6% females). Verification of conformance between the empirical results and theoretically set of instrument structure was performed by conducting Confirmatory factor analysis on a sample of 197 respondents (62.69% females). Internal consistency was verified by calculating Cronbach's alpha coefficient. To assess construct validity of the Frugality scale, we examined its correlation with the Big Five personality traits, materialism, hedonic consumption, compulsive buying and impulse buying measures. The results showed that the Frugality scale had a unidimensional factorial structure; first principal component explains 51% of variance. Also, the results show that the tested model has acceptable fit indices: $\chi^2/df = 3.77$, $p < .01$; GFI = .90; NFI = .91; CFI = .93; RMSEA = .11; SRMR = .04. Cronbach's alpha coefficient ranges from .86 to .88. Moreover, the Frugality Scale meaningfully correlated with conscientiousness, agreeableness, hedonic consumption, materialism compulsive buying and impulse buying. The results supported the applicability of the instrument to the local population.

Key words: Frugality Scale, Serbian translation, psychometric characteristics

Introduction

Understanding and measuring frugality is important for two reasons. First, frugality has implications for the usage stage of consumer behavior; the frugality helps to explain how consumers use goods and services. A second reason is lifestyle measurement (Lastovicka, Bettencourt, Hughner, & Kuntze, 1999). Despite its importance, frugality is little studied. However, recent years find those concerned with the financial well-being of consumers and the promotion of sustainable life-styles being drawn to the notion that, both individuals and society as a whole, can benefit from the increased individual frugality (Lewis & Potter, 2011).

¹ Corresponding address: biljana.mirkovic@blic.net

Lastovicka, Bettenoourt, Hughner, and Kuntze's study (1999) was a pioneering effort that introduced the concept of frugality to the consumer behavior literature (Shoham & Brencic, 2004). They defined frugality as a "unidimensional consumer lifestyle trait characterized by the degree to which consumers are both restrained in acquiring and in resourcefully using economic goods and services to achieve long-term goals" (Lastovicka, Bettenoourt, Hughner, & Kuntze, 1999, p. 88). Accordingly, frugality is conceptualized as a lifestyle trait reflecting disciplined acquisition and resourcefulness in product and service use. Frugality is sacrifice in denying a series of short-term purchasing whims and industriousness by resourcefully using what is already owned or available for use; all of this is in service of achieving longer term goals (Lastovicka, Bettenoourt, Hughner, & Kuntze, 1999).

Lastovicka, Bettenoourt, Hughner, and Kuntze (1999) also provided an eight-item self-report scale to operationalize the construct, thus enabling its empirical investigation. Using numerous recommended scaling procedures across six studies, the final form of the scale was derived and thoroughly tested for dimensionality, reliability, and discriminant, nomological, convergent and known-groups validity. The first study generated a pool of 60 potential frugality items, and 213 respondents responded to these items. Factor and item analyses trimmed this pool of items to the final eight-item form. This study strongly showed that a single unidimensional factor underlies the eight items ($\chi^2 = 30.93$, $df = 20$, $p = .06$, RMSEA = .00, NFI = .96, TLI = .94). The two subsequent studies also showed a one-factor model of the scale. Cronbach's alpha coefficient across all studies ranged from .73 to .88, and factor loadings ranged from .53 to .77 (Bearden, Netemeyer, & Haws, 2011; Lastovicka, Bettenoourt, Hughner, & Kuntze, 1999). The frugality scale showed strong evidence of discriminant and nomological validity with Faber and O'Guinn's (1992) measure of compulsive buying ($r = -.25$), Lichtenstein, Netemeyer, and Burton's (1990) measures of coupon proneness ($r = .14$), value consciousness ($r = .54$) and price consciousness ($r = .45$). Also, the frugality scale showed no evidence of being tainted with social desirability bias or response set bias (Bearden, Netemeyer, & Haws, 2011; Lastovicka, Bettenoourt, Hughner, & Kuntze, 1999). The frugality scale was also shown to be predictive of "retrained use" above and beyond the effects of compulsive buying, coupon proneness, value consciousness, and price consciousness (Bearden, Netemeyer, & Haws, 2011; Lastovicka, Bettenoourt, Hughner, & Kuntze, 1999). The frugality scale showed a predicted pattern of correlations with Richins & Dawson's (1992) measure of materialism ($r = -.26$) and Bearden, Netemeyer & Teel's (1989) measure of susceptibility to interpersonal influence ($r = -.10$) (Bearden, Netemeyer, & Haws, 2011; Lastovicka, Bettenoourt, Hughner, & Kuntze, 1999). In sum, the results of Lastovicka, Bettenoourt, Hughner, and Kuntze's six studies (1999) showed that the frugality scale has a replicable unidimensional factor structure, reasonable internal consistency reliability, different from commonly considered response-set tendencies, discriminant validity, and replicable nomological validity.

Beyond desirable measurement qualities, frugality is shown to be useful for understanding consumer buying behavior. Namely, the results of the Lastovicka, Bettenoourt, Hughner, and Kuntze's studies (1999) showed that the frugal are less susceptible to interpersonal influence, less materialistic, less compulsive in buying, and more price and value conscious. Also, being frugal does not correspond with being ecocentric nor with being prone to using coupons. Further, being frugal means no necessary interest in the coupons used so often to promote convenience goods. Finally, only the less frugal are more easily into spending more money (Lastovicka, Bettenoourt, Hughner, & Kuntze, 1999). The findings of the Lastovicka, Bettenoourt, Hughner & Kuntze's studies (1999) have been confirmed by several studies conducted later. Thus, Shoham and Brencic (2004) found that score on the Frugality scale was positively correlated with price consciousness and value consciousness, as well as with "constrained consumption" (meaning actual frugal behaviors such as reusing and repurposing). Goldsmith, Flynn, and Clark (2014) found that Frugality scale score negatively correlated with measures of materialism, status consumption, brand engagement in self-concept (how much consumers use brands to form and express their concepts of themselves), and positively correlated with consumer independence. Also, Goldsmith and Flynn (2015) found that frugality was positively correlated with self-control, suggesting that frugal consumers tend to be less materialistic, more independent, and have more selfcontrol than their less frugal counterparts.

Frugality Scale (Lastovicka, Bettenoourt, Hughner, & Kuntze, 1999) showed good psychometric characteristics during the original study. The results of psychometric tests and validation scale in Serbian language might create the opportunity to use it in our culture. The aim of the study was to analyze the psychometric properties of the Serbian translation of the Frugality Scale. In this paper we wanted to assess the Serbian translation of the Frugality Scale by exploring its factor structure, internal consistency and convergen validity. Convergent validity was explored in relation to measures of Big Five personality traits, materialism, hedonic consumption, compulsive buying and impulse buying. Also, we wanted to compare our findings with comparable Frugality Scale published data i.e., from the US validation study (Lastovicka, Bettenoourt, Hughner, & Kuntze, 1999).

Method

Participants and procedure

Two samples of respondents were used in the study. Sample 1 consisted of 379 respondents (77.6% female, 22.4% male) aged 18 to 68 ($M = 29.46$, $SD = 12.14$). Majority of respondents obtained high school degree (76.2%), 4.7% held college degree and 19% university degree. More than half of respondents (74.1%) lived in material circumstances that were the average, 14.8% were below the average and 11.2 % were above the average.

Sample 2 consisted of 197 respondents (62.69% female, 37.1% male) aged 18 to 58 ($M = 30.83$, $SD = 11.76$). Also, in this sample, majority of respondents completed high school education (78.7%), 3% obtained college degree and 18.3% held university degree. More than half of respondents (67.7%) lived in material circumstances that were the average, 23.2% were below the average and 9.1% were above the average.

Both samples were collected in six cities in Bosnia and Herzegovina, Sample 1 was collected during March 2017, while Sample 2 was collected during June 2017, through the paper/pencil method. Completing questionnaire was conducted individually, in the shopping malls where the respondents were doing their shopping, and it lasted for about 15 minutes. Participation was on voluntary and anonymous basis. The respondents were familiar with the fact that the collected data will be used for scientific purposes only. The respondents placed the completed questionnaires in a sealed box, which guaranteed anonymity.

Measures

Frugality Scale (Lastovicka, Bettencourt, Hughner, & Kuntze, 1999). Scale was designed for measuring the degree to which consumers are both restrained in acquiring and in resourcefully using economic goods and services to achieve longer-term goals. It consists of 8 items (e.g., "If you take good care of your possessions, you will definitely save money in the long run."), with a six-point response format (*from definitely disagree to definitely agree*). Item scores are summed to form an overall frugality score ranging from 8 to 48. The scale was translated into Serbian through the committee technique in three iterations (Brislin, Lonner, & Thorndike, 1973) by three independent translators, who were not members of the study team. Two of the translators was lecturers of English language at Faculty of Philology, University of Banja Luka, and one of the translators was court interpreter.

Hedonic Consumption Scale (Hausman, 2000). The scale consists of 5 items (e.g., "I get a real 'high' from shopping.") that measure hedonic tendencies in consumers, with a five-point response format (*from disagree strongly to agree strongly*). The total score is obtained as sum of the responses to all five items. The reliability of the scale measured by Cronbach's alpha was .89.

Material Values Scale (Richins, 2004). The scale consists of 9 items (e.g., "Buying things gives me a lot of pleasure.") that measure materialism in consumers, with a five-point response format (*from disagree strongly to agree strongly*). The total score is obtained as sum of the responses to all nine items. The reliability of the scale measured by Cronbach's alpha was .82.

Big Five Inventory (John, Donahue, & Kentle, 1991). The questionnaire consists of 44 items grouped into five subscales that measure five personality traits: extraversion (e.g., "I see myself as someone who is a talkative."), agreeableness (e.g.,

"I see myself as someone who tends to find fault with others."), conscientiousness (e.g., "I see myself as someone who is a reliable worker."), openness (e.g., "I see myself as someone who is a inventive."), and neuroticism (e.g., "I see myself as someone who worries a lot."), with a five-point response format (from *disagree strongly* to *agree strongly*). The total score of obtained as sum of the responses to all items. The reliability of the scale measured by Cronbach's alpha was .83 for the Extraversion Scale, .72 for the Agreeableness Scale, .85 for the Conscientiousness Scale, .80 for the Openness Scale and .70 for the Neuroticism Scale.

Compulsive Buying Tendency Scale (Edwards, 1993). The scale consists of 13 items (e.g., "I buy things even though I cannot afford them.") that measure compulsive buying tendency, with a five-point response format (from *disagree strongly* to *agree strongly*). The total score is obtained as sum of the responses to all thirteen items. The reliability of the scale measured by Cronbach's alpha was .84 in sample 1 and .80 in sample 2.

Impulse Buying Tendency Scale (Verplanken & Herabadi, 2001). The scale consists of 20 items (e.g., "I often buy things without thinking", "If I see something new, I want to buy it."), that measure the affective and cognitive component of impulse buying tendency, with a seven-point response format (from *disagree strongly* to *agree strongly*). The total score is obtained as sum of the responses to all twenty items. The reliability of the scale measured by Cronbach's alpha was .88 in sample 1 and .84 in sample 2.

Data Analyses

Basic data analyses were performed using the software package SPSS for Windows version 20.0, while Confirmatory factor analyses were performed using AMOS 20.0. Two independent analyses of the latent structure were conducted on two samples of respondents. Verification of instruments dimensionality was performed by conducting Principal components factor analysis on a Sample 1. Verification of conformance between the empirical results and theoretically set of instrument structure was performed by conducting Confirmatory factor analysis on a Sample 2. Internal consistency was verified by calculating Cronbach's alpha coefficient. To assess construct validity of the Frugality Scale, we examined its correlation with constructs that are considered to be related to frugality.

Results

Exploratory Factor Analysis

The 8 items of the Frugality Scale were subjected to Principal components factor analysis on a sample of 379 respondents (Sample1). Previous to the Principal components factor analysis, the adequacy of the data was analyzed. The inspection

of the correlation matrix has shown that all the coefficients were greater than 0.3. The value of Kaiser-Meyer-Olkin measure was .849, while Bartlett's sphericity test showed statistical significance ($\chi^2 [28] = 1274.839; p = .000$) demonstrating that the data were adequate for the PCFA. The Guttman-Kaiser's criterion revealed two components with Eigenvalues over one that explained 64.22% of the total variance. The contribution of the first component was 51.63% (Eigenvalue = 4.13) and the contribution of the second one was 12.59% (Eigenvalue = 1.01). Cattell's scree test and Horn's parallel analysis suggested one principal component solution. Namely, in Horn's parallel analysis only the first component's Eigenvalue was higher than the threshold value extracted from the equally large matrix of random numbers (8 variables \times 379 participants). Since Cattell's scree test and Horn's parallel analysis are more robust criteria than the Guttman-Kaiser's criterion (Zorić & Opačić, 2013), we analyzed the one factor solution. Principal components factor analysis was repeated with one factor sought. The one factor solution explains 51.63% of variance, and factor loadings of the items ranged from .61 to .77 (Table 1).

Table 1
Factor loadings of the items of a one-factor solution

	Items	Factor loadings
1	If you take good care of your possessions, you will definitely save money in the long run.	.72
2	There are many things that are normally thrown away that are still quite useful.	.61
3	Making better use of my resources makes me feel good.	.75
4	If you can re-use an item you already have, there's no sense in buying something new.	.67
5	I believe in being careful in how I spend my money.	.79
6	I discipline myself to get the most from my money.	.77
7	I am willing to wait on a purchase I want so I can save money.	.71
8	There are things that I resist buying today so I can save for tomorrow.	.71

Intercorrelation of the items (Table 2) are positive, moderate to high, ranged from .27 to .66.

Table 2
Intercorrelations of the items

Items	1	2	3	4	5	6	7
1	1						
2	.34**	1					
3	.63**	.36**	1				
4	.29**	.47**	.41**	1			
5	.53**	.39**	.57**	.55**	1		
6	.44**	.47**	.42**	.54**	.54**	1	
7	.39**	.28**	.43**	.36**	.49**	.48**	1
8	.47**	.29**	.43**	.27**	.43**	.50**	.66**

Note. ** $p < .01$.

Confirmatory factor analysis

Verification of conformance between the empirical results and theoretically set of instrument structure was performed by conducting confirmatory factor analysis on a sample of 197 respondents (Sample 2). Scale was evaluated by using confirmatory factor analysis in the program AMOS 20.0. using the maximum likelihood model of estimation. To assess the model fit, the following indicators were used: Chi-square (χ^2), the relation between the chi-square and the degree of freedom (χ^2/df), Root mean square error of approximation (RMSEA), Standardized root mean square residual (SRMR), Comparative fit index (CFI) and Bentler-Bonett normed fit index (NFI) (Kline, 2011). The value of $\chi^2/df \leq 3$ is considered to be indicator of a good fit (Kline, 2011), while the value ≤ 5 (Marsh & Hocevar, 1985; Wheaton et al., 1977) is acceptable for the samples bigger than $N = 200$. NFI and CFI values $> .90$, RMSEA values $< .10$ and values of SRMR $< .08$ indicating a good fit (Kline, 2011).

Table 3
Indicators of fit in confirmatory factor analysis

χ^2	df	p	χ^2/df	RMSEA (90% CI)	NFI	CFI	SRMR
75.57	20	.000	3.78	.119 (.091 - .148)	.90	.93	.05

The obtained results (Table 3), if we take into account a more liberal criterion for χ^2/df (Marsh & Hocevar, 1985; Wheaton et al., 1977), show that the empirical data are consistent with the assumed model. Root mean square error of approximation (RMSEA) was .114, indicating a poorly fitting model (Kline, 2011). However, the results of latest researches (Kenny, Kaniskan, & McCoach, 2015; Taasoobshirazi & Wang, 2016) indicate that RMSEA indicator is sensitive to a number of degrees of freedom and sample size, in a way that it penalizes simple models with low df ($df < 50$) and small sample sizes (for an N of 100 and 200). More specifically, when the cut-off values are used to assess the fit of the properly specified models with small df and small sample size, the RMSEA too often falsely indicates a poorly fitting model (Kenny et al., 2015; Taasoobshirazi & Wang, 2016). Bentler-Bonett normed fit index (NFI) was .905, indicating a good fit (Kline, 2005). Comparative fit index (CFI) was .928, indicating a good fit (Kline, 20011). The standardized root mean square residuals (SRMR) were .049, indicating a good fit (Kline, 2011). Based on the results it can be concluded that the model's fit indices were satisfactory.

Internal consistency and descriptive measures

Internal consistency of the Frugality Scale was verified by calculating Cronbach's alpha coefficient. Cronbach's alpha of .86 in Sample 1 and .88 in Sample 2 demonstrated adequate internal consistency of the Frugality Scale. Further

analysis using 'alpha if item deleted' option has shown that there were no items whose removal would raise the internal consistency of the scale (Table 4). In terms of individual items discrimination it was determined that Corrected Item-Total Correlation ranged from .50 to .70 in Sample 1, and .42 to .75 in Sample 2. Average Item-Total Correlations were .61 in Sample 1 and .66 in Sample 2 (Table 4). The results show good scale internal coherence, the items have unique subject to measuring.

Table 4
Corrected Item-Total Correlation, Average Item-Total Correlations and Cronbach's Alpha if Item Deleted

Sample	Items	Corrected Item-Total Correlation	h_i	Cronbach's Alpha if Item Deleted
Sample 1 (N = 379)	1	.60	.61	.84
	2	.50		.86
	3	.64		.84
	4	.56		.85
	5	.70		.84
	6	.68		.83
	7	.61		.84
	8	.60		.84
Sample 2 (N = 197)	1	.59	.66	.87
	2	.42		.89
	3	.69		.86
	4	.71		.86
	5	.75		.86
	6	.71		.86
	7	.69		.86
	8	.69		.86

Descriptive measures of the Frugality Scale (Table 5) show that the respondents in both samples, and in regard to all scale statements, in average obtained scores higher than the theoretical average of the score range.

Table 5
Descriptive statistics of the Frugality Scale

Sample	Items	Min	Max	M	SD	Skewness	Kurtosis	K-Z
Sample 1 (N = 379)	1	4.47	1.32	4.47	1.32	-.862	.238	.225**
	2	4.04	1.38	4.04	1.38	-.455	-.611	.187**
	3	4.66	1.17	4.66	1.17	-.971	.675	.270**
	4	4.28	1.40	4.28	1.34	-.694	-.333	.226**
	5	4.83	1.04	4.83	1.04	-.873	.486	.258**
	6	4.18	1.27	4.18	1.27	-.459	-.334	.195**
	7	4.24	1.33	4.24	1.33	-.604	-.245	.197**
	8	4.01	1.45	4.01	1.45	-.350	-.832	.191**
	Whole scale	11.00	48.00	34.75	7.41	-.363	-.009	.074**

Sample 2 (N = 197)	1	4.24	1.57	4.24	1.57	-.657	-.552	.183**
	2	3.76	1.63	3.76	1.63	-.225	-1.104	.152**
	3	4.71	1.17	4.71	1.17	-.812	.163	.232**
	4	4.50	1.42	4.50	1.42	-.723	-.427	.216**
	5	4.82	1.20	4.82	1.19	-.933	.279	.229**
	6	3.98	1.51	3.98	1.51	-.317	-.744	.136**
	7	4.12	1.48	4.12	1.48	-.422	-.760	.170**
	8	3.99	1.50	3.99	1.50	-.294	-.884	.170**
	Whole scale	11.00	48.00	34.14	8.52	-.304	-.471	.054**

Note. ** $p < .01$

The comparison of means on the Serbian sample 1 and Serbian sample 2 (Table 6) with the US sample (Lastovicka, Bettenoourt, Hughner, & Kuntze, 1999) showed that, based on the Frugality Scale total scores, the respondents in Serbian Sample 1 (t -test for independent samples, $t = -9.25$, $df = 54$, $p = .000$, $\eta^2 = .14$) and Serbian Sample 2 (t -test for independent samples, $t = -8.69$, $df = 359$, $p = .000$, $\eta^2 = .17$) were less frugal than the respondents in US sample.

Table 6
Comparison of the Serbian samples with US sample: Means and Standard Deviations for the Frugality Scale Total score

	Serbian sample 1 (N = 379)		Serbian sample 2 (N = 197)		US sample ¹ (N = 164)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Frugality Scale Total score	34.75	7.41	34.14	8.52	40.43	4.00

¹ Lastovicka, Bettenoourt, Hughner & Kuntze, 1999

Convergent validity analysis

The convergent validity of the Frugality Scale was analyzed by correlating the Frugality Scale total score and scores on the Big Five personality traits, materialism, hedonic consumption, compulsive buying and impulse buying measures (Table 7).

Table 7
Pearson product-moment correlation between the Frugality Scale and the Big Five personality traits, materialism, hedonic consumption, compulsive buying and impulse buying

	Variable	Frugality
Sample 1 (N = 379)	Extraversion	-.06
	Conscientiousness	.13*
	Agreeableness	.12*
	Openness	-.04
	Neuroticism	.09
	Materialism	-.16**
	Hedonic consumption	-.11*
	Compulsive buying	-.30**
Sample 2 (N = 197)	Impulse buying	-.39**
	Compulsive buying	-.16*
	Impulse buying	-.38**

Note. * $p < .05$, ** $p < .01$.

As it can be seen from Table 4, all the correlations were significant at .01 or .05 level and in expected directions (Lastovicka, Bettencourt, Hughner, & Kuntze, 1999). Significant negative correlations of frugality with materialism and compulsive buying, and positive correlation with conscientiousness and agreeableness indicate the satisfactory criterion validity of the scale, as it was found earlier (Goldsmith & Flynn, 2015; Goldsmith, Flynn & Clark, 2014; Lastovicka, Bettencourt, Hughner, & Kuntze, 1999; Pepper et al., 2009; Puente-Díaz & Cavazos Arroyo, 2015). The results also show a significant negative correlation of frugality with hedonic consumption and impulse buying. The frugality has the strongest negative correlation with impulse buying.

Discussion

The main goal of this research was to analyze the psychometric properties of the Serbian translation of the Frugality scale by exploring its factor structure, internal consistency and criterion validity. The results of Principal components factor analysis have indicated the existence of a single unidimensional solution. The one-factor solution explains 51.63% of variance. The factor loadings of the items are high, ranged from .61 to .77. Intercorrelation of the items is positive, moderate to high, ranged from .27 to .66. The obtained results are the same as the findings of the original study by Lastovicka, Bettencourt, Hughner, and Kuntze (1999), through which the Frugality Scale had been presented to the scientific community.

In the confirmatory factor analysis we have further analyzed model suggested by Lastovicka, Bettencourt, Hughner, and Kuntze (1999). Fit indices

showed acceptable values, all eight items in the scale had good characteristics (Kenny, Kaniskan, & McCoach, 2015; Taasobshirazi & Wang, 2016). We could say that one-factor model fits the data well.

When comparing the values of the Cronbach's alphas obtained by the authors of the original Frugality Scale (Lastovicka, Bettencourt, Hughner, & Kuntze, 1999) with the values obtained in other studies (Goldsmith & Flynn, 2014; Shoham & Brencic, 2004) and those obtained in this study, it is clear that the scale has a good reliability. In our study Cronbach's alpha was .86 in Sample 1 and .88 in Sample 2. In Lastovicka, Bettencourt, Hughner and Kuntze's studies (1999) Cronbach's alpha coefficient in all studies ranged from .73 to .88, while in Goldsmith and Flynn's study (2014) it was .81., and in Shoham and Brencic's study (2004) it was .72. In terms of individual items discrimination it was determined that Corrected Item-Total Correlation ranged from .50 to .70 in Sample 1, and .42 to .75 in Sample 2. Average Item-Total Correlations were .61 in Sample 1 and .66 in Sample 2. The results show good scale internal coherence, the items have unique subject to measuring.

For illustration purposes, we compared our Frugality scale total scores with published score obtained on sample from US (Lastovicka, Bettencourt, Hughner, & Kuntze, 1999) and found that our respondents reported less frugality than respondents from US. This is a fairly unexpected result in the context of poor economic situation and low personal income in the Republic of Srpska. However, although GDP per capita in the USA is higher than GDP per capita in the countries of the South-Eastern Europe, the studies (Economist, 2016) show that the citizens of the South-Eastern Europe countries quickly develop consumer habits and aspirations of their Western neighbours. In the western-owned shops that are sprouting everywhere, customers are offered not only groceries and consumer goods but also credit cards and personal loans that make those goods more available to the customers. Consumer perception about the money they hold in their hands to spend, make the considerable impact of buying behavior. The perception of greater availability of money makes a strong urge to buy impulsively (Beatty & Ferrell, 1998). This phenomena contributed to the rapid development of consumerism.

The Frugality Scale significantly and meaningfully correlated with other constructs. The largest negative correlation was found to be between frugality and impulse buying, leading to the conclusion that these constructs are indeed opposite. Impulse buying is sudden, compelling, hedonically complex purchase behaviour in which the rapidity of the impulse purchase decision precludes any thoughtful, deliberate consideration of alternatives or future implications (Rook, 1987). Lastovicka, Bettencourt, Hughner, and Kuntze (1999) used qualitative evidence to conclude that frugal consumers see themselves as less impulsive in buying. The obtained negative correlation between compulsive buying and frugality was as expected. Lastovicka, Bettencourt, Hughner and Kuntze's studies (1999) also determined negative correlation between compulsive buying and

Frugality Scale total score. Also, the Frugality scale showed a predicted pattern of negative correlations with materialism (Lastovicka, Bettenoourt, Hughner, & Kuntze, 1999; Goldsmith & Flynn, 2015; Goldsmith, Flynn, & Clark, 2014; Pepper, Jackson, & Uzzell, 2009) and hedonic consumption (Lastovicka, Bettenoourt, Hughner, & Kuntze, 1999), and positive correlations with conscientiousness and agreeableness (Lastovicka, Bettenoourt, Hughner, & Kuntze, 1999; Puente-Díaz & Cavazos Arroyo, 2015). The correlations of the Frugality scale total score and scores on conscientiousness, agreeableness, materialism, hedonic consumption, compulsive buying and impulse buying measures confirm the convergent validity of the Frugality Scale in Serbian context.

In conclusion, the Serbian translation of the Frugality scale has acceptable psychometric properties, and hence could be considered as a reliable and valid instrument for measuring frugality

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Đorđe Čekrlija

Biljana Mirković

Univerzitet u Banjoj Luci,

Filozofski fakultet, Republika Srpska

PSIHOMETRIJSKA PROVJERA I VALIDACIJA SKALE ŠTEDLJIVOSTI NA SRPSKOM UZORKU

Apstrakt

Ovo istraživanje imalo je za cilj da provjeri psihometrijske karakteristike i validira prevod Skale štedljivosti (Lastovicka, Bettenoourt, Hughner, & Kuntze, 1999) na srpskom jeziku. Provjera dimenzionalnosti instrumenta izvršena je provođenjem analize glavnih komponenti na uzorku od 379 ispitanika (77.6% žene). Provjera slaganja empirijskih rezultata sa teorijski pretpostavljenom strukturom instrumenta izvršena je provođenjem konfirmativne faktorske analize na na uzorku od 197 ispitanika (62.69% žene). Interna konzistentnost skale provjerena je računanjem Cronbachovog alfa koeficijenta. Provjera konvergentne valjanost skale izvršena je ispitivanjem njenih korelacija sa mjerama Velikih pet, materijalizma, hedonističke potrošnje, impulsivne i kompulsivne kupovine. Dobijeni rezultati ukazuju na jednokomponentnu strukturu instrumenta; prva glavna komponenta objašnjava 51% varijanse. Takođe, rezultati pokazuju da su empirijski podaci saglasni s pretpostavljenim modelom: $\chi^2/df = 3.77$, $p < .01$; GFI = .90; NFI = .91; CFI = .93; RMSEA = .11; SRMR = .04. Cronbachov alfa koeficijenta kreće se od .86 do .88. Skali štedljivosti je u pozitivnoj korelaciji sa savjesnosti i prijatnosti, te negativnoj korelaciji sa materijalizmom, hedonističkom potrošnjom, impulsivnom i kompulsivnom kupovinom. Dobijeni rezultati su potvrdili primjenjivost instrumenta na domaćoj populaciji.

Ključne riječi: Skala štedljivosti, srpski prevod, psihometrijske karakteristike

CLINICAL AND FORENSIC PSYCHOLOGY

"KNOW THYSELF" – PSYCHOLOGICAL MINDEDNESS AND/OR MENTALIZATION¹

Abstract

The paper presents a study conducted for approbation of Bulgarian versions of two instruments measuring self-reflexive, mind related constructs – Psychological mindedness (PMS; Shill & Lumley 2002) and Mentalization (MentS; Dimitrijevic et al., 2017). The two constructs originated in psychoanalytic and attachment theories. Premises for overlapping areas are critically discussed and definitions for clearer differentiation are provided. Three-focal argumentation for the need of development of self-report measures of reflexivity are given: 1) research utility of translating psychoanalytical concepts into psychometrically sound constructs; 2) pragmatic benefits for choosing appropriate therapeutic modality in regard of individual differences in Psychological mindedness and Mentalization; 3) assessment of effectiveness and comparison of evidence-based intervention methods with Psychological mindedness and Mentalization capacity as mediating variables and/or outcome changes. Instruments are translated from the original languages (English and Serbian). The required procedure of independent translations and back-translation is followed. Sample size is defined according to the number of items included. Similar to the original non-clinical sample is approached (231 university students). Results prove good psychometric properties of Bulgarian versions. Internal consistency is moderate to high. Explorative factor analyses for PMS confirmed the original five factor solution but statistically and conceptually other factor solutions are also suggested. A three factor structure of MentS is confirmed for the Bulgarian version of the instrument. Convergent validity of the instruments is assessed and proved to be in accord with theoretical frame with moderate correlations between PSM and MentS and high correlations for conceptually close sub-scales. Significant differences in results according to gender and educational profile are discussed. Perspectives for further research possibilities on clinical sample, on therapeutic process and modalities of treatment are pointed out.

Key words: Mentalization, Psychological Mindedness, Reflective function, Self-report measures

Introduction

The aphorism "know thyself" is coming from the ancient inscriptions of temples and since then through artist, philosophers and even movie directors it

¹ Corresponding author: hancheva@phls.uni-sofia.bg

has received different interpretations. Mostly seen as an invitation towards human curiosity towards oneself it has guided the study of human nature. The use of the maxim in this text is as a thread to trace the attempts to operationalize both the curiosity and urge to know human nature and the ability to utilize and make sense of this knowledge. There are many terms referring to this ability/urge. The main purpose of the article is to present the concepts of Psychological Mindedness (PM) and Mentalization to follow the attempts for their operationalization and measurement and to discuss the premises of their use.

Definition and operationalization of concepts

Both concepts Psychological Mindedness and Mentalization have their roots in psychodynamic theory and practice. The first is introduced in the first half of 20th century as a prerequisite for the beginning of psychoanalytic treatment. According to Boylan (2006) PM's roots could be traced back to Jung's "introversion", Murray's "intraception" and even James' "tendermindedness". It is associated or used synonymously with the concepts of insight, reflection, self-awareness, and introspection (Applebaum, 1973). Appelbaum's definition PM is "a person's ability to see relationships among thoughts, feelings, and actions, with the goal of learning the meanings and causes of his experience and behavior" (1973, p. 36). There are at least four important aspects of this definition that would later be operationalized as subscales in the instruments. These are: 1) skills to find causes and motives of behavior. The skills imply both cognition and affect (or "intuition and empathy") (in Choi-Kain & Gunderson, 2008); 2) an inclination and curiosity to be interested "in the way mind works" and to develop plausible explanations including thoughts and emotions; 3) self-directed psychological thinking; 4) the ability to engage in psychological thinking in the context of therapy.

Redefining the concept followed to enlarge its scope of reference (Hall, 1992; McCallum & Piper, 1990). Psychological mindedness was expanded: 1) to include others not only oneself; 2) to comprehend links between intrapsychic components and behavioral symptoms and difficulties (McCallum & Piper, 1990), and 3) motivation to understand and change motivating forces in other person's behavior (Giromini et al., 2015). In contemporary understanding PM is both ability and disposition (Hall, 1992) that is a part of a broader range of psycho-social competences where reflection on mental processes both affective and cognitive promotes a search for meanings within personal and interpersonal experiences. In the Psychodynamic Diagnostic Manual (PDM) that is analog to DSM and ICD for psychoanalysts PM is one of 9 categories of basic mental functioning. It is defined as "individual's ability to observe and reflect on his or her own internal life". Descriptions in four levels from 'healthy-to-impaired functioning' are given but explicitly stated that they are not to be used for ratings (PDM, 2006).

Mentalization concept was introduced more than two decades ago by Fonagy (1991) in the context of understanding and treatment of borderline

personality disorder (BPD). A rapid expansion of research and interventions over clinical and non-clinical domains and research frameworks leads to contemporary understanding that mentalization is the essential mechanism and central component of all therapies (Choi-Kain & Gunderson, 2008; Bateman & Fonagy, 2013). Definition of mentalization is: “a mental process by which an individual implicitly and explicitly interprets the actions of himself and others as meaningful on the basis of intentional mental states such as personal desires, needs, feelings, beliefs and reasons” (Bateman & Fonagy, 2004, p. 21). The multi-dimensional construct encompasses four polarities: automatic – controlled (implicit – explicit), internal – external, self – other, cognitive – affective (Fonagy & Luyten, 2009).

Both constructs have significant overlapping, most noticeable in comparison of the widely used Farber’s (1985) definition of PM: “a disposition to reflect upon the meaning and motivation of behaviors, thoughts, and feelings of oneself and others” (p. 170) and Fonagy’s initial definition (1991) of mentalization as the “capacity to conceive of conscious and unconscious mental states in one self and others”. PM and Mentalization differ in respect of implicit mode – mentalizing is considered to include explicit and implicit modes, PM is only explicit. Another point of divergence is the understanding that interest towards mental states, functioning and links with behavior (all part of PM) is not equal to actual ability and degree of sophistication in those abilities which is crucial for high (but not hyper) mentalizing individuals.

The revival of the interest in PM is in accord with processes of convergence of ideas about the common factors mediating the outcomes of therapeutic interventions (Grant, 2001). Psychological mindedness is no longer seen as only a prerequisite for psychodynamic psychotherapies but along with constructs like mindfulness, mentalization, empathy etc. as an important ability to reflect upon experience and human interactions and as a part of motivational system encompassing the social development of human beings.

Measures of Psychological Mindedness and Mentalization

Psychological Mindedness. Mentalization and PM are a part of a long clinical and psychotherapeutic tradition. Their assessment through clinical interviewing is a time consuming procedure and has several disadvantages if used for research purposes. For broader use in different groups of people several self-assessment instruments had been developed. A list of most widely used and cited in literature includes: 1) Psychological Mindedness Scale (PMS; Conte et al., 1990, 1996, 1997) which is a revised shortened version of the original 65 item scale of Lottermann (Shill & Lumley, 2002) and its factor structure is examined in three previous studies (Conte et al., 1996; Conte & Ratto, 1997), and (Shill & Lumley, 2002); 2) The Psychological Mindedness Assessment Procedure (PMAP; McCallum & Piper, 1990) it operationalizes psychological mindedness as a participant’s

understanding of the problem presented by two videotaped enacted patients. There is a Dutch modified version where in individual sessions, participants watch four video-scenarios and respond to the PMAP-question "What seems to be troubling this woman?" (Smith et al., 2009); 3) Balanced Index of Psychological Mindedness – BIPM (Nyklicek & Denollet, 2009), a 14-item self-report scale measuring the person's interest and ability to be in touch with and reflect on his or her psychological states and processes. An Italian version of the Balanced Index of Psychological Mindedness is also available (Girominia et al., 2015).

The choice of PMS has been made for parallel development of three language versions (Bulgarian, German, Serbian – Krupp et al., in preparation) for several reasons: PMS is the instrument with most elaborate structure corresponding to the idea of multifaceted theoretical construct; PMS has the longest history of use and data on different clinical, sub-clinical and community samples.

Mentalization. Mentalization measurement is considered highly problematic, for only a few measures are specially designed (e.g., Reflective Function Scale (RF) coding mentalization in attachment settings on protocols of the Adult Attachment Interview (AAI; Fonagy et al., 1998), and other instruments in use are actually assessing overlapping constructs (Luyten et al., 2012). An original 28-item self-report measure of mentalization was developed in Serbian language (Dimitrijevic et al., 2017). The considerable overlapping of the constructs PM and Mentalization makes it possible for one to be used for a convergent validity proof for the other. In the present study Bulgarian adaptation of MentS is used for further exploration of structure of both constructs. The MentS-bg followed closely the original procedure and comparable community sample of the same size ($N = 289$) and age range (18–76 years, $Mean = 42$, $Median = 40$). The standard translation/back translation procedure from/to original language was performed. Bulgarian MentS proved to have very close to the original psychometric properties: internal consistencies for the whole scale ($\alpha = .86$) and also identical factor structure: Three components identified through CFA: 1) Self-related mentalization (MentS-S, $\alpha = .77$); 2) Other-related mentalization (MentS-O, $\alpha = .81$), and 3) Motivation to mentalize (MentS-M, $\alpha = .73$) (Hancheva, 2017).

In both research and applied fields of psychology and psychotherapy there is a need for reliable and psychometrically sound self-report measures of reflexivity. The enhancement of research on psychoanalytical concepts and their translation into constructs is an important part of bridging theory development and practice. The pragmatic benefits to follow include: choosing appropriate therapeutic modality in regard of individual differences in Psychological mindedness and Mentalization; and assessment of effectiveness and comparison of evidence-based intervention methods with PM and Mentalization capacity as mediating variables and/or outcome changes.

Method

A Bulgarian versions of PMS was developed using a translation/back translation procedure (3 independent - S. Koleva, N. Grigorova, C. Hancheva from English to Bulgarian and final version agreed after discussion). Back translation was done by a professional translator and a bilingual psychologist and comparison with the original proved to be consistent in meaning and form.

Sample

The initial sample consisted of 237 students in humanities (psychology, social work) at Sofia University in Bulgaria. The sample ranged in age from 17 to 60, with a mean age of 21.15, and a median age of 20.00. Ninety six percent of the participants were 29 years old or younger. About two-thirds ($N = 149$) were female. After excluding all protocols with missing responses for the scales, we obtained a sample of 231 students. Twenty three of them failed to indicate their age and 11 their sex.

Measures

Each participant completed 2 self-report questionnaires PMS and MentS (Bulgarian versions, Hancheva, 2017) in a classroom setting. An informed consent form was signed. Items are rated on five-point Likert scale, ranging from 1 – *completely agree* to 5 – *completely disagree* for MentS and four-point Likert scale for PMS from 1 – *strongly disagree* to 4 – *strongly agree*.

Results

Data analysis aimed at investigating the factor structure, internal consistency, and concurrent validity of the PMS-bg.

Factor Structure

For the factor structure comparison, EFA was conducted. Variables were interdependent according to Bartlett's test of sphericity Chi-Square = 2799.73 ($df = 990$), $p < .0001$ and Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (MSA) = .70. The MSA values of the individual variables ranged from .52 to .88. Four of the 45 variables were $> .80$, sixteen variables were .70–.79, and eighteen variables were .60–.70. None of the variables was in the 'unacceptable' range (.40–.50).

Psychological mindedness as multifaceted, rather than a unitary concept presupposes multiple elements. Based on definition from the clinical literature and previous statistical analyses (Conte et al., 1990, 1996; Shill & Lumely, 2002) a principal-component analysis of the 45 initial PM items was executed. It produced 14 components with eigenvalues equal to or greater than 1 and exclusion of all

items from consideration that did not load $> .40$. As the number of factors and their content did not proved to make sensible model we computed an orthogonal solution limiting number of factors to 5 (as suggested in the original study) and according to the scree plot (five factors explaining 34.8% of the variance). A total of 32 items loaded on these five factors (loadings $> .40$), compared to 27, and 21 in previous studies (Conte et al., 1996; Shill & Lumely, 2002). The five factors with all items loading ≥ 0.4 are presented in Table 1. The labels were kept but the order is different: the first factor "Belief in the benefits of discussing one's problems" (Benefits), the second factor "Willingness to try to understand oneself and others" (Willingness), the third "Access to feelings" (Access) the fourth "Interest in meaning and motivation of own and others' behavior" (Interest), and the fifth "Openness to new ideas" (Openness). Comparison of item composition of subscales for 3 studies is presented in Table 2.

Table 1
Loading items in the 5-factor solution of PMS-bg after PCA with varimax-rotation

Factor	Eigenvalue	Explained variance	Number of items loading ($\geq .4$)	Item numbers	Cronbachs α
1	5.42	12.05 %	7	4,16,12,28,34,22,31	.79
2	3.78	8.4 %	9	40,37,41,25,13,43,10,33,7	.69
3	2.69	5.9 %	6	29,32,44,30,35,2	.66
4	1.99	4.4 %	4	5,23,11,17	.59
5	1.78	3.9 %	6	45,14,36,24,42,27	.55

A comparison of the three studies (Conte et al., 1996; Shill & Lumley, 2002; and present study) is given in Table 2. The items both common and unique to each of these five factor solutions are given. The factor loadings of five factors are shown. The three main factors in our solution are conceptually similar to factors 4, 1 and 3 (Belief in the benefits of discussing one's problems; Willingness to try to understand oneself and others, and Access to feelings) in the study by Conte et al., 1996, and factors 1, 3, and 2 in Shill & Lumley's study. The second factor (Openness to new ideas and capacity to change) was explicitly stated by the authors of initial PMS that is not expected to be a salient aspect of PM construct, especially in non-clinical samples (as in our study).

Factor structure of another study (Nyklicek & Denollet, 2009) was reported as follows: Total scale Cronbach's alpha is .83 (Belief in Benefits of Discussing One's Problems; seven items, $\alpha = .79$), (Access to Feelings; four items, $\alpha = .73$), (Willingness to Discuss Problems With Others; three items, $\alpha = .44$), (Interest in Meaning and Motivation of Own and Others' Behavior; three items, $\alpha = .73$), (Openness to Change; four items, $\alpha = .45$). For the lack of detailed information comparison of structure is not possible.

Table 2
Comparison of Factors composition of PMS in Three studies

	Name and Nº of factor in studies	Explained variance	Number of items	Items
1	Willingness 1	n.r	10	7, 10, 13, 25, 37, 38, 39, 41, 42, 43
2	Willingness(3)	5.3%	3	25, 37, 41
3	Willingness(2)	8.3%	9	7, 10, 13, 25, 37, 33, 40, 41, 43
1	Openness 2	n.r	5	12, 26, 27, 30, 31
2	Openness (5)	4.8%	4	6, 24, 27, 30
3	Openness (5)	5.6%	6	27 14, 24, 36, 42, 45
1	Access 3	n.r	5	5, 11, 17, 23, 35
2	Access (2)	5.7%	4	5, 11, 23, 35,
3	Access (3)	5.8%	4	5, 11, 17, 23
1	Benefits 4	n.r	3	4, 28, 34
2	Benefits (1)	9.01%	7	4, 10, 16, 22, 28, 34, 31
3	Benefits (1)	8.5%	7	4, 12, 16, 22, 28, 31, 34
1	Interest 5	n.r.	4	2, 8, 9, 29
2	Interest (4)	5.1%	3	2, 26, 32
3	Interest (4)	6.4%	6	2, 29, 30, 32, 35, 44
1	Total	38%		
2	Total	30%		
3	Total	34.6%		

Note. Studies: 1) PMS Study Conte et al., (1996); 2) PMS Study Shill & Lumley, (2002); 3) Present PMS study (Bg sample).

Distribution and Reliability

Five subscales and total PMS showed a normal distribution. The reliability (internal consistency) of the total 45-item scale, as measured by coefficient Cronbach's Alpha (Cronbach, 1951), was $\alpha = .80$. Coefficients for subscales are given in Table 2. PMS showed a normal distribution ($M = 2.90$, $SD = 0.30$, $Skewness = 0.05$, $Kurtosis = -0.19$). The subscales Interest, Openness and Access inter-correlations with all 5 subscales were below .40, but correlated at the level .49, .47, and .44, respectively with the PM total score. Scales Benefits and Willingness inter-correlated at the level of .40, and at .62, and .73 with total score.

Concurrent validity (Correlations with MentS)

Choi-Kain and Gunderson (2008) point out that PM is a 'conceptual cousin' of the concept of mentalization. Both mentalization and PM refer to individual's ability to reflect on mental states and the motivation and interest in understanding causes of behaviors. Differences are mainly in presupposed implicit mode of mentalization and more salient orientation towards oneself of PM. Thus it is expected measures of both constructs to show spheres of overlapping as well as differences.

A correlation matrix provided in Table 3 is showing that, as expected, the PMS positively correlated with MentS and all its subscales. Levels of correlations in the range 0.4 to 0.6 indicate considerable overlapping of the constructs.

Construct validity of PM is considered in regard with similarity to mentalization concept. The pointed out differences of PM being more self-directed is proved by comparatively lower correlations of all but one PM scales (Interest in meaning and Motivation of own and other's behaviour) with subscale Mentalization-Other. The only PM scale that is not correlating to MentS is Belief in the benefits of discussing one's problems. The explicit behavioral correlates measured in this scale might be interpreted in accordance with the initial ideas of PMS applicability e.g., assessing general orientation toward "conscious and deliberate aspects of thinking" (Choi-Kain & Gunderson, 2008) and belief in benefits of discussing (e.g., "talking cure") rather than an actual capacity to reflect, which is considered the core of mentalization. These results support the concurrent validity of PMS.

Demographic differences

Women tended to report higher PMS scores in reported parallel studies on students samples in Serbia and Germany. Independent samples t-test indicated that scores in Bulgarian sample were slightly higher for women ($M = 122.9$, $SD = 10.1$) than for men ($M = 121.6$, $SD = 9.8$), $t(213) = 0.87$, $p = .38$. There were no statistically significant differences between men and women on any of PMS factors extracted in our sample.

Table 3

Correlations of PMS-bg with MentS total score and subscales (N = 228)

	MentS	MentS	MentS	MentS
	Self	Other	Motiv	Total
PMS-bg Total Score	.49**	.37**	.57**	.61**
PMS – Benefits	.09	.26**	.35**	.30**
PMS – Willingness	.42**	.15*	.35**	.38**
PMS – Interest	.22**	.39**	.38**	.41**
PMS – Openness	.26**	.13*	.15*	.25**
PMS – Access	.65**	.16*	.15*	.45**

Note. * $p < .05$, ** $p < .01$.

Discussion

The paradox of measuring capacity for self-reflection and reflexivity with self-report measures presupposing these capacities seems to be difficult to solve. Mentalization and PM as important measures of both suitability for and outcomes of therapy and even possible mediators of the outcome are important indicators in every stage of the process of therapeutic change. The necessity for a reliable and suitable for extensive use instrument is a challenge yet to be solved. Bulgarian validation studies of MentS 28-item (Dimitrijevic et al., 2017) and 45-

item Psychological Mindedness Scale (PMS) developed by Conte et al., (1990) contributes to clarification of factor structure and validity of the construct and thus to the preparation phase of implication of MentS and PMS to research in psychotherapy (Beitel et al., 2008).

However, shortcomings and limitations of the instruments and the study should be considered in future research. Many critics addressed the content validity of PMS as being unclear (McCallum & Piper, 1990), inclusion of facets which are not at the core of PM (Hall, 1992), such as openness to new ideas and capacity to change. Explanations of different factor solutions that reproduce overall similar contents of factors but different composition of items could be given taking into account that PM is a multifaceted construct but yet the reproduced in every study “expected” difference (Conte et al., 1990; Shill & Lumley, 2002) of factors in community and clinical samples is a problem that needs to be addressed on theoretical and methodological level. A language revision and bigger samples of both community and clinical participants should be planned. MentS is created closely following the theoretical construct but only some aspects of the construct are measured. One of the most important aspects of mentalization e.g., the awareness that any knowledge of mental processes (one’s own or of another person) is tentative, is not operationalized in this instrument. There are recent attempts to represent this aspect in self-report instrument (Fonagy et al., 2016) that are the subject of another study (Hancheva, 2017). The presented instruments are an attempt to bring closer assessment of personality differences and applied psychology in the fields of counseling and psychotherapy.

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Camellia Hancheva

Sofia University "Sv. Kliment Ohridski",

Sofia, Bulgaria

“POZNAVANJE TEBE” – OTVORENOST ZA PSIHOLOŠKE SADRŽAJE I/ILI MENTALIZACIJA

Apstrakt

U ovom radu predstavljena je aprobaciona studija dve bugarske verzije instrumena koji mere samorelektivne i konstrukte povezane sa umom – Skale otvorenosti za psihološke sadržaje (PMS; Shill & Lumley 2002) i Mentalizacije (MentS; Dimitrijevic et al., 2017). Ova dva konstrukta vode poreklo iz psihoanalitičkih teorija, kao i teorija psihologije vezivanja. Delovi teorija koji se preklapaju su kritički diskutovani i ponuđena su objašnjenja u cilju jasnog razlikovanja. Dato je i objašnjenje za razvijanje mera samoporocene refleksivnosti: 1) mogućnost istraživanja zahvaljujući prevodu psihanalitičkih koncepata na psihometrijske konstrukte; 2) praktične prednosti u smislu izbora odgovarajućeg terapijskog modaliteta s obzirom na individualne razlike u odnosu na otvorenost za psihološke sadržaje i mentalizaciju; 3) procena efikasnosti i poređenje intervencija zasnovanih na dokazima (eng. evidence-based intervention methods) sa otovrenošću za psihološke sadržaje i kapacitetom za mentalizaciju kao medijator varijabla i/ili postignutim promenama. Instrumenti su prevedeni sa izvornih jezika (engleski i srpski), u čemu su učestvovali nezavisni prevodioci po tipu prevoda unazad. Veličina uzorka je određena prema broju uključenih ajtema. Korišćeni uzorak je bio sličan primenjenom nekliničkom uzorku (231 student). Rezultati ukazuju da bugarske verzije oba instrumenta imaju dobre metrijske karakteristike. Interna konzistencija skale je u raponu od srednje do visoke. Eksplorativnom faktorskom analizom Skale otvorenosti za psihološke

sadržaje je potvrđeno petofaktorsko rešenje, ali su takođe predložena i druga kako konceptualna, tako i statistička faktorska rešenja ovog instrumenta. Potvrđeno je i trofaktorsko rešenje bugarske verzije upitnika za Mentalizaciju. Proverena je i konvergentna validnost ovih instrumenata međusobno i pokazalo se da je u skladu sa teorijskim postavkama, pri čemu je utvrđena srednja korelacija između skala u celini, i visoke korelacije između konceptualno sličnih subskala. Razmatrane su i utvrđene razlike u odnosu na pol i obrazovani profil ispitanika. Buduća istraživanja bi trebalo da se fokusiraju na kliničke uzorke, kao i na terapijski proces i modalite tretmana.

Ključne reči: Mentalizacija, Skala otvorenosti za psihološke sadržaje, refleksivna funkcija, mere samoprocene

THE IMPOSSIBLE NARRATION: A FERENCZIAN CONTRIBUTION TO THE UNDERSTANDING OF SOCIAL TRAUMA¹

Abstract

Within the psychoanalytical movement, there is today a rich debate around the rediscovery of the ideas of Sándor Ferenczi. They have already involved technical innovations in clinical practice and they could provide a better understanding of some social phenomena. In this paper, I will try to give a contribution to the comprehension of intergenerational transmission of social trauma based on some psychoanalytic concepts introduced by the Hungarian psychoanalyst to describe the psychical modification induced by an overlooking, abusing or even so inadequate environment. In relation to some actual social painful situation, today we are witnessing the rebirth of nationalism, as well as reactionary and populist instance, which history seemed to have surpassed. In this light, those social reactions can be considerate expression of the same phenomenon in which are based the traumatic failures in the development of the individual psychic life. Collective suffering requires, just like in the clinical practice with abused patients, a particular quality of listening by the human community, in order to make the representation of traumatic experience and the narration possible.

Key words: Ferenczi, identification with the aggressor, introjection, social trauma, narration

Introduction

In working with some patients, I have met forms of suffering which were impossible for them to put in words. In some cases, they appeared to deal with traumatic events experienced by their parents or by an earlier generation. The way these forms of suffering have come to play a role in the psychic life of the patient, often hindering their vital and creative potentialities, seems to recall the hypothesis of the transgenerational transmission, as suggested by Nicolas Abraham and Maria Torok (1978) in reference to pathological mourning.

In my previous work (Ciacci, 2015), I have tried to highlight how such experiences of extreme suffering belonging to a progenitor can come to weigh on the psychic development of the patient. The extremely painful experiences of a parent could not be transmitted to the descendants in a form that they could

¹ Corresponding author: a.ciacci.psy@gmail.com

assimilate them because they had not been elaborated, thus delineating a sort of transmission of the traumatic experience from generation to generation.

In this paper, I will argue that the hypothesis of a pathological transmission of experience is also valid to understand several social phenomena.

A contemporary perspective

Within the psychoanalytic movement, there is today a fervent debate about the rediscovery and appreciation of Sándor Ferenczi's work, to which psychoanalysts from different orientations take part. There are now many associations and working groups around the world who study the work of the Hungarian analyst, and who currently keep in contact through the *International Sándor Ferenczi Network*, founded in Toronto in 2015.

The works of many contemporary authors (e.g., Albasi et al., 2003; Aron & Harris, 1993; Aron, 1996; Bertrand et al., 1994; Bonomi, 2006; Bonomi & Borgogno, 2014; Borgogno, 1999; Bukanowsky, 1997; De Forest, 1994; Frankel, 2015; Haynal, 2002; Mucci, 2013) are nowadays leaned on Ferenczi's contribution, which have to be considered as the fundament of the relational shift that characterizes contemporary psychoanalysis. This rich theoretical consideration has already led to some technical adjustments in the clinical field, such as with regards the elasticity of technique and the consideration of the reality-based aspects of trauma, and I believe that this could be useful to the understanding of some social phenomena.

Emotional abandonment and compliance

In his article *The Traumatic Basis for Resurgences of Right-Wing Politics Among Working Americans*, Jay Frankel (2015) points out the link between the reactions of the abused child and the current revival of what he calls "populist mania".

Frankel's work mainly focuses on the Ferenczi's concept of *identification with the aggressor*, which explains how the child's reaction to abuse is not – as we would expect – rejection and disgust, but that of compliance with the will of the aggressor: the victim even tries to guess his aggressor's desires acting to gratify them, putting himself and his own needs aside. Through this mechanism, the abused child can guarantee his survival and save his sense of belonging to his family. This process is not simply a superficial conformity of the child's behavior with the abuser: instead, a mental adjustment takes place.

As the child cannot attack his parental entities, on whom his survival depends, he will accept the way his aggressor and his family environment perceive, think and feel reality. He may end up feeling he is the cause of the abuse, and – in some cases – he may project the previously incorporated aggressor's feelings on an

external scapegoat, although this action is insufficient to dissipate his sensation of self-disgust.

According to Frankel, this very mechanism of *identification with the aggressor* can be the basis of the people's acceptance of economic and social policies which are contrary to their interests; of a mystifying vision of the world; and of the negative feelings' projection on ethnic minorities or other marginal groups, considering them responsible for their state of affliction.

As Ferenczi (1932) shows in *Confusion of Tongues Between Adults and the Child. The language of Tenderness and of Passion*, the second movement of trauma is based on the environmental reaction to the abuse. When the abused child finds comfort in adult figures who are able to support him, he can still be protected by the long-term consequences of abuse and the elaboration of the fact can be facilitated. Otherwise, if the family environment protects the abuser, denying the event and even blaming - also implicitly - the child for what happened, then his emotional abandonment will be absolute. It is in this last case that, in order to reestablish an emotional bond with its adult reference figures and to overcome the threat of abandonment, the child - victim of *terrorism of suffering* (Ferenczi, 1929) - will renounces to his vision of reality, dissociating his feelings and thoughts about the violence, until he will no longer trust his perceptions and he will accept the definition of reality that has been induced from the outside.

Frankel argues that such denial must be supported by *omnipotent narcissistic fantasies*, which safeguard his sense of belonging to a special and privileged group. In the social myths of our time, hit by economic crises, mass migration, involvement of civilians in armed conflicts and attacks, there often is an idealization of the past, through which the return to ancient values is fancied. I believe these omnipotent fantasies are related to an illusory attempt to restore the situation that preceded the trauma, by exorcising - through denial - the annihilation of the self and the threat of emotional abandonment. As the abused child needs to protect the idealized relation with the adults of his or her familiar environment, in which the abuse does not happened, people safeguard thought these fantasies their idealization of their own society, in order to maintain a sense of belonging.

The conspiracy of silence

In her book *Beyond Individual and Collective Trauma*, Clara Mucci (2013) points out a connection between early relational trauma and the phenomena of collective traumatization.

The author claims that "massive social trauma" is different from those critical situations that can be attributed to natural disasters such as floods, earthquakes, hurricanes, etc. Such events, however catastrophic, would not have the same meaning and would not have the same potential for trauma as those where man

attacks man, like in the “psychotic universe” (Grubrich-Simitis, 1981, 1984) of the Shoah.

The meaning that the event assumes is a fundamental aspect that determines how deep it can affect the psyche of individuals. The victims of a natural disaster normally are offered support and full solidarity by human community. Such form of help allows the survivors to give a meaning to the event and, sometimes, to accept it as part of their destiny.

Such a kind of support is lacking in the young victim who is not believed about the abuse. He is denied the possibility to renegotiate the meaning of the experience, that an adequate and timely support from their environment would allow. Thus, he will undergo a more profound and persistent trauma.

Something similar happens to the victims of collective man-provoked traumas. As the young victim of abuse and maltreating, they are exposed to devastating effect on their psyche, because their trust in the other is undermined. These survivors have to cope with a silence that has to do, partially, with the difficulties to represent the traumatic experience, with *the shadow of the tsunami* (Bromberg, 2011), which consists of those dissociated emotional experiences that the mind has not been able to elaborate. Moreover, this silence is brought from the feelings of shame, contempt and terror that the survivors personify for the other members of society. Therefore, they fail to offer their support to overcome the traumatic experience, encouraging its oblivion.

The impossible narration

My opinion is that the concept of *introjection*, introduced by Ferenczi (1909, 1912), can be considered as the cornerstone to distinguish between a transmission that brings growth and a pathological transmission. Through this process the child can enrich his Ego and develop as an individual. As this path requires the mediation of the adult, when this one, for some reason, is incapable of performing its important mediation role, this process will be destined to fail.

Every experience, however painful, that has been elaborated by the adult, can be transmitted in an introjectable, and therefore symbolizable, form. Since language is the peculiar human form of symbolization, such experiences can be put into words and can become a *narration*, that permits the reflexion on the experience. Thus, the person will have the possibility to draw from his own history.

When, on the contrary, the experience is difficult to digest also for the adult, because too painful, it will not be transmitted in a fully symbolized form. In the instance of a people, the unelaborated experience of a generation continues to burden in the offspring without a representation. The impossibility of a symbolic transposition will bring the descendants' psychic lives towards the attempt of symbolization of what was excluded from the representation. This is because in this case the following generation will be subject to the transmission of traumatic

experiences that the precedent generation was not been able to elaborate. So, it will not allow to the descendants the introjection of that experiences, which will continue to weigh down as a foreign body on his psychic life. In this way, the chance of drawing from the history of one's own ancestors, of one's own people, will be thus precluded.

Narration and witness

To make the traumatic experience emerge from the unspeakable, so that the truth is made valid and oblivion and mystification are defeated, the presence of the other and of a particular quality of his listening is necessary. In my opinion, it is this very quality that Ferenczi (1932) refers to in the first pages of his *Clinical Diary*. Here, he criticizes the *professional hypocrisy* of the analyst as an attitude towards the patient, remaining cold and detached from the tale and feelings the person expresses. This disposition actually recreates the setting of carelessness and emotional abandonment, which corresponds to the second movement of the trauma, the *failure to assist* (Borgogno, 1999), that makes the abuse capable of perturbing the psyche of the individual even more deeply.

The act of receiving and facilitating the narration of the traumatic experience requires the analyst to abandon this attitude. He should show, on the contrary, a willingness to listen full of sincere interest for the other and for his story, he should manifest benevolence towards him, empathy, and he should support all this with an emotional tuning. It is through this quality of listening that the analyst can become, for his patient, the witness of his story.

I believe that the whole human community ought to aspire to such qualities, in order to offer, to its members who have been victims of collective trauma, that willingness to listen, which makes the representation of their experience and the narration possible. On a social level, however, this process finds a further difficulty. Like the traumatized adult, a social group may be limited in providing support to its people if the whole community is devastated by the same trauma. The resulting risk is that the happenings surrounding a social trauma may remain encysted, condemning the future generations to unspeakable suffering and potential repetition.

I believe that the best antidotes to this threat are those of courage and passion for truth, that interest for the others and for their histories, that ability to listen and to empathize. These will allow to accept their pain, to encourage the representation of the collective trauma and to prevent it from oblivion and mystification. Such efforts should be aimed to recreate trust and bond with the other, that have been destroyed and disintegrated by traumatic experience. As Laub (1998, 2005a, 2007) underline, the possibility of reparation is indeed always related with the reconstruction of the internal bond with the other. It is through the rebuilding of that human connection that, like the analyst for his patient, like

the good parent for his child, every social community can aspire to turn even the most tragic event into a patrimony of experience for the future generations, making each member a witness of its time.

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Andrea Ciacci

Psychologist, Psychotherapist,

Register of Psychologist of Tuscany, Italy

NEMOGUĆA NARACIJA. DOPRINOS FERENCIJA NA RAZUMEVANJE SOCIJALNE TRAUME

Apstrakt

U okviru promena u psihoanalizi, danas je prisutna bogata debata koja se odnosi na reotkrivanje ideja Šandora Ferencija. Već su uključene tehničke inovacije u kliničku praksu i psihoanalitičari mogu da ponude bolje objašnjenje nekih socijalnih fenomena. U ovom radu ćemo pokušati da damo doprinos razumevanju međugeneracijskog prenosa socijalne traume zasnovanom na nekim psihoanalitičkim konstruktima koje je uveo ovaj mađarski psihoanalitičar kako bi opisao fizičke promene izazvane zanemarivanjem, zlostavljanjem ili čak neadekvatnim okruženjem. Imajući u vidu neke aktuelne društveno neprijatne situacije, danas smo svedoci preporoda nacionalizma, kao i reakcionarskih i populističkih primera za koje se činilo da ih je istorija premašila. U tom smislu, socijalne reakcije se mogu smatrati istražavanjem istih fenomena na kojima su zasnovani traumatski gubici tokom individualnog fizičkog razvoja. Kolektivna patnja zahteva, baš kao i klinička praksa sa zlostavljanim pacijentima, poseban kvalitet slušanja ljudske zajednice u cilju da se napravi prikaz traumatskog iskutva i moguća naracija.

Ključne reči: Ferenci, identifikacija sa agresorom, introjekcija, socijalna trauma, naracija

ROLE OF AFFECTIVE STATES IN FORENSIC PSYCHIATRY AND CRIMINAL LAW¹

Abstract

Affects are very powerful emotional states, which have influence to cognition, volition and other psychical processes. That is why they can have special importance in human behavior. Sometimes they have special quality and intensity, causing aggressive behavior and committing of criminal offences. Some qualities and characteristics recognize legal codes, so it is necessary for some crimes to have special kind of affective excitement (voluntary manslaughter, voluntary serious bodily injury, manslaughter with overflow of self defense). In forensic psychiatry theory, as well as in the practice, there are different standpoints about the role of affective states and other elements for the forensic psychiatric evaluation of affective states. In this paper, different attitudes of forensic psychiatric examination and evaluation of affects in criminal law field and cases are presented, as well as other necessary elements for forensic psychiatric expertise: evaluation of offender's global mental state, characteristics of structure and dynamic of his personality, type and intensity of affective state, influence of constitutive and situational factors etc.

Key words: affective states, criminal offence, forensic expertise

Introduction

Emotional life (affectivity) is a very complex part of human psychical functioning and primarily the mean subjective experience of objective reality. This segment of human being is result of complex structure and functional organization of human brain. In particular parts of human brain different impulses are to catch up, and are connected to the perception of environment, cognitive processes, experiences about body state etc. The main part of emotional experiencing is psychological response

¹ Corresponding authors: zoki_ciric@yahoo.com and bojana.dimitrijevic@filfak.ni.ac.rs
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to occasions in objective reality, and specifically characteristic of emotion is that few people can have different subjective feeling on identical objective thing.

Field of affectivity is commonly divided into three main parts: *Emotions*, *Basic mood*, and *Affects (Affective states)*. Considering the main aim of this paper which was to see and elaborate the role of affects in Forensic psychiatry and Criminal law, in the following text we are going to elaborate affective states from different points of view.

Affective states, especially the unpleasant ones, may cause high level of emotional excitement, and could have very serious consequences for mental state and behavioral control. This could be explained by complex neural transmitting changes of some transmitters' levels and simultaneous decreasing of cortical control of emotional excitement and adaptive behavior.

Aiming to determine the difference and to show some important emotions which different from affects, but play very important role in some criminal activities, some useful classification of emotions will be presented, before we describe determination and types of affective states. Basic difference is that emotions do not have such intensity as affects, but they last longer and usually are being more persistent.

Krech and Crutchfield (1980) made very useful and clear classification of emotion, describing it as a subjective experience of objective reality with not so high intensity, but with persistence.

They write about following types of emotions: a) *Primary (basic) emotions*, including fear and anger, are emotions with special importance. Fear is unpleasant emotional excitement what occur in situations when someone's survival has been threatened or the person's very close related survival. Anger arises in situations when there is some barrier to achieve goals or the person experiences some psychological displeasure; b) *Emotions towards other people* are very complex and they are result of interpersonal relations one makes in his life. They can be pleasant and unpleasant, but some of them have criminological and forensic psychiatric importance. The most often are: 1) *Jalousie* is usually related to the love in partnership, but it could also arise in family relationships, relations in wider social network (working personal relations, doing other activities, etc.). In the basic way, *jalousie* is immanent to every person in various situations with wide modalities. It gains criminological and forensic psychiatric value in situations when intensity and quality lead to antisocial, antisocial and aggressive behavior; 2) *Envy*, as a negative emotion to other people, is generated in situation when there is something that person wants to have or desire for it. Quality and intensity of this emotion depends on the intensity of desire and on the previous emotional attitude and relation to person who possesses the object of desire; 3) *Hate* is permanently negative internal subjective experience, with intensity of this unpleasant feeling temporary growing up. Specific for hate is, besides negative attitude to the object of hate, that there is a wish to destroy it, which is in origin of its forensic psychiatric and criminological importance; 4) *Other*

negative emotions to other persons which are between light aversion and hate. They include belittling, contempt, antipathy, malice etc.

All negative emotions to other people can be sometimes a base for easier occurrence of affective states, the most often through psychological mechanism of negative feelings accumulation.

Affective states (affects)

This part of human emotional life is the rarest if we analyze frequency of occurrence, but, because of its quality, intensity and consequences when it happens, it has serious influence to human state and behavior. Considering that in some situations affect might be related to various models of antisocial and asocial behavior, they have big criminal, criminological and forensic psychiatric importance.

As the main topics of this paper are affects, we will try to show the important forensic-psychiatric characteristics of these emotional states and their influence to other psychical processes.

The most authors define affects as *intensive, short time states of emotional excitement which are followed by somatic and expressive changes* (Cheswick & Cope, 2001).

From this definition, we can point to main characteristics of affective states: a) *they occur rapidly, with very short period between affective cause and arising affect*; b) *they last very short time*, much shorter than emotions and basic mood, and other parts of emotional human life; c) these emotional excitements have *high intensity and turbulent flow*; d) they cause *clearly visible somatic, vegetative and expressive changes*; e) they have *strong influence to other psychical processes, with consequences to behavior changes and control of impulses and aggression etc.*

a) Affects occur rapidly, in short time after affective provocation, very often in form irritation-reaction. That means that short time and rapid reaction decrease person's possibilities to have quite adequate control of emotional state and consequent psychical changes. That is one of the most important characteristic of affective states which gives them forensic psychiatric and criminological importance.

Of course, identical provocation does not cause affective state to all. It depends of its essence, meaning of this provocation in value system of personality and earlier relationships among provocateur and person to whom provocation goes and where affect arise. In other word, there are provocations which cause affects to all people and there is another group, which cause affects in special personal occasions.

b) Beside rapid beginning, affects in most situation *last very short*, so usually time from beginning affect's excitation to the end of affects could be from few minutes to one or two hours. So, in very short time big excitation arises and usually leads to the changes in psychical processes and behavioral control, when they can cause different incidents, aggressive acts, or crime committing.

c) *High intensity* and, very often, *turbulent flow* are also characteristics of affective states. Intensity of emotional excitement of affects is much higher than in other types of emotional life of person's emotions and basic mood. Only in affective states human has such high level of emotional excitement, and probably this is the reason they last short- longer time of their persistency would exhaust a person.

Also, complex neural mechanisms cause different changes in psychical brain areas when emotional excitement is high, which explains changes in psychical state and behavior during affective states.

d) Presence of clearly noticeable *somatic, vegetative, and expressive changes* is important to detect concerning nearness of brain neural centers, as the reason for these changes during affective states. Emotional excitement make influence to brain parts which regulate width of blood vassals, hearth rate, breathing, face expression, muscular movement etc. So in some affects face is pale and in some it is very bloodshot, in some pupils are narrow, and somewhere beyond, width of eyes are larger (in fear eyes are wide), sometimes salivations is increased, speech is thin or stuttering, hand movements are more striking, and also someone can run away or couldn't move at all. These different changes could be recognized by people who are watching clients in specific affective states, so their testimony could lead to recognition of affects by forensic psychiatrist and other who are included in criminal case analyze as a significant "forensic psychiatric proof". As psychiatrist usually examine offenders much later after offence occurred, observation and notation of these changes by lawyers who lead criminal procedure might be very important for forensic psychiatric evaluation of affective states in different ways.

e) Affects have very *strong influence to other psychical processes*, with *consequences to behavior changes and control of impulses and aggression*.

This influence also results in the level of emotional excitement, which is transmitted from emotional centers to centers of the psychic processes. Neural excitement is spreading to different brain parts, in the way that the consciousness's, cognition, will, and also control of aggression could be often changed in different levels. 1) Effects on *consciousness* could be very different and depend on type of affects, their intensity and person's psychological state. In some occasions, strong affect could cause loss of consciousness and it usually happens when affect is caused by very unpleasant provocation for person and it has high intensity (for example: loss of consciousness when mother sudden get knowledge of child's death). In other situations affect could improve state of consequences, when excitement by its neural mechanisms increases level of arousal (for example: in state of lethargy, somebody visited by a loving grandchild leads him to a normal state of consciousness). The most often influence on affects of consciousness is narrowing. Affect brings to consciousness special contents, which are in close relationship to affective cause. The most of psychical energy is directed to these contents, so other things could be totally neglected. Because of this, after affective state one cannot remember other things besides these which

were close related to affective cause. These states of narrowed consciousness very often have forensic psychiatric importance, because states of compromised consciousness have consequences to all psychical processes. For quite normal psychical functioning normal state of consciousness is necessary. This narrowed consciousness state is present in cases of strong, unpleasant affects (fear, anger or pathological affects), and it is often introduction of psychical changes in states of affects; 2) Some changes in *cognitive processes* could occur in particular affective states. Harmful emotional irritation could compromise function of thinking and making quality conclusions, so rational control of psychical actions is more influenced by emotional processes than intellectual functioning. That is the reason that one's acts could be more under control of lower centers than brain cortex, which could lead to aggressive models of the behavior. In simple words, our acts are in these situation more caused by irrational than rational factors, which make significant criminological and forensic psychiatric importance of affective states; 3) *Voluntary activity control* could be compromised in affective states. Strong emotional irritation cause insufficient inappropriate impulses and incentives blocking, so affect could "realize" in aggression and serious models of antisocial behavior. So, these factors could be the important for affect expression and the ability to control actions, which are two of the crucial factors of imputability; 4) Other psychical processes could be changed in affective states. One of them is aggravated reproduction of events, attention difficulties, sometimes changes in perception etc. All these changes could give their own input in compromising of adequate psychical functioning, being usually the factor causing aggressive behavior and committing crime.

Classification of affective states

Before elaboration of forensic psychiatric importance of affects, we consider that is important to present some ways of classification of affective states.

There are different classifications of affective states based on different criteria, from which we choose two to illustrate our topic: a) Classification of affects based on quality of emotional experience and characteristics of affective reaction and b) Classification based on intensity of affective excitation.

Classification of affects based on quality of emotional experience and characteristics of affective reaction

Quality of emotional feelings during affect can be various, and some of them can be pleasant, some unpleasant. Also, during affective excitement quality could be changeable, depending on the development of affective situation. From did active perspective, we could globally differentiate two main groups: physiological affects and pathological affects.

Physiological affects. All people in everyday life and different life situations could experience this type of affective states. It is not pathological state – it occurs

to people who do not have any pathological psychiatric or neural or somatic state (Vujić, 1956).

A person with normal psychological characteristics could get in some of these states, and these states have specificities which correspondent to causes which lead to them.

Physiological affects are: fear, anger, happiness, and sorrow.

Fear is a state of unpleasant intensive emotional excitement which occurs in situations of existential danger for person or for very close individual (child, parent, brother or sister, wife, or husband etc.). Essence of fear is intensive feeling of existential vulnerability. In this affective state, beside strong emotional excitement, there is lot of somatic and expressive changes. The most often are: face is pale, very often extremities or whole body thrill, eyes wide opened ("in fear are broad eyes"), pupils dilated, and voice is silent, whispering, and sometime with stammer. Sometimes, actions are directed towards the fight, sometimes towards the escape and sometimes it could lead to complete immobility. These characteristic could be very important if noticed as a state of person being in legal procedure.

Anger is commonly experienced when a person inflicts evil or another person's is contrary to his wishes. It is strong and unpleasant emotional excitement what could pass through four phases. In the last one some aggressive action or crime could be performed.

There are also somatic and expressive changes in anger. Face is flushed, sweaty, eyes are wide and eyes are bloodshot. Movements are larger and very often uncoordinated, very often with aggressivity expressed. That inadequate, unsuitable and aggressive behavior could lead to committing crimes.

Happiness and sorrow do not have such importance in criminal cases.

Happiness occurs in situation of present or upcoming physical or mental pleasance. Face has happy expression and sometime light red, usually is present smile, gesticulation is in happiness mode, speech is quicker, very often with falderal.

Sorrow is opposite of happiness, occurs in situation of present or upcoming physical or psychical pain. This affect occurs in situations when some loss is happening (loss of close person or something what is important in person's value system). This unpleasant excitement is usually accompanied with feeling of weakness, hopelessness or helplessness. Face has sad expression, often with crying, mimics is poor, speech silent and monotone. Motoric activity and movements are slow and poor.

Pathological affects. This type of affects includes different pathological affective states, with lot of different psychopathological experiences. Basic characteristics are (Krstić, 1996): rapid beginning, significant discrepancy between irritation and reaction, serious changes of state of consciousness (delirant state or twilight state), lot of psychopathological phenomena, overloaded aggressivity or destruction, short duration, and very often complete or partial amnesia for the period of pathological affect.

Pathological affect occurs very rapidly, in short time after affective cause, sometimes like "thunder from the blue".

Very important characteristic is that there is very significant discrepancy between intensity of irritation and intensity of reaction. Very often affective cause is not so important to person (in its value system or in that situation) so in normal situation nobody expects so strong reaction. This occasion usually points that something is not normal or that there is something pathological in that affective state.

In most of cases there are serious changes of consciousness, not in quantitative, but in qualitative way. There are delirant or twilight changes of it, or some mixed types of changes, but it is sure that consciousness is changed in pathological mode. Sometimes orientation to own self is changed, sometimes to other, so person is gathering data about his environment as if he was in a thick fog or from a keyhole.

Pathological affect is per acute psychotic state with lot of psychopathological phenomena. Person could have different types of hallucinations or illusions with frightening character for him. Sometimes there are delusions, impulsive acts, and changes in attention, large anxiety and fear without real causes.

Psychopathological phenomena generate intensive and excessive aggression and destruction. Person's behavior is usually very dangerous for other, very rare to himself.

Duration of these states is quite short, countable in few minutes, very rare over one hour. Because of its short duration, rapid occurring and psychotic state, in legal matters, pathological affect is temporary psychiatric disturbance, with high compromising of imputability.

Clinical phenomena which could lead to this diagnose is also persistence of complete, rarely incomplete amnesia for period of affective state. Consciousness during the affective state is probably on the pathological level, so when it ends and becomes normal, one cannot remember what happened on pathological levels of consciousness.

Usual classification of pathological affects contains: startle, panic, furor, and despair.

Classification based on intensity of affective excitation

From the point of view concerning the intensity of affective states and its use in forensic psychiatry affects, specially psychological, could be graded as affects with weak, medium and strong intensity. Intensity of affective excitement is, of course, important not only from point of strongness of excitement, but from the point of strength of influence on other psychical proceses. By analyzing changes of psychical functions we could make conclusion about strength of affective excitement, but on standings of strength of affect we could consider what were

psychical changes and about capacity for adequate reasoning and decision-making, what is crucial part of imputability.

During affects with low intensity level of excitement is poor, so affective reactions and influences to other psychical processes are not significant. In medium intensity affects excitement and affective reactions are visible, and influence to other psychical functions is larger than in one with low intensity. Quality and quantity of these changes are different and they depend not only of affective state, but also the type of personality and circumstances in which affect occurs.

Strong affects have huge affective excitement, intensive reaction and significant influence to psychical processes. In this intensity of affective state changes on cognitive and conative functions are very likely, generally changing global psychical activities

Considering intensity of affects, some authors differentiate (Kovačević 2000; Ćirić, 2013): a) affects which intensity is appropriate to quality and intensity of affective irritation and cause (usually occurs to persons who are emotionally and socially adapted) and b) affects where there is no consonance among affective cause and intensity of excitement and reaction (most often for persons with Personality disorders, mental insufficiency, emotional immature persons etc.).

Forensic psychiatric aspect of affective states

It is already mentioned that affects, as very intensive emotional states, could cause significant changes on psychical, somatic and expressional fields causing important disturbances of adequate and expedient behavior. Affects could be considered as a kind of "psychical storm" or "mental earthquake", which are, on one hand a part of normal psychical life, and on the other hand can lead to major change of mental state and behavior. Yet, they could stand out to something what is common for person.

For affects with stronger intensity especially, as a very specific and distinct psychical category, it is important to present basic standards how to make psychiatric statement and expertise in cases when affects occur. In elaboration of these facts, a part of these standings which correlates to legal standards and some criminal law determination of several types of criminal acts will be shown.

Aggression what could be expressed during affective states very often leads to offences which cause serious attacks to life and body of victims of these acts (Ćirić & Dimitrijević, 2009). So, affective states are usually present in criminal act where action of offenders is directed to existential damage of objects of these crimes.

In forensic psychiatric expertise expert has to be asked and has professional obligation to answer about several matters in situations when it is suspected that crime is committed in affective state. In our opinion, questions, and of course

answers, have to be put in following order: a) The first, what is general mental state of offender in period of committing crime and in time of examination. The *first* thing has to be *answer if there are some mental illnesses, temporary mental disturbance or mental retardation about offender*. Mentioned categories are declared by Law, and forensic psychiatrist who is court expert has to know what mental disorders belong to each category. If affect occurred to a person who suffer from mentioned mental disorders, affective state should be considered in the context of each disorder, and after that have to be *written as an opinion about possibly decrease of accountability and its level of decrease or opinion about presence of insanity*. If there is a mental disorder which makes serious danger for repeating crimes, expert has to *suggest one of security medical measures*; b) Secondly, if there is no mental disorder which belongs to states of mental illness, temporary mental disturbance or mental retardation, expert has to give an opinion about characteristics of personality of offender pointing out if there is some disorder like neurotic disorder, personality disorder or similar states which make person express intensive affective reaction in usual occasions. It has to be considered as a constellation factor in evaluation of affective state in time of committing crime. If possible, expert should make victimology analyze to evaluate the importance of affective provocation. Also, expert gives his opinion about the influence of presence of drunk state or state over narcotics, as a provocative and constitutive factor in generating affective states; c) *The main element of forensic psychiatric expertise of affective states is giving opinion about these states*. First of all, expert has to consider if there was some affective state of offender during or nearly before committing crime (Djurđić, 1996/1997). So forensic psychiatrist have to consider and answer if there was affective state of offender *tempore criminis*. About following matters expert has to consider it in cases when affects occur to mentally healthy persons. If there was some affect/s, this part of expertise has to contain an opinion about a kind of affect irritation which had occurred and how intensive it was. In other words, forensic psychiatric expertise has to state if it was *psychological or pathological* affect that had occurred *tempore criminis*.

If *pathological* affective state was present to offender, it has to be qualified as a temporary mental disorder with a determination to what extent has affected the mental capacity or the extent to which a person has been disturbed. Before giving its opinion on mental incompetence, the expert must specify the type of pathological affect, to describe the main psychopathological phenomena and to determine which of those elements had a major impact on imputability. In most of cases of pathological affects, quality, types, and intensity of excitement lead to standing that offender was in state of insanity, and rarely that it was substantially reduced. As there is no unique model for evaluation, each case has to be evaluated individually.

The most often in criminal cases it is necessary to evaluate *physiological affects*, which normal persons experience in the situations of large excitement, but without pathological occasions.

Although they are not pathological state, their influence on state of consciousness, cognitive processes, voluntary activity and control of aggression make the significance of these states. It has to be said, also, that very often there is no presence of single one affect type, but there is very sup tile dynamic process when two or more affects have their own evolution and significance during affective state when crime is committed. In some part of criminal activity one is more expressed, but in whole evolution of situation they could change, get primarily importance, and manifest larger influence, than in other parts of affective situation. These facts are important to be mentioned in expertise, for better evaluation and to better understanding by lawyers and other participants of criminal procedure.

During states of affective excitement, especially of high intensity, some kind of "explosive" reaction could be expressed. Some call it affective reaction of "short-circuit". This may lead to affective excitement running in aggressive, violent behavior, without influence of any personal filters. In this case, otherwise normal part of psychical life goes to the "other side" of normality, causing behavior that deviates from the usual for person, its characteristics and patterns of behavior.

Criminal acts, offences in affective states occur often, they are various and importance of these affective states are not equal neither from forensic psychiatric nor from legal standing.

Mentioned circumstances, probably, make dilemma how to classify physiological affects. Starting from the fact that physiological affects are part of normopsychical, expert opinion on persisting insanity in time of committing crimes may not be based on them. On the other hand, level and quality of changes of mental state during affects suggest that affects could not be treated as quite normal psychical state or the state in which judgment and decision making are quite normal and without changes.

These and other facts were the reason for making special criminal law position of affective states. Namely, in criminal law theory and practice specifics of criminal behavior in physiological affective states are recognized, and separated from behavior in other circumstances. This legal approach gave specific forensic psychiatric interpretation of affective states.

In Criminal Law of RS (2006) there are two crimes which contain, in their basic characteristics, persistence of affective state. These crimes are: Criminal act Manslaughter or voluntary manslaughter (serious body harm in affective state) (in Serbian language: *Ubistvo na mah/Teška telesna povreda na mah*) and Murder in extension of self-defense (in Serbian language: *Ubistvo u prekoračenju nužne odbrane*), in which there are, also, affective states elements of criminal offence nature.

Criminal act "*Ubistvo na mah*" is the type of *voluntary manslaughter* and in affective part of this criminal act nature (Jovašević, 2006) it is necessary that offender was in state of strong affective excitement (in Serbian language: *jaka raždraženost*). So, there are different names for the same thing, one is produced

by law: excitement (in Serbian language: *raždraženost*), and other in use of psychologies and psychiatric-affective state. Of course, psychiatrists have to talk about affective state; to determine its type and intensity so on lawyers is to translate this word to legal terminology. Opposite way is not quite right- psychiatrists do not have to translate their category to legal one, especially because there are a lot of legal definitions of term "affective excitement" as affective state.

This type and intensity of affective state which is needed for this type of murder has its theoretical dimension and practical importance in legal practice. According to Criminal law, irritations which could cause these affective states are serious body attack or heavy insult. From psychiatric point of view, if we analyze which affective state arises from these irritations, it is logical that it could be fear or anger, or both of them, with specific dynamic relationship between them if they are present mutually.

In order to make valid statement about immutability of offender, in these cases forensic psychiatric expert has to consider if affective state persists, if so what type/s are present and in what intensity, and after considering all that things, influence of constellation and provocative factors. He also analyses the effects it have to other psychical processes, especially on consciousness, thinking, voluntary activity and control of aggression. Level of disturbance of these processes determines level of reduction of imputability.

When it is done, on lawyer is to translate it into legal terminology and to consider if there are other natural parts of this crime aiming to be closer to a decision.

If we talk about *murder in extension of self-defense*, Law says that it has been done in state of heavy irritation or fright. Heavy irritation, as a law term, is adequate to strong affects, especially fear, and it does not have characteristics of pathological affect. Fright is nearby to pathological affects, as a temporary mental disorder, and it arises in cases when very high existential dangerousness for person is present.

These facts have to be considered by forensic psychiatric expert as well as all facts which are of importance to make statement about imputability of offender. Basic incentive is the experience of high level existential vulnerability, in which offender's life is in serious danger.

Previously mentioned offences are not the only ones which connected to affective state. There is some other which does not have affective states in nature of criminal act. These criminal acts could be various, but most often are crimes against life and body, slander, libel, sexual offences etc. In those, affect could be the generator of criminal activity or factor which makes criminal act being performed easier. Psychiatric evaluation is individual, depending on the type and intensity of affect; influence other psychical processes in the way that it can lead expert's judgement about imputability. Psychiatrist, also, has to explain some inabilities of offenders after affective states, as lack of memory, inability to reproduce all criminal situations etc.

These facts show that criminal offences committed in affective states are interdisciplinary field between law and psychiatry. These facts lawyers and forensic psychiatric experts have to have on their minds and to make preconditions to have good mutual understanding to facilitate the work in these criminal cases. It is necessary for the questions indicated to the psychiatrist to be clearly posted and also without expectation that he should determine final solutions for all cases.

Conclusion

Connection between criminal act and affective state is specific interdisciplinary field, where are interlaced factors that belong to criminal theory and practice and criminal legislative, on one hand, and psychology and psychiatry, on the other.

Also, it is shown that some serious offences could not be fully considered without evaluation and statement of forensic psychiatric court experts, whose role is to make easier work to lawyers in understanding applying facts which are from forensic psychiatrists' field of work.

Our cooperation is correct in the moment present, but, because of some dilemmas and misunderstanding, it is essential to make daily work even easier, with more mutual understanding and respect of professional integrity. We have to be educated in better way, to make common meetings for resolving contentious issues, finding ways to improve our work and giving suggestions for improvements in legal code. This would be an excellent base for making better conditions for legal and forensic psychiatric work in this filed.

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Zoran Ćirić
Pravni fakultet, Niš, Serbia

Bojana Dimitrijević
*Univerzitet u Nišu,
Filozofski fakultet, Srbija*

Milena Ćirić
Pravna akademija, Srbija

ULOGA AFEKTIVNIH STANJA U FORENZIČKOJ PSIHIJATRIJI I KRIVIČNOM PRAVU

Apstrakt

Afekti su veoma moćna emocionalna stanja, koja imaju uticaja na kogniciju, volju i druge psihičke procese. Iz tog razloga oni imaju posebnu važnost u ljudskom ponašanju. Ponekada su posebnog kvaliteta ili intenziteta, zbog kojih mogu izazvati agresivno ponašanje i vršenje kriminalnih dela. Neke kvalitete i karakteristike afektivnih stanja zakonodavstvo prepoznaje, pa je zato nužno za određeno delo da je učinjeno u posebnoj vrsti afektivnog uzbuđenja (teško ubistvo, nanošenje teških telesnih povreda, ubistvo u prekoračenju nužne odbrane). U teoriji forenzičke psihijatrije kao i u praksi, postoje različita gledišta o ulozi afektivnih stanja i drugih elemenata u forenzičkoj psihijatrijskoj evaluaciji. U ovom radu, prikazani su različiti stavovi vezani za psihijatrijsko ispitivanje i evaluaciju afekata u krivičnopravnoj oblasti, kao i najvažniji elementi forenzičke ekspertize: evaluacija opšteg mentalnog stanja počinioca, karakteristike strukture i dinamike njegove ličnosti, tip i intenzitet afektivnog stanja, uticaj konstelativnih i situacionih faktora i drugo.

Ključne reči: afektivna stanja, krivično delo, forenzička ekspertiza

HEALTH PSYCHOLOGY

STRESS AND WELLBEING AMONG CHINESE STUDENTS¹

Abstract

Stress as a phenomenon accompanies the everyday life of each contemporary person, regardless of one's location and environment. Wellbeing is often seen as a background or an alternative to the bearing predominantly negative connotation stressful events. Both phenomena as psychological constructs: stress and wellbeing are products of reflection and cognitive processing by the individual of his interaction with the environment. In this sense the differences in the cultural environment of growth and education have a significant impact on the subjective perceptions of experiencing stress and wellbeing and determine specificities in the approaches to managing these occurrences. The aim of the present work is to study the subjective perceptions of stress and wellbeing experiences among Chinese students, whose socio-cultural background is characterized with intensive processes of economic growth, strong competition and specific political environment. The study is conducted on a group of 25 respondents, all students at the Chinese Guangdong University for Foreign Studies (GDUFS). The structured interview method, including 13 closed and open-ended questions, has been used. In order to pay respect to the ethical multicultural norms, the procedure and the content of the questions were previously agreed with a professional psychologist from the university. The collected data has been subjected to content analysis. The results obtained demonstrate a relatively moderate and above average levels of stress and a lower level of wellbeing. Outlined are the main approaches applied by Chinese students at this university to manage stress and to maintain an average state of wellbeing. The most commonly used strategies to cope with stress are active - hard work, including extra workloads, fulfilling the meaning of a means to achieve a desired goal; planning and personal organization, sport, positive thinking and reframing. Among the passive strategies to cope with stress the more commonly used ones are playing computer games, watching movies and sleeping. The experience of wellbeing is maintained by obtaining social approval, preserving harmonious relationships with family and friends, and providing pleasure to the senses.

Key words: stress, wellbeing, cultural values, Chinese society

¹ Corresponding author: b.zarbova@gmail.com

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Introduction

Stress as a phenomenon accompanies the everyday life of each contemporary person, regardless of one's location and environment. By formal logic it can be assumed that the more stressful the environment is, the higher the perception of stress experienced by the people living in this type of environment. A deeper and more systematic perspective requires many other factors to be taken into account, which influence the interaction between stimulus, response and coping process. As a psychological construct wellbeing also reflects not the factual circumstances in the environment but their transformation into the field of individual values, needs and perceptions of life. Both concepts – stress and wellbeing are connected with the quality of life (Barcaccia, 2016), but are popularly positioned on opposite extreme ends: the connotation of wellbeing is unambiguously positive, whereas stress is commonly associated with a negative social assessment. Their interaction may be presented in the direction of reducing stress in order to increase wellbeing. The present paper is an attempt for a more thorough and an in-depth study of the two phenomena through the prism of cultural differences. The goal is to establish the difference in levels of subjective perceptions of stress and wellbeing, and the underlying prerequisites and implications, experienced by Chinese students at Guangdong University for Foreign Studies (GDUFS). A favorable prerequisite for conducting the study was the participation of one of the authors in a program for exchange of PhD students between Sofia University "St. Kliment Ohridski" (Bulgaria) and Guangdong University for Foreign Studies (China).

Theoretical background

Stress as a phenomenon has been studied and explored in various aspects of social interactions, which is implied by its widespread presence in modern society. There is a view supported by both media and scientific circles, and public data from various studies and statistical reports, that despite the improved working and living conditions, the prevalence of stress has grown and continues to increase over the last century. The term "stress" has now acquired the status of a "universal definition that can be used in different contexts and serve different goals in locating sources of mental health or physical problems" (Bright & Jones, 2003, p. 23). Depicted in such a causal relationship, stress bears a negative connotation and focuses attention in the direction of limiting its occurrence and impact, which should logically favor mental health and wellbeing for individuals and society as a whole. Such approach limits the activities to maintain wellbeing only to recognition and implementation of stress-copying strategies in everyday life. According to Seligman, when efforts in any area of social affairs are focused on corrective influences and outcomes, the healing effects of favorable events are neglected and "work is done only in half: deficits are corrected but not built upon"

(Seligman, 2017, p. 217). The systemic approach implies that both phenomena should be researched in their common relationship and interaction. In that sense, if there are efforts concentrated to reduce the occurrence and negative effects of stress, alternatively it is also necessary to consciously use activities to maintain good practices and to stimulate and increase wellbeing.

Differences in the definition of stress are observed according to the emphasis placed by scientists on the physiological or the psychological factors in the study of the stress phenomenon, on the prerequisites or the consequences of its manifestation, as well as on the study of the relationship between the individuals and the environment. In accordance with these differences, based on the historical review of stress conducted by Mason and described by Greenberg (Greenberg, 2002, p. 9), the concept of stress varies in four main directions: 1) Stress, defined and perceived as a stimulus or a "stressor"; 2) Stress, defined as a reaction to a stimulus; 3) Stress, defined and perceived as an interaction between a stimulus and a reaction;

4) Stress, defined and perceived as a process of total interaction (transaction) in the spectrum of interrelated factors.

In the first model of description, the emphasis in the study of the concept is put on the factors that provoke stress and the associated tension and negative emotions as well as the methods to cope with them. The approach treats stress as a requirement or a feature, a characteristic of the external context, which is "harmful/detrimental to the physical and mental health of the individual" (Sang, Teo, Cooper, & Bohle, 2013, p. 18). Earlier studies in psychology and physiology address stress in biological terms, focusing on the effects of experiencing it. This approach is based on the study and acceptance of stress as a physical/physiological or psychological response to the effects of the environment and the risks carried. The interactive approach treats stress as a cause-and-effect structured relationship in which stress is also interpreted as a cause (stressor, source of stress) and as a response/reaction (consequence of stress). This direction is based on an interactive theoretical framework in psychology postulating that behavior, attitudes and wellbeing are both influenced by the personality and the environment (Cooper, Dewe, & O'Driscoll, 2001). In the Transactional theory, the same interaction is considered in the dynamics of the leading role of cognitions in the interpretation of the meaning and the power of external events, as well as in the subsequent assessment of the personal resources to deal with the very experience of stress and the actions for coping with it. In the Lazarus and Folkman's model the interaction between the individual and the environment is described as "dynamic, two-way and mutually reciprocal" (Folkman, Lazarus, Gruen, & DeLongis, 1986, p. 572), while "the essence of stress, coping and adaptation is the change itself" (Folkman & Lazarus, 1985, p. 150). The mediating role of the evaluation according to the authors of the model acts in two ways: the primary assessment is the process by which events are evaluated according to the level at which they are threatening, challenging or favorable, whereas the secondary is the

process of evaluating resources to cope and successfully respond to a challenge or a threat. Depending on these assessments the individual takes strategies to deal with the stressful experience. Coping is defined as “the constantly changing cognitive and behavioral efforts of the individual to manage the specific external and/or internal requirements that have been evaluated as over-exhausting or depleting the resources to cope” (Folkman, Lazarus, Gruen, & DeLongis, 1986, p. 572). Initially the authors point out two forms of coping: active, problem-focused (related to taking steps to overcome the problem, planning actions and making them happen) and passive, emotionally focused (including focusing on negative emotions and search for distractions). Later, Folkman and Moskowitz expanded the understanding of coping strategies by adding a focus to positive emotions and generation of meaning (Folkman & Moskowitz, 2000). In essence, the coping they describe integrates goals, values, and beliefs, as making sense in a difficult situation and defining social coping with emotional support or practical help from other people in the environment.

As theoretical concepts in the field of psychology neither “stress”, nor “wellbeing” have uniform and unambiguously adopted definitions. Reasons for this are the multiplicity in the manifestation of these phenomena, as well as the difficulties and limitations of measurement and empirical study of both since they are the result of subjective experience and evaluation.

The term “wellbeing” is often used as an indicator on the quality of life in modern society (The Expert Group on Quality of Life Indicators, 2017). Therefore, the perception of individual wellbeing is mainly associated with the socio-economic status of the individual that is measurable with objective indicators of the presence of material and/or social benefits. In the psychological aspect, both constructs – “stress” and “wellbeing” have their own specific content, refracted through the prism of the subjective perceptions and assessments of the individual for reality, i.e., they reflect the relationship “Individual–Environment”. Mediator in this relationship is culture – the values, beliefs and traditions in society.

In a psychological aspect, the notion of wellbeing reflects the subjective perceptions of the individual about the physical conditions and the quality of one’s life. It focuses on the individual assessment of these objective circumstances, made by applying own assessment standards. As a psychological construct, the concept has a multidimensional structure and a range of meaningful variations that emphasize subjective wellbeing, psychological wellbeing, or a combination of both. “Subjective wellbeing” reflects hedonism, the pursuit of positive experiences, delight, and satisfaction. In the traditions of hedonism, the construct is seen as a two-component structure, consisting of a rational element (the cognitive assessment of long-term and retrospective life satisfaction) and an emotional component (the ratio between positive and negative emotions in the short term) (Diener, 2000). “Psychological wellbeing” is related to a concept of eudemonia that reflects the pursuit of happiness and the development of human potential. In the traditions of eudemonism, the psychological wellbeing is seen

as a composition of rational and emotional elements with respect to autonomy, self-realization, meaning of life, personal value, dignity and the experience of self-effectiveness, experimenting and experience of perfection or mastery, quality of interpersonal relations. (Keyes, Shmotkin, & Ryff, 2002).

In positive psychology, Seligman developed the PERMA theory as an attempt to combine aspects of subjective and psychological wellbeing. In this model, wellbeing is defined as an abstract construct composed of five measurable elements, the abbreviation of the names of which is the name of the theory: Positive emotions, Engagement, Meaning, Positive relationships, and Achievement. These elements according to the author are "real phenomena" (Seligman, 2017, p. 23) and as such have their subjective and objective dimensions. According to Seligman, these five elements are "those things that every free person chooses for their ultimate goal" (Seligman, 2017, p. 24), a goal that is independent, contributes to wellbeing and can be measured independently.

For the purposes of this study, stress will be studied from a cognitive-transactional perspective as a dynamic interaction between an individual and the environment, mediated by cognitive assessments and coping actions. Wellbeing will be interpreted as a complex combination of subjective and psychological wellbeing.

The research process

Aim. The aim of the present work is to study the subjective perceptions of stress and wellbeing experiences among Chinese students, whose socio-cultural background is characterized with intensive processes of economic growth, strong competition and specific political environment. The study is somewhat limited due to the small number of respondents, from different Chinese regions.

Survey context

Prior to moving to the analysis of the data collected, it is necessary to outline the context in which the study was conducted, because it has an influence on the topic of the research. The higher education system in China determines the strong competition among students for admission and also the variety of regional representation in the universities (China has twenty-two provinces, three large municipalities, and two separate administrative areas).

GDUFS is one of the prestigious humanitarian universities in the Guangdong province, China. Students' residential conditions presuppose limited freedom with regards to personal space and time. Meetings with relatives are reduced due to the great distances and the high transportation costs. Most of the students have to work to be able to pay for their tuition fees (higher education in China is paid) and living expenses.

The Educational Program at GDUFS includes pre-scheduled classes on a daily basis. Additionally, all students are required to participate in social activities

organized by the student council and also to take part in clubs of interest. Competition is the main principle for selection for all these social activities. The more ambitious young people are members of the Communist Youth League of China and take part in its activities.

The university has a functioning Center for psychological health care, which is a nationally regulated practice for all educational institutions. In this center, consultancy and therapeutic services for the students are offered; those are optional and in no way obligatory. Taking care for the good physical and mental functioning and control of the student behavior is also a commitment of the course managers and the administrative officers responsible for each class. A tutoring system is also in operation at Chinese universities: based on personal contact between a tutor and a student, it has special functions to monitor and assist students in solving their everyday problems (of all kinds, not just educational ones).

The conditions described above outline the prerequisites for intensive experience of stress in the university environment but they also allow for careful observation, timely warning and traceability of the indicators for passing over the healthy pressure point and tolerance of the individual.

Sample

The sample consists of 25 students who participated in the study. All of them were 1st year in Humanities Master's degree programs at Guangdong University for Foreign Studies, China. All of the participants were 21 to 23 years old; 18 are female and 7 are male. They come from different China provinces and live in the university campus dormitories in the city of Guangzhou, Guangdong province, China.

Method of data collection

Due to linguistic and cultural differences, and because of resource and time constraints, objectively it was hardly possible to use standardized psychometric instruments. Therefore, the choice was limited to the implementation of qualitative methods, hence structured interview was used. The interview consists of 13 closed and open-ended questions focusing on estimates of the prevailing stress and wellbeing levels over a period of 6 months – 6 questions about stress and coping strategies; 7 questions about wellbeing and activities for maintaining it.

The interviews were conducted in English and the questions were additionally printed on paper to minimize the risk of misunderstandings and oral miscommunication. During the interviews, the information derived from the open-ended questions was elaborated after short discussions. The answers were written down and later analyzed.

Method of analysis

Data gathered in the study was processed using qualitative content analysis, following the four main stages of the procedure: decontextualisation, recontextualisation, categorisation, and compilation. (Bengtson, 2016). The codes in the code list were generated deductively, before starting the process. The analysis was performed separately by the authors and then the results were discussed and consensus was reached.

Practical implications

In order to observe ethical intercultural norms, the procedure and the content of the questions were coordinated in advance with a professional psychologist from the GDUFs. The participation of all students in the survey was voluntary and confidential with regards to the shared personal information.

Results and Discussion

Results on subjective perception of experienced stress

For assessing the level of experienced stress, the following question was used: "For the last 6 months, how would you evaluate your experience of stress on the scale of 1-10 points, where 1 means you have not got experience of stress and 10 means a very high levels of experienced stress?"

The average score for subjective perception of stress experienced in the last 6 months, is 6.1 (slightly above the mean level between the extremes 1 and 10). In their answers, the respondents describe not only the prerequisites/reasons for experiencing stress but also the reactions they relate to it. The codes for the subjective perception of stress with examples and quotes are presented in Table 1.

Table 1
Analysis of the subjective perception of stress

Summary of Themes	Categories	Sub-themes
Prerequisites	Learning process	<i>Course overload</i> – “lots of home assignments and reports”, “hard learning tasks”, “tough schedule”, “courses till late in the evening”
		<i>Exams</i> – “difficult exams”, “too many things to prepare for the exams”.
		<i>Study projects</i> – “need to organize many students in a short time to work together on a project”, “to be successful in the group assignments”.
	Relationships	<i>With partners</i> – “not enough time or room for meetings”, “fear not to be abandoned”, “fear not to be disclosed as gay”.
		<i>With friends</i> – “separation with friends from childhood”, “some quarrels... about willingness and choices of work or free-time activities”, “misunderstandings on agreements”.
		<i>With fellow students and/or roommates</i> – “a lot of noise... not enough light in the room”, “they are not enough devoted in the class activities”.
	Career plans	Ambitions for “continuing study in a prestigious university”, for “finding work in an international consortium”; for “internship in a business company”; “to set up my own company” “to work as a manager in a big company or in a bank”, “to find good job with high salary”, “to become a successful business woman”.
Reactions	Social activities	“Taking part in Sport clubs”, in the Communist Youth League of China and “to be in a leader position”, “the class supervisor activities” (to observe the behavior of others and to organize their activities), “to work as a volunteer”.
	Family	“Far away from my family”, “health problems with parents”, “I have to care for my parents, I owe them”.
	With Positive effect	<i>Mobilization for coping with the additional loads</i> - “study harder to understand the information”, “to stick to my own higher standards”, “doing, not thinking about duties”.
	With Negative effect	<i>Emotional</i> – anxiety about dealing with school assignments, symptoms of insomnia, “feel loneliness here, far away from home”. <i>Behavioral</i> - demotivation about the choice of major, tensions in interpersonal relationships.

Among the prerequisites/reasons the respondents indicate the pressure of the numerous learning tasks, exams, home assignments, social activities and part-time work, separation from family as well as high parental expectations for achievement, future career opportunities and financial difficulties. As reactions in response to stressful experiences the respondents share mainly anxiety about dealing with school assignments and examinations, symptoms of insomnia, tensions in interpersonal relationships with fellow students and/or roommates, demotivation about the choice of major but, nonetheless, mobilization for coping with the additional loads.

Regarding the desired level of stress (not the expected one) for the upcoming 6 months, the question used was: "For the next 6 months, where would you like to place your stress experience, using the same scale between 1-10 points?". Responses are expectedly in the lower values of the scale: an average of 4.1. When comparing individual responses to the past and future desired level of stress experience, it is noticeable that the differences are minimal; thus, the pressure of commitments and requirements is not totally rejected but rather perceived as a necessary external stimulus. Each of the respondents further took part in discussing the difference between anticipated and desirable development; in this sense it can be assumed that stress is associated not only as an anticipated possibility but also to a large extent and as a desirable one. In some responses the hard purposeful and result-oriented work is directly identified as a stress-management strategy.

In order to evaluate the coping strategies, the following two future oriented questions were used: "What do you do to make it happen?" and "What else do you think has to happen in order to achieve that"? The stress coping strategies, described in the respondents' answers, comprise emotional, cognitive and behavioral activities from their everyday lives. They meet the two main functions of the coping process – to regulate the emotions accompanying the stress and to change the stress generating circumstances. The predominant activities are presented as categories and sub-themes in Table 2.

Table 2
Analysis of the stress coping strategies

Summary of Themes	Categories	Sub-themes
Emotion focused coping	Behavioral activities	<i>Sports activities</i> – "playing Tai Chi", "practice Yoga in a group", "training Kung Fu", "jogging in the park or at the stadium and listening to music", "cycling trough and around the campus", "playing badminton", "climbing mountains with friends", "walking in the park and chatting with friends"
		<i>Travelling to different places</i> – "travelling home", "trips around China", "having picnics", "travelling with friends", "visiting some historical places".
		<i>Food preparation and consumption</i> – "preparing food makes me feel like I am at home", "preparing and serving delicious food".
		<i>Shopping</i> – "doing on-line shopping".
Emotion focused coping	Emotional activities	<i>Search for social support</i> – "chatting on WeChat with friends", "speaking with my parents, they always support me", "to go home and have more time with my parents"
		<i>Rest and sleep</i> – "I need more sleep", "to have a nap", "a good sleep is the best rest", "I have to sleep and to balance better my activities".
		<i>Aesthetic and Art</i> – "Listening to music and karaoke performing", "painting Chinese Art", "to practice Calligraphy", "watching movies", "playing computer games".
		<i>Reading fiction</i> – "to read more books", "reading in a bus, during traveling".
Emotion focused coping	Cognitive activities	<i>Dreams and plans</i> – "I would like to travel around the world", "more travelling", "to visit interesting places".

Problem focused coping	Behavioral activities	<i>Self-management</i> – “preparing To do lists”, “get up early”, “arrange schedule properly”, “giving more energy and efforts in the learning process and in the preparation for exams”, “change my attitude from passive to more active”, “when I have a plan, I reach it, when I haven’t got one – I waste the time and feel guilty”, “preparing and rehearsing before an interview in front of my friend or in front of the mirror”, “to study harder”.
	Emotional activities	<i>Search for social support</i> – “ask friends who know the things about that topic”, “speak with my parents, they always support me”, “ask for help some Professors or my mentor/tutor”, “more inspiration from friends”.
	Cognitive activities	<i>Self-analysis</i> – “trying to analyze what’s happened”, “writing a diary with day experiences and trying to encourage myself for the future”, “try to be more clear in goal-setting”, “trying to think in a positive way”.

“Travelling to different places” in the country and abroad is present in different variations in all answers and predominantly in the desired plan. Due to the large distances in the country and the high transportation prices, as well as the numerous learning and extracurricular engagements, for the respondents the trip is usually to local historical, natural and cultural sights and twice a year (on holidays) to their native places. Apart from this practice, all interviewed students declare an interest and desire to travel around the country and abroad for the purpose of entertainment to visit natural and cultural landmarks. And by sharing it with more emphasis on the desired plan, the respondents do not express dissatisfaction and disappointment with the current limitations, but rather positive expectations and confidence for the future. In this context, the idea of travel can be interpreted as referring to curiosity, willingness to experience positive emotions, expectation to meet needs, symbolism of personal development, but also long-term thinking, outlining incentives for persistence and tolerance of the challenges in the present.

“Food preparation and consumption” come with an emphasis on food preparation and food quality and are also present in the answers as activities to support wellbeing. This has its explanation in the Chinese traditions and culture of eating and preparing food. On the one hand, Chinese cuisine is popular all over the world with its taste, resulting from mixing different ingredients and flavors. On the other hand, in China cooking and, above all, serving food has been turned into an art: besides the tempting taste of the dish, it is often the diligence of plating and the aesthetic layout of the served meals that is seen as a symbolic expression of philosophical views of integrity and completeness. So, it seems that the preparation and consumption of food is part of the students’ everyday activities not only in terms of satisfying a physiological necessity but also as an activity aimed at providing pleasure and enjoyment.

The passion for shopping, present as a copying strategy in some replies, is to a large extent a reflection of the mass culture and the modern world consumer values that stimulate activity and insatiability in search and purchase of material objects. Similarly, the shopping passion is also an expression of transitivity, rapid

devaluation and the need, in psychological terms, to identify with new and illusory perceived as more valuable attributes. Online shopping can be seen as a form of distraction and deviation from every day worries and problems but it can also be a "form of addiction that provides a deceptive sense of tranquility, security and control" (Ivanova, 2014).

In summary, the respondents predominantly point out that active, problem-oriented strategies for coping with stress are preferred and used – hard purposeful and result-oriented work, good planning of tasks and time management, search for social support through advice and guidance from more experienced people: tutors, parents and friends. In part, this can be explained by referring the dialectical principles of Eastern philosophy to the world as a changing place with the understanding of Folkman and Lazarus themselves about the essence and application of the two main types of coping strategies - Problem focused coping and Emotion focused coping. According to their theory, active and problem-oriented coping strategies are more often applied in situations that are perceived by the person as adaptable, whereas emotionally focused ones are more often applicable in situations that the individual perceives as difficult to alternate or with less of a chance to change in the desired direction (Folkman & Lazarus, 1985, p. 152). Viewed from another angle, positive expectations for the future are inherent to optimists and therefore they "use more adaptive strategies to tackle problems; ... draw attention to the efforts they make to deal with the stressful situation, accept it more easily and try to personally grow through it and to get a positive feedback from the difficulties" (Ganeva, 2010, p. 97). The upbringing with collectivist values can also be in the basis for the selection of a coping strategy. According to a study by Chinese scientists (Lu, Kao, Siu, & Lu, 2011), work values such as collectivism (priority of group goals over individual interests), endurance (patience and persistence), diligence (sustainability, frugality), relationship orientation (respecting the social order and protecting the image of others), which are rooted in Confucian traditions, have the role of stress-buffers and contribute to the psychological resources in dealing with the negative effects of work-related stress.

It is noteworthy that passive and unhealthy techniques for coping with stress such as alcohol, cigarettes, and drug abuse are absent in the respondents' answers. Perhaps this is partly related to the cultural traditions in China where healthy lifestyle is a virtue. An additional effect on this probably have the enforced restrictions on smoking in public places, the severe sanctions for law violations and the wide-spread usage of video surveillance (CCTV) and control measures. Concerning narcotic drugs, besides the criminal nature of their distribution and usage, the restricted access to them and their high prices are likely to contribute to their low prevalence and popularity as a means of "escaping reality" and coping with the pressure of stress among students. Self-discipline, which is purposefully developed as a personal quality, also helps to curb unhealthy behavior. In one of the interviews the student shared as a pleasurable experience drinking Coca-Cola,

but because of the unhealthy nature of the drink, a self-limitation of one drink per day was imposed. The probability of socially desirable modeling of responses is also possible but a less likely option given the presence of intimate and not very positive personal information shared in the interviews.

Results on the subjective perceptions of experiencing wellbeing

In order to assess the level of experienced wellbeing, the following question was used: "For the last 6 months, how would you evaluate your experience of wellbeing on the scale of 1-10 points, where 1 means you have not got experience of wellbeing and 10 means a very high level of wellbeing"? In terms of the subjective perception of wellbeing in the last 6 months prior to the study, the average value in the scores based on the answers was 5.5.

The next wellbeing measuring question was: "After 6 months from now, where would you like to place your experience about wellbeing, on the same scale between 1-10 points"? The average level of the desired wellbeing for the next 6 months scored 6.8.

The values of the answers in both questions regarding the degree of experienced and the degree of desired level of wellbeing are not high. These results are in line with the values of a multicultural study conducted in 26 countries to verify the scale of life satisfaction (Seulki, Sook, Cao, Cooper, & Spector, 2017). The authors of the study assume that the low scores in life satisfaction assessment in China are preconditioned by the higher standards of modesty and self-criticism inherent in Chinese society. Perhaps the mean value of the answers is also contributed to by the ranking of personal happiness after social wellbeing. By sticking to this explanatory framework we can add the impact of the limited time period of 6 months (before and after the current study), a period marked by the specifics of change: the interviewed students had begun their training in the master programs at the GDUFS in September 2016, which was within 8 months' prior the study. This change was also related to adapting to a new social environment and living in a dormitory, with still vague prospects for career development, as well as with emotionally burdensome parental expectations.

With regards to the cognitive component in the concept of subjective wellbeing related to the satisfaction with achievement, the question used was: "What are the things that make you satisfied when you achieve them?"

Respondents' answers are predominantly about the successful exams and becoming students at the GDUFS, the scholarships granted for high marks, the additionally achieved different professional certificates, and the public functions performed in the student organizations. Part of the responses include the positive assessment received from the employer (in the part-time work) and the assessment of an anticipated competitive advantage (due to acquired certificates) to peers in terms of future development prospects, i.e., bestowing the efforts made with

results, recognition and/or social acceptance are key elements for the satisfaction of the responding Chinese students.

With regards to the emotional component in the concept of subjective wellbeing connected to the feelings of pleasure and happiness in everyday life (the things and activities, which the respondents relate to positive emotions in the short term), the question used was: "What are the things that give you sense of pleasure, satisfaction, and happiness in your everyday activities?"

The shared positive emotions are preconditioned and focused in two directions: social relationships and sensory sensations. Supporting good relationships with family and friends are derived from the interviewees as leading preconditions for experiencing delight and satisfaction. This is understandable in the context of the collectivist culture of Chinese society and the value of harmony in relationships, the sincerity and respect to the elderly (Xinxin, 2009). In this line of thought, logically, as a source of negative emotions the respondents have outlined temporary misunderstandings with fellow students or cohabitants in the dormitory, tensions in the family about health problems or intergenerational values.

Subsequent in importance in terms of the frequency of sharing positive experiences are the activities aimed to stimulate sensory feelings of pleasure and delight such as preparing and consuming delicious food, observing and photographing beautiful natural sceneries, creative art activities: painting, calligraphy, handicrafts. Fine art in its various forms is part of the ancient Chinese culture and traditions. In addition to being part of the curriculum in educational institutions it is practiced massively in an informal way: in streets, in parks and gardens one can see people drawing, dancing, playing and singing for pleasure. Presenting and promoting Chinese cultural traditions and art can also be seen as a constituent element of the national identity: in each student's answers this line of representativeness and preservation of the national identity is clearly identified through direct value statements or through explanations of one's own behavior.

In the emotional spectrum of the subjective wellbeing, as negatively stressed are raised concerns about the successful completion of the Master's degree and the future career choice and accomplishment. In perspective, as a resource to address these concerns almost all respondents, along with their own efforts, look forward to emotional support, encouragement, guidance and assistance from parents, tutors, friends, teachers and fellow students. The question used was: "What else do you expect and from whom, to make this happen?"

With regards to the concept of psychological wellbeing in the respondents' answers there are planned activities to support the five basic measurable elements described by Seligman: positive emotions, engagement, meaning, achievement and positive relationships (Seligman, 2017).

It is noteworthy that in the face of personal manifestations of wellbeing the attention is focused on: 1) Preparation prior to manifestation: personal organization and energy for learning, preparation for exams and achievement – "more energy

in learning", "more activity and confidence in preparation", "flexibility in planning"; 2) Restraint in expectations, patience: "step by step", "when you expect less, you stimulate more happiness"; 3) Social inclusion and commitment: "creating more happy moments for me and the people around me", "more activity and friendships in cultural events and manifestations", "not burdening anyone with my concerns", "more activity in communication and sharing opinion".

In terms of future goals (giving direction, sense of future and predisposition for the elements of meaning and achievement in the PERMA concept of wellbeing) the question used was: "What is your goal for the next 5 years? If we meet after 5 years what would you like me to praise you for?" The responses focus on professional realization and manifestation combining not only a successful career but also usefulness, a sense of value, as well as conditions for more travel and leisure. The feeling of gratitude as a focusing positive causality and thus cultivating wellbeing (Seligman, 2017) was studied with the question: "To whom and for what would you like to thank to/be grateful?" Absolutely and unconditionally all respondents express their gratitude to parents first, for: "having me", "financial support and love", "guidance and encouragement", and "tolerance"; then to tutors and teachers for "knowledge", "advice", "pleasant communication"; to friends for "inspiration", "encouragement", "positive feelings"; to themselves for: "hard work", and "high standards". Some of the respondents also expressed their gratitude to the interviewer for: the "interview", the "opportunity to talk about myself", the "questions I have not thought about".

The codes for the subjective perception of wellbeing with examples and quotes are presented in Table 3.

Table 3
Analysis of the responses on wellbeing

Summary of Themes	Categories	Sub-themes
Wellbeing	Positive emotions	<p><i>Sensory sensations:</i> "preparing and consuming delicious food", "to take pictures of beautiful nature", "observing and photographing beautiful natural sceneries", "painting Chinese art", "to create new art-things from the old things (handicrafts)", "painting calligraphy", "dancing", "singing karaoke".</p> <p><i>Gratitude feelings:</i> thanks to my parents for "having me", for the "financial support and love", for "guidance and encouragement", and for "their tolerance"; thanks to my tutors and teachers for "knowledge", for "advice", for "pleasant communication"; thanks to my friends for "inspiration", "encouragement", "positive feelings".</p>
	Engagement	<p><i>In social activities:</i> "To be in a leader position in class or in the student organizations", "to take part in the Communist Youth League of China".</p> <p><i>In learning process:</i> "to study harder", "to finish an academic paper", "to enrich the knowledge", "I love reading".</p>

Positive Relationships	<p><i>Supporting good relationships with family and friends:</i> "creating more happy moments for me and the people around me", "more activity and friendships in cultural events and manifestations", "not burdening anyone with my concerns"</p> <p><i>Respecting elderly people</i> – "I would like to share experience with the senior".</p>
Meaning	<p><i>Traditions:</i> "I have to care for my parents, I owe them – it's a Chinese tradition", "I would like to feel myself useful and valued in the company", "my studied specialty is good", "to do these things, which I can do", "to come back at home and then to start a carrier".</p> <p><i>Believes:</i> "God helps to those, who help themselves", "The most important thing is the work – to find a satisfying work".</p> <p><i>Satisfaction with achievements:</i> "Passed successfully the exams", "became a student at the GDUFS", "achieved additionally different professional certificates", "every one completed hard task".</p>
Achievement	<p><i>Plans and goals for future achievements:</i> "to take the scholarships granted for high marks""to set up my own company""to work as a manager in a big company or in a bank", "to find good job with high salary", "to become a successful business woman".</p>

Discussion

The results obtained on the levels of perceived stress and wellbeing among Chinese students at GDUFS can be interpreted through the prism of cultural traditions and beliefs of the eastern people. Deeply rooted in these traditions are the principles of dialectical balance and holism. For them contradictions are accepted in a unity, as the joint presence (Yin and Yang) and the duality are intrinsic in thinking and understanding of the world that is viewed as a constantly changing and evolving place. From this point of view, holding and expressing extreme positions is not acceptable. In terms of wellbeing the levels of experienced and desired wellbeing are not extreme either. May be it is because of the feeling of modesty and self-criticism inherent in Chinese people that plays its role here (Seulki, Sook, Cao, Cooper, & Spector, 2017). It is also possible that there is an effect of prudence caused by the political censorship on statements expressed openly in the Chinese society.

Amongst the prerequisites for experiencing stress the respondents indicate the usual workload for student communities regarding teaching engagements and social activities at the University, the remoteness from home and the friendly environment, the need to cope with financial and day to day difficulties, to find and perform diligently additional part-time work. In deeper interpretative terms, stressors can also be linked to cultural aspects of the Chinese society such as, for instance, the high parental expectations for academic achievement and child prosperity. This tendency, due to the 30-year-old policy of fertility regulation in the country, is also reinforced by the fact that the child is in most cases the only heir in the family. There is also a link between the sources of stress and the rapid

economic changes in China. In the buoyant boom of the economy, young people are facing pressure from the requirements for competitive development, and from the many social challenges that they are thinking about in a future perspective.

Although paradoxical as a solution, "dealing with stress through additional stress" has its partial explanation in Chinese culture with its Confucian values of hard work, collectivism, cohesiveness, loyalty, and the subsequent patterns of family upbringing. In a presentation on intercultural communication to the teachers from the School of English Education at GDUFS, Xiwu Feng (Feng, 2017), describes this distinction with the metaphor of the "Mother Tiger" and the "Father Wolf", both of whom urgently set strict and very high demands on the child to achieve one's best. According to the author, in Eastern culture, the dominant role and vision of parents integrates high outlined expectations for the future development of the child and sets pressure for improvement to make it possible to achieve this development. Compared with models from Western societies he describes the difference in the focus of parents in these societies: more focused on reducing stress, combining workloads and entertainment with sports and activities, respecting the wishes and the interests of the child. Following these considerations, it can be assumed that the tolerance to stress in eastern cultures is higher and this attitude is nurtured and fed into the family from an early age on. In addition, the persistent drive for education and prosperity of children in the family as a cultural value in Chinese society gives meaning to the efforts and persistence of the youth to cope with difficulties and challenges during their education. That might be the explanation why the focus of young people is more on the preparation by combining not only activity and struggle, but also patience to achieve results. These efforts are also entangled in the understanding of the Eastern nations of happiness and success.

According to Zinovieva and colleagues (Zinovieva, Paunova-Markova, & Angelova, 2016) the cultural determinants for the experience of wellbeing (through components of the experience of happiness and success) can also be explained through the prism of theories of constructing the "Self" as an independent or interdependent construct. In collectivist cultures where the Self is construed as an interdependent construct, it is characterized not by its individual qualities but by its social ties and relationships. Traditionally, the Chinese view of the Self is "as it is a variable, flexible, assuming responsibility being, that is interconnected to others," whose ultimate goal is to achieve "unity between self and society through self-development and self-indulgence, self-control and self-exacerbation" (Zinovieva, Paunova-Markova, & Angelova, 2016, p. 220). Thus, the wellbeing of society prevails over individual interests and the guarantee of achieving it is the conscious accomplishment of social roles and responsibilities in harmony with personal aspirations. Therefore, the experience of subjective wellbeing is bond to the activities and expectations of achieving public recognition and is supported by efforts for self-improvement and continuous development.

Conclusion

The analysis of data collected in the current study outline average and above average levels of perceived stressful experiences and slightly lower levels of experience of wellbeing among Chinese students at the Guangdong University for Foreign Studies. The answers to the questions about the levels of stress and wellbeing reflect the tendency inherent in Eastern cultures to avoid extreme positions and assessments in expressing opinions. Among the prerequisites for experiencing stress the respondents point to the usual workload for students, reinforced by the high demands for academic success and personal development that are linked to the rapid economic growth in the country and the Chinese society. In the stress-responsive registry there is anxiety about self-presentation, tension in day-to-day tasks, insomnia, but also mobilization for action and coping with difficulties.

The active coping strategies are dominant with this group of students. Leading among them are diligence, including additional workloads, tied to the pursuit of high social expectations and the achievement of socially beneficial results; good planning and personal organization; sports activities, arts and crafts; cognitive restructuring (reframing) and positivity of thoughts and expectations. These responses are in line with the Confucian values of hard work, collectivism, cohesion, loyalty, and the resulting patterns of family upbringing, which binds coping strategies with meaning, positive emotions and expectations. As a logical continuation the respondents do not admit using unhealthy strategies for coping with stress such as smoking, alcohol or medication abuse.

This group of GDUFS students are deliberately active in maintaining wellbeing despite their modest inexperience in assessing the perceived level of subjective experience. Their efforts are focused on preparing the manifestations, preserving harmony in relationships, providing positive emotions by delivering pleasure to the senses and synchronizing subjective aspirations and goals with public manifestations and gaining social approval. Feelings of gratitude, sympathy for others, national identity, and a connection with traditional values for their culture make up a significant part of the understanding of the experience of wellbeing in their lives.

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Biserka Zarbova

Sonya Karabeliova

Sofia University "Sv. Kliment Ohridski",

Faculty of Philosophy, Sofia, Bulgaria

STRES I BLAGOSTANJE KOD KINESKIH STUDENATA

Apstrakt

Stres kao fenomen prati svakodnevni život svake osobe bez obzira na mesto ili okolonu. Blagostanje se često sagledava kao alternativa u odnosu na dominantno negativnu kontaciju stresnih događaja. Oba fenomena su psihološki konstrukti, naime i stres i blagostanje su proizvodi refleksivnih i kognitivnih procesa osobe i njenih interakcija sa okolinom. U tom smislu kulturološke razlike sredina u kojima osoba odrasta i školuje se imaju značajnu ulogu na subjektivni doživljaj stresa i blagostanja i određuju specifičnosti u načinima na koje im se pristupa. Cilj ovog rada je da se ispituju subjektivne percepcije iskustava stresa i blagostanja kod kineskih studenata, u socio-kulturnom kontesktu koji karakteriše intenzivni ekonomski rast, snažna kompeticija i specifična politička klima. Istraživanje je sprovedeno na 25 studenata kineskog „Guangdong“ Univerziteta za strane studente (eng. Chinese Guangdong University for Foreign Studies; GDUFS). Korišćen je strukturisani intervju sa 13 pitanja sa zatvorenim i otvorenim odgovorima. Kako bi bile ispoštovane etničke i multikulturalne norme, procedura i sadržaj pitanja su najpre dogovoreni sa univerzitetskim psihologom. Priklupljeni podaci su podvrgnuti analizi sadržaja. Dobijeni rezultati ukazuju na srednji i iznadprosečni nivo stresa i niži nivo blagostanja. Istaknute su glavne metode koje kineski studenti koriste u upravljanju stresom održavanju prosečnog niva blagostanja. Najčešće se bira aktivno suočavanje sa stresom – predan rad koji uključuje i preopterećene poslom, pronalaženje značenja u postavljenim ciljevima kako bi se ostvarili, planiranje i lična organizacija, sport, pozitivno razmišljanje i reuokviravanje. Od pasivnih strategija suočavanja sa stresom najčešće su one koje podrazumevaju igranje igrice na kompjuteru, gledanje filmova i spavanje. Blagostanje se održava dobijanjem socijalne potvrde, održavanjem harmoničnih odnosa sa porodicom i prijateljima i uživanjem svim čulima.

Ključne reči: stres, blagostanje, kulturne vrednosti, kinesko društvo

THE CONNECTION BETWEEN SPORTS RECREATION AND LEVEL OF DEPRESSION AND STRESS INTENSITY¹

Abstract

Beneficial effects of physical activity on human's psychological health were pointed out yet by antique thinkers. We live in a time that we call the time of informatic revolution, which was characterized by such way of doing work that human uses more of his intellectual abilities, and less of his physical strength. Work was done in a static way, which is the result of "illness of not-moving" and "illness of seating occupations". First of all, there is an idea about some of the most frequent illnesses of today like illnesses of cardiovascular system, diabetes, arterial hypertension, some forms of cancer and depression. The research was implemented with the goal of examining the connection between sports recreation and level of depression and stress intensity. 120 examinee of which 60 examinee that are practicing some form of physical recreation and 60 examinee which are not practicing any form of physical recreation. The research is done during May and June on Niš city area. For examining the stress levels was used Beck's Depression Inventory (Beck, 1996), for examining the stress intensity was used S. Bensaba questionnaire "Are you in stressful situation" (Bensaba, 1999), while for collecting general data, for that occasion was used, and for that occasion formed questionnaire of general data. Results obtained by this research confirmed the hypothesis that there are statistically significant differences in the degree of depression and the stress intensity compared to doing the sports recreation. Participants who engaging sports recreation have a much lower degree of depression ($t = -4.58, p = .000$) and much lower stress intensity than non-sports recruiting respondents ($t = 4.03, p = .000$).

Key words: sport recreation, depression, stress

Introduction

Through long phylogenetic development, man, as a species, has formed into the being that we now today, with the given body structure, physical and functional abilities, spiritual and social life, while establishing a certain internal balance and harmony, necessary for the maintenance of life, aiming at meeting his own needs (biological and psychological) that evolved historically, through evolution.

Changes, conditioned by the social progress have led to less manual and more automated and creative work, which leads to greater material wealth and

¹ Corresponding author: danica.vukic@yahoo.com

at the same time increases the individual's life responsibilities. Modern age, along with contemporary way of life creates pressures that often adversely affect human health. Creating the excess of free time, transforming a self-sufficient way of life into a consumer's life, reducing physical activity and the transition to a "sedentary" way of life (less manual work, automated production) is seriously endangering the human biological structure.

Inactive people are more susceptible to the influence of a number of factors that, when act together, lead to serious changes in blood vessels and heart, respiratory system, endocrine and immune system (Bensaba, 1999, 2002; Ostojić et al., 2009).

One of the consequences of the modern way of life and insufficient physical activity of the person is also the phenomenon of depression, whose incidence is rapidly increasing (Miletić et al., 2009).

Depression is a mood disorder, characterized by symptoms in the area of emotions, motivation, cognitive processes, physical symptoms, and social relationships (Kalicanin & Lečić-Tosevski, 1995). The basis of the disorder lies, and the clinical pictures dominates an impairment of affection in sense of hypertension, i.e. enhanced affective response, which is not in accordance with circumstances. Theoretical models of the occurrence of depression can be grouped into two basic categories: biological, based on biochemical and genetic research and psychological models, which include psychoanalytic, behavioral and cognitive interpretation, as well as understanding of an impact of the social environment.

Beck (1967) sets up a cognitive theory of depression, which is directed at self-extinguishing entail processes of a depressed person. He believes that cognitive processes play a key role in emotional behavior. During childhood and adolescence, depressed persons get a negative scheme which is later activated when encountering negative life events. Negative schemes show the negative triad: a negative self-view, the world around you and your own future (Beck, 1967).

Beck's model's causal level describes cognitive constructs significant for etiology disorders. This level starts from the assumption that, people who have disorted views or dysfunctional attitudes about oneself, the world and future, have a greater risk of depression when facing life stress. Dysfunctional attitudes or perspectives are conceptualized as a permanent representation of knowledge and experience, usually formed in childhood, which they direct and then decide the way of processing situational information from the present (Beck, 1967, 1976).

The negative bias, in terms of the future-hopelessness is reflected in the interpretations of future events as certain sources of failure, sources of frustration, dissatisfaction and uncertainty, the expectation that they will fail on each new task, and that the current problems will last indefinitely (Novović et al., 2005). The main cognitive distortions of the depressed person are: arbitrary conclusion, selective abstraction, over-generalization and enlargement and reduction (Beck, 1967, 1976; Beck et al., 1999).

A significant number of studies supported Beck's hypothesis (Clark & Steer, 1966). The significance and influence of stress in human life was actualized in the

mid20th century, as one of the most commonly used concepts in contemporary medicine and psychology that marked the past century. As much as the expression of stress is new for us, its content is old because stress has always existed, since all people experience numerous and various stressful situations. So, it became an inevitable companion of life, primarily because of its negative effect.

In literature, there are many definitions of stress. One of the most commonly used ones is the definition that has been given by Hans Selye in the thirties of the last century, which sees stress as a general adaptation syndrome, or a process that simply takes places in the body when it is exposed to any kind of aggression (traumatic, infectious, toxic, psychic, etc.) and which, to such an extent endangers and distorts the human condition of current state, so that the defense in terms of using only specific defensive mechanisms is not possible (Selye, 1956/61). Stress is observed as a spice of life, connected with all aspects of our activities and presents sudden and forced action of psychosocial factors that suddenly disturb the established balance – biological, social and psychological (Bensaba, 1999, 2002). Response to stress situations is specific and individual (Svičević, 2003).

As a powerful weapon in coping with stress and its harmful consequences, physical activity stands out, stemming from the fact that the natural reaction to stress is a struggle or a fight, to both humans and animals. Contrary to the animal, a man affected by stress can not escape nor attack his opponent. In this case, the reaction to stress is suppressed and stays inside us and spreads throughout the body. Such stress can be dominated by movement, that is, physical activity (Lindeman, 1976; Svičević, 2003; Kosović, 2004).

The main goal of this research is to determine whether there are statistically significant differences in the degree of depression and the intensity of stress, depending on whether the subjects are engaging in sports recreation or not.

The specific objectives were to determine whether there are statistically significant differences in the degree of depression and the intensity of stress, depending on how many times a week do the respondents engage in some form of sports recreation, as well as depending on the length of their exercise.

Method

Sample

The total sample of research was 120 examinee. The research was conducted in the city of Nish, June 2017. When it comes to the structure of this sample, according to the sex of the respondents, 57 male (47.5%) and 63 female respondents (52.5%) took part in the survey. When it comes to professional qualifications, most of the respondents from the sample (almost half, 45.8%) had high education (college, master, PhD). Respondents with high school degree, according to the number, took second place (35%), followed by respondents with college degree (18.3%). In relation to engaging in sports recreation, sample is

convenient and balanced – 50.0% of the respondents are engaging in some kind of sports recreation. Out of 60 respondents who engage in sports most of them are physically active for more than 3 years (45.0%), and the rest of them (21.7%) for 1–3 years. 20.0% of the respondents have been engaging in sports for several months, and 13.3% of them from a few months to one year.

Compared to frequency of engaging in sports recreation, more than half of the respondents (from the sub-sample of those who play sports) engage in those activities 2 to 3 times a week (56.7%), one-third of them engages in sports more than 3 times a week (33.3%) and 10.0% of them exercise once a week.

Instruments

To investigate the degree of depression, we used Beck's depression scale (Beck, 1996). Groups of different states are given in this questionnaire, whereby the respondent selects one condition from each group, which is the best description of the feelings he had during a previous week. The "Are you in a stressful situation" questionnaire by Soli Bensaba (Bensaba, 1999) was used to investigate stress intensity. The questionnaire consists of ten questions that the respondent answers with "no" or "rarely", "yes", "sometimes", or "yes", "often", "permanently", and, depending on the given answer gets one, two or twelve points. The total score represents the stress level which subject was exposed to. Both scales used showed very high reliability ($\alpha = .90$). On the Beck's depression degree scale, result was $\alpha = .918$, and on the stress intensity questionnaire, result was $\alpha = .908$.

A General Data Questionnaire was used in collecting the general data about respondents.

Results

Table 1
Expression of the degree of depression and stress intensity in the whole respondents' sample

Scale		Min	Max	M	SD
Depression		0	40	7.21	8.59
Stress	intensity	10	120	22.16	20.45

The degree of depression, measured by Beck's questionnaire, expresses depression as a score range from *Min* = 0 to *Max* = 60, where 0 represents a *normal, depression-free state*, and 63 indicates a *serious depression*.

The results obtained in this study, in the entire respondents' sample, show that the average expression of depression is $M = 7.21$, $SD = 8.59$. The range of scores varies from *Min* = 0 to *Max* = 40 (Table 1).

The stress intensity, measured by the Bensaba "Are you in a stressful situation" questionnaire, represents stress level expressed in the range of *Min* = 10

to $Max = 120$ units. The stress intensity of up to 11 units is a stress-free state, from 11 to 20 units is a state of occasional stress and the intensity of the stress from 21 to 120 units, and represents a state of stress whose intensity is so much more pronounced when it is closer to number 120.

The results obtained in this study show that, in the sample of respondents, the stress intensity is at the very border of the two categories – the state of occasional and the state of higher stress. The resulting score is classified into a population that is in a state of increased stress ($M = 22.16$, $SD = 20.45$). The minimum score in the sample is $Min = 10$, while the greatest score is $Max = 120$.

Table 2

The significance of the differences in the degree of depression and the stress intensity depending on engaging in sports recreation

Scale	Exercise	M	SD	t	p
Depression	Yes	3.88	5.51	-4.58	.000
	No	10.53	9.80		
The stress intensity	Yes	15.07	8.67	-4.03	.000
	No	29.25	25.81		

When it comes to expressing the degree of depression depending on whether the respondents engage in sports recreation or not, the degree of depression obtained from respondents who do not engage in sports recreation was significantly increased ($M = 10.53$, $SD = 9.80$) versus respondents who do exercise ($M = 3.88$, $SD = 5.51$).

By checking the significance of the differences in the expression of scores on the scale of the degree of depression, a statistically significant difference was obtained ($t = -4.58$, $p = .000$). This finding is in accordance with the research settings, i.e., the engaging in sports recreation significantly influences the degree of depression.

Regardless of whether the respondents engage in sports recreation or not, on a stress intensity scale, the score obtained was much higher in non-active respondents ($M = 29.25$, $SD = 25.81$). According to the range, the sub-sample score in non-active respondents belongs to a stressed population. In contrast, in the respondents who are active, the average stress intensity is $M = 15.07$, $SD = 8.67$, which classifies this sub-sample in a population that is occasionally stressed.

By checking the significance of the given differences, statistical significance was obtained ($t = -4.03$, $p = .000$). The resulting difference was high and significant at $p < .01$.

Table 3

The significance of the differences in the degree of depression and stress, depending on the period of engaging in sports

Scale	Period of time	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Depression	Few months	5.33	6.89	0.95	.421
	Few months to one year	5.38	2.72		
	1–3 year	4.23	7.21		
	Longer than 3 years	2.63	4.40		
Stress intensity	Few months	16.67	9.76	0.17	.918
	Few months to one year	14.37	4.87		
	1–3 year	14.85	9.99		
	Longer than 3 years	14.67	8.73		

In respondents who are engaging in sports recreation, the length of period spent in those activities was also examined, as well as the frequency of sports recreation. In relation to time period (Table 3), the lowest degree of depression was obtained in respondents who practice sports recreation for more than 3 years ($M = 4.23$, $SD = 7.21$), then, in respondents who practice sports recreation for 1–3 years ($M = 4.23$, $SD = 7.21$). In respondents who do exercise, from a couple of months to one year, the degree of depression is $M = 5.38$, $SD = 2.72$. The statistical significance of the obtained differences in the expression of depression was not given to the length of time spent in sports recreation.

In relation to the length of sports recreation, minimal differences in the stress intensity were obtained. The highest scores obtained were in the respondents who are engaging in sports recreation for a very short period – a couple of months ($M = 16.67$, $SD = 9.76$), then, in the respondents who are engaging in sports recreation for 1–3 years ($M = 14.85$, $SD = 9.99$). The lowest the stress intensity obtained was in respondents who have engaged in sports recreation for a few months ($M = 14.37$, $SD = 4.87$) and, in respondents who have engaged in sports recreation for more than 3 years, result was $M = 14.67$, $SD = 8.73$. By checking the significance for the obtained differences in the expression of the stress intensity in relation to the length of recreation, statistically significance was not obtained.

Table 4

The significance of the differences in the degree of depression and the stress intensity, depending on the frequency of sports recreation

Scale	Frequency	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Depression	Once a week	4.33	4.84	0.18	0.832
	2–3 times a week	3.50	4.99		
	More than 3 times a week	4.40	6.64		
	Once a week	17.33	14.57		
Stress intensity	2–3 times a week	15.06	7.62	0.26	0.774
	More than 3 times a week	14.40	8.64		

In relation to the frequency of engaging in sports recreation (Table 4), a statistically significant difference in expression of the degree of depression was not obtained. The lowest degree of depression obtained was in respondents who are involved in sports recreation from 2 to 3 times per week ($M = 3.50$, $SD = 4.99$), followed by respondents who do sports recreation once per week ($M = 4.33$, $SD = 4.84$), and the most pronounced degree of depression, in relation to the frequency of engaging in sports recreation, was obtained in those respondents who practice recreation more than 3 times a week ($M = 4.40$, $SD = 6.64$). Although the differences in expression exists, as already mentioned, they are not statistically significant.

When it comes to the frequency of engaging in sports recreation, the statistically significant differences in the expression of stress intensity were also not obtained. The given scores show that the lowest the stress intensity is appearing among the respondents who practice sports more than 3 times a week ($M = 14.40$, $SD = 8.64$), followed by respondents who practice sports from 2 to times a week ($M = 15.06$, $SD = 7.62$). The highest the stress intensity was obtained among the respondents who engage in sports recreation once a week ($M = 17.33$, $SD = 14.57$).

The relationship between the degree of depression and the stress intensity

In relation to correlation of the degree of depression and stress intensity, the statistically significant correlation was obtained on the sample (Table 8). The resulting correlation is high ($r = .77$, $p = .000$) and significant at the level of $p < .01$. The correlation direction is positive and indicates that, along with the rise of the expression of depression degree, the expression of stress intensity increases as well.

Table 5
The relationship between the degree of depression and stress intensity according to sports recreation

Sports recreation YES	Depression	Stress intensity
Stress intensity r	.71	
p	.000	
Sports recreation NO	Depression	Stress intensity
Stress intensity r	.75	
p	.000	

Note. $df1 = 60$; $df2 = 60$; $p = .01$.

Discussion

Physical activity is an adaptive process, which provokes changes in a person from a given initial state to a desired condition by the application of moving solutions, and which amplifies repeatedly exercising, either individually or in groups in order to adopt certain knowledge, skills and habits, the development of tendencies, the provision of fun and entertainment, more complete affirmation, and so on (Vuković, 2013). The main goal of this research is to determine whether there are statistically significant differences in the degree of depression and the intensity of stress, depending on whether the subjects are engaging in sports recreation or not.

Research results have confirmed the basic hypothesis, statistically significant difference in the expression, in relation to exercising, and they have been obtained both for the degree of depression and for the stress intensity.

Since 1900, conducted research is aiming at examining the impact of exercising on the degree of depression. Previous research suggests that the level of physical activity and good mental health are in a highly positive correlation, which is in line with the results of our research that indicate a lower degree of depression and stress intensity among respondents who engage in some kind of sports recreation. Positive mood, the feeling of overall satisfaction with rare symptoms of anxiety and depression are found in respondents who engage in some form of sports recreation. Physical activity not only prevents the depression, but it also represents a good treatment for those who suffer from it. Early case studies concluded that, at least for some, moderate-insanity exercise should be beneficial for depression (Franc & Hamilton, 1905). A relationship between physical work capacity (PWC) and depression appeared and researchers have remained interested in the antidepressant effects of exercise (Morgan, 1969). In one research 30 community-dwelling moderately depressed men and women were randomly assigned to an exercise intervention group, a social support group, or a wait-list control group. They walking 20 to 40 minutes 3 times per week for 6 weeks, and authors reported that the exercise program alleviated overall symptoms of depression and was more effective than the other 2 groups in reducing somatic symptoms of depression on the Beck Depression Inventory (Mc Neil et al., 1991).

Research also suggests that the benefits of exercise involvement may be long-lasting. Researchers who discovered that physical exercises prevent the occurrence of depression found that, after four months of regular exercise, memory and other mental abilities improve (Goetz, 1999). Depressed adults who took part in a fitness program displayed much greater improvements in depression, anxiety, and self-concept than those in a control group after 12 weeks of training (Di Lorenzo et al., 1999).

The data published in the review of Lawlor and Hopker (2001) indicate a significant effect of exercise on the reduction of symptoms of depression. Although the entire sample of our research – according to the obtained results is classified as normal condition without depression, there are differences between

those respondents who engage in physical activity and the respondents who do not exercise.

Various mechanisms explain the positive effect of physical activity on the prevention and treatment of mental illnesses, as well as on psychological health and its function. Biochemical mechanisms involve an increased concentration of chemical compounds (endorphins, noradrenaline, and serotonin) in plasma that affect sleep, depression, and memory.

Physiological mechanisms involve increased body temperature and cerebral blood flow, reduce muscle tension and increase the efficiency of neurotransmitters. They also involve an improvement in the experience of competition, or belief in an individual's own body and its possibilities, achieved success, superiority, and determining one's own goals. Also, moderate physical activity affects cognitive processes, and indirectly, through a positive impact on the affective state of people, through the reduction of stress, anxiety and depression (Fox, 2000; Paluska & Schwenk, 2000; Scully et al., 1998).

As shown in the results, although differences in the degree of depression in relation to the frequency of engaging in sports recreation and the length of its activity are obtained, they are not statistically significant. While analyzing the data from previous studies on the effects of physical activity and depression, a conclusion has been made, about how exercise greatly reduces the degree of depression in all chronological groups, regardless of their previous physical condition. The effects achieved were more intense in the respondents who worked out more and who were longer involved in recreational exercise programs (North, McCullagh, & Tran, 1990).

The effects of physical activity did not depend on the age of the respondents. It has also been addressed that teens and young people who are more active, have a lower risk of developing depression in later life. In addition, physical activity is useful in the treatment of other mental illnesses, including the episodes of concern, ongoing concern and panic disorder. Recent evidence suggests that intense exercising on a regular basis can be as successful as anti-depression drugs, when it comes to reducing deep sorrow.

Sharkley & Gaskill (2008) explain how activating the entire body, especially regular physical activity of moderate intensity, can have positive effects on the overall mental health, and the reduction of depression. Exercising significantly reduces the degree of depression in all age groups, regardless the person's fitness, but better effects were noticed in respondents who have exercised longer and more often (North, McCullough, & Tran, 1990; as cited in Svičević, 2003). Among respondents with severe depression, who exercised on treadmill, a significant and rapid improvement of the condition was shown.

Notably, in the respondents who do not exercise, the degree of depression obtained on the degree of depression scale classifies this population into a group of a mild depression. Regular physical activity of moderate intensity reduces the effects of stress to the lowest. Previous research suggests that physical activity lowers stress levels to minimum (Wike, 2015).

Regular physical activity is a combat mechanism that serves to increase tolerance on psychological stress. The results show that, on the whole sample of the respondents, the stress intensity is at the very border of two categories – the condition of occasional stress and increased stress. Lower stress intensity has been found among the respondents who engaged in sports recreation. This is also indicated by the results of previous studies. It leads to the secretion of substances that act as natural antidepressants and anxiolytics-noradrenaline, endorphin and encephalon (Nemčić, 2006). Although meditation and other forms of stress management are useful, regular light physical activity is nevertheless the most effective in combat with stress. It contributes to the reduction of mental tension and relaxation, and at the same time manifests other positive health effects (Ostojić et al., 2009). This is explained by the fact that physical activity leads to a reduction in the sympathetic and increased parasympathetic activity, and reduces the excessive excretion of catechol amines during any stressful event. Moderate physical activity on a regular basis and good fitness are beneficial to the entire organism, partly because of the decreasing in diastolic blood pressure, which certainly reduces the reaction to stressful situations (Hendrix & Hughes, 1997).

There is numerous evidence of the positive effects of regular physical activity on the prevention or therapy of metabolic and psychological (emotional) disorders of a wider scale, which are induced by the chronic stress of the modern day of life. These positive effects are, on the one hand, the result of central neuroendocrine effects of physical activity on the reduction of stress sensitivity and, on the other hand, peripheral metabolic effects (Krivokapić & Popović, 2011).

In addition, although the draft survey does not provide verification of the correlation of the dependent variables, the results of the study showed highly positive correlation on the degree of depression scale and stress intensity scale. The positive direction of correlation indicates that, with the increase in the expression of scores on the degree of depression scale, the expression of scores on the stress intensity scale increases as well, vice versa. Correlations of the two scales used were obtained on the whole sample of respondents, as well as on both of sub-samples of respondents who engage and do not engage in sports recreation. According to the level of the Pearson correlation coefficient, a greater connection of two scales exists on the sub-sample of respondents who do not deal with sports recreation. Engaging in sports recreation should not be seen merely as entertainment, fun and leisure but, above all, as an authentic need of a modern man and a significant factor of his biological-health and socio-psychological balance.

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Danica Vukić

*Tehnička škola „15. Maj”,
Prokuplje, Srbija*

POVEZANOST IZMEĐU SPORTSKE REKREACIJE I NIVOA DEPRESIVNOSTI I INTENZITETA STRESA

Apstrakt

Na blagotvoran uticaj bavljenja fizičkom aktivnošću po psihičko zdravlje čoveka ukazivali su još antički mislioci. Živimo u vremenu koje nazivamo vremenom informatičke revolucije, a koje karakteriše takav način obavljanja posla da čovek sve više koristi svoje intelektualne sposobnosti, a sve manje svoju fizičku snagu. Rad se obavlja u statičkom položaju, a što sve za posledicu ima pojavu „bolesti nekretanja” i „bolesti sedećih zanimanja”. Tu se pre svega misli na neke od najučestalijih bolesti današnjice kao što su bolesti kardiovaskularnog sistema, šećerna bolest, arterijska hipertenzija, neki oblici raka i depresija. Istraživanje je sprovedeno s ciljem ispitivanja uticaja bavljenja sportskom rekreacijom na stepen depresivnosti i intenzitet stresa. Učestvovalo je 120 ispitanika, i to 60 ispitanika koji se bave nekim vidom sportske rekreacije i 60 ispitanika koji ne upražnjavaju sportsku rekreaciju. Istraživanje je sprovedeno tokom maja i juna meseca na području Niša. Za ispitivanje stepena depresivnosti korišćena je Bekova skala depresivnosti, za ispitivanje intenziteta stresa korišćen je upitnik S. Bensabe „Da li ste u stresnoj situaciji”, dok je za prikupljanje opštih podataka o ispitaniku korišćen, za tu priliku sačinjen, Upitnik o opštim podacima. Rezultati dobijeni ovim istraživanjem potvrdili su osnovnu hipotezu da postoje statistički značajne razlike u stepenu depresivnosti i intenzitetu stresa u odnosu na bavljenje sportskom rekreacijom. Ispitanici koji se bave sportskom rekreacijom imaju značajno niži stepen depresivnosti ($t = -4.58$, $p = .000$) i značajno niži intenzitet stresa u odnosu na ispitanike koji se ne bave sportskom rekreacijom ($t = -4.03$, $p = .000$).

Ključne reči: sportska rekreacija, depresivnost, stres

LIFE SATISFACTION OF YOUNG PEOPLE¹

Abstract

Young people's life is characterized by numerous changes and challenges, whereat they often forget that the quality of life and sense of life satisfaction can be personally affected by it and largely depending on them. They set their own criteria for an optimal way of life with which to compare their current state, which leads to assessment. Young people are facing with failure and learn how to deal with its consequences, while the attitude of acceptance or non-acceptance of themselves indicates the level of belief in their own ability, importance, value and success. The individual assesses the life satisfaction based on the success in various life roles. The main problem in this study was to explore the life satisfaction of young people, and relationships with self-esteem and the locus of control. The aim of the study emerged from intention to show that the quality of life does not only depend on what is owned, but rather the kind of opinion young people have about themselves and how they perceive the events around them. It refers to the examination of the level of life satisfaction as well as determining the predictive values of self-esteem, the locus of control for life satisfaction of young people. The research included 1.172 subjects, ages 16 – 19. Rosenberg's self-esteem scale, Rotter's questionnaire of the internal against the external locus of control, and the Scale of life satisfaction were used in the research. Young people evaluated themselves positively on the Scale of life satisfaction. Gender differences were found in a variable of life satisfaction. There is a statistically significant correlation between locus of control and life satisfaction as well as the self-respect with life satisfaction. Locus of control and self-esteem are significant predictors of youth life satisfaction. Together they indicate 22.2% of the variance criteria.

Key words: life satisfaction, self-esteem, locus of control, young people

Introduction

In the modern world, wealth, status, and power have become extremely important segments of life; even so that they became powerful symbols of pleasure and happiness. Accordingly, today's youth meet with numerous challenges, and goals are often inconsistent with the possibilities of young people. The way of life and the achievement of the potentials that individuals have, and the circumstances in which one individual lives, significantly affect the general satisfaction of the person with life, and thus the satisfaction of the lives of young people. However, it is often forgotten that the quality of life and the feeling of

¹ Corresponding author: nerminmulaosmanovic81@gmail.com

satisfaction can be personally influenced and that the quality of life depends to a large extent on the person itself.

Satisfaction sources are a consequence of satisfying different needs, as well as optimal functioning of the system (Opačić, 1995). There are many disagreements about the definition of life satisfaction construct. Campbell, Converse and Rodgers (1976) define satisfaction as the perceived difference between aspirations and achievements ranging from the perception of fulfillment to the perception of deprivation. Mentioned authors consider it to be a cognitive component of the subjective well-being, while they view happiness as an experience of emotion or feeling. According to Pavot et al. (1991), it is a global evaluation of a person about someone's life. A person evaluates individual aspects of its own life within this definition and compares the good with the bad things which results in an overall assessment of satisfaction. Penezić (2006) points out that life satisfaction reflects on the global evaluation of personal life and is considered a cognitive component of a personal well-being that makes it even more an emotional component associated with the person's mental health. Mainly, life satisfaction is defined as an integral part of the wider concept of the subjective well-being, which includes satisfaction with life as a cognitive component (Penezić & Ivanov, 2000). It is pointed out that it can be viewed as a global assessment, but also as a satisfaction with different segments, such as health, work, leisure, social and family relationships.

There are various theoretical approaches to life satisfaction. The most commonly mentioned are three models that crystallized in attempts to explain life satisfaction, which are: a structural model ("top-down model"), i.e., deductive model, bottom-up model i.e., inductive model and model of dynamic equilibrium (Penezić, 2006). In the first model, a general assessment can be made of individual parts, i.e., people have a disposition to interpret life in positive and negative ways. According to the second model, satisfaction in certain domains of life, such as marriage and work, can contribute to overall satisfaction. The third model involves the influence of different personality dimensions on satisfaction estimates. According to this model, it is emphasized that apart from the dimension of personality, which should be considered as the basic predictors of life satisfaction, is important to consider objective factors and subjective estimates of life in various areas. The concept of subjective well-being is linked to the evaluation of life made by individuals. These evaluations include cognitive assessment of life satisfaction as well as affective mood and emotional appraisal (as cited in Penezić, 2006).

One of the questions that arises is whether life satisfaction can be viewed as a personality trait? According to Veenhoven (1994), life satisfaction cannot be seen as a stable personality trait for several reasons: satisfaction is not stable over time, especially throughout the lifetime, it is often changed, satisfaction is sensitive to changes in living conditions, it is not completely defined internally but influenced by personal and group orientations.

Bearing in mind the dynamics of the processes that produce the crisis of a particular stage of life, which is most pronounced in certain transition periods, it is

important to examine the level of youth life satisfaction because many processes can affect the life satisfaction either directly or through some other constructs in relation to life satisfaction, which can change by themselves during the transition period. According to Brajkovic (2010), satisfaction is often changed: absolutely (and satisfied individuals become dissatisfied), and relative (the happiest person in the group can become least happy), life satisfaction is not insensible to changes in living conditions, progress or deterioration of living conditions usually is accompanied by deterioration or improvement in the life assessment. Also, satisfaction is not only fully internally determined, but it has been shown that satisfaction assessments are influenced by personal characteristics and group orientations.

In the adolescent period, young people pass through numerous changes – changes in physical appearance and changes in a social, emotional, cognitive plan. These changes are not the entities for themselves, but they are connected with different forms of behavior, cognitions, emotions, etc. In this period, young people often consider numerous of questions regarding meaning of life, so they intensively and deeper think about life, meaning, as well as other life circumstances. Regarding such dilemmas, but also related to the experience of all changes occurring in the adolescent period, there is a potential for change in youth satisfaction with life (Ćurčić, 2004)

It is given that young people have no health problems, there are many friendly relationships at that time that can affect life satisfaction and are not burdened with family-related issues, so there is an assumption that young people experience higher level of life satisfaction.

According to Penezić (1996, 1999), in Croatia, there was no difference between genders due to general life satisfaction. Early research states Diener (1994, 1995, as cited in Diener, 2009), Argyle (1999) that lower levels are present in girls because of the more traditional female upbringing. However, due to the greater achievement of women and better developed social skills, as the research states, it is possible that the distinction has disappeared. According to Simmons et al. (1969, 1978), significant differences in the self-concept occur in the period of youthfulness between young men and girls, where they consider girls to be overwhelming young men in all aspects. Wilson and Wilson (1976) consider that men find the source of self-esteem in the hierarchy of power and women in the realization of personal goals, appearance, family relations and the care for their own existence. They have begun to transcend their colleagues in quality and degree of achievement (Zlatković, 2007) Regardless of gender, life goals, young tend to look better and get feedback from the environment. During adolescence, both genders are worried about appearance. Some findings have shown that satisfaction with appearance is positively related to self-acceptance and self-competence. Based on the above-stated, it is assumed that there are no differences with regard to gender.

Self-esteem, as a personality trait, has a special status in the nominal network of personal well-being. Namely, self-esteem also turns out to be a consistent and

positive correlate of life satisfaction (Lucas et al., 1996; Diener et al., 2002, 2010). As a construct, self-esteem was often replaced with a life pleasure. However, self-esteem and life satisfaction cannot be treated as substitutable variables (Penezić, 1999, 2004). Self-esteem is a concept that has proven very important for a subjective experience of people's satisfaction, as well as for success in different areas of action. This is in fact the primary indicator of a positive individual adaptation, so it is therefore interesting for research in various areas of psychology.

Various studies (i.e., Lucas et al., 1996; Diener et al., 2002, 2010) show that low levels of self-esteem are associated with low life satisfaction, loneliness, anxiety, indignation, irritability, depression, behavioral disorder and delinquency, and the increase in alcohol and drug consumption. It is considered that people of high self-esteem understand the most life situations easily; they expect success and predict that others will like them. The research has confirmed that cognitive and non-negative personality traits affect the quality of an individual's life more than the median factors.

In numerous studies, that have been already mentioned, the authors have tried to link life satisfaction with a number of other factors of psychic and physical functioning. The satisfaction of life has been linked to depression, mental health, self-control, locus of control, internality, stress, self-esteem, social support, happiness, marital and business satisfaction, and etc. (Penezić, 2006). It is stated that the satisfaction of certain aspects of life can explain about 65% of the variance of satisfaction with the whole life. It is pointed out that important predictors for life satisfaction are satisfaction with friends and family, satisfaction with spiritual life, acceptance of the environment and material status as well as satisfaction with the love situation. According to the same author, significant predictors of the usual mood (happiness) are satisfaction with relationships with friends, satisfaction with oneself, and satisfaction with free time. It was found that satisfaction with certain aspects of life also explains 52% of the mood variance (happiness) (Penezić, 2006).

When it comes to locus of control, it can be said that people differ in the degree they believe they have control of what is happening to them, some pointing to the tendency to perceive events in their lives as a consequence of their own actions or as a consequence of some external factors that are out of control. For this reason, Rotter (1966) developed a personality dimension called a "locus of control" in which some people perceive that behavior is caused by internal factors, while others feel that behavior has external causes. People who have a constant conviction that they decide their own lives and their destiny, that their destiny depends mostly on themselves, and that their successes or failures are overwritten by internal (controllable) factors (such as their own behavior, decisions, and intentions) are persons with the so-called internal locus of control or internal orientation. On the other hand, there are people who think that their life and their destiny are determined by some forces beyond themselves and that others decide about their life more than they do, and their successes and failures are largely attributed to external (non-controversial) factors such as e.g., happiness,

chance, destiny, or powerful other. When it comes to the influence of the locus of control on the functioning of an individual, it has been shown that the authors have a divided opinion. There is also dispersion in the opinion among authors about which orientation (locus of control) has a better adaptive function. Authors agree that it depends on the particular situation. Regardless of the circumstances, a sense of control initiates people's confidence, so their behavior can influence the outcomes. Experiencing success or failure to a large extent depends on our personality or aspect of personality, that is, our locus of control (Stojaković, 2002). People who feel they do not have control, feel helpless, which can lead to anxiety. It is also alleged that that people who believe in the impact of fate on the negative flow of life events is expected to have lower level of life satisfaction, since they can feel helpless because they expect that they cannot influence the outcomes of life events. Locus of control was also observed as a cognitive expectation, which defines the individual's views on the causal factors associated with the results (Nunn, 1995, as cited in Moore, 2016). Therefore, research shows that a high result in the dimension of fate is associated with rather unhealthy behaviors (Grotz et al., 2011). According to Vojinic-Hajduk (2005) there is a locus connection with various general adaptation measures. According to Bezinovic (1981), external control style develops under unfavorable living conditions. In addition, externality appears to be positively correlated with anxiety and depression, and is negatively linked to self-esteem, and the results suggest that internally-oriented individuals have more confidence in their ability to solve problems than individuals with an external locus of control (Hjelle & Ziegler, 1992).

Despite many disagreements about what comprises life satisfaction, the authors have sought to link life satisfaction with many different features of physical and psychic functioning of individuals because of their wide interest in this area. Both Acton (1994) and Argyle (1997) link life satisfaction with depression, mental health, self-awareness, calm, vitality, personal control, goals, morality, illness, self-esteem, worries, stress, alienation, social support, family functioning, happiness, marital and parental satisfaction, job satisfaction, efforts. The majority of the results are basically correlative, however, the issue of the cause direction remains. Therefore, this research is intended to explore the link between self-esteem, locus of control with the satisfaction of the lives of young people, as well as prediction values of these variables in connection to satisfaction of life in young people.

Method

Problem of the research

The basic problem of the research was to investigate the life satisfaction of young people, and its relations with self-esteem and locus of control.

Aims of the research. 1) Examine the level of satisfaction with life of young people; 2) Determine whether there are gender differences in the assessment of

the life satisfaction of young people; 3) Investigate the connection of self-esteem and locus of control (IVs) with the satisfaction of life, as well as predictive values of IVs with the satisfaction of life in young people.

Considering these goals, the level of life satisfaction among young people is expected to be within the average value range, no significant difference is expected in the level of satisfaction among young people of different genders, the locus of control and self-esteem significantly correlates to the life satisfaction, so the locus of control and self-esteem are important predictors of life satisfaction among young people.

Sample and population

The research included 1.172 students, from first to fourth grade (ages: 16 to 19, $M = 17.02$, $SD = 0.99$) from the area of northeastern Bosnia. Young people of high school age from the Tuzla Canton area were included in this research. According to the gender structure, the research included 620 girls (53%) and 552 boys. Also, the research included vocational, as well as technical and general occupations of a four-year education. Participants come from different environments, both urban and suburban, which are different in size (smaller and larger areas of the Tuzla Canton). Student participation in the research by school type is based on data that 20% of students in the Canton attend gymnasiums, 53.34% attends technical schools and 26, 76% vocational and arts schools.

Procedure

Prior to the beginning of the research, a test was conducted among 50 participants, which enabled to check the applicability of the instrument used and to determine the time frame necessary to answer all the research requirements. The study was conducted by a group-led work method, and data were collected by the authors of the research. After the written consent of the Ministry of Education, Science, Culture and Sports of the Tuzla Canton was obtained, the consent obtained by each school, whose students participated in the research, to adult and juvenile students, as well as to their parents, the purpose of the research was explained. After that, the written consent for adult students as well as the written consent for juvenile students research participation was obtained. It was emphasized that the participation in this study was voluntary and carried out anonymously, and the participants were demanded to be sincere when completing the questionnaire. All participants followed the same procedure. The test offered questions answered by the participants in accordance with the instructions given to them. If necessary, participants were provided with additional explanations on their request or help with responding to the questions.

Measuring instruments

Questionnaire on participants' sociodemographic data. A general questionnaire for the collection of the participant's socio-demographic data was used in the research. Filling in questionnaires, as well as the rest of the instruments, was anonymous. The given questions were intended to provide information about the gender, age, class, school, etc. The provided options, through which the participants gave answers, were closed and semi-closed.

Scale of Life Satisfaction (Penezić, 2006). Life Satisfaction Scale, written by Penezic (2006), consists of 20 statements. The minimum possible score is 20, the maximum is 100, while the center is 60. The higher score on this scale indicates a higher level of life satisfaction. 17 particles are used to assess global satisfaction, while 3 particles serve to assess situational satisfaction. The scale was created by the inclusion of a life satisfaction scale (Larsen et al., 1985) composed of five particles, a general satisfaction scale (Bezinović, 1988) composed of seven particles, five particles from the life enjoyment scale (Grob, 1995) and three particles from life enjoyment scale - for situational satisfaction assessment (Grob, 1995). In earlier research (Penezić, 1996), the scale showed high reliability (Cronbach alpha was .93). Reliability in this study was ($\alpha = .92$).

Rosenberg self-esteem scale (Rosenberg, 1965). Rosenberg's Self-Esteem Scale was used for evaluating individual's self-esteem. Scale measures global value orientation towards itself. It consists of 10 statements. Validated on a large sample of high school students. The total score is determined by adding estimates to the 5-degree Likert type scale (0 = *it does not apply to me at all*, 4 = *completely applies to me*). The high score reflects high self-esteem. The scale shows good metric characteristics. The internal consistency coefficients (Cronbach alpha) ranges from .81 – .84 in two subject samples in the Bezinovic research (1988). The reliability in this study was ($\alpha = .79$).

Internal-External scale (Rotter, 1966). The Rotter scale of the inner versus the outer control spot of the RI-E scale (Rotter, 1966) measures the locus of control, or perceived location of control over life events. It consists of a total of 29 particles of forced choice of two alternatives a and b. The participant's task was to choose the one they agreed more. Particle results are binary variables, and the total score is calculated by adding points. The possible range of scales on the scale ranges from 0 to 23, and a higher number of points means greater externality. The confidence retest ranges from .49 to .83, and the internal consistency ranges from .65 to .79 (Rotter, 1975). The author has established the satisfactory validity and discrimination of particles on the sample of 300 students. In this study it was determined that the reliability of this measuring instrument is $\alpha = .60$.

Results

Level of satisfaction with life of young people

The first task in the research was to examine the degree of satisfaction with the lives of young people. On a self-assessment scale of life satisfaction, the average adolescent score was $M = 75.69$ ($SD = 13.39$). Since the range of results on this scale ranges from 20 to 100, it can be concluded that adolescents achieve somewhat higher results on the scale than the average data on asymmetry of distribution ($Std.err. Sk = -0.711$) indicate that the results are distributed negatively asymmetrically ($Sk = 10.01$, $p < .01$), which is another indicator that suggests that most of the results distribute in the higher-score zone. The results are shown in Table 1.

Table 1
Descriptive statistics on dependent variable (Life satisfaction)

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Skewness</i>	<i>Std.err. Skewness</i>	<i>Kurtosis</i>	<i>Std.err. Kurtosis</i>
Life satisfaction	1172	20.00	100.00	75.69	13.39	-.711	.071	.661	.143

Comparing results as they distributes below and above arithmetic mean we find that number of cases above arithmetic mean is bigger (54.8%) comparing to number of cases below arithmetic mean (45.2%). Difference is statistically significant ($p = .001$).

Life satisfaction among young people regarding to gender

The results of this study state that girls are more life satisfied in comparison with boys ($M_f = 76.77$, $M_m = 74.49$). Significance of these differences are confirmed by t-test ($t(1170) = -2.853$, $p < 0.01$) shown in Table 2.

Table 2
Descriptive statistics on Life Satisfaction Scale and testing the differences among young people, considering gender

Variable	Gender	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t-test</i>	<i>p</i>
Life satisfaction	Male	552	74.49	13.75	- 2.85	< .01
	Female	620	76.77	12.99		

These results showed that the girls have higher level of life satisfaction than the boys.

Locus of control, Self-esteem and Life satisfaction in young people

The third assignment was related to questioning connection of Locus of control and Self-esteem to Life satisfaction. In order to explore the correlation between these variables, we conducted Pearson's correlation procedure shown in following Table 3.

Table 3
Self-esteem and Locus of control connection to life satisfaction

		Locus of control	Self-esteem
Life satisfaction	Pearson Correlation	-.09**	.47**
	Sig. (2-tailed)	.001	.000
	N	1172	1172

Note. ** Correlation is significant at the .01 level (2-tailed).

As we can see in the table 3, a negative, low, and statistically significant correlation between Locus of control and life satisfaction ($r = -.098$; $p = .001$) was detected. In certain extension, with significant internality of Locus of control, we have larger life satisfaction, meaning that young people with external locus of control experience less life satisfaction.

Relating to the connection between self-esteem and life satisfaction in young people, we find that this connection is positive, moderate and statistically significant ($r = .466$, $p < .001$). These results point out that young people with positive attitude towards themselves, or higher degree of self-esteem are also more life satisfied.

In order to determine in which measure the locus of control and self-esteem are predicted to explaining life satisfaction, we use multiple regression analysis consisted of locus of control and self-esteem as predictor variables, and life satisfaction as criterial variable, shown in Table 4.

Table 4
Model summary of regression analysis of dependent variable

Model	R	R ²	Adjusted R ²	F	p
1	.47 ^a	.22	.221	166.87	.000 ^a
a.	Predictors: (Constant), Locusof control, Self-esteem				
b.	Dependent Variable: Life satisfaction				

Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>
		<i>B</i>	<i>Std. Error</i>	<i>Beta</i>		
	(Constant)	53.50	2.13		25.13	.000
1	Self-esteem	.940	.05	.46	17.87	.000
	Locus of control	-.338	.12	-.07	-2.80	.005

a. Dependent Variable: Life satisfaction

Total connection of locus of control and self-esteem to life satisfaction. These two predictors together explain 22.2% of criteria variance of life satisfaction. Results of regression analysis point out that regression model of locus of control and self-esteem is statistically significant ($F(1169, 2) = 166.87, p < .001$). Data points out that locus of control is a significant predictor with negative and lower contribution than self-esteem to life satisfaction ($\beta = -.072, p = .005$). Self-esteem variable is statistically significant predictor with positive and higher contribution to criteria measure ($\beta = .462, p < .01$).

Discussion and Conclusion

Analyzing the level of satisfaction with life among young people, it was established that the young people in the satisfaction scale are inclined to achieve higher results. The girls achieve slightly higher results, which indicates that they are slightly more satisfied with their lives than boys. A significant correlation of self-esteem and locus of control with life satisfaction was established, where young people with an internal locus of control and greater self-esteem show greater satisfaction with life. Also, the locus of control and self-esteem achieve significant predictive values with life satisfaction, as a criteria variable, and explain a significant part of the criteria variance.

Explaining this phenomenon, when it comes to an elevated level of life satisfaction, we could rely on the claims of Andrilović et al. (1985), which points out that the happiness of young people increased from the seventies to the nineties of the last century. One of the reasons for this is the prolonged education of young people in relation to their parents, i.e., to the earlier generations, or more precisely, this is about the extended childhood of young people, who continue to rely on their parents by continuing education, and remain financially, economically, residually dependent on parents, thereby delaying the moment of taking over their own lives and destiny into their own hands. This can mean that young people, regardless of their physical, cognitive, emotional maturity, generally do not take on the responsibilities that previous generations took over and thus build

their lives. Also, in addition to the obtained results, Peterson, Park, and Seligman (2005) results also provide confirmation, which emphasize that life satisfaction is greatest among high school students, and that the life satisfaction decreases with age. Growing up, maturing and aging create some new circumstances. As already stated, other obligations, responsibilities, and various problems arise over the years; including health problems. Young people do not feel financial, housing and other problems in a protected parental environment where they live. In addition, it should be kept mind that when it comes to responding to life satisfaction questions, young people are prone to giving socially desirable answers, regardless of the respect of the anonymity principle during the research.

Our study is supported by researchers Brkljačić and Kaleterna-Lipovčan (2010) whose study found that students showed a relatively high level of satisfaction with their lives. Hirvonen and Mangeloja (2005) research included 246 Finnish students and found that 87% are happy with their life, and similar findings are obtained by Chan, Miller, and Tcha (2005) on 749 Australian students. In Cummins' (2003) study, which included data from five studies, participants achieved an average value on a satisfactory scale of $M = 73.10$. In addition, Cummins (2003) stated that research often obtained extremely stable measure of satisfaction with life as a whole, which also appears in a very narrow range.

When it comes to gender differences, research provides inconsistent data (Pastuović, Kolesarić, & Krizmanić, 1995; Lima & Novo, 2006) and there is a small number of findings explaining possible differences. Torgoff et al. (1979) find that the level of satisfaction with life for girls is greater than for boys. Nolen-Hoeksema and Rusting (1999) point out that differences in life satisfaction are influenced by the fact that women are more intensely experiencing and expressing emotions. Penezić (2006) in the conducted two-way variance analysis, in addition to noting that in general satisfaction there is no difference between participants of different ages, does not determine the difference between participants of different genders.

Significant differences in the self-concept occur in the period of youthfulness between young men and girls, where in all dimensions of the self-concept girls are considered to surmount boys, according to Simmons et al. (1973). Wilson and Wilson (1976) consider that men find the sources of self-esteem, in respect to satisfaction with life, in the hierarchy of power, and women in the realization of personal goals, appearance, family relationships and care of their own existence. The findings of our research can be interpreted in this respect- the young men in the period of adolescence have not yet developed enough to take an important position in the rank of the hierarchy of power, but in this period they compete with their peers for that power, which, when it comes to building self-esteem, and therefore satisfaction with life, can have an uncertain trend. Considering the interests of the girls, who are more oriented towards their appearance, achieving their personal goals, etc., it seems that for them in this period there is a more stable base for building self-esteem, and thus satisfaction with their body, appearance, outcomes in the struggle for existence, and to a certain degree satisfaction with

life. An important determinant is full maturity, which is subjectively identified with total maturity, especially in modern families, where girls are given additional attention, which affects positive self-esteem. Zlatković (2007) points out that girls are beginning to overcome their colleagues in quality and degree of achievement, which correlates and can significantly affect life satisfaction.

According to Slavnić and Zečević (2015), differences between young men and girls have been identified with regard to self-esteem, as well as on the issue of life satisfaction in all of its domains. Girls on all scales achieve something more than young men, whereat individually, is in line with the findings of our research, and the most pronounced difference in satisfaction is in terms of school satisfaction.

However, a part of the study did not identify gender differences, like Diener and Diener (as cited in Diener, 2009) in their crosscultural study, also Diener and Ryan (as cited in Diener, 2009) who, in the review of the subjective well-being, state that there is generally no difference between men and women. Andrews and Whithey (1976) state that gender differences in the subjective quality of life are usually insignificant or relatively small. Strinić, Šašić, and Mirković (2014) did not find gender differences in life satisfaction.

When it comes to the third task and the connection between the locus of control, self-esteem and life satisfaction, the results of this study are confirmed by previous studies (Burger, 1989; Skinner, 1996, as cited in Creed & Bartrum) where the locus of control is in a significant relation with psychological well-being, apropos, the internal locus of control is related to higher levels of psychological well-being, while the external locus of control is connected with a lower level of psychological well-being.

It is possible to explain the mentioned connection by attribution to the internal factors of its shortcomings and belief in control, i.e., that they can achieve the set goals. People with an internal perception of success take more precautionary steps to improve in all those spheres of their own life that they consider essential.

It is generally shown in numerous studies that individuals with an internal locus of control are more successful in resolving life's problems, they are better adapted and generally more satisfied with life than the external ones. Wallston and Wallston (1978, as cited in Pennington, 1997) have shown that people who believe in controlling their health have sought to better cope with chronic illnesses. According to Phares (1976), more internal people show greater focus on achievement, better adaptation to different situations and less anxiety.

Studies dealing with behavioral association and locus of control have determined that people with an external control locus show unhealthy behavior patterns (Grotz et al., 2011). People with external orientation believe that what has to happen to them will happen to them, and for this reason they have less need to invest effort in controlling the situation. Hong and Giannakopoulos (1994) state that research repeatedly points to the connection of the internal locus of control and life satisfaction and have confirmed this trend themselves.

In general, studies show that the perception of the locus of control correlates with the motivational and cognitive factors of individuals that can have a significant impact on academic success (Bar-Tal & Bar-Zohar, 1977).

There are numerous factors that can significantly influence and determine the amount of satisfaction with life (Veenhoven, 1997), and depending on what they originate, can be roughly divided into two groups. The first group of factors consists of characteristics that arise from internal factors (characteristics of personality, existence of positive and negative emotions or mood, person's ability, then ability to experience pleasure, including intensity and frequency, etc). The second group consists of characteristics arising from external conditions (Slavnić & Zečević, 2015).

Studies of self-esteem and quality of life show that self-esteem is significantly related to the quality of life (Lucas, Diener, & Suh, 1996; Ayyash-Abdo & Alamuddin, 2007). Rosenberg (1985, as cited in Chubb, Fertman, & Ross, 1997) states that a low level of self-esteem is associated with low satisfaction with life, loneliness, anxiety, bitterness and irritability. Similarly, self-esteem was found to be a significant predictor of the quality of life (Ayyash-Abdo & Alamuddin, 2007; Vacek, Coyle, & Vera, 2010). According to Lacković Grgin (1994), low self-esteem is associated with low life satisfaction, loneliness and anxiety. In Slavnić and Zečević (2015) study, among other predictors, self-esteem is a significant predictor of the aspect of satisfaction with life related to school satisfaction. According to Vasić, Šarčević, and Trogrlić, (2011) self-esteem is a positive and significant predictor of life satisfaction, with the amount here pointing out somewhat less importance than the estimated in most other studies. As in other previous studies (Lucas et al., 1996; Diener et al., 2002, 2010), as a special, though not particularly important, self-esteem is the prediction of satisfaction among other personality traits. As an explanation, it is stated that this is a matter of the law of positive multiplicity, according to which the positive, adaptively important characteristics, positively and significantly correlate. The research by Hong and Giannakopoulos (1994) confirmed that self-esteem is the strongest predictor of life satisfaction, explaining 21.4% of the variance.

According to Gilman et al. (2005), satisfactions, the scores on the self-esteem scale are significantly related to life satisfaction (Slavnić & Zečević, 2015).

Some authors (Andrews & Whithey, 1976) state that different sociodemographic variables explain 8% of the variance of subjective well-being, extraversion explains about the same percentage, while neuroticism explains about 27% of variance. Given the correlates of life satisfaction, it can be said that there is much convincing evidence that extraversion and neuroticism, as stable personality dimensions, are powerful predictors of life satisfaction (Diener et al., 2003).

DeNeve et al. (1999) examines cognitive mechanisms, or ways in which people interpret events and experiences throughout their lives. In this context, the relevance of repression-defensiveness, then attribution processes, locus of

control and resistance are listed as relevant characteristics. Accordingly, DeNeve (1999) concludes that the happiest people are not necessarily just open, but it is also important how they interpret everyday life and how they achieve and maintain relationships with others. Recent research on this topic confirmed earlier findings, so the already mentioned research of Bubić and Goreta (2015) showed the mediation role of perceived control with regard to the connection of other predictors with school satisfaction (Bubić and Goreta, 2015). According to Abdel Fattah (2016), the internal locus of control at the university level of education also proved to be significant for satisfaction.

In retrospective, the results of the previous researches, mentioned in this paper, as well as the results obtained by our research, which, through independent variables explains a significant part of the variance of the dependent variable, it cannot be claimed that one part of the variable determines a certain life satisfaction, while the other part does not. Satisfaction with life is one of the goals of life that we all strive for and in relation to what we seek for and ways to reach it. Nevertheless, it seems that higher prospects in achieving life satisfaction have young people who believe in themselves and who with their own interests affect the reality they live in, as well as people with greater self-esteem.

Critical review and recommendations for future studies

It is considered that the social structure and belonging to certain groups act on the development of personality and behavior. The social system itself determines individual relationships, the school value system, and many other areas that affect the individual. As an individual is viewed through a social interaction that is embedded in a broader social context, many researchers point out that personality and behavior are determined by the social status of an individual, which is further mediated by the quality of family relationships. All this suggests that some recommendations for future research could be in the direction that when trying to measure life satisfaction, one should take into account the subjective experiences of each individual, and should focus on procedures that should not have flaws as classical introspection. Individuals often interfere with how satisfied they are with life and how satisfied they are with others if they are in equal conditions. In that case, individuals who are considered relatively successful in these comparisons are also assessed as more satisfied. Individuals who are dissatisfied with their lives can make statements that they are actually satisfied. This may be influenced by an attempt to protect one's own ego, but also the social desirability to provide answer. We must not forget the fact that if people are satisfied or rather satisfied it does not mean they overestimate their satisfaction. It is possible that most individuals are truly satisfied with their lives. Also, an individual can be more satisfied than others, or rather satisfied with the average, because he believes that others are dissatisfied since the difficulties are more visible than satisfaction.

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Nermin Mulaosmanović
Nedim Prelić

ZADOVOLJSTVO ŽIVOTOM MLADIH

Apstrakt

Mladi, čiji život karakterišu brojne promjene i izazovi, često zaboravljaju da na kvalitet života i osjećaj životnog zadovoljstva može se lično uticati, te da ono u velikoj mjeri zavisi od odnosa kojeg mladi sami grade prema životu. Mladi postavljaju vlastite kriterije optimalnog načina življenja, u odnosu na šta vrše procjenu svog trenutnog stanja. Procjenjivanje zadovoljstva životom vrši se i na temelju uspješnosti svojih različitih životnih uloga. Osnovni problem rada je bio ispitivanje zadovoljstva životom mladih, te relacije zadovoljstva sa samopoštovanjem i lokusom kontrole. Iz namjere da se pokaže da kvalitet života ne zavisi direktno samo od onoga što se posjeduje, već prvenstveno od toga kakvo mišljenje imaju mladi o sebi i kakva je percepcija događaja oko sebe, proistekao je i cilj rada. Rad se odnosi na ispitivanje nivoa zadovoljstva životom kao i na ispitivanje prediktivne vrijednosti samopoštovanja, lokusa kontrole sa zadovoljstvo životom mladih. Populaciju u istraživanju su činili mladi starosti od 15-19 godina, a uzorak iz ove populacije je iznosio 1172

ispitanika. U istraživanju je primjenjena Rosenbergova skala samopoštovanja, Rotterov upitnik lokusa kontrole i Skala zadovoljstva životom. Rezultati ukazuju da je nivo zadovoljstva životom kod mladih veći od prosjeka. Uz to, otkrivene su i razlike u zadovoljstvu životom između mladića i djevojaka. Također je pronađena statistički značajna korelacija između lokusa kontrole i zadovoljstva životom, kao i samopoštovanja sa zadovoljstvom života. Locus kontrole i samopoštovanje su se pokazali kao značajni prediktori zadovoljstva životom kod mladih i zajedno objašnjavaju 22.2 % varijance kriterija zadovoljstva životom.

Ključne reči: zadovoljstvo životom, samopoštovanje, locus kontrole, mladi

FAMILY AND SOCIAL PSYCHOLOGY

FAMILY RELATIONS AND SELF-EFFICACY IN ELEMENTARY SCHOOL AGE¹

Abstract

The aim of this study is to examine particular dimensions and characteristics of family relations and specific forms of self-efficacy of elementary school age children. The paper examines the following dimensions of family relations: cohesion, adaptability, satisfaction with the family, acceptance and rejection by the mother and/or the father. The children's self-efficacy is indicated by their academic, emotional and social self-efficacy. The data have been collected by the Family Adaptability and Cohesion Scale FACES III (Olson, 2000), Scale of perception of family relations KOBI (Vulić-Prtorić, 2004) and an adapted version of the Self-Efficacy for Children Questionnaire SEQ – C (Vulić-Prtorić & Sorić, 2006). The research sample includes 200 children aged 10–15, whereas the data have been analyzed by applying descriptive statistical methods, as well as correlation analysis. The results indicate a statistically significant positive correlation between cohesion and dimensions of the social and academic self-efficacy and the total SEQ-C scale score. Satisfaction with the family has a positive correlation with the social and emotional self-efficacy, as well as with the total scale SEQ-C score. Acceptance by both the mother and the father has a positive correlation with the dimensions of a child's self-efficacy, while rejection by both parents is in a negative correlation both with the social and academic self-efficacy, as well as the total SEQ-C scale score. The analysis of the results indicate that positive feelings of children concerning their family environment, their satisfaction with family life, as well as the way each of them perceives parental education, have a major role in their perception and subjective experience of their own possibilities in both academic and social, as well as emotional domain.

Key words: family relations, self-efficacy, early adolescence, parental behavior

Introduction

Development of a child and formation of its personality is affected by numerous factors, but one of the most important is the family. Family structure, as well as quality of relations between its members are main elements of family functioning and they largely affect the psychological welfare of parents and children (Fahey et al., 2012), and the purpose of the family is the welfare of its members.

¹ Corresponding authors: djerdji.kavecan@gmail.com and remzija-ramicevic@hotmail.com

In the domain of psychology, the family is considered a dynamic system within which we observe relations between members and their interaction (Wagner-Jakab, 2008). Family relations generally have a greater impact to younger family members, and those are the children. Healthy family and adequate development of children is achieved by maintaining strong, affective relations between family members (Ross et al., 2005). The authors still try to work out the manner of organizing the relations within the family, then what characteristics of particular members contribute this community and what is the impact of specific relations that exist between some members to the entire family. The family that encourages independent and versatile development of a child, is a certain basis for a healthy development of personality (Erdeš-Kavečan & Bjelica, 2010).

Family relations

As a theoretical framework for studying the characteristics of the family, as well as examination of its relations with the self-efficacy level of elementary-school children, we used Olson's model (CIRCUMPLEX) of family and marital systems and Rohner's Parental Acceptance and Rejection (PART) theory. In that aspect, in the continuation of theoretical part of the paper, there are presented main characteristics of the mentioned models of family relations.

Circumplex Model of Marital and Family Systems

One of the best-known models, which is theoretically and practically most frequently applied in studying the family functioning is the *Circumplex Model of Marital and Family Systems*, whose author is Olson (Olson, 2000). Model is an attempt to relate theoretical and practical goals and tasks of the studies in the very access to the family (Mitić, 1997).

Within Circumplex model of marital and family systems, Olson has offered three-dimension solution by which we present basic types of family, as well as efficacy of their overcoming of normative stressors (Olson & Gorall, 2003). He has set aside three main dimensions of family functioning, and those would be: cohesion, flexibility (adaptability), and communication. These dimensions have come out of the cluster that contained more than 50 concepts developed in order to describe marital and family dynamics.

Dimension of family cohesion is in this model taken as emotional connection (commitment) among family members. Within the model, this dimension can be shown through the variables: emotional connection, borders, coalitions, time, space, friends, making decisions and interests, and recreation (Olson, 2000). The focus of cohesion is a manner in which the system balances between separation and community. The lack of cohesion speaks in favour of the fact that family

members are more oriented on themselves, their own life and friends, they prefer their personal space than community and spend a little time together. On the other hand, networked, intertwined relations represent an extreme closeness and loyalty (Olson, 2000; Olson & Gorall, 2003).

Dimension of family adaptability (or flexibility) refers to the ability and willingness of the family to adapt to the situation and development needs by having the capacities to change roles and relations of roles, family rules and hierarchical roles, i.e. structure of power (Marković et al., 2015; Olson, 2000, 2008; Riesch et al., 2003). Within Circumplex model, this dimension includes specific concepts such as: leadership (control, discipline), negotiation styles, relations of roles and roles in relations (Olson, 2000). The balance of dimension of adaptability represents a family organization that is characterized by healthy levels of structure and flexibility (Todorović & Simić, 2013).

The third dimension of Circumplex model, communication, is considered a dimension that serves for the encouragement of the previous two dimensions. It is defined as the expression of thoughts and feelings in an assertive manner, as well as careful and accurate reception of other people's thoughts and feelings (Robin, 1979, as cited in Riesch et al., 2003). It is evaluated through the skills of listening and speaking of family members, clearness of speech, possibility of monitoring the continuity of speech, as well as respect of other people opposed to putting oneself to the fore (Mitić, 1997). Adequate communication, which enables the family to achieve an optimal level of cohesion and flexibility is characterized by: a clear and congruent content of the message, empathy, active listening, providing support and efficacy in solving the problems (Zotović et al., 2008). On the other hand, inadequate communication is followed by the following characteristics: non-congruent content that disqualifies the interlocutor, lack of empathy and support for the interlocutor, criticism, inefficacy in solving the problems, as well as contrary and ambiguous messages (Riesch et al., 2003).

The adaptability and cohesion dimensions of functional family systems, including open communication, are characterized by tendencies inclining towards stability and maintaining balance, as well as the need to adapt to certain living circumstances (Todorović & Simić, 2013). They are also characterized by bonding and maintaining a nurturing and supporting relational communion, yet respectful of individual differences, providing for both possibilities of individual development and exercise of a family's upbringing role (Todorović et al., 2012).

Rohner's Parental Acceptance and Rejection Theory – PART

Rohner's theory aims at explaining the reasons for and consequences of parental behavior on bipolar ends of a parental relationship, aka as re. the parental emotional warmth dimension (Rohner et al., 1980). The parents' position concerning the aforementioned dimension may be accepting or rejecting. The

parental warmth dimension encompassed in this theory relates to the quality of affective relationship between a parent and a child (i.e., the physical, verbal, and symbolic behavior parents use to express their feelings).

According to this model, parental affection may be expressed physically (by hugging, kissing, caressing) or verbally (by praising, giving compliments, saying nice things to the child about him or herself). Such behavior, as well as indicating concern, support and care define behavioral patterns expressing parental acceptance.

However, detailed cross-cultural studies that were carried out for almost half a century in order to verify this model show that parental rejection can be presented through the combination of the four main expressions, and those are (Rohner & Khaleque, 2005a): 1) Emotional coldness and lack of affection (opposed from warmth and affection); 2) Hostility and aggression; 3) Indifference and neglecting, and 4) Undifferentiated rejection.

Warmth and hostility refer to internal psychological feelings of parents, which means that they can feel warmth towards their child (or they can be cold, do not feel love) or they can feel hostility, anger, bitterness, unrest, irritability, impatience, antagonism. In the same way, parents can feel indifference towards their children, do not take care of them or have a lessened feeling for their physical and emotional needs (Rohner et al., 2005b). When the parents react based on feelings of anger, hostility or rage, resulting behavior is generally referred to as aggression (Sanković, 2005). Then, the parents can send painful non-verbal symbolic gestures to their children. Parents can neglect their children due to numerous reasons that do not have to be related to indifference. In that aspect, the parents who neglect their children often do not pay attention to the needs of their child for comfort, care, help or attention and they can be unavailable both in physical and psychological sense. All these behaviors, individually or collectively lead to the child feeling unloved or rejected.

The findings indicate that children experiencing rejection by their parents are significantly more anxious, more depressed and have a significantly less self-respect from children experiencing acceptance; they also apply less constructive problem-solving strategies and are much less reliant on their family's support in stressful situations (Vulić-Prtorić, 2004). Children experiencing rejection in their relationship with their parents are more prone to emotional responsiveness, which may result in worsening the quality of these relationships and lead to an increased level of stress and anxiety in such relationships, as well as to a lesser degree of adaptation.

Self-efficacy in children's age

In the early development of self-efficacy, main role belongs to the family, i.e. parents (Jurkić, 2015). By a simulative environment and providing the support to

the child in the process of active study, parents can facilitate development of self-efficacy (Reić-Ercegovac & Koludrović, 2010). At the same time, a child that shows curiosity and desire to try new activities in a secure environment, encourages the responsiveness of parents in relation to the child and its needs (Schunk & Pajares, 2002).

Self-efficacy concept was formulated by the psychologist Albert Bandura in the 1970's as a part of social learning theory (Ashford & LeCroy, 2010). Bandura (Bandura, 1977) defines self-efficacy as a belief in the ability of organizing and executing the actions that are required in order to achieve a certain supposed type of activity. In other words, self-efficacy refers to the beliefs of a person on its own capacity to be successful in certain situations, i.e., beliefs on own abilities for the achievement of goals (Bandura, 1994). These beliefs can affect the behavior, feelings and thinking of a person (Faramarzi et al., 2014). Self-efficacy is, therefore based on the idea of importance of subjective experience of personal competence in the achievement of different goals, rather than real knowledge and skills (Milanović-Dobrota & Radić-Šestić, 2012).

Researchers say that, in addition to global self-efficacy, there are also the forms of self-efficacy specific for a certain area (Gregorović, 2013). Relevant literature lists three most common specific domains of self-efficacy: the academic, emotional and social.

Academic self-efficacy refers to the perceived possibility of coping with learning and school material, as well as meeting school expectations (Bandura, 1999). Emotional self-efficacy refers to the beliefs of own abilities of coping with own feelings (Gregorović, 2013). Emotional capacity of self-efficacy reflects itself in the ability of a person to cope with negative emotional experiences, acting upon their intensity, frequency, and duration. Social self-efficacy refers to the perceived ability for relations with other people, as well as assertiveness. Perception of social efficiency, in other words, is a belief of an individual in his ability to get included in social interactions that imply initiation and maintenance of interpersonal relationship (Smith & Betz, 2000; as cited in Erozkan & Deniz, 2012).

The overall goal of the study is to research select aspects of the quality of family relations as well as elementary school age children's self-efficacy (i.e., its academic, emotional, and social dimension). The quality of family relations have been analyzed from the perspective of family functioning (i.e., cohesion and adaptability dimension) and parents' behavior aimed at upbringing their children (i.e., acceptance and rejection dimension). Since many empirical findings indicate that a child's perception of parental behavior relates to the emotional and social outcomes of his/her development (Desjardins et al., 2008; Lengua et al., 2007; McWayne et al., 2008), our study also aims to research the existence and correlation among the listed dimensions of family relations and certain aspects of children's self-efficacy.

Method

Sample

The sample of the study consisted of 200 children of elementary-school age from 10 to 15 years. Respondents were the students of higher grades of elementary school "Vuk Karadzic" in Tutin and they are divided into four age groups in respect of the class they go to in elementary school. More precise data on the sample in regard to the gender and age are given in Table 1.

Table 1
Number of respondents regard to the gender and age

Category		N	%
Gender	Male	100	50.0
	Female	100	50.0
Grade	The fifth	50	25.0
	The sixth	50	25.0
	The seventh	50	25.0
	The eighth	50	25.0

Parents of interviewed pupils mostly have a high school degree (41% of mothers and 45% of fathers), while only one parent is employed in most of the families (83.5%). 88.5% of children live with both parents, while 11.5% of them live with a single parent. The pupils mostly have two or three siblings ($M = 2.43$, $SD = 1.12$).

Instruments

General questionnaire for examination of socio-demographic characteristics of the sample is constructed for the needs of the study. By this questionnaire, we collect the information on gender and age of respondents, as well as information on their families (school qualifications and employment of parents and material state of the family).

Family Adaptability and Cohesion Evaluation Scale – (FACES III; Olson, 2000) was meant for the evaluation of dimensions of family functioning, family cohesion and flexibility, to be exact. This questionnaire has come from the Olson's three-dimensional Circumplex model of marital and family system. It consists of 20 items, where 10 items operationalize family cohesion and the remaining 10 refer to family adaptability. Format for answering is a five-degree Likert scale (1 – *almost never*, 5 – *almost always*). Original validation studies point to a high internal consistency (.84 for cohesion, .79 for adaptability), and the inter-correlation of two estimated dimensions $r = .03$ (Olson et al., 1985).

Quality scale of family interactions (KOBI; Vulić-Prtorić, 2004) is meant for the measurement of the interactions between children and parents on dimensions of acceptance and rejection, as well as satisfaction with the family. It consists of 55 claims

that are divided into five subscales: satisfaction by own family, acceptance by the mother, acceptance by the father, rejection by the mother and rejection by the father. Format for answering is a five-degree Likert scale, where the respondents evaluate the extent to which each of the claims mentioned refer to their relationship with mother, father or family as a whole (0 – *not true at all*, 5 – *yes, entirely true*) sub-scale satisfaction with the family examines how does the respondent feel in his family and his satisfaction with family life, then greater result in this subscale also labels greater pleasure with family relations. On the subscale of acceptance, higher results point to a greater mutual closeness, confidence and understanding between children and mother, i.e., father, while higher results on the subscale of rejection means that a child is experiencing more prohibitions, roughness and neglecting from the mother, i.e., father (Vulić-Prtorić, 2004).

Self-Efficacy Questionnaire for Children (SEQ-C; Vulić-Prtorić & Sorić, 2006) is meant for the examination of children's feeling of self-efficacy in three areas: academic, social, and emotional. The questionnaire contains of 24 claims that can be divided on three domains of self-efficacy: social self-efficacy that refers to the perceived ability for relations with peers, as well as assertion, then academic self-efficacy that refers to perceived possibility of coping with learning and school material, as well as meeting school expectations and emotional self-efficacy, which refers to the perceived ability to cope with negative emotions. The respondents give their answers on a five-degree scale of Likert type (1 – *it is not true at all*, 5 – *it is entirely correct*) evaluating the extent to which the behavior described in a claim refers to them. The questionnaire is in the Likert's format and it has a high internal reliability (Cronbach's Alpha for all four statements is .87).

Results

Descriptive data for dimensions, family functioning (cohesion, adaptability), satisfaction by own family, educational behavior of the parents (acceptance and rejection) and self-efficacy

Table 2 presents average values of two dimensions of the quality of family functioning (cohesion and adaptability), based on the data collected by applying the Family cohesion and flexibility scale – FACES III. Higher test scores indicate a higher level of presence of the two dimensions observed.

Table 2
Overview of main descriptive data for dimensions of family functioning (cohesion, adaptability)

	Dimensions	N	Minimum	Maximum	M	SD
FACES	Cohesion	200	23	49	40.13	5.54
	Adaptability	200	12	39	23.21	5.70

At the level of entire sample, observed in relation to possible theoretical ranges, average values show that cohesion level is greater than adaptability level in families of examined students, which means that their perception of emotional connectedness between family members is more expressed than flexibility and readiness of the family to cope with the changes. Based on the average value of cohesion ($M = 40.13$), it was determined that families of the students who are included in this study belong to the central type of family system (separated families), while values for adaptability level ($M = 23.21$) also point to the central type of family system of structural family (Olson et al., 1985).

Table 3
Overview of main descriptive data for dimensions of parental acceptance and rejection and satisfaction with the family

	Dimensions	N	Minimum	Maximum	M	SD
KOBI	Family satisfaction	200	22	52	33.69	3.27
	Acceptance by mother	200	23	50	43.48	5.90
	Rejection by mother	200	12	53	21.33	8.27
	Acceptance by father	196	19	50	41.63	5.87
	Rejection by father	196	12	48	21.30	8.25

Note. Data on pupils' self-efficacy collected by applying the Children's self-efficacy assessment questionnaire – SEQ-C, encompassing its three dimensions (i.e., academic, emotional, and social self-efficacy). Higher test scores indicate a higher self-efficacy of a child in the aforementioned domains.

Average values in Table 3 show that elementary-school children are moderately satisfied with the family and family life ($M = 33.69$).

By comparing the average values on subscales of acceptance and rejecting we find that most children perceive their relations both with mother and father as close and full of understanding, where the relationship with the mother ($M = 43.48$) is perceived as a bit warmer and caring in relation to the relationships with father ($M = 41.63$).

Table 4
Overview of main descriptive data for dimensions of self-efficiency of a child

	Dimensions	N	Minimum	Maximum	M	SD
SEQ-C	Social self-efficacy	200	19	45	34.67	6.04
	Academic self-efficacy	200	9	40	29.95	6.08
	Emotional self-efficacy	200	9	35	23.84	5.69
	Σ	200	51	119	88.45	13.84

Table 4 presents results of assessment of the three dimensions of children's self-efficacy as expressed by the central tendency measures (*Mean, Standard Deviation*).

From the average values presented in Table 4 we can conclude that respondents perceive themselves as generally highly self-efficient ($M = 88.45$), where for all three domains of efficiency (social, academic and emotional) there are relatively high values registered. It seems that elementary-school children still perceive that they are more successful in social interactions (social self-efficacy), then in meeting school expectations (academic self-efficacy), and least successful in facing with negative emotions (emotional self-efficacy).

Correlation of dimensions of family functioning (cohesion, adaptability), satisfaction with own family, educational behavior of the parents (acceptance and rejection) and dimension of self-efficacy

Correlation between the family functioning and self-efficacy dimensions has been determined by analyzing Pearson's linear correlation coefficients.

Table 5
Correlation of family functioning and self-efficacy

	Cohesion		Adaptability	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Social self-efficacy	.34	.000	-.12	.094
Academic self-efficacy	.32	.000	-.01	.882
Emotional self-efficacy	.08	.231	-.01	.939
Σ	.39	.000	-.06	.409

Note. Correlation between Emotional self-efficacy and Adaptability is -.005 but is rounded at .01 for consistency in data presentation.

The results obtained in Table 5 point out that statistically significant, moderate positive correlation exists between adaptability and dimensions of social and academic self-efficacy, as well as the total score on the scale SEQ-C. None of the dimensions of self-efficacy is in a significant correlation with adaptability.

Table 6 presents correlations between family interaction (i.e., satisfaction with the family, acceptance, rejection) and self-efficacy dimensions.

Table 6
Correlation between dimensions of family interactions (satisfaction with own family, acceptance and rejection of parents) and self-efficacy

	Family satisfaction		Acceptance by mother		Rejection by mother		Acceptance by father		Rejection by father	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Social self-efficacy	.22	.001	.39	.000	-.28	.000	.30	.000	-.17	.016
Academic self-efficacy	.13	.066	.31	.000	-.33	.000	.21	.003	-.35	.000
Emotional self-efficacy	.21	.002	.15	.033	-.06	.360	.25	.000	-.10	.154
Σ	.24	.001	.37	.000	-.29	.000	.32	.000	-.27	.000

The results obtained presented in Table 6 point out that dimension of satisfaction with the family in a statistically significant, but low and positive correlation with dimensions of social and emotional self-efficacy, as well as the total score on the scale SEQ-C. Dimensions of acceptance by the mother moderately positively correlates with social and academic self-efficacy, as well as the total score on the scale SEQ-C, and it has a low correlation with emotional self-efficacy. Rejection by the mother is in a negative and low correlation with social self-efficacy and total score on the scale SEQ-C, and in a moderate negative correlation with academic self-efficacy. Acceptance by the father, as in the case of perception of this education attitude of mothers is in a positive correlation with academic and emotional self-efficacy and in a moderate with social self-efficacy and total score on the scale SEQ-C. Rejection by the father is in a negative and low correlation with social self-efficacy and total score on the scale SEQ-C, and in a moderate with academic self-efficacy.

Discussion and Conclusion

By carrying out this study we wanted to examine the characteristics of family relations of families with elementary-school child, as well as to examine whether and in what manner the quality dimensions of family relations have the effect on self-efficacy of a child.

Study of the perception of family functioning show that cohesion level in families of students included in the sample is high, and when it comes to adaptability level, it is also higher in relation to theoretical average, but it is much lower in relation to cohesion level. It means that perception of emotional connections between family members is more expressed than flexibility and readiness of the family to cope with the changes. Such a results are in harmony with most studies that were carried out in our region, where there were also registered higher levels of cohesion in relation to adaptability level (Erdeš-Kavečan, 2009; Erdeš-Kavečan & Oljača, 2017; Zuković, 2008).

The results obtained point out the respondents included in the sample are moderately satisfied with their families and family life. In addition, higher result on subscales of acceptance by the parents in comparison to the rejection points to a greater mutual closeness, confidence and understanding between a child and a mother, i.e., father. In accordance with that, we can assume that students included by the sample perceive their parents mostly as warm, supporting, they consider that they consistently apply educational processes, nourish and encourage child's communication in social environment and autonomy, which is a good basis for the development of positive self-evaluation of a child (Janković & Laklija, 2011). However, the relationship with the mother is perceived as warmer and more caring a bit in relation to the father, which certainly points to the fact that mother are closer and have a more desirable emotional relationship with their children in relation to

the fathers. Model of intensive motherhood, as well as entrusted role of a mother for emotional exchanges with the children are certainly an explanation both for the result of our study and the results of other studies from the field of family relations (Almeida & Galambos, 1991; Dunn et al., 1987; Fivush, 1989, 2000; Petrovic, 2007).

When it comes to self-efficacy, the results of this study still show that respondents perceive themselves as generally highly self-efficient, where for all three domains of self-efficacy (social, academic and emotional) register relatively high values. However, in all aspects, elementary-school children believe that they are most successful in social interactions (social self-efficacy), then in meeting school expectations (academic self-efficacy), and least successful in facing with negative emotions (emotional self-efficacy). Having in mind that our respondents are the students of higher grades in elementary school, we are not surprised by the fact that peer relations become more and more frequent and opened as the adolescent age approaches, and thus the evaluation of peer relations is relatively success (Hartup, 1993), and due to more and more frequent fluctuation of the mood, facing with negative emotions is somewhat less successful.

When the connection between the dimensions of family functioning with self-efficacy of elementary-school students is in question, the results obtained point out that the dimension of family cohesion is in a positive correlation with global self-efficacy, as well as its two subdimensions: social and academic. Therefore, relations between family members have a strong impact on numerous aspects of family life, primarily social adaptation and efficiency of children and adolescents (Đuranović, 2013). According to Boričević-Maršanić (2011), when the children feel warmth and cohesion in their families, they get the feeling of emotional security and self-confidence that support a healthy and normal development of children. On the other hand, cohesion of the family is, according to many authors, related to the school engagement of the young people, but it was also determined that greater emotional connection contributes to a greater academic success and social adaptability in school environment (Annunziata et al., 2006, as cited in Oljača et al., 2012). In the paper, there is not registered the significant connection between emotional self-efficiency and cohesion dimension, which certainly points to the possibility that an excessive connection between family members does not provide adequate possibility for the child to perceive its emotions and independently perceive own emotions and cope with negative emotions.

Results of our study point out that satisfaction with the family is in a positive correlation with all dimensions of self-efficiency, except academic. Accordingly, we suppose that positive feelings of a child that are present in family environment and its satisfaction with family life is certainly a result of a positive feedback and instructions of significant persons in family environment, and it can have an effect on improving the skills and perception on self-efficiency (Žunić-Pavlović & Pavlović, 2013). It was also determined by the studies that a belief in own efficiency is related to those family conditions, which have appeared optimal in socialization of the children and those are: clear communication between family members, democratic making of decisions and support of emotional expression (Kapor-Stanulović, 2007), but also that positive

perception of family relations significantly affects the positive perception of relations with friends (peers) (Conger, 1977, as cited in Lacković-Grgin, 2006).

All domains of self-efficacy are in a positive correlation with acceptance by mother and father and in a negative with the rejecting educational attitudes. Such findings are expected having in mind that the authors agree regarding the attitude that parental educational activities, i.e. manner in which a child sees them, affect the child's perception of self-efficacy (Sorić & Vulić-Prtorić, 2006). Therefore, we can assume that the increase of social, academic and emotional self-efficacy is a consequence of a sensitive behavior of parents, their care towards a child and relationship of mutual closeness, confidence and understanding between a mother and a child, i.e., father (Bulatović, 2013). On the other hand, reduced social and academic self-efficacy can occur as a result of prohibitions, roughness and neglecting that a child experiences in parents' behavior.

Based on the aforementioned, the conclusion is that families within the sample with children of elementary school age are generally well-functioning, as well as that parents may facilitate development of their children's self-efficacy by creating a motivating environment and providing them with their own support. The results correspond to the concept of Olson's Circumplex model of family and marital systems (CIRCUMPLEX), as well as Rohner's theory of parental acceptance and rejection (PART), confirming that functional families characterized by emotional closeness, support and acknowledgement among their members offer possibilities both for individual development of each of their members and exercise of the family's upbringing function (Todorović et al., 2012). Additionally, accepting parental behavior, aka the way children perceive such behavior may contribute to a child's positive perception of his or her own self-efficacy.

Based on everything presented, we can conclude that families examined with elementary-school children generally function well, as well as that variables of family relations quality have the effect on certain dimensions of self-efficacy.

We believe that we have in this paper pointed to the issues of the relationship of entire family functioning, educational attitudes of parents and self-efficacy of a child and directed possible paths for further studies. However, we must also pay attention to some significant constraints of this study. First of all, constraint of our study comes from the nature of the sample, which is not adequate. Therefore, it includes elementary-school children, so we should be careful when interpreting the results having in mind the possibility of socially desirable adequacy. Then, the study carried out is transversal and correlation, so that we cannot draw conclusions on causal relationship of measuring variables. In addition, we have used self-evaluation methods in the study and thus the results are the perceptions of children on family processes and relations, rather than objective evaluations obtained by the methods of observation and structured interviews.

In the conclusion we can say that possibilities that are opened in examining the relation between quality of family relations and self-efficacy of the children are rather big. In the light of that, recommendations for future studies are that we should use different

methods for the evaluation of the examined family relations, in order to obtain more objective evaluations of the functioning of the family and make more valid conclusions.

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Đerđi Erdeš-Kavečan

*Državni univerzitet u Novom Pazaru,
Studijski program psihologije, Srbija*

Remzija Ramičević

Dom za osobe sa mentalnim teškoćama – Tutin, Srbija

PORODIČNI ODNOSI I SAMOEFIKASNOST NA OSNOVNOŠKOLSKOM UZRASTU

Apstrakt

Cilj ovog istraživanja je da se ispita da li postoji i kakva je povezanost između pojedinih dimenzija porodičnih odnosa i specifičnih oblika samoefikasnosti deteta osnovnoškolskog uzrasta. Tokom istraživanja ispitivane su sledeće dimenzije porodičnih odnosa: kohezivnost, adaptibilnost, zadovoljstvo porodicom, prihvatanje i odbacivanje od strane majke i oca. Samoefikasnost je predstavljena sledećim merama: akademska, emocionalna i socijalna samoefikasnost. Sve posmatrane varijable koje reprezentuju predmet ovog rada su operacionalizovane skorovima na sledećim skalama: Upitnik za ispitivanje porodične kohezivnosti i adaptibilnosti FACES III (Olson, 2000), Skala percepcije porodičnih odnosa (Macuka, 2006) i Upitnik samoefikasnosti za decu SEQ-C (Vulić- Prtorić & Sorić, 2006). Uzorak istraživanja je činilo je 200 dece, uzrasta od 10 do 15 godina. U analizi podataka korišćene su deskriptivne statističke metode, kao i korelaciona analiza. Rezultati istraživanja pokazuju, da statistički značajna pozitivna korelacija postoji između kohezivnosti i dimenzija socijalne, akademske samoefikasnosti, kao i ukupnog skora na skali SEQ-C. Dimenzija zadovoljstvo porodicom statistički pozitivno korelira sa dimenzijama socijalne i emocionalne samoefikasnosti i ukupnim skorom na skali SEQ-C. Kada su dimenzije vaspitnih stilova u pitanju, prihvatanje od strane majke kao i oca pozitivno koreliraju sa svim dimenzijama samoefikasnosti deteta, dok odbacivanje od strane majke ali i oca je u negativnoj korelaciji sa socijalnom i akademskom samoefikasnošću, ali i sa ukupnim skorom na skali SEQ-C. Analizom rezultata dobijenih ovim istraživanjem zaključujemo, da pozitivna osećanja deteta koja vladaju u porodičnom okruženju, njegovo zadovoljstvo porodičnim životom, kao i način na koji dete percipira roditeljske vaspitne postupke imaju veliku ulogu u subjektivnom doživljaju sopstvenih mogućnosti kako u akademskom, socijalnom, tako i emocionalnom domenu.

Ključne reči: porodični odnosi, samoefikasnost, rana adolescencija, roditeljsko ponašanje

LIFE GOALS AS PREDICTORS OF SELF-PRESENTATION IN EVERYDAY LIFE¹

Abstract

Self-presentation is a specific form of a social behaviour and it means the process of presenting of a certain image of oneself with the aim of managing of an impression that others accomplish on a given person. It includes numerous forms of behaviour and action and these actions can vary, from exclusively social desirable forms of behaviour to aggressive behaviour and actions led entirely by one's own interest. The management of impressions come from the different needs of man and is influenced by several factors, amongst others, life goals that serve as norm for which we carry out a great deal of our life activities. According to the theory of self-determination intrinsic goals comes from inherent tendencies towards growth and directly meet psychological needs, extrinsic goals are aimed at achieving external awards and recognitions. In earlier research, it has been found that people who are more intrinsic motivated have a more stable self-perception and that the experience of the self is less connected with the perceived impression of other people on the person concerned, and consequently less often using self-presentation. The aim of this research is to examine the correlation of life goals with self-presentation. The survey was conducted on a sample of 525 respondents. Within this paper, it has been used a scale Tactics of Self-Presentation and scale Aspirations Index – AI, devoted to evaluation of seven different aspirations, divided into two categories: intrinsic and extrinsic aspirations. The results show that the best predictors of self-presentation are the extrinsic goals of Glory and Appearance that indicate a clear link between external standards and the need for confirmation by others on the one hand and the tendency to present ourselves in a way that will provide the desired impression of impressions in others, on the other side.

Key words: self-presentation, intrinsic life goals, extrinsic life goals

Introduction

One of the personality traits is its persistence over time and during different situations, however, the fact that each person fascinates with variability in their behaviour is indisputable. A person, as an extremely social being, develops, learns, meets themselves and realizes their own needs in interactions with other people. Bearing in mind the diversity of social situations, they often require the updating

¹ Corresponig author: mbelic@np.ac.rs,

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of individual traits or behaviours so a person is able to present themselves, gain attention, or achieve a goal.

According to Goffman (1959), the social life of people is highly structured and each situation demands the definition of expectation of oneself and others, thus he advocated a dramatic approach to social behaviour that implies the view that each social situation is like a scene, and that every man plays their role in the best possible way. Although most people will say that they highly value sincerity in social relations, Goffman argued that this is an ideal for which one does not really need to strive, and that people are early faced with the fact that almost every situation requires some shaping of the opinions of others with the help of skilfully planned impressions management that others accept with the tact. Structuring and shaping someone else's opinion about themselves with the help of behaviour, attitudes expressions, verbal and non-verbal actions and many other forms of behaviour is called self-presentation

Self-presentation is an attempt to control the image of oneself in front of a real or imaginary audience (Schlenker, 1980) and a goal-oriented act created, at least in part, to generate a particular image of a person (Schlenker & Leary, 1982). Self-presentation is a tool for managing social consequences (Baumeister, 1982), maintaining or increasing self-esteem (Leary & Kowalski, 1990) and building and preserving the self-concept (Schlenker, 1980). Self-presentation as a form of social behaviour has been linked to various factors. It served to explain and understand a number of behaviours, including, among other, health behaviour and behaviour in partner relationships (Leary, Tchividjian, & Kraxberger, 1994), aggressive behaviour (Tedeschi & Felson, 1994), presenting in job interviews and business behaviour (Stevens & Kristof, 1995).

Self-presentation as a model of social behaviour implies that people are constantly trying to show a special image of themselves to others in order to control the impressions of an omnipresent audience. This model assumes that people are flexible and adaptable to meet the challenges of unknown situations like chameleons that change colours according to the environment. However, some authors believe that this model is not sufficient to explain social behaviour (Buss & Briggs, 1984). According to these authors, it needs to be complemented by a model that emphasizes personal, individual aspects of social behaviour. People can express emotions, react to momentary impulses, or they can respond in accordance with established habits, personality dispositions, and goals they are trying to achieve. This alternative model is certainly not new but it is neglected compared to dramaturgical metaphor. Social behaviour is actually the result of a compromise between the external demands of the situation that requires flexibility (self-presentation) and personal needs, impulses and innate tendencies (personality) (Buss & Briggs, 1984).

In psychology, human behaviour and the present life of man are often viewed as the result of the past of the individuals, their early relationships, growing up and maturing. However, we should never ignore that the future of a

person, or what he or she is trying to achieve, can strongly affect human activities, by moving and directing him or her towards the set goals. We can freely say that knowing the goals of a man can partly explain his current behaviour. Life goals act multiply: through attitudes, interests, launching action, life choices, perseverance in ventures. There are many theories explaining human goals and their impact on human behaviour. One of such theories is the Theory of Self-Determination.

According to theory of Self-Determination, psychological needs are at the heart of the process of setting goals, and the success in satisfying these needs determines our life goals (Deci & Vansteenkiste, 2004). In their Theory of Self-determination, Deci and Ryan (1985, 2000) have pointed out that human beings have basic psychological needs for autonomy, competence and connectivity. This theory assumes that individuals naturally strive for situations which enable meeting these needs. According to the Theory of self-determination, the introjected regulations become integrated with the core of the self itself (Deci & Ryan, 1985, 2000). One way to approach this process is to consider the self as a sphere with a solid core in the middle but increasingly weaker and less defined parts that are farther away from the core (Levis & Neighbors, 2005). The core represents the essence of a real self, where the rules are fully integrated and consistent with each other, thus representing the basic values and interests of a person. The more the standards are under the external effect, the more distant they are from the core. These can be values that are personally important but incompatible with other aspects of the self (for example, personal evaluation of employment despite conflict with parenting). Even further are individual operationalizations such as "should", pressures and obligations. In this case, individuals are primarily motivated to *show* themselves as worthy and honest, and are more guided by the interest of showing themselves as such, than by the desire to truly possess these qualities (Levis & Neighbors, 2005). Following this analogy, the needs for autonomy, competence and connectivity are less directly satisfied as standards are farther away from the core of the self. Instead, the need for social approval, material success, and appearance seems to act as substitute needs (Deci & Ryan, 2000; Kemis, 2000).

According to theory of Self-Determination (Kasser & Ryan, 1996), life goals can be divided into two groups: intrinsic and extrinsic. Kasser and Ryan define intrinsic goals as "expressions of desires that are consistent with natural human tendencies toward actualization and growth". This implies that intrinsic goals are linked to self-determined behaviour and that people naturally follow them because they satisfy psychological needs. By achieving intrinsic goals, people satisfy basic psychological needs, so people to whom these goals are more important, are more satisfied with their lives (Kasser & Ryan, 1996). Intrinsic goals include personal growth, relationships with others, contributions to community and health. Personal growth refers to the development of personality, i.e., autonomy, self-acceptance, and self-image. Relations with others imply the goal of establishing good interpersonal relationships, while the goal - the contribution

to community refers to work on improving society. Health implies a desire for good physical health and condition.

Contrary to these goals, arising from inherent tendencies towards growth and directly meeting psychological needs, extrinsic goals are directed towards achieving external awards and recognitions. There are three extremist goals, which are wealth, glory and appearance. Wealth refers to the aspiration to achieve more and more material values and money; glory is a desire to be famous and glorious and that others adore us, and the appearance refers to a desire to an attractive physical appearance. Extrinsic goals are instrumental goals, as they are a substitute for deeper needs (Neighbors & Knee, 2003).

Bearing in mind that the life goals that a person strives to are very important for understanding people's behaviour, the question arises in what relation are the life goals that a person tends to with a form of social behaviour such as self-presentation. What is common to self-presentation and life goals are other people who can to some extent act as benchmarks. Life goals largely involve other people in some way, life goals often include some form of unification, intimacy and cooperation with other people, partly involve others, serve for social comparison or at least as a measure of achievement; on the other hand self-presentation is most often happening just in front of other people who need to believe in the image being broadcast.

Method

Variables of research

Self-Presentation Tactics. Self-presentation tactics are every form of behaviour directed towards structuring impressions in others (Paulhus & Trapnell, 2008). In principle, authors dealing with self-presentation agree that this is not a unique construct. For the purposes of this research, we decided on the operationalization provided by Lee and associates (Lee et al., 1999), who, on the basis of the extensive literature search, set out 12 self-presentation tactics: Excuse, Justification, Disclaimer, Self-Handicapping, Apology, Ingratiation, Intimidation, Supplication, Entitlement, Enhancement, Blasting, Basking and Exemplification.

Excuse, as the Self-presentation tactic implies verbal statements denying responsibility for a particular event (Tedeschi & Lindskold, 1976, as cited in Lee et al., 1999). Justification implies simultaneous listing of the essential reasons for negative behaviour, but with the acceptance of responsibility (Scott & Lyman, 1968, as cited in Lee et al., 1999). Disclaimer implies giving an explanation for a negative event before it even happened (Hewitt & Stokes, 1975, as cited in Lee et al., 1999). Self-Handicapping as a self-presentation tactic implies creation of an obstacle to one's own success in order to prevent others from concluding on the essential cause of someone's failure (Berglas & Jones, 1978). Apology as the self-presentation tactic involves exaggerated apology and taking absolute responsibility for any damage to

others or for failure, as well as excessive expressions of guilt and remorse (Tedeschi & Lindskold, 1976; Lee et al., 1999). Ingratiation as the tactic of self-presentation (adulation) involves the behaviour that a person has in order to make others like her/him and thus gain the advantage of these people. This tactic can take on a form of flattery, expressing conformist opinion, making services or giving gifts (Jones & Pittman, 1982). Intimidation involves actions aimed at showing a person a more powerful or dangerous than he or she realistically is. It is used to induce fear in others or to increase the effectiveness of potential threats (Jones & Pittman, 1982). Supplication as the tactic of self-presentation involves behaviour in which a person is shown to be weak and dependent on the person from whom he or she wants to gain something (Jones & Pittman, 1982). Entitlement is the emphasis on personal responsibility and the credit for achieving positive results (Tedeschi & Lindskold, 1976; Lee et al., 1999), while enhancement is a self-presentation tactic through which the actor tries to convince others that the results of his or her behaviour are more positive than it looks at first (Schlenker, 1980). Linking one's own identity with a group that is characterized by others as positive and confirming the value of this group represents the tactic of basking (Cialdini & Richardson, 1980). Blasting involves behaviours and statements that negatively describe some group or individual with whom the actor is in a relationship (Cialdini & Richardson, 1980; Lee et al., 1999). Exemplification is a tactic that, thanks to the high moral behaviour of a person and preservation of integrity, can cause respect, imitation or admiration to the audience (Jones & Pittman, 1982).

Life goals. During the operationalization of these variables, we have started from the Theory of Self-Determination (Kasser & Ryan, 1996). According to this theory, life goals can be divided into two groups: intrinsic and extrinsic. Kasser and Ryan define intrinsic goals as "expressions of desires that are consistent with natural human tendencies toward actualization and growth". Intrinsic goals include personal growth, relationships with others, contribution to community and health. Personal growth refers to the development of personality, i.e., autonomy, self-acceptance, and self-image. Relations with others imply the goal of establishing good interpersonal relationships, while the goal – the contribution to community refers to work on the improvement of the society. Health implies a desire for good physical health and condition. Contrary to intrinsic goals, extrinsic goals are aimed at achieving external awards and recognitions. There are three extrinsic goals, which are wealth, glory and appearance. Wealth refers to the aspiration to achieve more and more material values and money; glory is a desire to be famous and glorious and that others admire us, and the appearance is a desire to achieve and maintain an attractive physical appearance.

Sample

The survey sample consisted of 526 respondents, students of state faculties in the Republic of Serbia. The average age of the respondents was $M = 21.6$, $SD = 2.88$.

Instruments used in the research

Self-presentation tactics scale (SPT; Lee et al., 1999). The scale consists of 63 items related to 12 self-presentation tactics: Excuse, Justification, Disclaimer, Self-Handicapping, Apology, Ingratiation, Intimidation, Supplication, Entitlement, Enhancement, Blasting (chicanery), Basking and Exemplification. Respondents estimate the frequency of using individual styles of self-presentation on a nine-level scale (*1-extremely rare, 9- extremely often*), and it is possible to determine which tactic the respondent uses and with what frequency. Examples of items from the questionnaire are: "When I do something wrong, I am looking for excuses" (Excuse); "I offer socially acceptable reasons for my behaviour that others may not like" (Justification); "I am looking for excuses for possible failure before I take a difficult test" (Disclaimer); "I am an obstacle on my way to success" (Self-Handicapping); "I express my guilt and regret when I make a mistake" (Apology); "I do the service to people to make them love me" (Ingratiation); "I use my strength and greatness to influence people when it is needed" (Intimidation); "I use my weaknesses to gain the sympathies of others" (Supplication); "When I am working in a team, I make my contribution bigger than it really is" (Entitlement); "When I succeed in a task, I emphasize how important the task was" (Enhancement); "I emphasize the negative characteristics of people who compete with me" (Blasting); "I try to be a model of how a person should behave" (Exemplification). Respondents evaluate the frequency of using individual self-presentation styles on a nine-level scale (*1 – extremely rare, 9 – extremely often*), and it is possible to determine which tactics the respondent uses and with what frequency, as a total score of self-presentation. The reliability of the instrument is checked and it amounts Cronbach's Alpha = .946.

Aspirations Index (AI; Kasser & Ryan, 1996). The questionnaire includes 35 items, which are grouped into seven sub-scales (personal growth, relationships with others, contribution to community and health - intrinsic goals; wealth, glory and appearance - extrinsic goals). On Likert's type seven-step scale (*1 – completely incorrect; 7 – completely true*), the respondents estimate how each goal is important to them, in which extent they have achieved them so far and the what is the likelihood that it will be achieved in the future. Examples of items from the questionnaire are: "Life goal: To develop myself and learn new things" (personal growth), "Life goal: To have good friends I can count on" (relations with others), "Life goal: To work on improving the society" (contribution to the community), " Life goal: To keep myself healthy" (health), "Life goal: To be a very rich person" (wealth), "Life goal: To make my name known to many people" (glory) and "Life goal: To look attractive to others" (appearance). Cronbach's Alpha reliability coefficient of these scales is .946.

Results and analysis

Table 1 shows the correlations of 12 self-presentation tactics with extrinsic and intrinsic life goals.

Table 1
Correlations of self-presentation tactics with life goals

	Extrinsic life goals	Intrinsic life goals
Excuse	.21**	-.06
Justification	.25**	.01
Disclaimer	.20*	-.04
Self-handicapping	.08	-.13**
Apology	-.05	.20**
Ingratiation	.29**	-.03
Intimidation	.27**	-.01
Supplication	.20**	-.07
Enhancement	.34**	.02
Entitlement	.26**	-.04
Blasting	.29**	-.05
Exemplification	.27**	.29**

Ten of the twelve self-presentation tactics are in a positive correlation with extrinsic life goals. Only the tactics of Apology and Self-Handicapping are not in a statistically significant correlation with extrinsic life goals. Tactics Apology and Self-Handicapping involve actions that in some way put in an inferior position an individual who is trying to repair a broken picture of him or her. This can be a huge obstacle to self-promotion and popularity, which are integral parts of the extirpative life goals.

When it comes to intrinsic life goals, a statistically significant positive correlation was noted with the tactics of Exemplification and Apology, while the Self-Handicapping tactic has a statistically negative correlation. Exemplification is a tactic that includes such behaviours and actions that can serve others as a model a person should behave. This often involves work on oneself and their own personal accomplishments and that is directly related to intrinsic life goals. The Apology tactics also includes expressions of grief and guilt that can be very important in interpersonal relationships in building tolerance ratio. We can explain the negative relationship between the tactics of the Self-handicapping and the intrinsic life goals by the fact that creating obstacles to one's own success in order to justify their own failure is often in conflict with the person's personal advancement.

Table 2
Correlations of life goals with overall self-presentations

		Total self-presentations
Wealth	<i>r</i>	.26
	<i>p</i>	.000
Glory	<i>r</i>	.33
	<i>p</i>	.000
Apperance	<i>r</i>	.28
	<i>p</i>	.000
Personal growth	<i>r</i>	-.01
	<i>p</i>	.760
Realtioship with others	<i>r</i>	-.04
	<i>p</i>	.342
Community	<i>r</i>	.06
	<i>p</i>	.202
Health	<i>r</i>	-.03
	<i>p</i>	.564

As shown in Table 2, extrinsic life goals, wealth, glory and appearance record a positive, statistically significant correlation with total self-presentation. Intrinsic life goals are not in a statistically significant correlation with the overall self-presentation.

In order to determine the possibility that life goals can explain the tendency to self-presentation, we used the statistical method of regression.

Table 3
Regression model – life goals as predictors of self-presentation

Model	<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	Standard Error
1	0,40a	0,16	0,15	64,06
Model	Predictor	β	<i>t</i>	<i>p</i>
	Wealth	.11	1.81	.071
	Glory	.21	3.39	.001
	Appearance	.19	3.07	.002
	Personal growth	-.16	-2.41	.016
	Relationship	-.06	-1.09	.027
	Community	.06	1.07	.285
	Health	-.12	-2.15	.032

a. Dependent variable: Total Self-presentation

The extrinsic goals of glory and appearance have been shown as the best predictor of the general tendency toward self-presentation. The tendency of a person to be known to other people and the desire to achieve and maintain an appealing physical appearance are predictors for the behaviour of a person who will try to project and maintain a picture of himself/herself which are considered to bring benefits using different self-presentation tactics. Other life goals have not been shown as statistically significant predictors.

Discussion

Earlier research (Knee & Zuckerman, 1996; Koestner, Bernieri, & Zuckerman, 1992; Neighbors & Knee, 2003) has experimentally confirmed that individuals who are highly self-determined rarely use self-presentation, while those individuals who are low on self-determination often use self-presentation. The starting point for all research dealing with self-presentation is that the impression that others have about a person affects the individual itself. Often the consequences influence self-perception and the feeling of personal value. Therefore, to the extent that the feeling of personal value is in the function of external influences, such as social approval, individual will be more motivated to participate in the management of impressions. The extent to which self-evaluation is rooted in external factors is probably an indicator of the frequency of individual engagement in the management of impressions (Levis & Neighbors, 2005).

Extrinsic goals, such as wealth, glory and appealing appearance depend on the evaluation of people and the environment, while intrinsic goals (relationships with people, contribution to the community and self-acceptance) are satisfactory by themselves, regardless of environmental evaluation. Intrinsic goals enable the satisfaction of psychological needs and increase the welfare of the individual (Brdar, 2006; Kaser & Ryan, 1996; Rijavec, Brdar, & Miljković, 2006). Conversely, people who are more focused on extrinsic goals, such as wealth and popularity, often become “victims” of status symbols and fashion, often ignore their psychological needs, and that reduces their well-being (Kasser, 2003). It is also possible that people who have not met their basic psychological needs even more focus on extrinsic goals. For example, a person who does not have satisfactory close relationships with people may think that others will appreciate and love her more if she looks better or if she is richer. Research confirms this – people who are focused on extrinsic life goals have poorer relationships with people, are more often depressed and have addictions problems (Kasser & Ryan, 2001).

According to the theory of self-determination, there are individual differences in relation to three orientations: a) autonomous orientation; b) controlled; c) impersonal. According to the views of these authors, each individual is autonomous to some extent, controlled to some extent and impersonal to some extent. Autonomous and controlled orientations, as a rule, do not correlate (Deci & Ryan, 1985), while the impersonal orientation is in a negative correlation with autonomous orientations and in a positive correlation with the controlled orientation.

Autonomous orientation is a positive indication of self-determination and reflects a general tendency in behaviour based on basic interests and integrated values, and the experience of the right choice in behaviour. Contrary to this, the controlled orientation is a negative indication of self-determination and reflects a tendency in pressure-based behaviour. Controlled orientation is related to a lower degree of self-actualization, an external locus of control and more pronounced public self-awareness (Deci & Ryan,

1985) and defensive reactions to external stressors (Koestner & Zuckerman, 1994; Neighbors, Vietor, & Knee, 2002). Impersonal orientation is also a negative indicator of self-determination theory; it is in correlation with depression (Deci & Ryan, 1985) and the feeling of helplessness (McHoskey, 1999). This orientation is in a negative correlation with self-actualization and self-esteem, and in a positive correlation with the external locus of control, public self-awareness and social anxiety (Deci & Ryan, 1985). Public self-awareness is defined as an individual difference in the degree of experiencing oneself as a social object. Research has shown that individuals who are more autonomous, and in relation to the controlled ones, behave more consistently with regard to their attitudes and self-descriptions (Koestner et al., 1992; as cited in Levis & Neighbors, 2005). Less autonomous individuals experience the increase of negative impacts and reduce of self-esteem when faced with social comparison that is threatening to the ego (Neighbors & Knee, 2003). Characteristic of honest behaviour and the behaviour that is consistent with integrity of personality is that one which is in accordance with the beliefs and values of the person concerned. Greater autonomy is associated with a greater degree of sincerity and openness, while controlled behaviour is associated to defensive attitudes and a lower level of sincerity in everyday interactions (Hodgins, Koestner, & Duncan, 1996; as cited in Levis & Neighbors, 2005). Greater autonomy is associated with taking the responsibility for own social interactions that end up unfavourably, while controlled and impersonal behaviours are in relation to defensive attitude and denial in order to minimize one's own responsibility (Levis & Neighbors, 2005). Also, individuals who are more autonomous show a lesser degree of bias when describing themselves and less often report on self-handicapping behaviour (Knee & Zuckerman, 1998). Research has shown that persons who are more self-determined have a more stable self-perception and that the experience of the self is less connected with the perceived impression of other people on the person concerned, and consequently less often use self-presentation (Levis & Neighbors, 2005).

People who strive for goals that must be recognized and acknowledged by others will increasingly tend to self-presentation in an attempt to generate a picture of them that will provide them with the satisfaction of precisely those goals. This topic is particularly interesting in the context of today's and modern technology. The modern age is characterized by material values and the promotion of good appearance and the necessity that some other (even social network followers, network friends, etc.) verify personal experience, event and even the experience of themselves. In the light of promoting such values, self-presentation serves as a means of convincing others but also oneself.

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Milena Belić

Državni univerzitet u Novom Pazaru, Srbija

ŽIVOTNI CILJEVI KAO PREDIKTORI SELF-PREZENTACIJE U SVAKODNEVNOM ŽIVOTU

Apstrakt

Self-prezentacija se definiše kao strukturisanje sopstvenog ponašanja sa ciljem da se stvori neki poseban utisak kod drugih ljudi. Ljudi se svesno ili nesvesno predstavljaju različito u različitim situacijama. Slika koju prikazuju drugim ljudima ne mora uvek biti pozitivna ili socijalno poželjna. Ponekad se ljudi prikazuju lošijim nego što zaista misle o sebi. Upravljanje utiscima proističe iz različitih potreba čoveka i pod uticajima je više faktora, između ostalih i životnih ciljeva koji služe kao reperi kojima saobražavamo veliki broj naših životnih aktivnosti. Životne ciljeve možemo sagledati i u svetlu teorije samodeterminacije. Prema Teoriji self-determinacije intrinzički ciljevi proizilaze iz inherentnih tendencija ka rastu i direktno zadovoljavaju psihološke potrebe, ekstrinzički ciljevi su usmereni ka postizanju spoljašnjih nagrada i priznanja. U ranijim istraživanjima je dobijeno da osobe koje su u većoj meri samodeterminisane imaju stabilniji doživljaj selfa te da je doživljaj selfa manje povezan sa uočenim utiskom drugih ljudi o dotičnoj osobi, te shodno

tome ređe koriste selfprezentaciju. Cilj ovog istraživanja predstavlja ispitivanje povezanosti životnih ciljevima sa self-prezentacijom. Istraživanje je sprovedeno na uzorku od 525 ispitanika. Korišćeni su Upitnik životnih ciljeva i skala Taktika self-prezentacije. Rezultati ukazuju da se kao najznačajniji statistički prediktor self-prezentacije pokazali ekstrinzički ciljevi Slava i Izgled što ukazuje na jasnu vezu između spoljnih standarda i potrebe potvrđivanja od strane drugih sa jedne strane i težnju da se predstavimo na način koji će obezbediti željeni utisak utisak kod drugih, sa druge strane.

Ključne reči: self-prezentacija, intrinzički životni ciljevi, ekstrinzički životni ciljevi

VALIDATING VIDEO STIMULUS FOR ELICITING COMPASSION: A PILOT STUDY¹

Abstract

The main goal of this paper was to validate a video that would be used in eliciting natural expression of compassion in a subsequent study of detecting compassionate facial expression. Because compassion is a reaction to suffering of others, we had selected the video clip showing a short story in which main characters suffered emotionally and/or physically. A three minutes video stimulus was tested whether it elicits emotion of compassion in the convenience sample of 39 participants. After watching the video, participants answered an online questionnaire regarding their emotions related to the video. Firstly we asked them to identify experienced emotion by open question and subsequently participants were asked to select experienced emotion from a list of different emotions. Then we asked them to describe the emotionally strongest moment in the video and its intensity. Finally we asked whether they actually felt compassion and how much intense it was for them. The results of the study showed that most of the participants (32 out of 39) perceived content of the video as poignant. In the open question majority of the participants identified the felt emotion while watching the video as it was touching or moving them. From the list of 8 emotions, 54% of participants selected compassion as emotion they felt the most. Participants declared that they felt compassion during the video on the high level – *Median* of compassion intensity was 4 as ascertained on Likert scale from 1 (*low*) to 5 (*high*). The results of the study showed that the video elicits compassion in participants watching it and it can be used for further research on compassion.

Key words: emotions, compassion, video stimulus, validation

Introduction

Strauss et al. (2016, p. 19) consider compassion as "... cognitive, affective, and behavioral process consisting of the following five elements that refer to both self and other-compassion: 1) Recognizing suffering; 2) Understanding the universality of suffering in human experience; 3) Feeling empathy for the person suffering and connecting with the distress (emotional resonance); 4) Tolerating uncomfortable feelings aroused in response to the suffering person (e.g., distress,

¹ Corresponding author: martina.valachova1@gmail.com

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anger, fear), and 5) Motivation to act/acting to alleviate suffering". In accordance with this definition, we consider compassion to be complex emotion accompanied by the above mentioned elements.

In order to explore compassionate facial expression, we firstly had to reliably elicit compassion. According to Gross and Levenson (1995) and Schaefer, Nils, Sanchez, and Philippot (2010), film clips and videos can reliably elicit emotion. Experiencing emotion is spontaneously connected with facial expression of emotion (Ekman, 1993). As we expect compassion is a candidate for basic emotion (Haidt, 2003; Widen, Chirsty, Hewett, & Russell, 2011), compassion should have its own unique facial expression, which can be elicited by compassionate stimulus such as a video.

The purpose of the current paper was to validate a short video stimulus whether it may elicit feeling of compassion in participants. As felt emotion is connected with facial expression of emotion (Ekman, 1993), firstly we wanted to verify, if chosen stimulus elicit feelings of compassion in participants. It is a pilot study and therefore it is the first step in the whole process. Next step in further research will be eliciting compassionate facial expression by the video stimulus and subsequent complex analysis of this expression.

Compassion as a distinct emotion

Apart from the basic emotions described by Ekman and colleagues there are also other social and mixed distinct emotions. Ekman (1992) refers to them as to so-called emotion families (see also Roseman, 1994). Each emotion family shares specific characteristics including facial expression which may vary from case to case. Ekman (1992) clarifies that emotions are our compasses which lead us to deal with *fundamental life-tasks*. Emotion families have similar facial expressions, not identical. Strength of muscular contractions expresses the intensity of specific emotion. Characteristics which define basic emotions are distinctive universal signals (Ekman, 1992, p. 175): "presence in other primates, distinctive physiology, distinctive universals in antecedent events, coherence among emotional response, quick onset, brief duration, automatic appraisal, and unbidden occurrence." Unbidden occurrence means that emotions are followed by involuntary changes in our physiology, that is why we "often experience emotions as happening to, not chosen by us" (Ekman, 1992, p. 189). These characteristics distinguish emotions from one another and also emotions from other states. Kreibig (2010) deals with patterns in autonomic nervous system in emotion arousal, because neural response is one of the main components in specific emotions. She declares specific and unique response pattern in concrete distinct emotions based on 134 studies. Compassion wasn't included in her review.

In contrast with the previous study, Haidt (2003) describes exactly four families (groups) of moral emotions: 1) the other-condemning family (contempt,

anger and disgust); 2) the self-conscious family (shame, embarrassment and guilt); 3) the other-suffering family (compassion), and 4) the other-praising family (gratitude and elevation). In his categorization compassion itself creates the whole category of other-suffering family of moral emotions.

Darwin in his work called this emotion sympathy. He noticed that people and animals help each other in distress and more likely, if individual in need is a family member (Ekman, 2010). Goetz, Keltner, and Simon-Thomas (2010) discussed compassion in complexity from evolutionary point of view. They also posed a provocative question: "What is compassion?" The review of these authors clarifies function of the compassion, its difference from other emotional states and various manifestations of compassion. Study summarizes that compassion is a distinct emotion with accompanying reaction to suffering with primary function of protecting weaker and those who suffers. As suggested by Hertenstein et al. (2006), sympathy may be communicated by the touch or even just when we see the touch of other people.

Bänninger-Hubber (2005) presented a new approach based on communication value of facial expression of emotions. Bänninger-Hubber studied facial expressions during therapeutic interaction in order to find out if affective microsequences are present in this kind of relationship. She found out that smiling was considered to be successful facial microsequence, because it gives sense of security to client in conflict situation, support client and strengthen therapeutic alliance. Therefore we think that more detailed analyses of facial behavior are needed in future. Empathy itself, as a part of compassion, and also a part of communication may alter perception of pain (Loggia, Mogil, & Bushnell, 2008). When participants felt higher empathy, they also rated painful stimuli as more unpleasant and that those with lower empathy.

Emotion elicitation by video clip

To elicit spontaneous emotion, we firstly need to select relevant stimulus. Up to now, data set with compassion eliciting stimuli doesn't exist. For example very complex data set with 120 music videos eliciting emotions was created by Koelstra et al. (2012). Authors analyzed self-ratings as well as the EEG-data while watching emotion stimuli. Compassion wasn't included in this study either. To work with spontaneous felt compassion and with facial expression of compassion, finding a suitable stimulus is necessarily.

In the very search of stimulus we need to start from the essence of the current emotion, which we want to elicit. From the evolutionary point of view, compassion is an emotion, which is the reaction to suffering (Goetz, Keltner, & Simon-Thomas, 2010). Therefore, in order to elicit spontaneous facial expression of emotion we need to have intensive stimulus which is capable of eliciting it (Rosenberg & Ekman, 2005). There are many ways how to elicit emotion for example video, imagery, recall of autobiographical memory, music, affective pictures or so

on (Lench, Flores, & Bench, 2011). To elicit intensive genuine emotional reaction we focused on the video clips because of short format in form of narrative.

Eliciting emotions by video clips is considered as reliable procedure to elicit target emotion in participants (e.g., Gross & Levenson, 1995). To elicit target emotion it is necessary to catch the essence of emotion. According to Ekman (1992), emotion is the fast reaction to the concrete stimulus and facial expression is a part of this specific reaction accompanied with subjectively felt emotion. On the basis of this connection, facial expression can bring us knowledge about currently felt emotion. Firstly we have to validate video clip for target subjectively felt emotion and in the next step it is possible to capture facial expression of this emotion.

Nowadays, we have a variety of data sets which posed prototypical emotional facial expressions including basic emotions as described by Ekman (e.g., Ekman, 1992, 1993, 2016). Radboud data set (Langer et al., 2010) with posed facial expressions of emotions is one of the best known data sets. Study reveals high recognition of facial expressions – neutral, anger, sadness, fear, disgust, surprise, happiness, and contempt. Expressions were posed in five camera angles and 3 gaze directions. Generally, recognition rate of emotions was above 80 % except for contempt with lower rates. Compassion was not included in this data set. Pictures of facial expressions of basic emotions were in these studies multiple times rated by individuals from all over the world and in these times, the prevalent opinion is that basic emotions are universal across the cultures (Ekman, 2016). Ekman (ibid.) asked 250 emotion scientists questions about nature of emotions. 88% of scientists agreed upon universality in some aspects of emotions. But only 20% of emotion scientists consider compassion as empirically well established emotion, which can be considered as a challenge for the future research on compassion.

Prevailing emotion-recognition paradigm works mainly with posed facial expressions and recognition of these expressions in context or without context. The aim of current study is to explore whether short video stimulus will elicit the subjectively felt compassion in participants while watching it.

Method

Measures

Compassion eliciting video. The video we have chosen as compassion eliciting has three minutes and it shows a short story of suffering and helping. Main characters are Chinese boy and older seller who help the boy. Few years later their fates have been changed. The full version of the video is freely available on YouTube (https://www.youtube.com/watch?v=2x_FI3NQVd4). Video selection was based on the video agreement with mentioned definition of compassion from Strauss et al. (2016). We have selected current video after the discussion in our core research team about criteria on the situation of compassion as are discussed in previous researches on compassion.

Online questionnaire. Online questionnaire consisted of questions about the emotions experienced during watching the video. We asked participants to watch the short video stimulus. After watching the video participants answered a list of questions about their subjective feelings. First, we asked an open question about their feelings while watching the video. After the open question, participants had to choose the most apposite feeling from the list of emotions which correspond with their felt emotion while watching the stimulus (anger, disgust, fear, happiness, sadness, surprise, compassion, contempt). Next we asked about the emotionally strongest moment in the video according to the participants followed by the intensity Likert scale for mentioned moment (*1 weak – 5 strong*). We asked also about the second strongest moment in the video and its intensity. In the following question we have asked if there was specific moment when participants felt compassion and we ask to describe it, if yes. The last question was focused on the intensity to which participants felt compassion while watching the video.

Participants and recruitment procedure

Convenient sample was recruited from the general community through social media. There were 39 participants in the study. All procedures performed in the study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Procedure

Our procedure included following steps: 1) Participants watched the video online; 2) Participants answered the open question about what emotion they felt during watching the video; 3) Participants selected the most suitable emotion out of a list of 8 emotions in alphabetical order (anger, compassion, contempt, disgust, fear, happiness, sadness and surprise), and 4) Participants described the most compassionate moment from the video and labeled its intensity on the Likert scale from 1 (*low*) to 5 (*high*).

Data analyses

We used statistical software SPSS, version 20.0 and R program package stats for quantitative analysis and Qualitative content analysis for qualitative data.

Results

Qualitative analysis

The majority of the participants (32 out of 39) described their experience as poignant, moving or touching. For example, one of the respondents declared that “the video has touched me, it made me feel like people should help each

other, that it is meaningful". Another participant wrote: "...it was very nice video, I cried". Another participant described his/her feeling as: "I was feeling pity and joy. Motivation to help." One participant declared, that she "felt moved, but also sad that reality is often different...". Most of the participants described their feelings during the video as follows: "just moved", "I felt moved...", "A very moving story. It pleased me, that boy remembered that good deed...", "I was moved...affected by the situation...", "I felt moved, firstly sad and then happy...", "Compassion".

Then we asked for the most compassionate moment from the video. 20 of 39 participants agreed on the specific moment, that we can illustrate by expression of one participant "when little boy stole drugs for a sick mother, because they could not afford it" (see Picture 1). This was the most intensive and poignant moment from the video.



Picture 1. The most compassionate moment from the video

Quantitative analysis

21 participants (54%) selected compassion out of a list of 8 emotions (anger, compassion, contempt, disgust, fear, happiness, sadness, and surprise). Exact binomial test showed significant probability of success with $p < .001$ within 95% confidence interval between .372 and .699.

Discussion

In this paper we tested a new video stimulus and confirmed that it elicits subjectively felt compassion in participants. We used video as emotion stimulus as it is suggested by Gross and Levenson (1995) or Schaefer, Nils, Sanchez, and Philippot (2010). The three-minute video reflects compassionate situation, as it was described by multiple authors (e.g., Goetz, Keltner & Simon-Thomas, 2010; Strauss et al., 2016).

By self-reported measures we wanted to capture subjective feelings of participants connected with the video stimulus. The whole video was generally seen by participants as touching and poignant.

The most of the participants selected compassion from the list of the emotions. So far, recognition rate of compassion in facial expression recognition studies was quite low (Haidt & Keltner, 1999). Compassion was always less recognized compared to other facial expressions of basic emotions as happiness,

anger, disgust, fear, surprise or sadness. But people were able to feel compassion while watching the video stimulus we used in this study. However, they were not able to recognize facial expressions of compassion in previous studies. That is the reason why we want to explore the spontaneous facial behaviour in connection with compassion eliciting stimulus in future research. Facial expression can serve as an emotion or also as an social intention, for example social and happy smiles (Schmidt, Cohn, & Tian, 2005). There are also differences in spontaneous and fake facial expressions in pain expression that is why we want to evoke genuine facial expression of compassion by selecting the compassion evoking stimuli in a subsequent research. Study of Messinger, Fogel, and Dickson (2005) about facial activity of chronic back pain patients during physical exercises, revealed, that fake facial expressions were reinforced and caricaturized in comparison with genuine reactions that were more subtle. Fake facial expressions contained elements of genuine reaction but they were exaggerated.

As Rosenberg and Ekman (2005) wrote, to achieve coherence in facial expression and self-report measures, the high level of intensity of elicited emotion is needed. In our study, we used self-report measures and asked participants to answer open ended questions about their feelings during the video. We assumed that the most memorable moments will be the moments with the most intensively felt emotion (*ibid.*). More than half of the participants in our study selected the same moment as the most emotional poignant and compassionate. In the whole video, more than three quarters felt compassion at high level.

The most compassionate moment for participants during the video was part when little boy stole drugs for his mother and this act was compassionately received by a stranger. The stranger recognized and understood boy's suffering; he felt empathy for the boy suffering and emotionally resonated. Apart from that, the stranger tolerated own uncomfortable feelings aroused in response to the suffering person and alleviated boy's suffering, as it is described in Strauss et al. (2016) definition of compassion. The situation of suffering culminated in the video in compassionate response – the same as reported by the participants by their felt compassion in the moment of suffering of little boy.

In our opinion, this video really shows the situation of suffering and compassionate reaction, as confirmed by the definition (Strauss et al., 2016) as well as the statements of the participants, who felt compassion while watching the situation of suffering. We propose to use this video as a compassion eliciting stimulus in further research. The next goal is to analyze facial behaviour of participants during watching this compassionate stimulus, mainly in the most compassionate moment according to them in order to find whether there is any universal face expression for compassion cross-culturally.

Limitations and further research

In our pilot study we analysed only responses from very small and convenient sample. Also, we tested only one video as the compassionate stimulus in the current study.

Conclusion

The results of the study showed that the video elicits compassion in participants watching the selected video. Therefore, it can be used for further research on compassion face expression and recognition.

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Martina Baránková

Júlia Kanovská Halamová

Institute of Applied Psychology, Faculty of Social and Economic Sciences, Comenius University in Bratislava, Slovakia

VALIDACIJA VIDEO STIMULUSA ZA IZAZIVANJE SAOSEĆANJA: PILOT STUDIJA

Apstrakt

Glavni cilj ovog rada je validacija videa koji može biti korišćen u izazivanju prirodnog izražavanja saosećanja u kasnijoj studiji namenjenoj utvrđivanju facijalne ekspresije saosećanja. Kako se saosećanje javlja kao reakcija na patnju drugih, izabrali smo video klip koji prikazuje kratku priču gde glavni lik pati emocionalno i/ili fizički. Trominutni video stimulus je testiran u odnosu na to da li izaziva saosećanje na prigodnom uzorku od 39 učesnika istraživanja. Nakon gledanja videa, učesnici su popunjavali onlajn upitnik u odnosu na emocije koje je video kod njih izazvao. Najpre smo ih zamolili da identifikuju doživljenu emociju pitanjem sa otvorenim odgovorom, a potom su učesnici zamoljeni da izaberu jednu emociju koju su doživeli sa ponuđene liste različitih emocija. Onda smo ih zamolili da opišu emocionalno najsnažniji trenutak u videu i njegov intenzitet. Na kraju smo ih pitali da li su osetili saosećanje i koliko je ono bilo intenzivno. Rezultati istraživanja su pokazali da je većina učesnika istraživanja (32 od 39) doživela sadržaj videa kao potresan. U pitanju sa otvorenim odgovorom većina ispitanika je konstatovala da ih je gledanje videa emocionalno dirnulo. Sa liste od ponuđenih 8 emocija, 54% učesnika istraživanja je izabralo saosećanje kao emociju koja najbolje opsuje ono što su doživeli. Učesnici istraživanja su se takođe izjasnili da su doživeli visok nivo saosećanja dok su gledali video – *medijana* procenjenog inteziteta saosećanja na Likertovoj skali od 1 (*nisko*) do 5 (*visoko*) je bila 4. Rezultati istraživanja pokazuju da ovaj video izaziva saosaćenje kod ispitanika prilikom gledanja, te da se može koristiti za dalje istraživanje saosećanja.

Ključne reči: emocije, saosećanje, video stimulus, validacija

USAGE OF INTERNET AND FORMS OF CYBERBULLYING: A PILOT STUDY AMONG BULGARIAN ADULTS AND TEENAGERS¹

Abstract

Cyberbullying is a form of harassment via the internet. We conducted an online-study, that addresses the question, are there any differences between adults and teenagers regarding the use of internet and experiencing cyberbullying. Our first sample consists of 188 Bulgarian adults (aged 18 to 31, women: 77.7%, $N = 145$; men: 22.3%, $N = 43$). The second sample includes 67 teenagers (aged 11 to 18, boys: 43.3%, $N = 29$ and girls 56.7%, $N = 38$). We used a questionnaire (31 items), developed in an earlier stage of our research and based on qualitative data. The results show, that Facebook is the favorite social network of the Bulgarians. Regarding experiencing of cyberbullying there are some significant differences: Women are confronted more often with cyberstalking than female teenagers ($F = 8.9$, $t = 1.99$, $df = 160$, $p \leq .01$). Boys experience more frequently sexual harassment via internet than men ($F = 25.6$, $t = 2.3$, $df = 58$). Teenagers report to be confronted with rudeness and insults in the cyberspace more often in comparison to adults ($F = 12.4$, $t = -2.9$, $df = 221$, $p \leq .001$). The findings of this study shed more light on the fact, that both teenagers and adults experience various forms of cyberbullying on a daily basis. Although the current study has its limitations (such as a rather small sample of teenagers), the observed tendencies deserve more detailed investigation.

Key words: cyberbullying, gender differences, adults, teenagers, internet

Introduction

*"Sticks and Stones can break my bones,
but how can Pixels hurt me?"
(Cassidy et al., 2009, p. 382)*

Bullying is a distinctive behavior of hurting and humiliating others, that has been a rather frequent topic in the fields of psychology for the past 40 years. Different theoretical and applied branches of psychology developed a better understanding of the construct over the years. It is now clear, that experiencing bullying may have a strong negative impact on the physical and mental health, self-perceptions and on the relationships with others. The consequences may even have a cumulative impact on the person over the years (Brunstein et al.,

¹ Corresponding author: maria.chubrieva@gmail.com

2007; Kim et al., 2006). Victims of bullying have been consistently found to be at higher risk for somatic problems and internalizing disorders such as anxiety and depression (Zwierzynska et al., 2013, p. 309–323). Therefore psychologists are constantly conducting researches and collecting data, developing and applying prevention programs against bullying and evaluating them.

Nowadays the attention to the topic is still growing exponentially. As a reason a new phenomenon can be pointed out. Cyberbullying or Online-bullying has emerged within the last 10–15 years following the progress of the information and communications technologies. Cyberbullying is been identified as an important problem among youth. However, there is no single and universally accepted definition for this phenomenon. Some authors define it as “an aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him- or herself” (Smith & Slonje, 2010, p. 49); others see cyberbullying as “... the use of information and communication technologies to support deliberate, repeated, and hostile behaviour by an individual or group, that is intended to harm others” (Belsey, 2004).

Many operationalisations of online-bullying include the four main characteristics of the traditional bullying, defined by Dan Olweus: 1) Repetition, 2) Intent to hurt, 3) Imbalance of power, and 4) Helplessness of the victim (Olweus, as cited in Fawzi, 2009, p. 8). Therefore many authors consider online-bullying as a form of bullying with the only addition of using electronic technologies in order to harass the victim. Li, for instance, writes an article on this topic, named *„New bottle, but old wine“* (Li, 2005).

Other researchers dispute fiercely this point of view. They emphasize on the differences between bullying and cyberbullying. Dooley define online-bullying as qualitatively different phenomenon, because the person can be bullied all the time and is not safe in his/her own home (Dooley et al. 2009). The anonymity is another characteristic of cyberbullying, that makes it different and more dangerous than the traditional one (Dooley et al., 2009). Identifying the perpetrator in Internet is not always possible. Other than that the cyber-space implies lack of face-to-face communication, which leads to online disinhibition effects (Mason, 2008, p. 328). And last, but not least, the repetition of cyberbullying has many different layers compared to traditional bullying. Pictures or a videos, posted online, cannot be erased easily. They can be seen worldwide and the consequences of it can follow the victim years later. “Information that was once scattered, forgettable, and localized is becoming permanent and searchable” (Solove, 2007, p. 4). Therefore the cyberbullying can be seen as a new phenomenon with similarities, but also many important key differences compared to the traditional bullying.

As it's own phenomenon, online-bullying can take many forms. Some of them are been identified quite recently, in the last few years. The forms of cyberbullying strongly depend on the progress of technology and Internet-trends. For instance, cyberbullying in social networks was only possible after Facebook or Instagram gained their popularity.

In the following, we tried to systematize different types of online-bullying, found in the corresponding psychological literature (Hinduja & Patchin 2009; Kowalski et al., 2008; Riebel 2008; Robertz, 2010): 1) Cyberharassment – threatening someone over e-mail, SMS or any other online-platform; 2) Denigration – spreading rumors or threatening someone to damage their self-esteem; 3) Impersonation – taking the identity of someone else in Internet to target them; 4) Catfishing – creating a false profile on a dating site to affect another person's emotions; 5) Outing/Trickery – gaining the trust and using the cyber-space to publish personal information about victim; 6) Exclusion – excluding the victim from group, chat or any other online-activity; 7) Cyberstalking – stalking someone online using any form of electronic platform; 8) Happy Slapping – a victim is being attacked or insulted in the real life for the purpose of recording the assault. Steffgen and König characterize this form of cyberbullying as the link between traditional and online-bullying (Steffgen & König, 2001, p. 1) – Cyberbullying by proxy – using others to help cyber-bully the victim.

Although all forms of cyberbullying are indirect due the use of electronic device as mediator, some of them still can be considered more direct (such as cyber-harassment) than others (exclusion or cyberstalking, for example).

Currently in the psychology the most researches on online-bullying are conducted among teenagers. This is rather comprehensible as this group is in contact with technologies at rather early age. In the same time teenagers are in a sensible phase and therefore very vulnerable for the consequences of any kind of bullying. McLoughlin even call them “digital natives” in comparison to the previous generations (the so called “digital immigrants”). A comparison between different generations regarding experiencing cyberbullying is one of the main goals of our study. We aim to gain more information about differences (or similarities) between adults and teenagers regarding the use of Internet and experiencing bullying in the cyber-space.

Furthermore we also address gender-differences in regards to experiencing online-bullying. Many exploratory studies on gender-influence on traditional forms of bullying demonstrated that there are some gender specificities (Fernández et al., 2013; Hong et al., 2012). It is well established, that boys are involved in more bullying incidents than are girls, except in cases of indirect forms of this phenomenon (such as spreading rumors). It is also known, that boys experience direct bullying (such as physical violence) more often (Carbone-Lopez et al., 2010).

In the view of the above, the intent of this paper is to shed more light on a rather new topic in the fields of psychology, namely cyberbullying. This study is designed to identify the prevalence of using Internet in the group of teenagers and adults. We also aim to answer some questions about the relation between age and gender with experiencing cyberbullying. Therefore, this paper presents the following hypotheses:

According to Pfeil and her colleagues, teenagers have larger networks of online-contacts compared to older users (Pfeil et al., 2009). Therefore, we

hypothesize, that teenagers will have been more frequently confronted with the phenomenon of cyberbullying than adults independent of gender.

Taking into account many studies on traditional bullying and gender differences (i.e., Carbone-Lopez et al., 2010, Slonje & Smith, 2008), that provide data about indirect forms of bullying, being more common among girls/women, and direct forms of bullying, being rather typical for the male population, we hypothesize, that: 1) Boys/men will have been experiencing direct forms of cyberbullying (such as cyber-harassment) more frequently than girls/women; 2) Girls/women will have been experiencing indirect forms of cyberbullying (such as exclusion or impersonation, cyberstalking) more frequently than boys/men.

Method

Participants

Due the design of the study and with regards of the hypotheses we have two samples. Our first sample consists of 188 Bulgarian adults (aged 18 to 31, $M = 30.6$, $SD = 10.7$) from different parts of the country. The percentage of female Bulgarians is 77.7% ($N = 145$), which is larger than the male group (22.3%; $N = 43$). The second sample includes 67 teenagers (aged 11 to 18, $M = 15.6$, $SD = 2.6$), whereat we have 29 boys (43.3%) and 38 girls (56.7%). They also come from different parts of the country and go to different types of schools. All participants were recruited trough Internet (social media, forums, blogs). They were not rewarded for their participation.

Design and Procedure

This is an exploratory and cross-sectional study with an online-survey design. The survey was released online in the weeks between Februar 15th 2016 and March 19th 2016. The survey was developed online and distributed to the participants. Participants were able to fill out the questions completely confidentially. As with all research, participants were informed about the purpose of the study and how the collected data will be used. Furthermore, they were informed, that pressing „send“ in the end of the questionnaire will be concerned demonstration of informed consent. Age and Gender were considered as independent variables and experiencing cyberbullying in general and in it's forms were considered as dependent variable.

Instruments

In an earlier stage of our research we collected qualitative data with regards to cyberbullying and it's forms via semi-structured interviews. On that basis an anonymous self-completion questionnaire with open and closed questions was designed. It covers: demographic data (7 items) – age, gender, living place, place

of birth, economical status, education level and ethnicity; different aspects of the Internet use (10 items) – frequency, used devices and features (such as E-mail, Blogs, Video-platforms etc.). We asked the participants to give their answer on an ordinal scale ranging from 1 (*Very rare*) to 5 (*Few times a day*). Furthermore, we had six questions regarding the use of social networks (Facebook, Twitter, Instagram) and chats (Skype, WhatsApp, Viber) and made a scale, ranged from 1 (*Never*) to 5 (*Many times a day*); experiencing different types of online-bullying (14 items) - the questions are using the following descriptors: experiencing rudeness, insults, threats, denigration, impersonation, outing, exclusion, fights, cyber-stalking and sexual cyberharassment. They were scored along a four-point scale, ranging from 1 (*Never*) to 4 (*Once a week*). Two open questions examined eventual further forms of cyberbullying. Another two open items referred to participant's reaction of bullying in the cyberspace.

Statistical analyses were carried out using IBM SPSS software. Descriptive statistics, using frequencies and percentages were used to describe the data.

Results

Use of Internet

The first part of our online-questionnaire was designed to collect information about the use of Internet among Bulgarian teenagers and adults. The results show, that the majority of the participants in the both groups uses Internet on a daily basis with no significant differences between the groups (Adults: $M = 5.96$, $SD = 0.23$; Teenagers: $M = 5.92$, $SD = 0.33$; $F = 2.89$, $t = 0.854$, $df = 221$, $p = .09$).

Among adult Bulgarians the laptop was reported to be the most common device for Internet access, followed by personal computer and cellphone (Figure 1). Among the youth the cellphone is by far the most used device (Figure 1). Furthermore, our younger participants reported significantly lower use of E-mail compared to the adult group. The question was a dichotomous item, in which the group of the adults had a mean of .71 ($SD = 0.45$) and the group of the teenagers respectively $M = 0.24$ and $SD = 0.43$ ($F = 2.256$, $t = 7.44$, $df = 253$, $p \leq .001$).

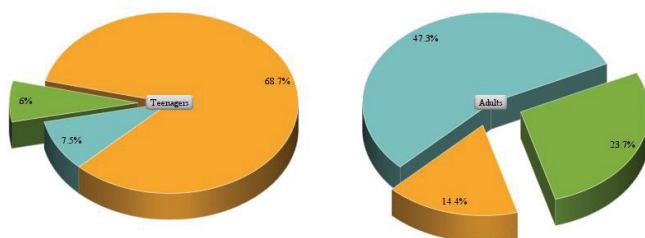


Figure 1. Most popular devices for Internet access.

An interesting tendency has been observed with regards to using social networks. Although Facebook is still reported to be the most popular social platform among all participants, adults tend to use it more than our younger sample. The results showed, that Facebook is less popular among younger generations. On the other hand, Instagram is more frequently used by teenagers than by adults (Table 1). With regards to other applications like Skype, Viber, WhatsApp and Twitter no significant differences were observed.

Table 1
Differences between adults and teenagers with regards to using Facebook and Instagram

		Mean	Standard Deviation	t-test
Facebook	Adults	4.92	0.55	$F = 2.503, t = 2.105, df = 221, p \leq .001$
	Teenagers	4.31	0.84	
Instagram	Adults	2.10	0.50	$F = 3.401, t = -2.970, df = 220, p \leq .01$
	Teenagers	2.83	0.60	

Experiencing cyberbullying

Participants were also asked whether they had been exposed to any form of cyberbullying.

In the male population of the total sample boys experience more often sexual harassment via Internet than men. Women reported more often confrontation with cyberstalking than female teenagers. The results can be seen in Table 2.

Table 2
Gender differences between adults and teenagers with regards to experiencing cyberbullying

Forms of cyberbullying		Mean	Standard Deviation	t-test
Sexual cyberharassment	Adults (m)	1.02	0.85	$F = 25.6, t = 2.3, df = 58, p \leq .001$
	Teenagers (m)	1.33	0.84	
Cyberstalking	Adults (f)	1.73	0.60	$F = 8.9, t = 1.99, df = 160, p \leq .01$
	Teenagers (f)	1.22	0.65	

We also analyzed the collected data with regards to age differences. Results showed, that teenagers are more often confronted with rudeness and insults in the cyberspace in comparison to adults ($F = 12.4, t = -2.9, df = 221, p \leq .001$).

Discussion and conclusions

The first aim of our study was to compare adults and teenagers with regards to the use of Internet. According to the results there is no significant difference

between the groups with respect to the frequency of being online. On the other hand the younger generations prefer and use cellphones for Internet access a lot more often than adults. This corresponds to the worldwide tendency (Corbett, 2009, p. 4). This tendency can be explained with the rich set of features the cellphone supports. Cell phones also offer a mobility as opposed to other devices like personal computer. Carrying a laptop or tablet also limits teenager's freedom and is not always seen as suitable for this generations. Furthermore, cellphones ensure instant communication and is another reason for their popularity among teenagers. "Slow" channels of communication such as E-mail are not longer preferred.

Another tendency we observed in our study is that our young participants are less engaged with Facebook in comparison to the adult group. Although Facebook is still the most popular social network, Bulgarian teenagers are logging in less frequently or spending less time. Bill Fisher, the senior analyst of eMarketer, UK, says in 2017 "Outside of those who have already left, teens remaining on Facebook seem to be less engaged — logging in less frequently and spending less time on the platform" (Ghosh, 2017). Another Internet analyst Oscar Orozco makes the following statement: "We see teens migrating to Snapchat and Instagram. Both platforms have found success with this demographic since they are more aligned with how they communicate — that is, using visual content" (Ghosh, 2017). The popularity of Instagram among Bulgarian teenagers was also confirmed by the results of our study.

The main goal of our study was to shed more light on the new phenomenon, namely cyberbullying. We discovered, that teenagers are more often confronted with rudeness and insults (cyberharassment) while online than adults. Seals and Young emphasize a trend, found also by other researchers: bullying in its direct forms (such as insults and calling names) decreases with age (Seals & Young, 2003, p. 744). For example, Rigby argues that, *"with an increase in maturity children appear to be less likely to seek to hurt each other"* (Rigby, 2008, p. 37). This can also be said for Internet users. The level of maturity can explain why this particular form of cyberbullying is most common among teenagers than adults.

An interesting difference was detected with regards to women and girls. Women reported more often confrontation with cyberstalking than female teenagers. This finding confirms at least partly our third hypothesis: Girls/women will have been experiencing indirect forms of cyberbullying (such as exclusion or impersonation, cyberstalking) more frequently than boys/men.

The term stalking refers to repeated incidents, which may or may not individually be innocuous acts, but combined undermine the victim's sense of safety and cause distress. The new technologies and particularly social networks allow perpetrators easy access to personal information of their victims. This makes cyberstalking a lot more easy and therefore a lot more practiced than the traditional one. There are not many studies researching exactly this topic: age differences among victim of stalking or cyberstalking. In our study we asked

the participants, if they have been having a feeling, that someone stalks them online. Therefore our data corresponds only with the subjective evaluation. It is possible, that women are more aware of the dangers in Internet and therefore recognize cyberstalking more than female teenagers.

Another interesting result indicate that boys experience more often sexual harassment via Internet than men. Traditionally females have been the focus of the most studies in this area, although male victims of sexual assault were also shown to suffer the negative impact of this type of bullying. Gender differences in the perception of sexual harassment are long known in the psychological literature: "women have broader definition of sexual harassment than men, have more negative attitudes, are less tolerant and consider teasing, looks, gestures, unnecessary physical contact and remarks to be sexual harassment" (Banerjee & Sharma, 2011). If we assume that this also applies for the sexual cyber-harassment, it makes our findings even more interesting. It raises the question, if the younger generations adopted this "broader definition". The higher sensitivity of young people and in particularly male teenagers and their willingness to speak about the problem may be in contrast to the older generations, where this subject maybe still be taboo.

Our current study has its limitations. Although some of our findings confirm the results from other studies or well-known world tendencies, caution should be used when interpreting the results. The self-selection bias implies that some Internet users are more likely to complete an online questionnaire than others (Thompson et al., 2003). The anonymity of the users, provided via Internet and applying for our study, can be discussed as disadvantage (for instance: we can not be sure, that the demographic data is correct). However, there is no evidence of data-manipulation indicated by a certain repeated pattern of answering the questions. On the other hand it can also be seen as an advantage: Participants can report more openly about their experiences. The rather small sample of teenagers must also be considered a limitation. Nevertheless, the study show, being a pilot research, some interesting tendencies and contributes the better understanding of cyberbullying. This tendencies deserve to be further explored in future studies.

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Mariya Chubrieva

Sonya Karabeliova

Sofia University "Sv. Kliment Ohridski",

Experimental, and Genetic Psychology, Sofia, Bulgaria

UPOTREBA INTERNETA I FORME NASILJA NA INTERNETU: PILOT STUDIJA NA BUGARSKIM TINEJDŽERIMA I ODRASLIM ISPITANICIMA

Apstrakt

Nasilje na internetu je jedna forma uznemiravanja putem interneta. Sproveli smo onlajn studiju kako bi ispitali da li postoje razlike između tinejdžera i odraslih koji koriste i onih koji ne koriste internet u odnosu na iskustva nasilja na internetu. Početni uzorak se sastojao od 188 odraslih ispitanika u Bugarskoj (uzrasta od 18 do 31 godine, 77.7% žena, $N = 145$; 22.3% muškaraca, $N = 43$). Drugi uzorak obuhvata 67 tinejdžera (uzrasta od 11 do 18, 43.3% dečaka, $N = 29$ i 56.7% devojaka, $N = 38$). Koristili smo upitnik (koji se sastoji od 31 ajtema), a koji je nastao u prethodnoj fazi ovog istraživanja na osnovu kvalitativnih podataka. Rezultati su pokazali da je Fejsbuk omiljena društvena mreža među Bugarima. Što se tiče iskustava nasilja na internetu, postoje neke značajne razlike: žene se više konfrontiraju u

sajberkomunikaciji nego tinejdžerke ($F = 8.9, t = 1.99, df = 160, p \leq .01$). Dečaci češće doživljavaju seksualno uznemiravanje nego odrasli muškarci ($F = 25.6, t = 2.3, df = 58, p \leq .001$). Tinejdžeri izveštavaju da su više izloženi grubostima i uvredama u poređenju sa odraslim ispitanicima ($F = 12.4, t = -2.9, df = 221, p \leq .001$). Rezultati istraživanja ukazuju da i tinejdžeri i odrasli doživljavaju razne forme nasilja na internetu na dnevnom nivou. Iako ova studija ima svoja ograničenja (poput malog uzorka tinejdžera), utvrđene tendencije zaslužuju dalju proveru.

Ključne reči: nasilje na internetu, polne razlike, odrasli, tinejdžeri, internet

ORGANIZATIONAL PSYCHOLOGY

LEADERSHIP WITHIN THE COMPLEX DYNAMIC SYSTEMS¹

Abstract

The paper deals with the effects of an unstable and unpredictable environment on managing complex dynamic business systems. The main goal of the review of recent theoretical and methodological approaches to leadership was to examine what theory of complex dynamic systems has to offer to research and practice of managing organizational processes. Then, it raises the question of how complexity theory informs the role of leadership in organizations. The key dilemma lies in the contradiction between linear leadership models based on theories of interpersonal relations and the logic of certainty, against the uncertainty and non-linear models of managing complex dynamic systems. Then, there are contradictions of leadership on the macro level or systems perspectives and micro level or dyadic relations in terms of risk and uncertainty control, for example. It is similar in terms of planned and unplanned organizational change. In the end, we discuss the potential effects of the leadership in complex organizations, especially in terms of creation conditions for achieving effectiveness and professional well-being at work. The paper concludes that it is necessary to develop research approaches in understanding and predicting the effects of leadership which will increasingly appreciate the non-linearity, subjectivity and intersubjectivity of interactions within interdependent social networks.

Key words: leadership transformations, risk and uncertainty control, complex social networks, nonlinear dynamic systems.

Introduction

This paper addresses the effects that an unstable and unpredictable environment has on Complex Dynamic Business Systems Management. The questions of development and change management are become issues that theoreticians, researchers and practitioners have recognised as the most important challenges of contemporary organisations. High global interdependence and significant structural, communication, technological, and demographic changes

¹ Corresponding author: mdjurisic@rcub.bg.ac.rs, mirosava.djurisic@f.bg.ac.rs

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are the most prominent features of the modern business environment. These macro social changes are redefining traditional organisational concepts and practices (Burke, 2008). At the same time, they are calling for the new ideas and approaches in solving complex organisational problems in the circumstances of high instability and uncertainty (Đurišić-Bojanović, 2016). Changing the key organisational concepts and theories, such as leadership, motivation, productivity, organisational identity, commitment to work, psychological contract, social exchange theories, effectiveness, etc., in connection to the relationship between employees and organisations. Organisations are trying to sustain in the increasingly unpredictable environment and the uncertain prospects of enterprises significantly alters the psychological meaning of the working context. Planned development is no longer a relatively stable stronghold of the enterprises.

Change management is an interdisciplinary area that relies heavily on the tradition of organisational development (Millward, 2005). This particularly refers to the basic assumption that organisations are social systems, which means that it is necessary to address the human aspect of organisational systems. The objective of organisational change is to improve the organisation's efficiency, without concurrently neglecting the well-being of employees. The objective of change management must therefore include employee development concerns, which should in the final outcome result in a systematic increase in the organisation's ability to address the various challenges of the internal and external environment, including the needs and diverse potentials of employees (Đurišić-Bojanović, 2015).

Literature management seeks to favour a model of organisational change that views the leader as a key figure that governs all relevant parameters of the organisation, primarily the success or failure of organisational process management (Nielsen, 2006). Since the process of change management is the most complex organisational process that concerns not only internal but also external social, technological and economic processes, theoreticians and practitioners are facing significant challenges. In the further work we will try to point out important conceptual and methodological issues of leadership in complex dynamic systems, as well as to reason the necessity of incorporating the principles of the theory of complexity into approaches of understanding of the phenomenon of leadership within the modern organisations. The Work concludes with a discussion of the relationship between the theory of complexity and some prominent leadership theories, as well as possible implications for research strategies.

Review of new theoretical and methodological approaches to leadership and complexity theory

Conventional strategic planning describes the change as a programmed and planned process with a clear beginning, middle and end (Kotter, 1995). The change in this context means the establishment of a new order and new boundaries, the establishment of a new structure, systems and processes. In this process, the

"transformation" leader takes over the role of initiator and control. It is not rare that by placing new people in the management positions, a new system of values and ideologies of organisational culture personifies (Patterson et al, 2005; Vijayakumar, 2007). Aiming towards restoration of order and stability as the motive of change speaks about the basic assumption of the traditional approach: about organisation as a fundamentally stable entity that is meant to nourish and support the continuity and the quality. The traditional approach identified the essential elements of the organisational development and offered a useful framework of research and practice, that was in relative accordance with the market environment decades ago. But models of change based on the assumptions of the stability of the business environment ignore changes in socio-economic systems and the fact that the organisation is an open system (Stacey, 1995; Urry, 2005). The traditional theoretical and practical framework was generated from the resource approach to organisational development, by the introduction of the concept of human resources, the so-called neo-classical, evolutionary approach, according to which the organisational development and success are directly linked with the managerial and ideological ability of the leader. Thus, the most significant proficiency is associated with human resources management (Andron, 2013; Patterson et al., 2005).

Management articles and case studies are trying to favour a model of organisational change that views the leader as a key figure. The success or failure of an enterprise is directly linked to the organisational and strategic capabilities of the manager. Thus, the traditional theoretical and conceptual organisational framework has developed the evolutionary theories of organisations that focus on organisational development issues, but bind it to the success or failure of leaders and governance structures. The literature lists examples of organisational changes that were prompted by the change of the first man – the executive manager. The entire list of attributes is attributed to the new person, the "leader of change": determined, energetic, charismatic, which is cited as a key reason for a significant change in the organisational climate (Shimitzu & Hitt, 2004; Yukl, 2006).

A strong interest in leadership research has resulted in additional insights and differentiation of this, surely extremely important organisational phenomenon. Charismatic, transactional and transformative leadership proved to be one of the productive forms of governance in the process of organisational change and of knowledge management (Alavi & Leidner, 2001; Bass, 1990; Nielsen, 2006; Shimitzu & Hitt, 2004). However, these approaches disregard employee interactions within the context in which these interactions are taking place, as well as of what is the result of these interactions, being that this relationship is not linear and unambiguous; On the contrary, the mutual relationship occurs through various types of indirect and direct interactions at different levels (Armenakis et al., 1997; García-Granero et al., 2016). Organisational practice demonstrates that complete control of complex processes is not possible, and neither is the forecast, while it is precisely control and reliable assessment of the effects of certain decisions that are the basic assumptions of organisational planning and management.

The new theoretical concepts redefine old concepts: productivity, efficiency, effectiveness, organisational knowledge, development, planning. The orientation of traditional approaches to situational and behavioural factors moves towards subjective diverse meanings and perceptions as the source of more accurate information, since, after all, objective reality is meaningfully constructed as a culturally consensus reality (Fenwick, 2010; Weick, 1995). The uncertainty, monopolistic and hierarchical inequality of different views, the interaction of processes and interests of different nature, social, demographic, economic, social, business and the impact they have on interpersonal business relationships, outlines the research field of employee and organisational relationships in a new way (Nord & Connell, 2011). Recognising human resources as a key resource in a redefined concept of organisational development revitalises the legacy of the paradigm of human relations in the theory and practice of organisational development and change management. The basic assumptions of the theory of human relations at work are: (1) interpersonal relationships are the most important factor of productivity; (2) socio psychological factors are more important than material incentives in achieving organisational goals; (3) employees are more receptive to colleagues than administrations; (4) employees have a strong internal need to devise their work; (5) being in favour of informal relations over formal positions, and (6) being in favour of participatory management (Đurišić-Bojanović, 2015). This concerns not only conceptual overturn but also rerouting of new theoretical approaches to leadership, and opening of the new domains in management disciplines. At the same time, common interest is being recognised in the practice of human resources and organisational policies. However, practice has, in no time, revealed serious restrictions of the new approaches. In an effort to maintain models of transactional and transformational leadership, difficulties have largely manifested themselves. The key dilemma lies in the contradiction between linear leadership models based on interpersonal relationship theories and the logic of certainty, against a radically altered business context, uncertainty, and non-linear models of complex dynamic systems management.

How does the Theory of Complexity contribute to understanding the role of Leadership within Organisations?

The critique of leadership theories has emphasised two methodological problems: Reductionism and Determinism. The reductionist approach starts from the assumption that it is possible to explain a given phenomenon with one factor and then explain a wide set of related phenomena and processes.

In conceptual and methodological terms, the basic critique deals with the limitations of the reductionist method. At the same time, it presents a crucial limitation of conventional approaches to organisational change with direct consequence on leadership. An example of a reductionist approach would be he

implicit assumption of a classical and neoclassical economy that there is a single ultimate answer and a way of achieving maximising profits. Corporations are seen as passive entities that adapt to the environment, in which subjectivity, diversity of experiences and ideas are viewed as the “noise” in the system and should be dismissed (Nonaka & Toyama, 2005).

The aim of the leadership model to a single perspective necessarily leads to a bipolar approach to organisational phenomena: responsibility vs. autonomy, leadership versus empowerment of employees, economic versus social goals, centralisation against decentralisation. The strategic actions and decision-making are directed to “troubleshooting” in order to maintain a previously adopted plan. It can be concluded that the majority of management actions are corrective by their nature (Houchin & MacLean, 2005). The problem is that the corrections are in accordance with the plan rather than with relevant changes and processes at a given time.

Deterministic approach is close to reductionism. In the above mentioned occasion of corrective actions by the manager, it is expected that a certain correction will yield a certain outcome, i.e., it is assumed that a simple one-way linear determination is valid, if A then B. Even in the relatively stable business environment, significant empirical evidence points to the unsustainability of such assumptions.

The application of dispositional models in exploration of the managerial preferences for risk-taking also indicates serious restrictions of the deterministic approach. For example, in our research of the managerial sample of the managerial preferences for risk-taking ($N = 173$) an antagonistic moderator effect of the interaction between learning approach and affiliation motives was obtained. It was noticed that in managers with low affiliation motive, a pronounced inclination towards learning and openness to new experiences it had a positive effect on readiness to take risks, while in those with a pronounced affiliation motive it had a negative effect on readiness to take risks (Đurišić-Bojanović et al., 2016). Therefore, interactions of the same characteristics, preferences and motives at different levels can produce different effects on the behaviour and decision-making of managers. This further means, from the perspective of the paradigm of complex systems, that interactions of the same characteristics, preferences and motives at different levels can produce not only different effects on the behaviour and decision-making of managers, but different effects on other parts and processes in the organisation, which further diversify and produce rarely unplanned situation in real time and operating conditions.

Given the radical, global changes within the business environment, the aforementioned logic of conventional strategic planning, *ceteris paribus*, is producing increasingly worse effects, since it is in disagreement not only with changing requirements of the environment and the need for transformation, but also neglect. High instability and uncertainty in the business environment contribute to the increased risk in the strategic planning and decision-making,

and at the same time expecting strategic, organisational and individual flexibility (Calori et al., 1994; Canas et al., 2003). Readiness for learning and change, creative problem solving, the innovations incentive, should secure the adaptation, survival and development of the organisation.

The complexity theory, deviating from the linear, mechanical view of the world, where simple solutions are sought for the interconnection of the cause and effect, goes beyond the basic objections that are referred to by conventional research approaches in organisational sciences. Traditional science seeks out the order and stability described by simple reductionist-deterministic models, which does not correspond to the nature of dynamic, unstable, unpredictable interactions in a complex and open system such as a work organisation (Bingham et al., 2014; Cilliers et al., 2013). In the applied sciences, the research problem can be differently defined, and the attempt of solving the problem, changes the problem itself. Problem solution emerges from the simple correct/incorrect dichotomy. The solution is contingent: the situation after the intervention may be better, worse, rather good. And the problem in real terms changes over time, hence, there is no final solution (Batie, 2008). For example, an identified problem in the organisation, concerning relationships among employees, can be changed in different ways under the influence of different internal and external factors. For example, managerial decisions, personnel changes, business policies, changes in the industry can significantly change the dynamics of relationships among employees in the very process of research and analysis. According to the theory of complex systems, dominant research drafts, directed at examining process fragments in a work organisation, ignore the effects of the transformation of the investigated phenomenon over a longer period of time, the differences produced by the specific contexts in which they occur, which in itself denies the essential attributes of processability, temporality and contextuality. In the case of testing social, psychosocial or organisational problems, additional questions are necessary. Whose problem is it? Whose interests does it favour? Does it have pre-history of its own? How do all participants see the problem and potential outcomes? (Đurišić-Bojanović, 2015a, 2017). One of the recent researches questions in the good way the traditional leadership models that are relying on the *ceteris paribus* logic of certainty, that would be applicable in the event of the immutable initial conditions. But even if certain sets of cause-effects are valid, they do not have to be valid in the same direction, nor straightforward. In addition, they are part of a network of variable processes whose outcomes can differ significantly in different time sequences.

Ganz (2018) believes that organisational complexity as well as the principles applicable to complex systems can be identified in an example of leadership's decision-making. Each organisation can also be viewed as a political community in which the internal dynamics of political conflict and decision-making are in an unequivocal interaction with different organisational processes. The Ganz model introduces a political conflict in the theory of organisational learning. If consensus

can be reached on a particular decision that supports change, learning is absent. If this is not the case, learning takes place as a result of the leaders' inability to reach a consensus without learning. As a consequence of the consensus, there follows the introduction of changes without prior learning.

Similar decision-making tendencies that are not based on knowledge, will be more prominent when the environmental variability is high, when knowledge of existing policies does not teach about the potential of alternative policy and when organisation members are not ready to accept the risk (Ganz, 2018).

Leadership research, for the above reasons, is directed to another party – the follower, shifting the focus to a relationship as a multidimensional, intermittent process. Leadership in the latest approaches of so-called authentic leadership is seen as an authentic, interactive process that is being created between leaders, followers and contexts. The most important elements of leadership are dynamic interaction, activities and processes through which leaders and followers create and develop leadership, and not individual lines and behaviours of leaders (Avolio & Reichard, 2008). The role of followers, as he claims (Chaleff, 2009) consists of series of controversies. The follower has his own vision, but needs to be attracted by the vision of the leader and take responsibility for his actions. At the same time, the leader is a mentor and a protégé, at the same time leading and following the leaders. He is subordinate to the demands of the leader, translating the leader's vision into practice, but also introducing his vision into the leader's practice; implement the leader's vision, and at the same time re-examining his ideas; belongs to the group, and at the same time points to the disadvantages of group thinking. The concept of a leader-follower model assumes that all members of the organisation within their authority and scope of work are able to flexibly switch from the role of leader to the role of the follower and vice versa. Following in this model deconstructs the classical assumptions of the distribution of power and responsibility and the establishment of relationships between leaders and employees within a hierarchical organisation.

The theory of complex systems shifts the focus from leadership as a corrective control mechanism to leadership as a mechanism for facilitating, mediating and induction of social and intellectual capital in a complex, open, organisational system. Leadership, from the perspective of the dynamics of social networks can be seen as managing controversies between opportunities, real-time events and planned strategies. The management process is often confronted with the dilemma of choosing between flexible and focused strategies. Following the logic of the high uncertainty of complex systems, flexible strategy is a better choice (Bingham et al., 2014). However, this requirement is probably the biggest challenge of leadership. It is a complex system of interactions, relationships and decisions that take place inside and outside the organisation at different levels (Chai, 2017).

Further research in this area has identified the cognitive flexibility of employees and joint mental models of executive management as the key

concept, and further progress has been made by differentiating the constructs of cognitive, organisational and strategic flexibility (Đurišić-Bojanović, 2016; Oreg, 2006; Shimizu, & Hitt, 2004). At each of these levels there is a tension between flexible and focused strategies. But there is also the tension of internal and external, flexible and focused strategies (Bingham et al., 2014; Gilbert, 2005).

Cognitive flexibility is operationalised as the ability to look at the task from different perspectives, to restructure its own knowledge, thereby increasing the potential for giving adaptive responses within changing conditions and requirements of the environment, and in this way more effectively face real problems (Barbosa et al., 2007; Spiro et al. 1988). In dealing with real problems in conditions of high uncertainty it is of particular importance to perceive relevant «weak» signals in the environment, and to redefine and change established patterns in work, learning and business (Canas et al., 2003).

Strategic flexibility refers to the ability of a company to redefine an inadequate decision in a short time and change the direction of strategic activities. However, the prerequisite for strategic flexibility is the sensitivity to negative feedback, or “sensitivity” to information that is not in line with the original strategic decision (Baron, 2006; Chai, 2017; Shimizu, & Hitt, 2004).

Organisational flexibility refers to the ability of the organisation to support a strategic change, or a change in the direction of organisational actions, through rapid structural, process and procedural changes (Shimizu, & Hitt, 2004). This robust factor of the organisational system creates a characteristic set that, by dimension, flexibility – focus can be a good basis for the prediction of organisational effectiveness. However, the prediction can significantly change the anxiety of both managers and employees who can change the direction of the action and the realisation of the objective.

“...our understanding of the dynamics of human behaviour.... such as socially constructed rules, anxiety and other forms of embodied expression. The role of such phenomena has to be incorporated into complexity-theory concepts to help explain the creation and evolution of patterns of interaction” (Houchin & MacLean, 2005, p. 165).

By neglecting the dynamics of the context in which organisational processes occur, change in time, and whose interactions on the macro and micro plan are reflected in both the synchronous and the diachronic temporal perspective, the adequacy of research design is at stake (Avital, 2000; Fenwick, 2010; Marion & Uhl-Bien, 2001). A critique of the dominant research approaches in organisational psychology in terms of atemporality, aprocessuality, and acontextuality (Pettigrew et al., 2001), has in these facts the stronghold of the ontological argument.

Conclusion

The research of Leadership from the theories of complex systems perspective, would more generally consider the ontological assumptions of research in applied social sciences. The greatest challenges in understanding the phenomenon of Leadership in modern business organisations are the complexity, instability and unpredictability of the relevant processes. The theory of complex systems offers a conceptual and methodological framework for overcoming the argumentative critique of the atemporality, aprocessuality, and acontextuality of organisational psychology and management research (Petigrew et al., 2001). The theory of deterministic chaos, complexity and self-regulation with the basic assumptions of nonlinear dynamical systems could be more appropriate conceptual and methodological basis for the future research of the business psychology and organisation. When it comes to leadership research, it is necessary to develop research approaches that will manage leadership as a complex dynamic phenomenon. From the perspective of the dynamics of social networks, the leader is an agent that facilitates or interferes with the connectivity and modality of a formal and informal social network. He has at his disposal the mechanisms connecting the micro and macro processes of a complex organisational socio technical system. The first requirement for this is the redefinition of the framework and the assumptions of reductionist-deterministic research. The second concerns the consideration of the criteria of temporality, processability and contextuality in researching leadership in organisations as dynamic systems of complex social networks. The third requirement relates to the consideration of non-linearity, subjectivity and intersubjectivity of interactions within interdependent social networks.

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Mirosava Đurišić-Bojanović

*Univerzitet u Beogradu,
Filozofski fakultet, Srbija*

LIDERSTVO U KOMPLEKSINIM DINAMIČNIM SISTEMIMA

Apstrakt

Rad se bavi efektima nestabilnog i nepredvidljivog okruženja na upravljanje kompleksnim dinamičnim poslovnim sistemima. Osnovni cilj pregleda novijih teorijskih i metodoloških pristupa liderstvu bio je da ispita šta teorija kompleksnosti nudi istraživanju i praksi upravljanja organizacionim procesima. Potom, postavlja se pitanje kako teorija kompleksnosti doprinosi razumevanju uloge liderstva u organizacijama. Ključna dilema tiče se kontradikcija između linearnih modela liderstva zasnovanih na teorijama međuljudskih odnosa i logici izvesnosti, naspram neizvesnosti i nelinearnih modela upravljanja kompleksnim dinamičnim sistemima. Zatim, kontradikcije liderstva na makro nivou, odnosno perspektivi sistema, i mikro nivou, odnosno, perspektivi dijadnih odnosa, a na primer, u pogledu kontrole rizika i neizvesnosti. Slično je u pogledu planirane i neplanirane organizacione promene. Na kraju, raspravljamo o potencijalnim efektima liderstva u složenim organizacijama, posebno u smislu stvaranja uslova za postizanje efikasnosti i profesionalnog blagostanja na poslu. U radu se zaključuje da je neophodno razvijati istraživačke pristupe u razumevanju i predikciji efekata liderstva koji će u većoj meri uvažiti nelinearnost, subjektivnost i intersubjektivnost interakcija unutar međuzavisnih socijalnih mreža.

Ključne reči: transformacije liderstva, kontrola rizika i neizvesnosti, kompleksne socijalne mreže, nelinearni dinamički sistemi

CONSUMER INNOVATIVENESS AS A DETERMINANT OF THE ATTITUDE TOWARDS THE INNOVATIVE PRODUCT¹

Abstract

This article analyse the impact of consumer innovativeness as a personality trait on the attitude towards the innovative product. The main scientific approaches to revealing the essence of the above – mentioned constructs are discussed. The different kind of attitudes that the consumer forms towards innovations (ranging in the continuum from anti-innovative to pro-innovative) and their specifics are presented. The diffusion process model of Gatignon and Robertson and the improved Davis's technology acceptance model are seen as the theoretical basis of the link between consumer innovativeness and the attitude towards the innovative product. Results of an empirical study are presented, conducted in a Bulgarian sample of 382 respondents aged between 20 and 64, confirming the underlying assumption that the consumer's level of innovativeness will determine different attitudes towards the innovative product. In particular, regression analysis data show that innovativeness positively affects the attitude towards innovation, or, with the increase of the level of innovativeness, more positive beliefs about product attributes are observed and more favourable attitude towards the product is formed. For the purpose of the study, a set of two methodologies is used – the Steenkamp and Gielens scale, measuring consumer innovativeness, and the scale of Yi and Jeon measuring the attitude towards a particular product. In addition, the statistically significant differences in innovativeness are reviewed and analysed with regard to the demographic factors gender, age, monthly income, presence or absence of a child in the family and also the attitude towards applying for a financial credit.

Key words: consumer innovativeness, attitude towards an innovative product, adoption

Introduction

Attitudes towards the innovative products are subject to increased research interest from marketing professionals due to the relationship they have with consumer behaviour. Considered as a readiness to act as a result of the evaluation processes towards the innovative product, the attitude occupies an important place in the consumer's decision to accept or reject the innovation. The experience gained so far has shown that the more positive the attitude towards the product, the more likely it is to follow an act of purchase. In other words, the formation of

¹ Corresponding author: tania_jd@abv.bg

a positive attitude towards the innovation is a prerequisite for its acceptance. The ability to effectively impact consumer's behaviour (to provoke activity in regard to the product) by changing or reinforcing their attitudes, directs marketing efforts towards exploring their nature and key determinants. Research has shown that consumer innovativeness is one of the main factors, which influence the formation of the attitude towards the innovative product. This text focuses on the two constructs, revealing the relationship between them.

Attitude – essence and main characteristics

Attitude is a basic concept in social psychology and is widely used in behavioural sciences (Wicker, 1969; Schuman & Johnson, 1976). Initially, the term "attitude" has been used in fine art to describe the posture or physical position of the body, suggesting a certain type of reaction by the individual (Wilkie, 1986). The attitude is a mediated construction, which is in the basis of the person's orientation in the surrounding world and expresses their willingness to display activity in relation to a certain object. The term "object" is used in a broad sense and refers to a person, product, service, brand, promotional message, event, etc., or about any stimulus from the environment.

The attitude cannot be defined unambiguously, but the one definition that brings most of the others together is that the attitude has an evaluation aspect in regard to a certain object or phenomenon (Bohner & Wanke, 2002). Authors like Shamin and Butt consider it a psychological assessment of a particular stimulus based on its attributes (Shamin & Butt, 2013). Baron and Byrne have similar ideas about it, describing it as a result of evaluation processes. They assume that the construct is relatively stable in time – it reflects the deeper regard of the individual to the particular object, and is generally applicable, that is, it can relate to different objects and events (Baron & Byrne, 1987).

In the field of consumer behaviour, the most commonly used definition of attitude is: a learned predisposition to respond in a consistently favourable or unfavourable manner with respect to a given object (Fishbein & Ajzen, 1975) formed as a result of the object's assessment as appropriate or inappropriate to satisfy the person's specific need. In other words, it is the overall assessment of the product or service, formed over time (Solomon, 2002), which satisfies a personal motif and influences the habits and behaviour of the individual on the market field.

The attitude is directed to objects and phenomena that genuinely exist in the natural or social environment of the person (Asch, 1965). In this regard, Hawkins et al. define it as a permanent organisation of motivational, emotional, perceptual and cognitive processes in respect to certain aspects of our environment (Hawkins et al., 2001).

In summary of the above, it can be said that the attitude is not congenital but acquired and is formed in the course of human life, in the process of socialisation, it is directed to a specific object or phenomenon and reflects the assessment of it

as appropriate or inappropriate to satisfy a particular need of the person. Attitude is subjective because it reflects the way the subject sees the attitude object, and not necessarily the way the object actually exists. It is assumed that it prepares the individual to perceive and perform a certain action (Uznadze, 1985 [reference in Cyrillic: Узнадзе, 1985]), goes beyond their consciousness, but at the same time strongly influences the overall content of his psychic life. In short, attitude is the way the person thinks, feels and acts with respect to some aspect of the surrounding environment (Petty et al., 1997).

Models of attitude

A lot of models have been created to clarify the essence of the attitude. One of the most popular and commonly used is the three-component model, also known as the ABC model. According to it, the attitude involves a cognitive, affective and conative dimension (Hovland et al., 1965). This view of the construct is based on the idea that human experience is manifested in three dimensions – thought, feeling and action (McGuire, 1969).

The cognitive component is associated with the system of perceptions, beliefs, or knowledge of the individual regarding the attitude object, or with the actual knowledge of the object of attitude (Simonson, 1979), acquired as a result of direct or indirect experience with it.

The affective component relates to emotions and experiences, which the individual feels towards the object of his/her attitude during a real or imaginary meeting with it. It is assumed that emotions are, by their very nature, a kind of assessment or the extent to which the person determines the attitude object as appropriate or inappropriate, as a result of which he/she prepares for a certain type of reaction to it – approaching or distancing (Mladolev, 1999 [reference in Cyrillic: Младолев, 1999]).

The conative component reflects the tendency in an individual's behaviour regarding the particular stimulus, or his/her willingness to react in a certain way to the attitude object. This element is not the specific behaviour, which can be manifested, but rather the predisposition to it (Dzhonev, 1996 [reference in Cyrillic: Джонев, 1996]).

The three components are combined to describe a learned, latent readiness to react in a particular way to a specific stimulus or object, i.e. they are linked together to form an individual's attitude towards the particular object (Petrova, 2004 [reference in Cyrillic: Петрова, 2004]). Each of the components is important for determining the attitude. However, by influence of the consumer's motivation towards the attitude object, their significance may change in certain situations. The different combination of the three elements reflects in three separate hierarchies of effects, or in three hierarchical patterns of attitude formation. In addition, the three components are consistent with one another, which means

that the change in one of them also leads to changes in the others in order to restore the harmony between them. This is related to the principle of cognitive consistency, according to which the individual is motivated to maintain harmony between his/her thoughts, feelings and behaviour (Solomon, 2002).

Characteristics of attitude

For the purposes of marketing research, the attributes or characteristics of attitude are important: direction, degree and intensity (Fleming & Levie, 1978; Loudon & Della Bitta, 1993). The valence or direction of attitude may vary from negative to neutral to positive (Fleming & Levie, 1978), i.e., to manifest in the form of a desire to approach or avoid the specific product. A positive attitude will favour the act of purchase, while the negative will impede this activity (Liao & Hsieh, 2013; Shoham & Ruvio, 2008). The degree of attitude is associated with the power of a positive or negative affection to the subject, and it may be referred to a strong, medium or weak attitude. The intensity refers to the degree of engagement or dedication by which the individual maintains the particular position (Fleming & Levie, 1978). It is assumed that less well-maintained attitudes may not affect behaviours, as opposed to strong enough or extreme ones that are resistant to change and have a strong influence on the judgement and behaviour of the individual.

Relation between attitude and behaviour

The enhanced research interest to attitudes is a consequence of their relation to behaviour. Psychological literature offers various views on the nature of this relation. According to Kroeber "of the attitudes measured today, one can predict tomorrow's behaviour" of the individual (Kroeber-Riel, 1990, p. 145). In other words, the diagnosis of attitudes gives an opportunity to outline in general the persistent behavioural tendency (Petrova, 2004 [reference in Cyrillic: Петрова, 2004]). One of the most popular and often quoted theories dealing with the relationship between attitude and behaviour is the theory of causal action by Fishbein and Ajzen (1975). It demonstrates when, how and why attitude predicts consumer behaviour (Bagozzi et al., 2000). According to this theoretical model, attitude affects behavioural intent, and in turn it influences the consumer's behaviour. It is considered to be much easier to predict behavioural intent on the basis of attitude than to predict the actual behaviour of the consumer based on his/her attitude. The reason lies in the extreme complexity of the behavioural phenomenon determined by a number of factors (personal and situational), which can intervene so as not to engage the consumer in behaviour that is relevant to the existing attitude (Goldstein et al., 2008). It is assumed that the more positive an attitude is, the more likely it is to follow an act of purchase in the presence of the necessary conditions for it – resources to make the purchase, availability of the product in the store, etc. Here, it is necessary to note that, according to Kroeber, negative and zero attitudes may also follow a purchase due to the intervention of other factors crucial to the choice of the consumer (Kroeber-Riel, 1990).

Consideration of attitude as an activity readiness, formed on the basis of the product evaluation, raises the question of whether positive attitude always leads to real activity toward the attitude object. The consistency between a person's attitude and behaviour depends on a large number of factors – personal; situational; characteristics of attitude (Fazio, 1986), such as involvement, knowledge and experience; accessibility of attitude; low level of self-monitoring (individuals whose behaviour is largely driven by internal rather than by situational forces); level of self-control, etc. (Petty et al., 1983; Smith & Swinyard, 1983; Fazio et al., 1989; Snyder & Swan, 1976).

One of these factors, which is poorly researched but has a strong influence on the consistency of attitude and behaviour, is the availability of the attitude in the memory of the individual or the possibility of it being activated (Fazio et al., 1982, 1983). On the basis of a series of experiments, Fazio et al. found that if an object is unable to activate its associated attitude, the latter will not affect the personality behaviour of the object (Fazio et al., 1982, 1983, 1986; Powell & Fazio, 1984). The author views the attitude as an association between the object and the assessment for it, maintained by the individual, while the power of that association determines the degree of accessibility of the attitude. With the increase in associative power, or the power of attitude, the probability of its spontaneous activation on exposure to the attitude object increases as well, which in turn positively influences the consistency between attitude and behaviour. Attitudes that are easily accessible to the individual's memory (and therefore more resilient) are better predictors of his/her behaviour towards the particular object (Fazio, 1986).

There are two main factors, which influence the strength of the object–assessment association: the way in which the attitude is formed and the number of cases, in which it was expressed (Fazio, 1986). On the one hand, direct experience with the product leads to forming more stable, emotionally saturated and accessible attitudes (Fazio, 1986), which to a greater extent correspond to the behaviour of the individual toward the attitude object (Smith & Swinyard, 1983). On the other hand, the repeated or multiple expression of the attitude toward the particular stimulus strengthens its associative power, hence its accessibility/activation capability (Fazio, 1986).

Types of attitudes towards innovative products

According to Gree and Miles, the attitudes that the individual is forming towards the innovative products can range from anti-innovative, linked with resistance or rejection of the innovation, to pro-innovative ones, which the person is willing to adopt (Gee & Miles, 2008). The authors identify four different types of attitudes towards innovation that they designate as: *rejection* – extremely negative attitude, expressing unwillingness to accept the innovative product not only on the part of the individual but also on the others in the social environment, i.e., a strong rejection of innovation; *resistance* – a negative attitude towards

product use, which may reflect in campaigns against its spreading; *adoption* – a positive attitude to innovation, expressed in the desire of an individual to accept the product, whereas in some individuals this readiness is accompanied by extraordinary enthusiasm and, in others, by lesser tolerance; and the so called *supporters* (defenders) – a very positive attitude reflecting not only the readiness to accept the product but also the desire to widely popularise it among the other individuals.

The attitude towards the innovative product formed in the consumer can act as an activator or become a serious barrier to its acceptance. From this point of view, the factors that determine the attitude towards innovation are important for the planning and implementation of the marketing communication strategy when launching an innovative product on the market. Empirical research has shown that such a factor is consumer innovativeness (Hsu & Bayarsaikhan, 2012; Baybars & Ustundagli, 2011; Rioche & Ackermann, 2013; Wang et al., 2008).

Consumer innovativeness – hierarchical perspective

In scientific literature, there is no consensus on the essence of consumer innovativeness. Generally speaking, it relates to the individual differences of people regarding their cognitive and behavioural reactions to the new and unknown in the market field. In terms of the hierarchical perspective, the construct can be viewed at three different levels of abstractness – global, domain specific and behavioural (Midgley & Dowling, 1978). *Through the prism of the global level*, innovativeness is conceptualised as a global personality trait, possessed by each individual but manifested to a different degree. This is the highest level of abstractness of the construct and is termed as “inherent innovativeness” (Hurt et al., 1977; Hirschman, 1980), “innovative predisposition” (Midgley & Dowling, 1978), or “global innovativeness” (Goldsmith & Hofacker, 1991), which remains unaffected by the impact of situational factors in the process of accepting the innovation (Midgley & Dowling, 1993). It is assumed that the person’s inherent innovativeness has a genetic origin (Hirschman & Stern, 2001; Hirschman, 1980) and is not related to a specific area of interest (product category), but rather reflects the general tendency of the individual to be open to the new and different, on the market field, that is, it can be applicable to different situations.

Mason et al. define it as a “generalized unobservable trait”, reflecting the person’s inherent innovative personality, and “cognitive style” (Im et al., 2007) – relating to the individual process of information processing and decision making (Foxall, 1995).

It is also seen as the openness of the individual’s consciousness and the willingness to change in response to existing environmental stimuli (Hurt et al., 1977). In the five-factor personality model, global innovativeness is associated with a personality trait called “openness to experience”, and refers to the individual’s ability to transform their cognitions and behaviour into new ideas and situations (Popkins, 1998).

Researchers such as Hirschman, Manning et al. present the construct as an “inherent novelty seeking”, reflecting the individual’s tendency to seek novelty and difference on the market field (Hirschman, 1980; Manning et al., 1995).

Similar is the understanding of Leavitt and Walton, who consider inherent consumer innovativeness as openness of information processing and define it from the point of view of the person’s susceptibility to new stimuli and experience. The authors emphasize that individuals with pronounced innovativeness have the ability to constructively use the information received, whether it is the result of targeted search or is perceived accidentally, and have the potential to recognise the new idea and its possible applications (Leavitt & Walton, 1975).

In the theoretical concept of Midgley and Dowling, innovativeness is based on the individual’s communication independence, and is defined as the extent to which a person decides to accept innovation regardless of the experience shared in the social environment. Researchers assume that people differ in terms of how much they rely on outside support when they decide to engage in innovative behaviour. Those who are reluctant to seek information from their social environment, will adopt the innovation earlier than the rest (Midgley & Dowling, 1978). In other words, the high susceptibility of the new idea is associated with low dependence on the experience of the social environment.

A different perspective on revealing the essence of inherent consumer innovativeness is offered by Venkatraman and Price. Unlike most colleagues who view the construct as one-dimensional, they accept the two-dimensional perspective and deconstruct it of cognitive and sensory elements by associating it with the general need for stimulation or the propensity to experiences, which activate the mind and excite the senses of the individual. The authors assume that some individuals prefer sensory stimulation, some give priority to cognitive stimulation, while others look for both – new mental activities and sensory experiences (Venkatraman & Price, 1990).

At domain-specific level, innovativeness is seen as personal characteristics, expressing the propensity of the individual to innovations in a particular area of interest. This research perspective reflects the idea that the construct needs to be identified in a particular area of interest, assuming that innovativeness does not overlap in the different domains unless they are closely interrelated (Goldsmith & Goldsmith, 1996). The domain-specific innovativeness holds an intermediate level of abstraction and plays a role as a mediator in the relationship between the inherent and the actualized innovativeness (Roehrich, 2004). Some authors suggest that it is a consequence of the interaction of global innovativeness and involvement in the specific product category (Midgley & Dowling, 1978; Roehrich et al., 2002).

The behavioural level sees actualized innovativeness, or the person’s innovative behaviour. It is defined as the extent to which a person adopts innovation relatively earlier compared to other members of the social system (Rogers & Shoemaker, 1971). Actualized innovativeness represents the lowest level

of abstractness of the construct and includes two main components: vicarious innovativeness and adopting innovativeness.

The vicarious innovativeness concerns the acquisition of information about the innovation through the use of different information sources. Through this, the individual adopts the new idea without actually reaching its application in everyday life (Hirschman, 1980).

The second component, the adopting innovativeness, expresses the actual behaviour of applying the innovation, which is believed to be the result of combining the consumer's inherent innovativeness and the complex processes of communication and influence (Hirschman, 1980).

Relationship between consumer innovativeness and attitude towards an innovative product

The relation between consumer innovativeness and the attitude towards the innovative product is presented in the Davies (1986) technology adoption model, and later by Agarwal and Prased (1998), presenting the mechanism of adoption and use of technological innovation by the consumer. According to this model, inherent innovativeness will influence the formation of its attitude towards the innovative product through perceptions of usefulness and ease of use. Perceived usefulness is defined as the degree, to which the person believes that the application of the innovation will improve their effectiveness. The ease of use perception is the degree, to which the individual believes that the use of the innovation will be easy and will not require extra effort on their part (Davis, 1986). The higher the consumer's level of innovativeness, the more the innovation is perceived as more useful and easier to use, therefore a more positive attitude to it is formed (Agarwal & Prased, 1998; Lu et al., 2005).

Another model that examines the relationship between consumer innovativeness and their attitude towards the innovative product is that of Gatignon and Robertson for the diffusion process. The authors assume that the formation of an attitude towards innovation is determined by four main factors: personal traits or, in particular, the innovativeness of the individual; the perceived characteristics of the innovation; the perception of risk related to the product; and the impact of the social environment (the reference group of the individual) (Gatignon & Robertson, 1985)

Method

On the basis of the presented theoretical models and the results of existing studies in the area under consideration, it is assumed that there is a relation between the two constructs, namely that consumer innovativeness will positively affect its attitude towards the innovative product or, in other words, that with a higher level of innovativeness, more positive attitudes towards the innovation will be formed.

Sample

In order to verify this assumption, a study with a sample of 382 Bulgarian respondents was conducted, including 187 men (49.1%) and 195 women (50.9%) aged 20 to 64 years, divided into two age categories: up to 40 years – 194 (50.7%); and above 41 years – 188 (49.3%). Persons with higher education prevail, representing 51.6% (197) of the participants, compared to those with secondary education – 48.6% (185), although the difference between the two groups is minimal. According to their monthly income, the interviewed persons are divided into four groups. The percentage share of respondents with income between BGN 501 and BGN 1000 (34.5%, or 128 participants) is the highest, followed by persons with income up to BGN 500 (27.3% or 122 respondents). Thirdly, the persons reported monthly income of more than BGN 1501 (25% or 82 participants). The group of interviewed persons with monthly income between BGN 1001 and 1500 (13.2% or 49 respondents) is the smallest one. With regard to the factor presence or absence of a child/children in the family, persons having a child/children in the family prevail – they represent 57.1% of the respondents, whereas 42.9% of the investigated persons have indicated that they have no child/children. According to the factor attitude to drawing credits, the percentage share of respondents with negative attitude (60.7%) is higher than those with positive one (39.3%).

Measures

The toolbox used for the research includes two scales. The first instrument is based on the Steenkamp and Gielens scale, measuring consumer innovativeness, *defined* as the consumer's beliefs that he/she will be among the first to test innovative products when they become available on the market. This type of innovativeness expresses the individual's desire for change and is in contrast to his/her previous consumer choice (Steenkamp & Gielens, 2003).

The second instrument, by Yi and Jeon, is linked to the attitude of the consumer to a particular innovative product, *considered* as the extent to which the person has a positive opinion about it and is likely to recommend it to others (Yi & Jeon, 2003).

The product that is perceived as a new one by the user is innovative, and it causes a different degree of change in his behavior model established. The principle of subjectively accepted product novelty was respected, when selecting an innovative product for the present study purposes. In order to make sure that the product will be perceived as a new one by the user, it was selected so as to be new for the company and for the market at the time of the study (smartphone – Samsung Galaxy S7).

For the respondents' answers in both methods, a 5-step Likert-type scale is used.

The toolbox applied in Bulgarian conditions, demonstrated very good psychometric characteristics. The inner consistency coefficient of each of the scales used was above .79 (Cronbach's alpha > .79).

In the regression analysis conducted for the study purposes the consumer's innovativeness is the independent variable, and the attitude towards the innovative product is to the independent one

Results and Discussion

The data obtained from the conducted survey showed that the respondents (the whole sample) have below the average level of innovativeness ($M = 2.11$, $SD = 0.21$). This is a logical result, which also reflects the weaker innovative activity of our country in the world innovative economy (Bulgaria takes the 38th place among the 100 countries surveyed). With regard to the other variable – the attitude towards the innovative product, its values are also below the average, which is in line with the values obtained on innovativeness ($M = 3.17$, $SD = 0.33$).

The result of the linear regression analysis carried out between the “inherent consumer innovativeness” and the “attitude towards a particular innovative product” showed the presence of a weak in force statistically significant correlation dependence between the two constructs ($R = .21$; $p < .05$; $R^2 = .06$; $\beta = .213$). Consumer’s innovativeness is a predictor of his/her attitude towards the innovative product and explains 6.1% of its variations. The data obtained show that with an increase of the level of the person’s innovativeness, a more positive attitude towards the innovative product will be formed – a result, which is logical and reflects the fact that individuals with more pronounced innovativeness have a higher level of cognitive activity and tend to devote more time to the product and its related knowledge (Luthje, 2004). The accumulation of cognitive components necessary to form a positive attitude is present in this category of consumers. Thanks to their high cognitive level, they will not only understand innovation but will also appreciate adequately its merits, realising its relation to their needs. These consumers will form an activity readiness regarding the product, which is influenced by their perceptions of usefulness and ease of use, as well as by the lower level of perceived risk of its use (Lu et al., 2005).

In order to determine which of the demographic factors influence the consumer innovativeness, a series of one-factor dispersion analyses were performed. Statistically significant differences were identified by the demographic factors gender, age, and presence/absence of a child in the family, as well as in terms of the consumer’s attitude towards applying for a financial credit. It turned out that the monthly income of the respondents was not a differentiating factor in terms of consumer innovativeness. The results of the demographic factors described are consequently presented below.

The result of the dispersion analysis showed that the average values of innovativeness in men ($M = 10.57$, $SD = 3.01$) are higher in comparison to those in women ($M = 9.07$, $SD = 2.91$). The result could be related to some of the characteristics traditionally associated with male and female nature. Men perceive themselves as independent, determined, risk-prone and more innovative, while women are considered to be careful, caring, more adaptable and willing to avoid risk (Boyd & Goldenberg, 2013). The different mode of information processing of the stimuli from the environment is also factor that could contribute to the established gender differences in the level of innovativeness in the studied persons.

Here, we can add the higher interest rate that men show in the field of technic and technology, and innovative products (including this used for the purposes of this study) fall precisely in this product category. The stated result confirms the data from Nikova's research (Nikova, 2011 [reference in Cyrillic: Никова, 2011]) but is inconsistent with the results of two other studies – of Meenakshi and Nirupma (2009), and of Chin et al. (2005), in which gender is not a differentiating factor in regard of the person's innovativeness.

From the view of the demographic factor "age", the dispersion analysis showed that innovativeness is more pronounced in consumers in the age category over 41 years ($M = 10.33$, $SD = 2.84$) compared to those under 40 years of age ($M = 8.89$, $SD = 2.96$). The obtained result is surprising, given the backward correlation dependence between the innovativeness and the age of the respondents, found in many different studies (Rogers, 2003). A possible explanation can be found in the fact that with the increase of the age one reaches a certain level in the social hierarchy, which in turn is associated with greater financial independence – two factors that correlate positively with consumer innovativeness (Rogers, 2003).

The result of the dispersion analysis showed that the presence/absence of a child in the family is negatively connected with the consumer's innovativeness. The data obtained outlined the tendency that innovativeness is more pronounced in respondents who do not have a child/children in their family ($M = 10.73$, $SD = 3.24$) compared to those who have ($M = 9.27$, $SD = 3.42$). The parents' attention is focused inward to the family; the needs of the child come to the fore and become their main priority. This, in turn, diverts the attention from innovative products appearing in the market field (unless they are related to the needs of the child). Of course, the fact that the financial risk of unsuccessful innovation is a serious challenge to the family budget, especially in times of economic crisis, should not be ignored.

The established positive correlation between innovativeness and positive attitude towards applying for a financial credit has also been confirmed. The results showed that the average values of innovativeness are higher in individuals who have a positive attitude towards the getting bank loans ($M = 10.43$, $SD = 3.04$), compared to the mean values of those with negative attitude ($M = 9.51$, $SD = 2.82$). Today, against the backdrop of an economic crisis, when a large number of companies fall bankrupt and others are reducing their staff in order to survive, taking out a loan is a very risky venture, inherent to individuals capable of dealing with conditions of insecurity, and such are thought to be the individuals with more pronounced innovativeness.

In a summary of the results of the research conducted, it can be said that the consumer's innovativeness is a predictor of their attitude towards the innovative product. Increasing the level of innovativeness also creates a more positive attitude towards innovation.

Individuals with more pronounced innovativeness and, respectively, a more positive attitude towards the innovative product are predominantly male, aged

over 35, with no child/children in the family, and with a positive attitude towards the taking out of loans. The conclusions made regard only the sample of surveyed persons.

Conclusion

Attitude plays an important role in the process of accepting the innovative product. The consumer's decision to accept or reject an innovation largely depends on the way the product is assessed or the attitude it has shaped. Generally defined as a predisposition to a particular type of reaction to the relevant stimulus, attitude is studied and measured by marketing not only to diagnose potential consumers, but also for a change to take place in case of unsatisfactory results, so as to stimulate activity with respect to the innovative product/product purchase (Petrova, 2004 [reference in Cyrillic: Петрова, 2004]). Attitude is a complex phenomenon, which has its specific characteristics and is determined by a number of factors, one of which is the consumer's innovativeness, influencing positively their attitude towards the innovation. Attitudes can be created, altered and strengthened, as a result of which a good knowledge of their essence and their determinants is key in developing and building effective marketing communication strategies to influence the consumer when an innovative product is on the market.

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Tatyana Yordanova

Sofia University "Sv. Kliment Ohridski", Sofia, Bulgaria

INOVATIVNOST POTROŠAČA KAO ODREDBA STAVOVA PREMA INOVATIVNOM PROIZVODU

Apstrakt

Ovaj rad analizira efekat inovativnosti potrošača kao crte ličnosti na stav prema inovativnom proizvodu. Diskutovane su glavne naučne metode za otkrivanje suštine pomenutih konstrukta. Prikazane su različite vrste stavova koje potrošači formiraju prema inovacijama (na kontinuumu od anti-inovativnih do pro-inovativnih), kao i njihove specifičnosti. Teorijska osnova veze između inovativnosti potrošača i stava prema inovativnom proizvodu bio je proces model difuzije (eng. The diffusion process model) Gejtnona i Robertsona, kao i poboljšana Dejvisova tehnologija prihvatanja. Rezultati prezentovanog empirijskog istraživanja sprovedenog na bugarskom uzorku od 382 učesnika starosti od 20 do 64 godine potvrđuju pretpostavke da će nivo inovativnosti potrošača određivati različite stavove prema inovativnom proizvodu. Rezultati regresije pokazuju da inovativnost ima pozitivan efekat na stav prema inovacijama, odnosno da sa porastom nivoa inovativnosti rastu i pozitivna verovanja u odnosu na svojstva proizvoda i formira se povoljniji stav prema proizvodu. Za potrebe ovog istraživanja korišćen je set od dva instrumenta – skala za merenje inovativnosti potrošača (eng. The Steenkamp and Gielens scale), kao i skala za merenje stava prema konkretnom proizvodu (The Scale of Yi and Jeon). Takođe, analizirane su i razlike u pogledu inovativnosti s obzirom na demografske varijable pol, starost, mesečni prihod, prisutvo ili odsustvo dece u porodici, kao i s obzirom na stav prema uzimanju finansijskog kredita.

Ključne reči: inovativnost potrošača, stav prema inovativnim proizvodima, usvajanje

RELATION BETWEEN ORGANIZATIONAL COMMITMENT, JOB SATISFACTION, AND ORGANIZATIONAL CITIZENSHIP BEHAVIOR OF EMPLOYEES¹

Abstract

The aim of this study was to examine the predictive contribution of organizational commitment and job satisfaction, to the organizational citizenship behavior. The research included 332 employees (50.3% female). We used Organizational Citizenship Behavior Questionnaire, Job Satisfaction Survey and Organizational Commitment Scale. The data processing was done using Hierarchical regression analysis. Results show that organizational commitment and job satisfaction explained 10.2% of the total variance of interpersonal citizenship performance. Significant partial predictors are normative commitment and satisfaction with nature of work. Further, organizational commitment and job satisfaction explained 28.2% of the total variance of organizational citizenship performance. Significant partial predictors are affective commitment, satisfaction with nature of work and satisfaction with communication. Further, organizational commitment and job satisfaction explained 12.7% of the total variance of job/task citizenship performance. Significant partial predictor is satisfaction with the nature of work. The results suggest that management of organization in order to promote organizational citizenship behavior should develop and maintain positive attitudes of employees towards work and organization.

Key words: organizational citizenship behavior, organizational commitment, job satisfaction, employees

Introduction

Organizational citizenship behavior represents “individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization” (Organ, 1988, p. 4). Organizational citizenship behavior is a multidimensional construct consisting of three dimensions: interpersonal citizenship performance, organizational citizenship performance and job/task citizenship performance

¹ Corresponding author: biljana.mirkovic@blic.net

(Coleman & Borman, 2000). Interpersonal citizenship performance includes helping other members of the organization, as well as cooperating with them, social participation and interpersonal facilitation. Organizational citizenship performance means compliance with the organizational rules and procedures and commitment to organization. Job/task citizenship performance involves perseverance and commitment to job/task, job/task conscientiousness and functional participation (Coleman & Borman, 2000).

Positive correlations between the organizational citizenship behavior and organizational effectiveness have been confirmed by numerous empirical studies (e.g., Bachrach et al., 2006; Mekenzi et al., 1998; Podsakoff & Mekenzi, 1994; Walz & Niehoff, 2000). Organizational citizenship behavior of employees contributes to the effectiveness of the organization by facilitating the coordination of activities within the organization, increasing the productivity of employees, enhancing the stability of organizational performance and enabling more efficient adaptation of the organization to the surrounding changes (Organ et al., 2006).

The social exchange theory by sociologist Peter Blau (1964) can explain the mechanisms for the appearance of the organizational citizenship behavior. The central spot in the social exchange theory belongs to the norm of reciprocity that makes the parties involved into the relation obliged to provide positive response to perceived positive treatment by another party (Blau, 1964). According to the social exchange theory, the employees can respond to the organization with organizational citizenship behavior if they perceive that the organization treats them fairly (Cardona et al., 2004).

Various studies (e.g., Elanain, 2007; Judge et al., 2001; Konovsky & Organ, 1996; Meyer et al., 2002; Mowday et al., 1982; Organ & Lingl, 1995; Organ & Ryan, 1995; Podsakoff et al., 1996; Singh & Singh, 2009; Williams & Anderson, 1991) have tried to identify the antecedents of the organizational citizenship behavior of employees, and mostly investigated the personality dimensions of employees and the attitude of employees towards work and organization. The empirical findings suggest that personality dimensions of employees are not in as strong correlation with the organizational citizenship behavior of employees as the attitude of employees towards work and organization (Organ et al., 2006). Therefore, our study seeks to examine the relationship between job satisfaction and commitment to organization and organizational citizenship behavior.

Job satisfaction is a complex attitude that includes certain assumptions and beliefs of an individual related to his job, his feelings for his work and the assessment of his work (Grinberg, 1998). The job satisfaction is a result of employee's evaluation of his work environment. Negative evaluation of the work environment will result in employee's dissatisfaction, while positive assessment of the work environment results in feeling of satisfaction (Locke, 1976). Starting with the Blau's (1964) social exchange theory, it can be assumed that satisfied employees respond to the organization by behavior that is of use to the organization, i.e. demonstrate organizational citizenship behavior. The results of

existing studies indicate significant positive correlation between job satisfaction and organizational citizenship behavior of employees. Organ and Lingl (1995) have performed a meta-analysis of 15 studies and found that job satisfaction is in a positive correlation with the organizational citizenship behavior. Also, Organ and Ryan (1995) have conducted a meta-analysis of 28 studies and determined positive correlation between job satisfaction and dimensions of organizational citizenship behavior – altruism, civic virtue, conscientiousness and sportsmanship. The results of a meta-analysis performed by Judge et al. (2001) also indicate a significant correlation between job satisfaction and organizational citizenship behavior of employees.

Commitment to organization includes positive attitude of employee towards their job and the organization as a whole (Grinberg, 1998). Commitment to organization includes an individual's emotional commitment to the organization, his feeling of obligation to stay within the organization, and his aspiration to stay in the organization based on the cost of leaving the organization (Allen & Meyer, 1990). Mowday et al. (1982) were the first to assume that loyal employees are ready to work harder in order to contribute to the well-being of the organization. The results of Wiener's (1982) study have confirmed that the commitment to organization results in employees' behavior that reflects concern and advocacy for the organization which do not primarily depend on rewards and penalties. The results of meta-analysis by Podsakoff et al. (1996) have shown that commitment to organization represents a significant positive predictor of a form of organizational citizenship behavior such as altruism, conscientiousness, sportsmanship and commitment to organization. Also, the results of a recent meta-analysis by Meyer et al. (2002) indicate significant positive correlations between commitment to organization and organizational citizenship behavior.

Since the results of previous studies indicate positive correlations between job satisfaction and commitment to organization and organizational citizenship behavior of employees, the aim of this study was to examine the extent to which job satisfaction and commitment to organization determine the organizational citizenship behavior.

Method

Sample and procedure

The research was conducted on a sample of 332 respondents from Banja Luka. The respondents are employees in small and medium-sized enterprises in the field of: trade, catering, construction, banking, insurance, public administration, healthcare, media, education, information technologies and production. The sample structure according to the gender, age, level of education, position in the organization, and sector of economy is shown in Table 1.

Table 1
Structure of the Sample by Gender, Age, Level of Education, Length of unemployment period, Position in the organization, and Sector of economy

		Frequency	Percent
Gender	Male	165	49.7
	Female	167	50.3
	Total	332	100.0
Age	25 and younger	20	6.0
	26 - 35 years	156	47.0
	36 - 45 years	95	28.6
	46 - 55 years	46	13.9
	56 and more years	15	4.5
	Total	332	100.0
Level of education	Elementary school degree or less	3	.9
	High school degree	147	44.3
	College degree	20	6.0
	University degree or higher	162	48.8
	Total	332	100.0
Length of unemployment period	5 years or less	106	31.9
	6 - 15 years	147	44.3
	16 - 25 years	45	13.6
	26 and more years	34	10.2
	Total	332	100.0
Position in the organization	Executioner	279	84
	Managers	53	16
	Total	332	100.0
Sector of economy	Public sector	182	54.9
	Private sector	150	45.1
	Total	332	100.0

Data collection was performed through the paper/pencil method. The survey was conducted in groups in organizations in which respondents worked. Completing questionnaire was conducted individually, and it lasted for about 20 minutes. Participation was on voluntary and anonymous basis. The respondents were familiar with the fact that the collected data will be used for scientific purposes only. The respondents placed the completed questionnaires in a sealed box, which guaranteed anonymity.

Instruments

Socio-Demographic Characteristics Questionnaire. The questionnaire consisted of six questions about the following socio-demographic characteristics: gender, age, level of education length of unemployment period, position in the organization, and sector of economy.

Organizational Citizenship Behavior Questionnaire (Coleman & Borman, 2000). The questionnaire consisted of 27 items grouped into three

subscales used to examine three forms of organizational citizenship behavior: interpersonal citizenship performance, organizational citizenship performance, and job/task citizenship performance. Respondents used a 5-point Likert scale to assess how often in the last last year at work they behaved in the manner given in the statement (from 1 = *never* to 5 = *almost always*). Cronbach's Alpha was .79 for the Interpersonal Citizenship Performance Scale, .87 for the Organizational Citizenship Performance Scale, and .78 and for the Job/Task Citizenship Performance.

Organizational Commitment Scale (Meyer & Allen, 1991). The scale consisted of 28 items grouped into three subscales used to examine three forms of organizational commitment: affective commitment, normative commitment and instrumental commitment. On a 5-point Likert scale ranging from disagree strongly to agree strongly respondents were asked the extent to which individual items related to them. Cronbach's Alpha was .76 for the Affective Commitment Scale .68 for the Normative Commitment Scale and .83 for the Instrumental commitment Scale.

Job Satisfaction Survey (Spector, 1985). The questionnaire consisted of 36 items grouped into nine subscales used to examine satisfaction with nine aspects of work: Pay, Promotion, Supervision, Fringe Benefits, Contingent Rewards (performance based rewards), Operating Procedures (required rules and procedures), Coworkers, Nature of Work, and Communication. On a 6-point Likert scale ranging from *strongly disagree* to *strongly agree* respondents were asked the extent to which individual items related to them. Cronbach's Alpha was .75 for the Pay scale, .67 for the Promotion scale, .79 for the Supervision scale, .67 for the Fringe Benefits scale, .71 for the Contingent Rewards scale, .37 for the Operating Procedures scale, .69 for the Coworkers scale, .78 for the Nature of Work scale, and .61 for the Communication Scale. The Operating Procedures Scale is excluded from further analysis due to unsatisfactory reliability (Kline, 2005).

The instruments were translated into Serbian through the committee technique in three iterations (Brislin et al., 1973).

Data analysis

The data analysis used the following statistical procedures: descriptive statistics, correlation analysis and hierarchical regression analysis. Data analysis was performed using the statistical software package SPSS for Windows, version 20.0.

Results

Descriptive and correlation analysis

Table 2 presents the descriptive statistical measures and correlations between variables used in the study. The check of normality of respondents' results distribution has been conducted by using Kolmogorov-Smirnov Test.

Skewness and kurtosis for all of the used variables (Table 2), do not indicate major distribution deviations compared to normal distribution (Tenjović, 2000).

Table 2
Descriptive statistical measures and correlations between variables

	<i>M</i>	<i>SD</i>	<i>Sk</i>	<i>Ku</i>	Correlations		
					OCB-I	OCB-O	OCB-Z
OCB-I	29.42	4.74	-.42	.49	1.00		
OCB-O	47.82	6.77	-.58	.46	.70***	1.00	
OCB-Z	27.02	4.04	-.25	-.41	.70***	.68***	1.00
OC-A	19.43	4.42	-.12	.12	.21***	.42***	.25***
OC-N	19.73	4.04	.09	.33	.21***	.37***	.23***
OC-I	14.56	4.46	.18	-.41	.09	.21***	.07
S-PA	11.44	4.80	.36	-.56	.27	.21***	.04
S-PR	12.07	4.36	.01	-.53	-.03	.14*	.08
S-SU	17.47	4.86	-.51	-.55	.09	.25***	.08
S-FB	11.87	4.54	.09	-.64	-.06	.11	.01
S-CR	12.82	4.67	.17	-.32	.02	.18***	.03
S-CO	17.50	3.98	-.49	.17	.09	.16**	.03
S-NW	18.09	4.43	-.75	.17	.20***	.41***	.28***
S-CM	16.87	3.98	-.29	-.33	.13*	.34***	.11

Legend. OCB-O = Organizational Citizenship Performance; OCB-I = Interpersonal Citizenship Performance; OCB-Z = Job/Task Citizenship Performance; OC-A = Affective commitment; OC-N = Normative commitment; OC-I = Instrumental commitment; S-PA = Satisfaction with pay; S-PR = Satisfaction with promotion; S-SU = Satisfaction with supervision; S-FB = Satisfaction with fringe benefits; S-CR = Satisfaction with contingent rewards; S-CO = Satisfaction with coworkers; S-NW = Satisfaction with nature of work; S-CM = Satisfaction with communication.

* $p < .05$, ** $p < .01$, *** $p < .001$.

The correlation analysis (Table 2) between the forms of organizational citizenship behavior indicate that all relations are significant and highly positive ($.68 < r < .70$, $p < .001$). Observing the correlation between the organizational commitment and organizational citizenship behavior we can see that affective commitment to organization is in the strongest correlation with organizational citizenship behavior ($.21 < r < .42$, $p < .001$). The correlation analysis between job satisfaction and organizational citizenship behavior shows that job satisfaction is in the strongest correlation with organizational citizenship behavior ($.20 < r < .41$, $p < .001$).

Predictability of organizational citizenship behavior based on the organizational commitment and job satisfaction

Hierarchical regression analysis was used to examine the possibility to predict the organizational citizenship behavior based on the organizational commitment and job satisfaction, and to determine the individual contribution of predictor variables in explaining organizational citizenship behavior.

Table 3
Hierarchical regression analysis of organizational commitment and job satisfaction for organizational citizenship behavior

	OCB-I		OCB-O		OCB-Z	
	Model		Model		Model	
	1	2	1	2	1	2
	β	β	β	β	β	β
OC-A	.14	.10	.30***	.17*	.19**	.14
OC-N	.12	.16*	.16*	.12	.12	.14
OC-I	-.02	-.02	.01	.04	-.07	-.07
S-PA		.05		.11		-.06
S-PR		-.13		-.10		.00
S-SU		-.02		.04		-.03
S-FB		-.12		-.06		-.01
S-CR		-.05		-.11		-.11
S-CO		.01		-.10		-.07
S-NW		.14*		.26***		.24***
S-CM		.06		.22**		.04
R^2	.05	.10	.18	.28	.07	.13
F	6.01**	3.32***	24.55***	11.49***	8.23***	4.22***
ΔR^2		.05		.09		.06
ΔF		2.24*		5.52***		2.60**

Legend. OCB-O = Organizational Citizenship Performance; OCB-I = Interpersonal Citizenship Performance; OCB-Z = Job/Task Citizenship Performance; OC-A = Affective commitment; OC-N = Normative commitment; OC-I = Instrumental commitment; S-PA = Satisfaction with pay; S-PR = Satisfaction with promotion; S-SU = Satisfaction with supervision; S-FB = Satisfaction with fringe benefits; S-CR = Satisfaction with contingent rewards; S-CO = Satisfaction with coworkers; S-NW = Satisfaction with nature of work; S-CM = Satisfaction with communication.
* $p < .05$, ** $p < .01$, *** $p < .001$.

The obtained results (Table 3) show that the organizational commitment included in the first phase, explained 5.2% of variance interpersonal citizenship performance. By introducing job satisfaction in the second phase, model as a whole, explained 10.2% of variance interpersonal citizenship performance. Job satisfaction explained additional 5% of variance interpersonal citizenship

performance. In the final model a significant partial contribution to the explanation of interpersonal citizenship performance is given by normative commitment ($\beta = .164, p < .05$) and satisfaction with nature of work ($\beta = .145, p < .05$). When it comes to the organizational citizenship performance, the organizational commitment included in the first phase, explained 18.3% of variance of organizational citizenship performance. By introducing job satisfaction in the second phase, model as a whole, explained 28.2% of the total variance of organizational citizenship performance. Job job satisfaction explained additional 9.9% of organizational citizenship performance. In the final model a significant partial contribution to the explanation of organizational citizenship performance is given by affective commitment ($\beta = .166, p < .05$), satisfaction with nature of work ($\beta = .260, p < .001$) and satisfaction with communication ($\beta = .255, p < .01$). As for the job/task citizenship performance, the organizational commitment included in the first phase, explained 7% of variance of job/task citizenship performance. By introducing job satisfaction in the second phase, model as a whole, explained 12.7% of the total variance of job/task citizenship performance. Job job satisfaction explained additional 5.7% of job/task citizenship performance. In the final model a significant partial contribution to the explanation of job/task citizenship performance is given by satisfaction with nature of work ($\beta = .244, p < .001$).

Discussion

Commitment to organization has proven to be a significant predictor of organizational citizenship behavior. Affective commitment has shown to be a significant positive predictor of organizational citizenship performance, while normative commitment is a significant positive predictor of interpersonal citizenship performance. Affective commitment includes commitment to organization, identification with organization and involvement with organization (Meyer & Allen, 1991), and it is therefore expected that sharing organizational values and goals has been followed by compliance with and commitment to organization. Normative commitment is developed through socialization and it includes an internalized sense of moral obligation of an employee to stay in the organization and dedicate his time and energy to it (Meyer & Allen, 1991). Employees with prominent normative commitment show organizational citizenship behavior due to the feeling of obligation and conviction that it is right to do so. Moral factors encourage employees to be engaged in informal behaviors that contribute to the organizational effectiveness (Cohen & Keren, 2008). The results of previous studies also show that affective and normative commitment are significant predictors of organizational citizenship behavior of employees. The study conducted by Huang and You (2011) showed that affective commitment is a significant positive predictor of interpersonal citizenship behavior and organizational citizenship behavior, while normative commitment is a significant positive predictor of organizational

citizenship behavior. Chen and Francesco (2003), Cardona and Lagomarsino (2003), and Meyer et al. (2002) reported about significant positive correlations between normative commitment and organizational citizenship behavior of employees. Bishop et al. (2000), Rioux and Penner (2001), Chen and Francesco (2003), and Schappe (1998) have determined significant positive correlations between affective commitment and forms of organizational citizenship behavior of employees: interpersonal altruism, interpersonal conscientiousness, civic virtue and sportsmanship. The social exchange theory (Blau, 1964) explains the nature of relation between organizational commitment and organizational citizenship behavior of employees (Cohen, 2003). Namely, the employees assess the quality of social exchange with organization and respond accordingly. Employees who experience a positive exchange with organization or co-workers, respond with higher level of commitment, both affective and normative, and this makes them contribute to the organization in other, less formal, ways, such as forms of organizational citizenship behavior (Cohen, 2003).

Job satisfaction has also proved to be a significant predictor of organizational citizenship behavior. Taking the social exchange theory into consideration, the result is as expected. When the employees are satisfied with their job, they respond to the organization with a behavior that brings benefit to the organization, i.e., demonstrate organizational citizenship behavior (Organ, 1988). Satisfaction with the nature of the work has proved to be a significant positive predictor of all three examined forms of organizational citizenship behavior: interpersonal citizenship performance, organizational citizenship performance and job/task citizenship performance, while satisfaction with communication proved to be a significant positive predictor of organizational citizenship performance. People love mentally challenging jobs, jobs that allow them to use different skills and abilities, and provides feedback information regarding how successful they are in doing their jobs (Robbins, 1993), which is why it is expected that the employees who are satisfied with the nature of their jobs will respond to the organization with commitment and compliance, assistance to and cooperation with other members of organization and putting additional efforts to their job/tasks. Also, the less uncertainties and inconsistencies in communication between employees and organization, the more satisfied the employees will be (Robbins, 1993), so it is not surprising that they will then respond to the organization with commitment and compliance. The results of the study performed earlier by Williams and Anderson (1991) have also shown that the employees who are satisfied with their jobs are more prone to discretionary behavior in favor of the organization. Organ and Lingl (1995), Organ and Ryan (1995) and Judge et al. (2001) have performed meta-analysis and also found significant positive correlation between job satisfaction and organizational citizenship behavior of employees.

Conclusion

Results of this study have shown that organizational commitment and job satisfaction positively contribute to the manifestation of organizational citizenship behavior. In practical sense, the obtained results suggest that organizational interventions aimed at the promotion of organizational citizenship behavior of employees should be directed to the development and maintenance of positive attitude of employees towards work and organization.

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Biljana Mirković

Univerzitet u Banjoj Luci,

Filozofski fakultet, Republika Srpska

Svetlana Čizmić

Univerzitet u Beogradu,

Filozofski fakultet, Srbija

ODNOS IZMEĐU ODANOSTI ORGANIZACIJI, ZADOVOLJSTVA POSLOM I ODGOVORNOG ORGANIZACIONOG PONAŠANJA ZAPOSLENIH

Apstrakt

Cilj ovog istraživanja bio ispitati u kojoj mjeri odanost organizaciji i zadovoljstvo poslom određuju odgovorno organizaciono ponašanje. Uzorak su činila 332 ispitanika (50.3% žene). Korišten je Upitnik odgovornog organizacionog ponašanja, Skala odanosti organizaciji i Upitnik zadovoljstva poslom. U obradi podataka korištena je Hijerarhijska regresiona analiza. Rezultati pokazuju da odanost organizaciji i zadovoljstvo poslom objašnjavaju 10.2% varijanse interpersonalnog odgovornog postupanja, a značajne parcijalne prediktore predstavljaju normativna odanost i

zadovoljstvo prirodom posla. Pored toga, odanost organizaciji i zadovoljstvo poslom objašnjavaju 28.2% varijanse organizacijski odgovornog postupanja, a značajne parcijalne prediktore predstavljaju afektivna odanost, zadovoljstvo prirodom posla i zadovoljstvo komunikacijom. Konačno, odanost organizaciji i zadovoljstvo poslom objašnjavaju 12.7% varijanse odgovornog postupanja u poslu/zadatku, a značajan parcijalni prediktor je zadovoljstvo prirodom posla. Dobijeni rezultati sugerišu da menadžment organizacije u cilju promocije odgovornog organizacionog ponašanja treba razvijati i održavati pozitivne stavove zaposlenih prema radu i organizaciji.

Ključne reči: odgovorno organizaciono ponašanje, odanost organizaciji, zadovoljstvo poslom, zaposleni

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