

PSYCHOLOGICAL RESEARCH AND PRACTICE
International Thematic Proceedia



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FOREWORD

The International Thematic Proceedings titled „*Psychological research and practice*” is a publication from the 15th International Conference “Days of Applied Psychology” held on September 27th & 28th 2019 at the Faculty of Philosophy, University of Niš. This is a traditional annual nonprofit conference which has been organized since 2005 by the Department of Psychology of the Faculty of Philosophy, University of Niš, with the support and co-financing of the Ministry of Education, Science and Technological Development of the Republic of Serbia. The conference started with the idea of gathering researchers and practitioners who discuss the link between science and practice in different psychological areas. From the very start, this gathering has welcomed international participants, and year after year this number is on the rise.

This scientific publication contains 18 reviewed articles which can be classified as original scientific papers. The authors of these manuscripts come from five countries: Italy, Slovakia, Bulgaria, Bosnia and Herzegovina, and the Republic of Serbia. Papers belong to the different areas of psychology, reflecting the scope of interest of the authors as well as the topic of the conference. This publication is organized into the following thematic sections: 1) Plenary lecture; 2) Developmental and Educational psychology 3) Social Psychology; 4) Psychology of Personality and Individual Differences and Psychological Measurement; 5) Clinical and Health Psychology; 6) Organizational and Marketing Psychology, and 7) Symposium: Understanding sexual related behavior in students: Personality, emotions and attitudes.

The Proceedings begin with novel and relevant topic which was presented as a plenary lecture by Snežana Smederevac, Full Professor at Department of Psychology, Faculty of Philosophy, University of Novi Sad. Her manuscript emphasizes the importance of open science which has become the most important goal in contemporary scientific community. Also, this paper deals with a behavioral genetics cross-cultural study which can illustrate the usefulness of open data in psychological research. This study demonstrates several key principles of open science, such as “citizen science”, reproducibility and data sharing.

Other papers show broad scope of possibilities of psychological theory and practice. The section of Developmental and Educational psychology deals with the relation between socio-demographic characteristics and burnout of primary school teachers as well as with attitudes toward cyberbullying and cyberaggressive behavior among adolescents. The obtained results have shown the significant differences in teachers’ burnout depending on their socio-demographic characteristics: gender, age, duration of service, position,

job affection, and marital status. The manuscript of the authors who tried to determine the predictors of cyberbullying and cyberaggressive behavior is also very important, due to the increasing use of social networks among young people. Understanding aggressive behavior on the Internet is useful in the prevention and treatment activities.

In the section of Social Psychology readers can find article about the structure of children's social groups with a focus on friendship and popularity. Based on obtained data from this study, the authors concluded that the declared friendships of children are relatively stable over time. In the study of politically radical organizations from Serbia and militant extremism, the author analyzed the content of the websites of politically radical organizations from Serbia. Results show that the most frequent theme was „Civil government as illegitimate“, with no significant difference between leftist and rightist groups in frequency.

The section of Psychology of Personality and Individual Differences and Psychological Measurement contains papers with various actual topics. Namely, articles in this section represent investigation of relationship between personal characteristics and cognitive strategies, subjective well-being and eating behaviors. One of these articles discusses the time perspective in relation to self-esteem. Another suggests that individuals use different strategies in dealing with problems and failures. The results of these studies provide a useful contribution to a better understanding of individual differences in different areas of human life. The study of the authors who presented the validation of a new instrument for measuring interpersonal processes also has the great importance. That instrument will enable progress in scientific research but also in the practical work of professionals.

The importance of mental health as well as therapy and counseling were discussed in the section Clinical and Health Psychology. A very interesting idea about the application of mobile applications in the mental health treatment was presented. Also, this section includes the manuscript about dealing with the specifics of different age periods. Adulthood was studied in relation to the anxiety that can occur in early adult and midlife transitional periods.

The results of study which deals with employees' satisfaction, coaching psychology, and the effects of brand popularity and the Big Five on perceived quality of refreshment products are presented in the section Organizational and Marketing Psychology. In this section is opened the question of whether it is possible to apply the principles of coaching psychology on work domains. Also, obtained results showed additional evidence that brand popularity somewhat affects the perceived quality of refreshment products, but authors failed to replicate the predicted effect of emotional stability.

The Proceedings ends with articles which are presented within Symposium: Understanding sexual related behavior in students: Personality, emotions and attitudes. These papers dealt with the problem of sexual behavior. The results of these studies provide useful information for work in the field of intimate partnerships.

The selected papers depict how theory-based approaches foster practical implications important for development of psychological interventions in a wide array of human behavior. We hope that the knowledge and insights presented in this volume will be helpful to a broad audience of students, practitioners, and researchers who are interested in basing their work on scientific research and theory.

At the end, we would like to thank to the reviewers who contributed to the quality of the publication.

Niš, September 2020

Editors
Kristina Randelović, PhD
Mila Dusković, Msc

Plenary lecture

OPEN SCIENCE AS A FRAMEWORK FOR PSYCHOLOGICAL RESEARCH¹

Abstract

One of the basic principles of modern science is taking responsibility for the dissemination of scientific results. Open science has become the most important goal in contemporary scientific community, whose achievements would contribute to the visibility of scientific results, significant social and economic benefits, as well as to supporting the development of new research. In this study, some of the basic principles of open science, such as citizen science, open data and open access, were applied. The main objective of this behavioral genetics cross-cultural study was to examine the contribution of genetic and environmental factors to the Five Factors Model (FFM) dimensions across three cultures – Croatian, German and Serbian. Contributing to the development of citizen science, 1006 monozygotic and 710 dizygotic pairs of twins from Croatia, Germany and Serbia participated in the research. Results of quantitative behavioral genetic modelling, based on previously collected open data, showed that the relative contributions of genetic and environmental factors to the variance of all FFM dimensions have almost identical patterns in the German, Croatian and Serbian samples. The dataset from this study was deposited in the Open Science Framework (OSF) platform. The published results have been deposited in the institutional repository in accordance with the green open access policy. General goal of open science is to create a network of knowledge and information that will make scientific achievements transparent, visible and reusable.

Key words: open science, behavioral genetics, personality traits, cross-cultural study

Introduction

Basic principles of open science

The traditional approach to scientific research has faced a number of challenges in recent decades, stemming primarily from the requirement that the scientific process be adequately valued and more transparent. Open science provides an opportunity to redefine social roles and responsibilities of publicly funded research and to rethink the entire scientific system (Miedema, Mayer, Holmberg, & Leonelli,

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2018). Whereas the traditional research design has implied defining research goals, data collection, data analysis and publishing (Breakwell, Smith, & Wright, 2012), open science introduces new academic skills, related to open access, open data, pre-registration research, replication research, open reviews, citizen science and many other topics. Although provoked primarily by the business model of large publishers, which generate huge profits from the publication of scientific results (Larivière, Haustein, & Mongeon, 2015), the open science movement is slowly changing the classical paradigm of access to research and arts.

The introduction of purely quantitative indicators in the evaluation of scientific performance has contributed to a huge increase in the number of scientific papers and scientific journals. There are over 2000 scientific publishers worldwide, between 25,000 and 40,000 scientific journals, while 2.5 million articles are published annually (Ware & Mabe, 2015). Elsevier, Springer and Wiley cover 42% of scientific publications. Those big publishers make a large profit due to the fact that they receive both scientific results, funded by national or international resources, and reviews from other researchers, for free. Moreover, researchers have to pay for access to the same published results. In 2012, the “Cost of Knowledge” (The Cost of Knowledge, 2012) campaign started to protest against Elsevier’s business model, provoking a boycott of its journals, review processes and subscriptions. The boycott named the beginning of an “Academic Spring”. Until now, several university libraries simply cancelled all Elsevier subscriptions, while universities created repositories to deposit the results of scientific work.

Accelerated publication of scientific papers has also contributed to more frequent poor research practices. Plagiarism is probably the oldest example of bad science, but bad research practices include HARKing (defining goals and hypotheses only after looking at research results) (Kerr, 1998) or salami publishing (publishing a large number of papers from only one study) (Wawer, 2018). Many other challenges have also contributed to the demand for a change in the traditional science approach. According to Nature, 70% of scientific results cannot be replicated, while more than 50% of researchers fail to replicate the results of their own studies (Baker, 2016). The replication crisis in science has raised a number of issues that are related to a general lack of trust in science and scientific results. Journals have begun to promote new publishing policies rapidly and changed their initial view on wanting to publish only original scientific papers into the view that all types of replication studies are welcome (Ball, 2018). Psychologists have a major role in pointing to the replication crisis (Nosek, Cohoon, Kidwell, & Spies, 2016).

Although citation is considered to be a basic indicator of the scientific impact (Bornmann & Daniel, 2008), results of previous studies have shown that a large number of scientific papers have never been cited (Hamilton, 1991). The citation trend in all sciences has been increasing in recent years, as a result of a number of

journals, more intensive international scientific cooperation and generally more intensive scientific activity, whereas the number of non-cited papers in social sciences and humanities is still very high (Larivière, Gingras, & Archambault, 2009). Much evidence suggests that increasing the visibility of scientific results contributes to more citations (Lawrence, 2001).

In the traditional approach to scientific research, many activities, such as collecting data, peer reviewing, methodological aspects, are also invisible. Open science contributes to a gradual change in approach to scientific work, by increasing transparency and adequate evaluation of all aspects of empirical research. Open access, as one aspect of open science, enables researchers to make their results freely available online to anyone interested in reading them. Open data refers to the process of depositing collected empirical data in institutional or thematic repositories, in accordance with good academic practice, copyright and data protection, and the basic open data principles (Wilkinson et al., 2016), whose acronym is FAIR (Findable, Accessible, Interoperable, Reusable). Deposited data obtained DOI and can be cited as any scientific work. Research data has the same value as research results, and the introduction of data citation practices is very important for scientists. Detailed instructions for depositing datasets in thematic repositories and creating a data management plan can be found in the Open Science: Practice and Perspectives manual (Smederevac et al., 2020b). For example, in psychological research, anonymization and protection of the identity of the participants are extremely important. Coding personal data into numeric values or allowing access to dataset only for researchers who previously signed a confidentiality agreement are safe ways to maintain high ethical standards in research.

Open methodology refers to preregistration of research, using Open software, such as The R Project for Statistical Computing (R Core Team, 2013), Open items, such as International personality item pool (IPIP; International Personality Item Pool, 1999), and Open research, such as the SAPA project (Revelle, 2015). Open peer reviews facilitate scientific communication, through open communication during the evaluation of scientific works.

As a consequence of the changing scientific environment, requests for improving the quantitative criteria applied in the evaluation of scientific work are becoming more common. Some of the basic recommendations of the Leiden Manifesto (Hicks, Wouters, Waltman, de Rijcke, & Rafols, 2015) relate to the strategy of introducing quantitative criteria in addition to qualitative and taking into account differences between scientific fields in the publication and citations practice. For example, top-ranked journals in mathematics have an impact factor of about 5, and in microbiology of about 30. Therefore, normalized indicators for a specific area, not groups of fields, are needed to evaluate scientific impact (Waltman, 2016). Alternative quantitative indicators of scientific impact can be divided into three categories: access and download (e.g., number of views or

full text downloads), mentions (e.g., on Twitter, Wikipedia articles or blogs) and application (e.g., application of presented theories and models in new research) (Haustein, Bowman, & Costas, 2016).

Repositories of scientific results play an important role in open science. In addition to institutional ones that serve to deposit publications, there are thematic repositories, which also allow the deposit of data. Different scientific disciplines have their own repositories, the most famous being CERN's Zenodo, Open Science Framework (OSF), Figshare or Mendeley repositories. Leading journals, during article submission, require researchers to answer questions about whether the work is pre-registered, whether it is the result of a replication study, and in which repository the data will be deposited. All these processes require new academic skills, which must become an integral part of the curriculum of scientific research methodology.

As a result of the BEOPEN project (BEOPEN, 2016), in which the Ministry of Education, Science and Technological Development of the Republic of Serbia and all state universities in Serbia have participated, the aforementioned Ministry adopted the view that openness to solving social problems is the backbone of basic missions of universities and scientific institutions, and in 2018 continued to adopt the National Open Science Platform. The platform stipulates that all researchers must deposit the results of scientific research work in institutional repositories, supporting so called green open access, which implies the use of institutional repositories for deposit of research results. Also, the Platform recommends that researchers deposit their datasets in open repositories. In 2019, all state universities have adopted open science policies and are developing institutional repositories to deposit research outputs. In other words, researchers have the legal support and technical infrastructure to apply the principles of open science. National Open Science Portal (NAPON, 2017) contains relevant information on the existing legal framework, licenses, repositories, data treatment plan and other topics relevant to open science.

Open science in behavioral genetic research – Serbian twin registry

Behavioral genetics is a scientific field that studies the contribution of genetics and environmental influences to behavior. In quantitative behavioral genetic models, phenotypic variance is decomposed into a genetic and environmental component. Gene variance of the phenotype can be explained by additive – A and non-additive – D effects, while environmental variance can be explained by shared environmental variance – C and nonshared environmental variance and measurement error – E. Additive genetic influence (A) describes the effect of multiple genes on behavior, while non-additive genetic factors (D) describe the interactive effects of different alleles and include genetic dominance, such as within locus interaction and epistasis. Shared environmental impacts refer to the family and contextual experiences common to all family members, while the

non-shared environment includes the environmental factors unique to each twin, as well as the measurement error. Correlation between traits of monozygotic twins is 1, since they share 100% of same genes, while for dizygotic twins is .50, since they share 50% of the same genes. Monozygotic and dizygotic twins share 100% of the common environmental impact, while nonshared environmental factors, according to core quantitative behavioural genetic model assumptions, do not correlate (Neale & Maes, 2004). These assumptions represent the base for quantitative behavioural genetic models, which provide evidence for different patterns of genetic and environmental influences on the observed phenotypic variance.

Behavioral genetics is a fairly young scientific discipline in Serbia that has been developing for less than a decade. The Serbian Twin Registry (STR) was created in 2011 as a part of the research project *Psychological Foundations of Mental Health: Hereditary and Environmental Factors*, granted by the Ministry of Education, Science, and Technological Development of the Republic of Serbia. The members of the interdisciplinary team participating in the study are from the Department of Psychology of the Faculty of Philosophy and from the Faculty of Medicine, at the University of Novi Sad. This team founded the Center for Behavioral Genetics in 2014. Although there are 1658 twins and their relatives in the Serbian Twin Registry, only 564 twins have passed the full examination so far. The basic goal is to create a database for further research in psychology, medicine and biology. The entire procedure for testing and collecting data is described elsewhere (Smederevac et al., 2019). An examination usually takes several hours and includes an assessment of cognitive abilities, executive functions, personality traits, family environment, medical examination, an interview about life events and specific habits, DNA sampling etc. Buccal swab is the basis for DNA analysis, conducting at John Jay College of Criminal Justice in New York and Faculty of Medicine in Novi Sad. These analyses include estimation of zygosity, molecular genetics and epigenetic data.

The research team of this project is dedicated to replicating previous findings in behavioral genetics and respecting the basic principles of open science – open access, open data, open methodology, citizen science etc. All articles published in Open Access (Čolović, Branovački, & Zgonjanin Bosić, 2018; Dinić, Nikolašević, Oljača, & Bugarski Ignjatović, 2018; Jovanov & Zgonjanin Bosić, 2018; Milovanović, Sadiković, & Kodžopeljić, 2018; Milutinović et al., 2019; Sadiković, Smederevac, Mitrović, & Milovanović, 2018), or their preprint versions are deposited at the institutional repository (Smederevac et al., 2019). Datasets from publishing studies can be found at the Open science Framework (OSF): <https://osf.io/j4vqx/> or <https://osf.io/5shdy/> and Mendeley <https://data.mendeley.com/datasets/bbxb7yxkzj/2>. Center for Behavioral Genetics is set to open access all questionnaires created by the research team (<http://www.cbg.ff.uns.ac.rs/upitnici.php>).

In order to popularize the Serbian Twin Registry, raise awareness about the importance of twin studies, and engage community members in research, all activities are continuously being promoted through various public campaigns, events, lectures, and TV appearances. One of the key events of this kind is the National Twins Day, organized annually by the Center of Behavioral Genetics at the University of Novi Sad which takes place in the first week of June. The event includes different activities, such as presenting research results, organizing workshops for parents and children, art performances, prize games, as well as recruiting new participants. Twin participants in research receive the results of their personality profiles, cognitive abilities, general health and zygosity. Besides the twins and their families, National Twins Day gathers the members of the academic and public community.

Open science and cross-cultural behavioral genetic study of personality traits

Application of the same methodological principles in data collection enables the implementation of cross-cultural studies. One of them was a study based on the Five-Factor Model (FMM) which examined cultural differences in genetic and environmental influences across German, Croatian and Serbian cultures (Smederevac et al., 2020a). An additional aim was to examine whether there are cross-cultural specificities in the hierarchical personality structure by examining possible genetic and environmental influences at different hierarchical levels of FFM personality trait.

Method

Participants

1021 monozygotic (MZ) and 722 dizygotic (DZ) pairs of twins participated in the study, all were general-population volunteers from Croatia, Germany and Serbia. Table 1 provides detailed data about the sample. The dataset and data instructions for this article are available online at OSF platform: <https://osf.io/5shdy/>.

Table 1
Twin sample characteristics

	zygosity	pairs	gender			age	
			male	female	different gender	mean	SD
Germany	MZ	737	322 (21.8%)	1153 (77.7%)		31.694	13.138
	DZ	396	242 (30.55%)	548 (69.45%)	113	31.598	11.766
Croatia	MZ	105	76 (36.2%)	134 (63.8%)		18.44	2.24
	DZ	234	218 (46.6%)	250 (53.4%)	114	18.58	2.308
Serbia	MZ	179	84 (23.46%)	274 (76.54%)		24.997	7.904
	DZ	92	73(39.66%)	111 (60.34%)	36	22.804	5.845

(Smederevac et al. 2020a)

Instruments

NEO Five-Factor Inventory has been used in the study (NEO-FFI: Costa & McCrae, 1992; Croatian version: Marušić, Bratko, & Eterović, 1996; German version: Borkenau, & Ostendorf, 1993; Serbian version: Costa & McCrae, 1992; Sinapsa adaptation, 2019), a short version of NEO Personality Inventory, comprising of 60 items. NEO-FFI consists of five scales: Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A) and Conscientiousness (C).

Data analysis

In the first step, quantitative behavioral genetic models of hierarchically organized phenotypic trait factors were considered: five traits at a lowest level of the trait hierarchy representing NEO-FF domains (N, E, O, A and C); Big Two (DeYoung, 2006) factors: Stability (loading N, A and C) and Plasticity (loading E and O) at the next level; and GFP (Musek, 2017) at the highest level of the trait hierarchy (Big Two + GFP). The reduced model is nested in the full model, allowing both the two-factor (Big Two) and GFP direct paths to the Big Five solution.

In the next step, common factor(s) – common pathways multivariate models (Rijsdijk & Sham, 2002) were applied in order to estimate additive genetic effects (A), non-additive genetic effects (D), shared environmental (C), and non-shared environmental (E) effects. In all models there were specific (s) and common (c) genetic and environmental sources of variance (see Figure 1). Nested models were compared by using the χ^2 -difference test; the Akaike Information Criterion (AIC); Comparative Fit Index and the Tucker-Lewis Index (CFI and TLI – optimal values higher than .95, acceptable higher than .90); the Root Mean Square Error

of Approximation (RMSEA – optimal values lower than .05, acceptable lower than .08); the Standardized Root Mean Square Residual (SRMR, with acceptable value below .08) and Bayesian information criterion (BIC) with a lower value indicating a better fit (Smederevac et al. 2020a).

Results

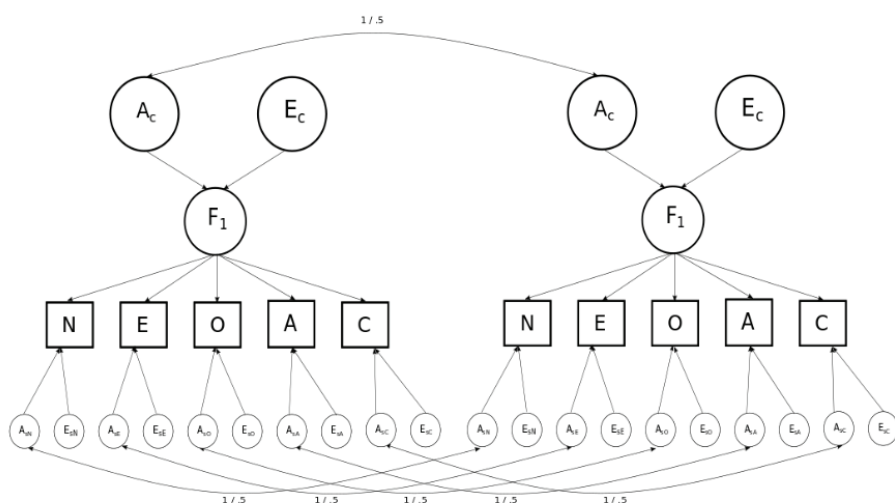


Figure 1. ACE common factor common pathway model.

Note. Common pathways model for one pair of twins; A_c , E_c – common genetic/environmental factors; A_s , E_s – specific genetic/environmental factors; F_1 – latent factor; N – Neuroticism, E – Extraversion, O – Openness to experience, A – Agreeableness, C – Conscientiousness; genetic correlations among MZ twins – 1; genetic correlations among DZ twins – .50 (Smederevac et al., 2020)

The best fitting biometric models for all three samples were common factor – common pathways AE models, indicating that a single-latent genetic and environmental factor solution best explains the sources of variance in personality traits. This result suggests that genetic and environmental covariance across the FFM could be explained by a single underlying latent factor. However, this factor

does not include all dimensions of the FFM model, and thus provides important information about common and specific sources of variance in personality traits.

Discussion

The high common genetic and environmental effects for Neuroticism in all three cultures, with lower specific effects, indicate that emotional tension is an important aspect of many different behaviors. On the other hand, the lowest common genetic and environmental effects for Openness in all three cultures indicate its greater dependence on specific genetic and environmental contributions.

High similarities among genetic and environmental correlation patterns in three cultures illustrate a limited effect of culture on the genetic and environmental interrelatedness of personality traits. Namely, results suggest that there are no cross-cultural differences in the genetic basis of personality traits, although, at the most specific level, subtle differences between cultures may contribute to how synergy of personality traits will respond to the specificities of a particular culture. This result may be due to subtle differences between cultures, which may contribute to specific emotional and cognitive responses to different environments. Different cultures shape specific lifestyles, family rules and everyday routines that affect the attitude towards education and upbringing, interpersonal relationships and the structuring of leisure time. However, they can be influenced by highly specific factors, such as subtle differences in item translation, measurement error, differences in testing conditions etc.

This study illustrates the importance of open science practice in scientific research. Cross-cultural studies provide important insights into the behavioral genetic basis of behavior in different environments. Such types of comparisons are only possible if data from previous research is open and accessible. Therefore, our data is deposited in the OSF, allowing other researchers to use them in the future. Moreover, citizen science practice is an attempt to extend the process of scientific knowledge to the community. At the beginning of open science in Serbia, the main goals should be to introduce open science into curricula, so that all researchers become familiar with new academic skills that enable collaboration with scientists from other cultures and other scientific fields.

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OTVORENA NAUKA KAO OKVIR ZA PSIHOLOŠKA ISTRAŽIVANJA

Apstrakt

Jedan od osnovnih principa savremene nauke je preuzimanje odgovornosti za diseminaciju naučnih rezultata. Otvorena nauka postala je najvažniji cilj savremene naučne zajednice, čija dostignuća mogu doprineti vidljivosti naučnih rezultata, značajnom društvenom i ekonomskom napretku, kao i razvoju novih istraživanja. U ovoj studiji primenjeni su neki od osnovnih principa otvorene nauke, poput volonterske nauke (eng. citizen science), otvorenih podataka i otvorenog pristupa. Glavni cilj ove kroskulturalne bihevioralno genetičke studije bio je ispitivanje doprinosa genetskih i sredinskih činilaca dimenzijama Petofaktorskog modela ličnosti (FFM) u tri kulture – hrvatskoj, nemačkoj i srpskoj. Doprinosi razvoju volonterske nauke, u istraživanju je učestvovalo 1006 monozigotskih i 710 dijazigotskih parova blizanaca iz Hrvatske, Nemačke i Srbije. Rezultati kvantitativnog bihevioralno genetičkog modela, zasnovanog na prethodno prikupljenim otvorenim podacima, pokazali su da relativni doprinosi genetskih i

sredinskih faktora varijanci svih dimenzija FFM imaju gotovo identične obrasce u nemačkom, hrvatskom i srpskom uzorku. Skup podataka iz ove studije deponovan je u platformi Open Science Framework (OSF). Objavljeni rezultati deponovani su u institucionalnom repozitorijumu u skladu sa politikom zelenog otvorenog pristupa. Opšti cilj otvorene nauke je stvaranje mreže znanja i informacija koje će naučna dostignuća učiniti transparentnim, vidljivim i ponovo upotrebljivim.

Ključne reči: otvorena nauka, genetika ponašanja, osobine ličnosti, međukulturalna studija

Developmental and Educational Psychology

THE RELATION BETWEEN SOCIO-DEMOGRAPHIC CHARACTERISTICS AND BURNOUT OF PRIMARY SCHOOL TEACHERS²

Abstract

The aim of this study was to investigate whether there are differences in burnout depending on teachers' socio-demographic characteristics. The sample consisted of 916 teachers (80.8% female) from 32 elementary schools in Bosnia and Herzegovina. We used the Maslach Burnout Inventory and Socio-demographic Characteristics Questionnaire. A significant difference has been determined in Emotional exhaustion taking into account gender, age, duration of service, and job affection. Male teachers, teachers older than 56 years, teachers with more than 26 years of service, and teachers who don't like their job are the most prone to Emotional exhaustion. A significant difference has been determined in Depersonalization considering gender, age, duration of service, and position. Male teachers, teachers older than 56 years, teachers with more than 26 years of service, subject teachers and teachers who don't like their job are the most prone to Depersonalization. Finally, a significant difference has been determined in Personal achievement considering gender, position, and marital status. Males teachers, class teachers, teachers who like their job, and married teachers are the most vulnerable to Personal achievement decline. The results suggest that socio-demographic characteristics significantly determine teachers' burnout.

Keywords: burnout, socio-demographic characteristics, teachers

Introduction

The concept of burnout was first introduced by Freudenberger in 1974. It was described as wearing down or wearing out of energy (Freudenberger & North, 1985). Burnout is experienced personally as a state of physical, emotional and mental fatigue induced by long-term participation in situations which are emotionally demanding (Pines & Aronson, 1988). Another definition of the term burnout explains it as an individual reaction to chronic stress at work (Pines & Aronson, 1988). For a long time, burnout has been a major issue influencing all professional employees, including teachers.

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Maslach (1976) is a pioneer in the study of teacher burnout. According to Maslach (1976; Maslach & Jackson, 1981), teacher burnout consists of emotional exhaustion, depersonalization and a reduced sense of personal accomplishment. Emotional exhaustion refers to feelings of being emotionally overextended and having depleted teachers' emotional resources. Depersonalization refers to a negative, callous and detached attitude towards the students. Reduced personal accomplishment refers to teachers' negative self-evaluation in relation to their job performance (Maslach & Jackson, 1981; Maslach, Schaufeli, & Leiter, 2001).

Teaching has been considered a very emotionally tiring job (Innstrand, Langballe, Falkum, & Aasland, 2011; Schaufeli & Enzmann, 1998; Stoeber & Rennert, 2008) due to the fact that the teachers are given the responsibility to meet the demands of students, parents and school administration. A considerable number of studies conducted at primary and secondary schools (Carlile, 1985; Cooper & Kelly, 1993; Jaoul, Kovess, & Mgen, 2004) identified the major sources of teachers' occupational stress. These can be categorized as follows: factors directly concerning the nature of the teaching profession, factors related to the school organization and administration, and individual differences that influence teachers' vulnerability against stress. When it comes to factors directly concerning the nature of the teaching profession, studies showed that major stress factors are anchored in the in-class structure. Teaching a large number of children in classes, difficult students, disciplinary problems, class heterogeneity, and heavy workloads are serious sources of stress and burnout for teachers (Forlin, 2001; Lewis, 1999; Male & May, 1998; Maslach & Jackson, 1981; Maslach et al., 2001). As for the factors related to the school organization and administration, studies showed that limited support from the government, low salaries, limited access to necessary learning equipment, inadequate training, lack of information on contemporary educational issues, continuous changes in the curriculum, excessive demands from school administration, demanding or unsupportive parents and difficulty in interacting with parents constitute serious sources of stress and exhaustion for teachers (Forlin, 2001; Maslach & Jackson, 1981; Maslach et al., 2001; Travers & Cooper, 1993). Most of these sources of stress are evident in teachers in Bosnia and Herzegovina; teaching a large number of children in classes (more than 24 students), limited support from the government, limited access to necessary learning equipment, inadequate training, continuous changes in the curriculum, excessive demands from school administration (Dragnić, 2013) and low salaries (Zakon o platama u oblasti prosvjete i kulture Republike Srpske, Službeni glasnik broj: 66/18). Considering the individual differences that influence teachers' vulnerability against stress, studies showed that stress levels may differ depending on teachers' age, the length of service, gender and marital status (e.g., Anderson & Iwanicki, 1984; Byrne, 1991; Lau, Yuen, & Chan, 2005; Malik, Mueller, & Meinke, 1991).

A high level of stress for long periods of time can develop teachers' burnout, which results in lower sympathy towards students, reduced tolerance for students,

the worse preparation of lessons and a lack of commitment to the teaching profession (Dorman, 2003). Teachers' burnout has serious consequences on both, teachers themselves and their students. In case of teachers, this can involve physical, psychological and behavioral symptoms such as loss of motivation and decreased self-esteem. As for their students, burnout can make pupils misbehave inside and outside the school (Duatepe & Akkus-Cikla, 2004). So, understanding teachers' burnout is important since it has significant implications not only for teacher's health, job satisfaction, and motivation but also for student behavior and learning (Pyhältö, Pietarinen, & Salmela-Aro, 2011).

In order to better understand and deal with the teachers' burnout, it is important to clarify how dispositional factors are associated with burnout. A number of studies dealing with teachers' burnout in Bosnia and Herzegovina is still rather low, and the prevention program, as well as support to the teachers, is non-existing in practice. If demographic factors affecting teachers' burnout would be determined, then programs concerning prevention and support to the teachers aimed at reducing burnout could be designed and implemented. Therefore, the aim of this study was to investigate whether there are differences in burnout depending on teachers' demographic characteristics: gender, age, duration of service, position, job affection, and marital status. Having in mind the findings of the previous studies (e.g., Grayson & Alvarez, 2008; Kantas, 2001; Lau et al., 2005; Maslach, 2003; Slišković, Burić, & Knežević, 2016; Shaheen & Mahmood, 2017), we expect that female teachers, younger teachers, teachers with fewer years of service, class teachers, teachers who don't like their job and unmarried teachers to be more prone to burnout.

Namely, previous studies (e.g., Antoniou, Ploumpfi, & Ntalla, 2013; Burke & Greenglass, 1993; Gursel, Sunbul, & Sari, 2002; Sari, 2004; Slišković et al., 2016) has found that, on average, female teachers are more emotionally exhausted than male teachers. Male teachers have shown a higher level of depersonalization (Domović, Martinko, & Jurčec, 2010; Maslach & Jackson, 1986; Whitehead, Ryba, & O'Driscoll, 2000; Leithwood, Jantzi, & Steinbach, 2001) and lower level of personal achievement (Sari, 2004). It is reported that, female teachers experience higher levels of stress and higher job dissatisfaction (Borrill, Wall, & West, 1996; Georgas & Giakoumaki, 1984; Kantas, 2001; Offerman & Armitage, 1993) that generally stem from the negative conditions in the classroom and the students' behaviour, as well as work-family interface.

In addition, it was showed that younger teachers have a higher level of emotional exhaustion and depersonalization (e.g., Antoniou, Polychroni, & Vlachakis, 2006; Byrne, 1991; Lau et al., 2005). It is assumed that this reaction is linked to the difficulty of the young teachers in activating suitable coping strategies to decrease occupational stress imposed by the difficulties of their job (Byrne, 1991). Similarly, teachers with fewer years of service have higher levels of emotional exhaustion and depersonalization and overall burnout than teachers

with more years of service (e.g., Bryne, 1998; Duatepe & Akkus-Cikla, 2004; Grayson & Alvarez, 2008). A higher level of burnout in less experienced teachers is attributed to their unrealistic expectations, lack of experience, lower job satisfaction (e.g., Maslach, 2003; Sarros & Sarros, 1992; Taylor & Tashakkori, 1995), and difficulty in activating suitable coping strategies to decrease occupational stress imposed by the difficulties of their job (Byrne, 1991). More experienced teachers have developed better-coping skills with their students than less experienced teachers, and they have acquired more realistic expectations over the time about their professions (Duatepe & Akkus-Cikla, 2004). However, it is important to note that the results of some studies (e.g., Domović et al., 2010; Gursel et al., 2002; Kokkinos, 2007; Zhongying, 2008) have indicated the opposite tendencies. Specifically, older teachers and teachers with more years of service have shown greater levels of emotional exhaustion (Domović et al., 2010; Kokkinos, 2007; Zhongying, 2008) and depersonalization (Gursel et al., 2002).

Further, the results of Croatian studies (e.g., Koludrović, Jukić, & Reić Ergovac, 2009; Kuzijev & Topolovčan, 2013; Slišković et al., 2016) indicated a higher level of burnout in class teachers than subject teachers. In addition, the data showed that class teachers are more satisfied with their chosen profession, that they are more satisfied with their job and career progression and that they have a more positive attitude towards students than subject teachers (Koludrović et al., 2009; Slišković et al., 2016), which could have implications for burnout level as well. Also, teachers who don't like their job show higher levels of occupational stress than teachers who like their job (Maslach, 2003).

Finally, some studies have shown (e.g., Lau et al., 2005; Shaheen & Mahmood, 2017) that unmarried teachers are more emotionally exhausted and depersonalized than married teachers. Being single, they work individually and hard to earn a certain career position. When their efforts do not result in getting value in the profession, they become emotionally exhausted and develop a distancing attitude from the students (Shaheen & Mahmood, 2017).

Method

Participants and procedure

A convenience sample was used in this study. The sample consisted of 916 teachers (80,8% female) from 32 elementary schools in Bosnia and Herzegovina. There were 46,2% of class teachers and 53,8% of the subject teachers who took part in this study. The sample was divided into five age cohorts: up to 25 years of age (3,4%), 26-35 years (32,5%), 36-45 years (41,3%), 46-55 years (15,4%) and over 56 years (7,4%). In terms of the length of service, the sample was divided into four cohorts: up to 5 years of service (21,6%), 6-15 years (40,1%), 16-25 years (26,5%) and more than 26 years (11,8%). Considering the job affection,

96,6% were teachers who like their job, 0,8% were teachers who don't like their job and 2,6% were teachers who are not sure if they like their job. For the marital status, 69,7% were married and 30,3% were not married.

Data were collected in schools during working hours using a paper-and-pencil format, under the supervision of the researchers. The participants filled out the questionnaires in groups. The respondents needed approximately 15 minutes to complete the questionnaire. The respondents were familiar with the fact that the collected data will be used for scientific purposes only. Participation was voluntary.

Instruments

Maslach Burnout Inventory (MBI; Maslach & Jackson, 1986). The questionnaire consists of 22 items distributed in three subscales that measure Emotional exhaustion, Depersonalization, and Personal achievement. The participants' responses to the MBI are given on a 7-point Likert type scale from 0 (*Never*) to 6 (*Always*). Higher results on the scales of Emotional exhaustion and Depersonalization indicate a higher level of professional burnout. On the scale of Personal Achievement, the lower score points to a higher level of experienced burning, that is, to a reduction or a decline in personal achievement. For this study, the Cronbach's alpha was .89 for Emotional exhaustion, .71 for Depersonalization, and .87 for Personal achievement.

Socio-demographic Characteristics Questionnaire. The questionnaire consisted of seven questions about the following demographic characteristics: gender, age, duration of service, position (class teachers/subject teachers), job affection, and marital status.

Data analysis

In data analysis, we used the following statistical procedures: descriptive statistics, correlation analysis, Multivariate Analysis of Variance (MANOVA) and post hoc tests. Data analysis was performed using the statistical software package SPSS for Windows, version 22.0.

Results

Table 1 presents the descriptive statistical measures and correlations for subscales of the Maslach Burnout Inventory. Measures of average and variability, skewness and kurtosis do not indicate major distribution deviations compared to a normal distribution (Tabachnick & Fidell, 2001).

Table 1
*Descriptive statistical measures and correlations for subscales
of the Maslach Burnout Inventory*

	M	SD	Sk	Ku	Correlations	
					Emotional exhaustion	Depersonalization
Emotional exhaustion	16.37	4.73	.16	-.24	1.00	
Depersonalization	18.31	5.52	.44	.16	.56***	1.00
Personal achievement	24.00	4.41	.12	.26	-.14***	-.14***

*** $p < .001$

The obtained correlations between the subscales of the Maslach Burnout Inventory are expected (Maslach & Jackson, 1986). The correlation between Emotional exhaustion and Depersonalization is positive and of strong intensity (Cohen, 1988), while the correlation between Emotional exhaustion and Personal achievement, and Depersonalization and Personal achievement is negative and of weak intensity.

The MANOVA was used to examine differences in burnout considering the socio-demographic characteristics of teachers: gender, age, duration of service, position, job affection, and marital status. The obtained results (Table 2) showed that there was a significant difference in burnout depending on teachers' socio-demographic characteristics: gender, age, duration of service, position, and job affection.

Table 2
*Multivariate differences in burnout considering gender, duration of service,
position, job affection, and marital status*

Socio-demographic characteristics	Wilks' Lambda	F	df	Error df	p	η^2
Gender	.970	9.312	3	895	.000	.030
Age	.959	3.154	12	2360.30	.000	.014
Duration of service	.938	6.463	9	2173.478	.000	.021
Position	.964	11.217	3	895.000	.000	.036
Job affection	.970	4.522	6	1788.000	.000	.015
Marital status	.993	2.065	3	895.000	.103	.007

The results of the ANOVA have shown significant differences in Emotional exhaustion ($F_{(1)} = 5.929, p < .05, \eta^2 = .007$), Depersonalization ($F_{(1)} = 21.502, p < .001, \eta^2 = .023$), and Personal achievement ($F_{(1)} = 9.667, p < .01, \eta^2 = .011$) considering gender of teachers. Calculating the Bonferroni correction ($p < .05$) did

not change the previously obtained results. Given the inequality of variance for variable Depersonalization, a *t-test* for independent samples was also conducted, and obtained results show that gender differences in Depersonalization ($t_{(903)} = -4.26, p < .01, \eta^2 = .019$), are statistically significant. Males show a higher level of Emotional exhaustion and Depersonalization than females. Also, males are more vulnerable to Personal achievement decline than females (Figure 1).

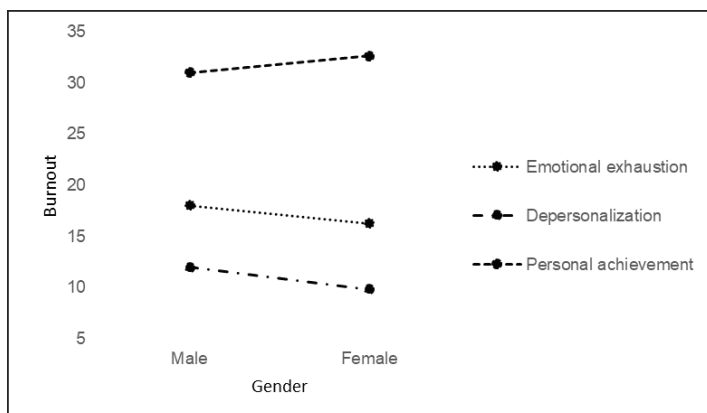


Figure 1. The relationship between gender, Emotional exhaustion, Depersonalization, and Personal achievement.

The results of the ANOVA have shown a significant difference in Emotional exhaustion ($F_{(4)} = 7.98, p < .001, \eta^2 = .034$) and Depersonalization ($F_{(4)} = 3.46, p < .01, \eta^2 = .015$) considering the age of teachers. Calculating the Bonferroni correction ($p < .025$) did not change the previously obtained results. Since we have an unequal number of subjects in cells of different ages, and the Levene test showed that the variances are not equal ($F_{(4,906)} = 3.34, p < .05$ for Emotional exhaustion and $F_{(4,900)} = 2.53, p < .05$ for Depersonalization), we used *Dunnnett's C* post hoc test. Results reveal that teachers aged over 56 years show the highest level of Emotional exhaustion and Depersonalization, while teachers younger than 25 years show the lowest level of Emotional exhaustion and Depersonalization. Teachers age 26-35 years and 36-45 years do not significantly differ in Emotional exhaustion. Similarly, teachers aged up to 25 years, 26-35 years, 36-45 years and 36-45 years do not significantly differ in Depersonalization (Figure 2).

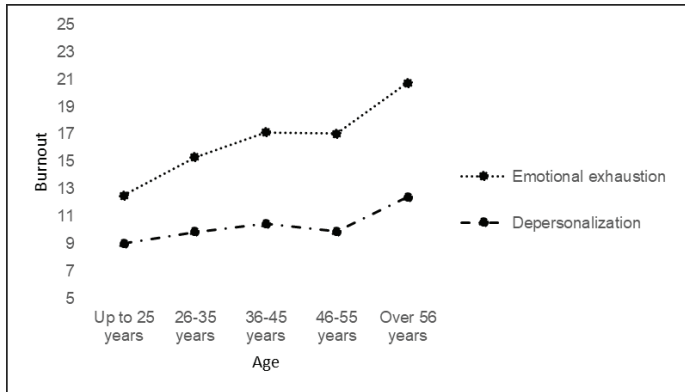


Figure 2. The relationship between age, Emotional exhaustion, and Depersonalization.

The results of the ANOVA have shown a significant difference in Emotional exhaustion ($F_{(3)} = 13.12, p < .001, \eta^2 = .042$) and Depersonalization ($F_{(3)} = 7.57, p < .001, \eta^2 = .025$) considering the length of service of teachers. Calculating the Bonferroni correction ($p < .025$) did not change the previously obtained results. Since we have an unequal number of subjects in cells of different length of service, and the Levene test showed that the variances are not equal ($F_{(3,907)} = 3.72, p < .05$ for Emotional exhaustion and $F_{(3,901)} = 3.53, p < .05$ for Depersonalization), we used *Dunnnett's C* post hoc test. Results reveal that teachers with more than 26 years of service show the highest level of Emotional exhaustion and Depersonalization, while teachers with less than 5 years of service show the lowest level of Emotional exhaustion and Depersonalization. Teachers with 6-15 years and 16-25 years of service do not significantly differ in Emotional exhaustion, while teachers with less than 5 years, 6-15 years and 16-25 years of service do not significantly differ in Depersonalization (Figure 3).

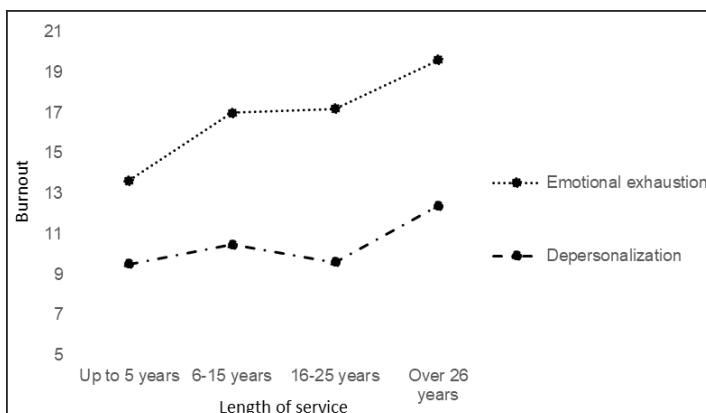


Figure 3. The relationship between the length of service, Emotional exhaustion, Depersonalization, and Personal achievement.

The results of the ANOVA have shown a significant difference in Depersonalization ($F_{(1)} = 10.75, p < .001, \eta^2 = .015$) and Personal achievement ($F_{(1)} = 26.61, p < .001, \eta^2 = .029$) considering position of teachers. Calculating the Bonferroni correction ($p < .025$) did not change the previously obtained results. Given the inequality of variance for variable Personal achievement, a *t-test* for independent samples was also conducted, and obtained results show that the differences between class teachers and subject teachers in Personal achievement ($t_{(908)} = 5.23, p < .001, \eta^2 = .029$) are statistically significant. Class teachers show a higher level of Depersonalization than subject teachers. On the other hand, subject teachers are more vulnerable to Personal achievement decline than class teachers (Figure 4).

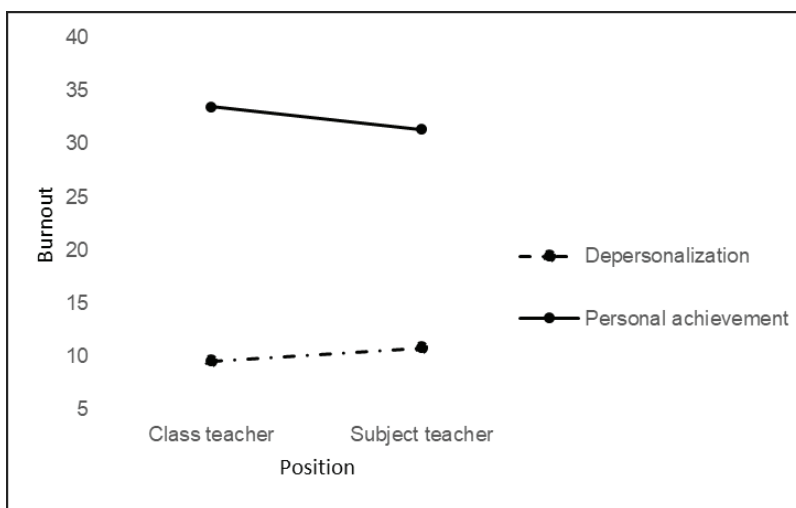


Figure 4. The relationship between position, Depersonalization, and Personal achievement.

The results of the ANOVA have shown a significant difference in Emotional exhaustion ($F_{(2)} = 9.88, p < .001, \eta^2 = .022$) considering job affection of teachers. Since we have an unequal number of subjects in cells of different job affection, and the Levene test showed that the variances are equal ($F_{(2,908)} = 3.72, p = .052$), we used *Tukey-Kramer* post hoc test. Results reveal that teachers who don't like their job show the highest level of Emotional exhaustion, while teachers who like their job show the lowest level of Emotional exhaustion. Teachers who don't like their job and teachers who are not sure if they like their job do not significantly differ in Emotional exhaustion (Figure 5).

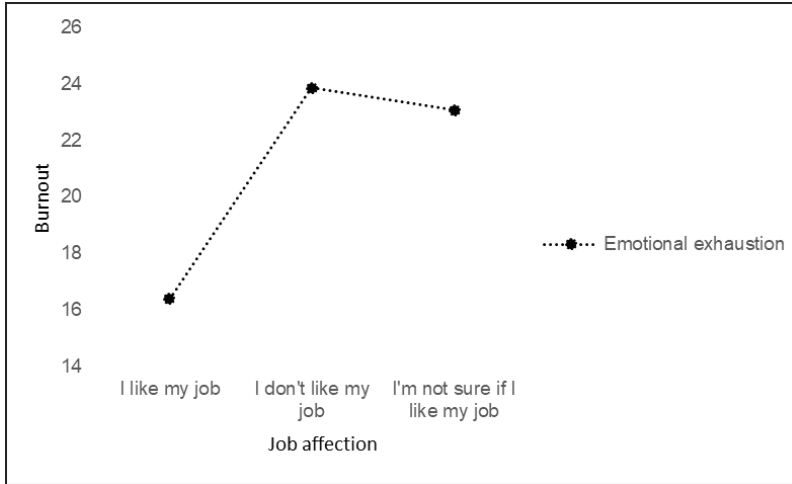


Figure 5. The relationship between job affection and Emotional exhaustion.

The results of the ANOVA have shown a significant difference in Personal achievement ($F_{(1)} = 5.42, p < .05, \eta^2 = .006$) considering the marital status of teachers. Teachers who are not married show a higher Personal achievement decline than married teachers (Figure 6).

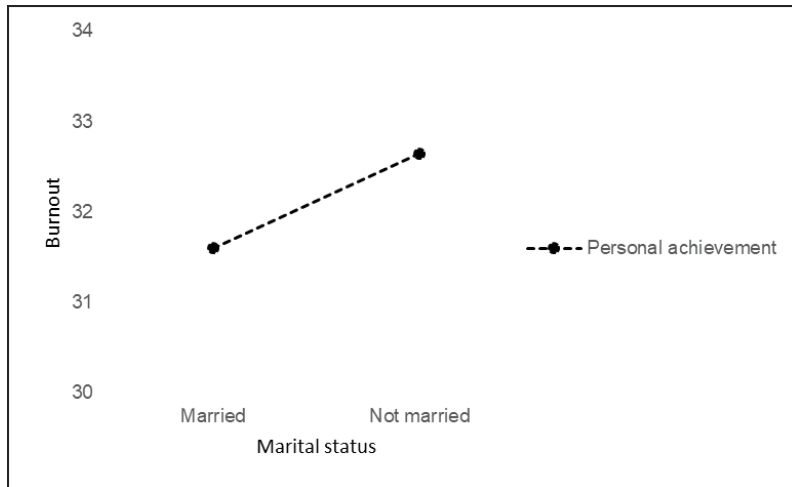


Figure 6. The relationship between marital status and Personal achievement.

Discussion and conclusion

The aim of this study was to investigate whether there are differences in teachers' burnout depending on their socio-demographic characteristics. The obtained results have shown the significant differences in teachers' burnout depending on their socio-demographic characteristics: gender, age, duration of service, position, job affection, and marital status. However, some of the obtained results are not in accordance with those of previous studies.

When it comes to gender, male teachers have shown a higher level of Emotional exhaustion and Depersonalization than female teachers. Also, males are more vulnerable to Personal achievement decline than females. These obtained results are not completely in line with the results of previous studies, which indicated that female teachers have shown a higher level of Emotional exhaustion (e.g., Antoniou et al., 2013; Burke & Greenglass, 1993; Gursel et al., 2002; Sari, 2004). There are two possible reasons for this. First, additional statistical analysis of the significance of gender responses indicates that there are more men who do not like their jobs ($\chi^2_{(2)} = 12.019, p < .01$). It is possible that this type of relationship to work is the reason for the findings that men show a greater level of emotional exhaustion and depersonalization. Thus, it is possible that in the relationship between gender and burnout existing a mediating effect of attitude on one's own profession. Second, we can assume that our findings are somewhat different because of the gender role of men and women in Bosnia and Herzegovina. Namely, in the teaching process, teachers have to invest themselves psychologically and physically in the teaching process, which requires men to be highly engaged, and in the long-term results in a higher level of Emotional exhaustion in men. For women, teaching is somewhat closer to their gender role (such as childcare, etc.), but because of the many responsibilities in the family life, they have a major problem in achieving high career goals. Finally, most previous studies (Domović et al, 2010; Leithwood et al., 2001; Maslach & Jackson, 1986; Whitehead et al., 2000) have also found that men show a higher level of depersonalization, which is explained by the systemic decline in the social status of the profession, which is becoming increasingly "feminine" (Domović et al, 2010).

As for the age, teachers age over 56 years has shown the highest level of Emotional exhaustion and Depersonalization, while teachers younger than 25 have shown the lowest level of Emotional exhaustion and Depersonalization. Similar results were found for the length of service as well. Teachers with more than 26 years of service have shown the highest level of Emotional exhaustion and Depersonalization, while teachers with less than 5 years of service have shown the lowest level of Emotional exhaustion and Depersonalization. The obtained results are in line with the results of previous studies that showed a higher risk of Emotional exhaustion (Domović et al, 2010; Kokkinos, 2007; Zhongying, 2008)

and Depersonalization (Gursel et al., 2002) in older teachers and teachers with more years of service. This finding can be interpreted as a process of gradual exhaustion - the longer they work as teachers, the more exposed to stress they are and become more emotionally exhausted. Continuous demands for a change at teaching methods and administrative procedures that must be implemented quickly, combined with the absence of institutional support for teachers in Bosnia and Herzegovina, result in long-term exposure to stress and burnout.

Considering the position, class teachers have shown a higher level of Depersonalization than subject teachers. Subject teachers are more vulnerable to Personal achievement decline than class teachers. The results of the Croatian study (Domović et al, 2010) have also shown that subject teachers have lower level of Personal achievement than class teachers. As a potential reason for this, the authors indicate the organization of the subject teaching, i.e. teaching several classes which does not allow the subject teachers to get to know well, and sufficiently support and monitor the development and achievements of the students (Domović et al, 2010). We assume that the reason why class teachers are more prone to Depersonalization can be found in the fact that class teachers invest a lot of resources in relationship with the students, but they do not get proper feedback information on how much and to what extent their efforts are effective and useful to the students. Parents mostly come to the class teachers with the requests concerning success/marks of the students, so it is possible that class teachers get a feeling that most of their efforts has not been noticed, and after some time they start perceiving them as insignificant. In addition, obtained findings may be also related to differences in the initial education of class teachers and subject teachers. During their initial education for the profession, class teachers are more intensively prepared for various aspects of the teaching, while subject teachers during their initial education are mainly focused on their scientific (subject) discipline. For these reasons, their competences for teaching are different, subject teachers are more subject oriented and less competent to solve the various problem situations encountered in the process of planning and realization of teaching. It is possible that the subject teachers because of that maybe feel less successful in teaching as compared to class teachers. Actually, the more lasting experience of lower self-efficacy at the subject teacher becomes the experience to which this dimension of burnout refers - depersonalization.

When it comes to job affection, teachers who don't like their job have shown the highest level of Emotional exhaustion, while teachers who like their job have shown the lowest level of Emotional exhaustion. This finding was expected. Namely, studies (e.g., Maslach, 2003) show that teachers who do not like their job experience higher levels of occupational stress, which in the long term results in Emotional exhaustion.

As for the marital status, unmarried teachers have shown a higher Personal achievement decline than married teachers. Studies by Lau et al. (2005) and

Shaheen and Mahmood (2017) have shown that unmarried teachers are more Emotionally exhausted and Depersonalized. Authors think that this finding can be related to the enthusiasm that unmarried teachers have. They normally are younger than the married teachers. Being single, they work individually and hard to obtain a career position. When their efforts do not result in getting value in the profession, they become emotionally exhausted, create a distancing attitude from the students, and undergo the feelings of low energy and burnout (Shaheen & Mahmood, 2017).

Finally, the present study has several limitations. First, the study used convenience sampling method. Probably, our sample is not representative. It's possible that there are differences in terms of socio-demographic characteristics of the examined teachers in relation to the total population of teachers in Bosnia and Herzegovina. Also, the effect of "healthy worker" (Karasek & Theorell, 1990) was possible. The study included teachers who performed their tasks at the time the study was being conducted (meaning, relatively healthy teachers), and excluded those who were absent due to illness or work burnout. Second, data were collected through the self-assessment of teachers. The interpretation of such results should consider the possibility that teachers were more inclined to "complain" and provide more intensive self-descriptions of their problems. Third, situational factors which are serious sources of stress and teachers' burnout, such as teaching in large size classes, low salaries, heavy workloads, limited access to the needed learning equipment, difficult students and demanding or unsupportive parents who also contribute to teacher stress (Maslach & Jackson, 1981; Maslach et al., 2001), were not included in this research. Therefore, future research should examine their contribution to the teachers' burnout in Bosnia and Herzegovina.

In conclusion, indicated limitations do not diminish the significance of the obtained results. The results of this study have shown that different forms of burnout; emotional exhaustion, depersonalization, and personal achievement decline, are present in varying degrees in different socio-demographic categories of teachers, which have significant practical implications. These results suggest that prevention programs and interventions to decrease teachers' burnout should be adapted to different demographic categories of teachers. It is necessary to create a professional burnout prevention program that, as part of mandatory seminars for teaching staff, will provide workshops aimed at identifying stressors, symptoms of stress and burnout, and developing coping strategies, prosocial behavior, and empathy. It is also desirable to cover topics that involve the development of soft skills such as emotional regulation, establishing discipline in the classroom, the treatment of students with various intellectual, emotional and behavioral difficulties, teaching methods and techniques in the digital age, work-life balance, organization of time and tasks, communication with students, parents and colleagues, techniques of full awareness and relaxation; for which we know, from previous research (e.g. Friedman, 2000; Lutz et al., 2009; Żołnierczyk-

Zreda, 2005), that they resulting in the prevention of workplace stress and that they are important for maintaining mental health. In the prevention programs, it is also advisable to include teaching staff who are not in a risk group because these skills lead to improved quality of life. Teachers play a valuable role in helping our children grow up. Therefore, it is necessary to use every opportunity to promote teachers' physical and mental health.

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ODNOS IZMEĐU SOCIO-DEMOGRAFSKIH KARAKTERISTIKA I SAGORIJEVANJA NASTAVNIKA U OSNOVNOJ ŠKOLI

Apstrakt

Cilj ove studije bio je ispitati da li postoje razlike u sagorijevanju nastavnika s obzirom na njihove socio-demografske karakteristike. Uzorak je činilo 916 nastavnika (80.8% žena) iz 32 osnovne škole u Bosni i Hercegovini. Korišten je Upitnik profesionalnog sagorijevanja i Upitnik socio-demografskih karakteristika. Utvrđena je značajna razlika u emocionalnoj iscrpljenosti nastavnika s obzirom na pol, starost, dužinu radnog staža i odnos prema poslu. Emocionalnoj iscrpljenosti najskloniji su muškarci, nastavnici stari 56 i više godina, nastavnici sa 26 i više godina radnog staža i nastavnici koji ne vole svoj posao. Takođe, utvrđena je značajna razlika u depersonalizaciji nastavnika s obzirom na pol, starost, dužinu radnog staža i zvanje. Depersonalizaciji su najskloniji muškarci, nastavnici stari 56 i više godina, nastavnici sa 26 i više godina radnog staža, nastavnici predmetne nastave i nastavnici koji ne vole svoj posao. Konačno, utvrđena je značajna razlika u ličnom postignuću nastavnika s obzirom na pol, zvanje, odnos prema poslu i bračni status. Padu ličnog postignuća su najskloniji su muškarci, nastavnici razredne nastave, nastavnici koje vole svoj posao i nastavnici koji su u braku. Rezultati sugerišu da socio-demografske karakteristike značajno determinišu sagorijevanje nastavnika.

Ključne riječi: sagorijevanje, socio-demografske karakteristike, nastavnici

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Research paper

ATTITUDES TOWARD CYBERBULLYING AND CYBERAGGRESSIVE BEHAVIOR AMONG ADOLESCENTS³

Abstract

Given the frequency and consequences of cyberbullying, it is important to examine the possible predictors of this phenomenon. Our study investigates the two sides of online bullying behavior (*cyberbullying*, which is also being mentioned as *cyberaggression*, and *cybervictimization*) as a function of six attitudes (*positive attitudes*, *strength differential*, *anonymity*, *reinforcement*, *indirectness* and *public visibility*) that people may have toward it. In order to explore our hypothesis, we conducted a survey in eight Bulgarian schools with a sample of 847 high-school students (358 boys and 489 girls), ranged between 13 and 19 years of age ($M = 15.93$; $SD = 1.38$). The participants were asked to anonymously fill out three self-report measurements – Attitudes toward Cyberbullying Scale, Cyberbullying Questionnaire, and Cyberaggression and cybervictimization scale. To examine the effect that the six proposed attitudes toward cyberbullying might have on the two positions mentioned above, a multiple regression analysis was ran. The results obtained from it suggest that three of the six attitudes (*positive attitudes toward cyberbullying*, *anonymity*, *reinforcement*) are significant predictors of *cyberbullying/cyberaggression* (β ranging from .126 to .300), and *public visibility* ($\beta = -.099$) and *anonymity* ($\beta = .162$) – of *cybervictimization*.

Key words: attitudes toward cyberbullying, cyberaggression, cybervictimization.

Introduction

Nowadays, a growing number of young people are using social media as way of searching for information and exchanging ideas. A recent research among U.S. adolescents shows that ‘fully 95% of teens have access to a smartphone and 45% say they’re online almost constantly’ (Anderson & Jiang, 2018, p.2). Even though this proportion might vary depending on the cultural and national

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background of the sample, it is a fact that the majority of people currently are using the Internet on a daily basis in Bulgaria as well (Dimitrov, 2016). Nevertheless, besides the improvements it has brought into our lives, online communication has a double-edged nature and hides some risks, which are worth acknowledging and exploring. Undoubtedly, cyberbullying is one of these dangers given its increasing frequency, which researchers have observed (Marées & Petermann, 2012; Hosseinmardi, et al., 2015). The consequences it has for youngsters who have experienced cybervictimization are not to be ignored - it could be associated with emotional and behavioral problems (Kim et al., 2018), health complaints (Völlink, Bolman, Dehue & Jacobs, 2013), suicidal ideation and risk (Hinduja & Patchin, 2010) in case no effective coping mechanism has been used to buffer the distress it causes. Therefore, prevention is of crucial importance.

Some key features of cyberbullying could be noticed in its very definition - “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, Mahdavi, Carvalho & Tippett, 2006, p. 1). Being an act of intention, cyberbullying should at least partially have its roots in people’s attitudes toward it. Attitudes have already been found to be a significant mediator of cyberbullying acts (Barlett & Gentile, 2012).

In the present study, we examined the effect of six attitudes (positive attitudes toward cyberbullying, strength differential, anonymity, reinforcement, indirectness and public visibility) on two different sides of cyberbullying (cyberbullying/cyberaggression and cybervictimization). More information about the six constructs for attitudes and some exemplary items could be found in the description of the measures, which have been used. To obtain a better understanding of the hypotheses of the current study though, it is necessary to illustrate the differences between the other three categories.

The term *cybervictimization* is somewhat clear – it stands for the position of being victimized (by a group or individual, using electronic forms of contact), not causing harm to another. It is important to explain the usage of both “cyberaggression” and “cyberbullying” as terms in the text though. In our study we have used three questionnaires, two of which concern cyberaggression as a phenomenon. In those two questionnaires, the scales are named, respectively, “cyberaggression” and “cyberbullying”. Based on previous research and the content of the questions, we believe that, despite certain differences, their meaning is very similar. Corcoran and colleagues argue that cyberaggression is a broader term, which includes a larger specter of behaviors, intended to do a harm to someone via the Internet (Corcoran, Guckin & Prentice, 2015).

Previous research does not apply for the usage of these two terms in the present paper though. What we should take notice of concerning the term *cyberbullying*, as it is utilized in this text, is that it draws a more concrete image of the phenomenon by presenting various forms of Internet harassment. Examples

from the instrument used to measure *cyberbullying*, which is a work of Esther Calvete, Izaskun Orue, Ana Estévez, Lourdes Villardón and Patricia Padillain (2010) include sending threatening or intimidating messages to someone, impersonating someone (hacking), recording aggressions by cell phone, excluding an online companion, hanging intimidating material about a classmate on the Internet, resending the link to other people for them to see, and so on. To examine *cyberaggression*, we have used Plamen Kalchev and Svetlina Koleva's Cyberaggression and Cybervictimization Scale (2019) which is based on Michele Ybarra, Marie Diener-West and Philip J. Leaf's two questionnaires (2007) – more information will be given in measures section. Shortly, in the original scale, the act of cyberbullying is termed “Internet harassment of others online” whilst in the Bulgarian one it is named “cyberaggression”. In both, it takes into account three more generalazied clusters of cyber-based aggressive behaviour – writing nasty and humiliating comments, spreading rumors and sending threats. Bearing that in mind, we can conclude that the operationalization of *cyberbullying* is in some ways more concrete but vitally the same, and gives a broader example span of online aggressive behavior by comparison to *cyberaggression*. Nonetheless, we believe the two scales presented measure the same group of behaviors only to a different extent and the distinction is mostly used to clarify the source of measurement. Barlett and Gentile (2012) have already used Ybarra and colleagues' measures (2007) to examine the relationship between attitudes toward cyberbullying and the acts of internet harassment. We have chosen to also use Calvete and colleagues' (2010) questionnaire in order to see if results would be similar for both research and what the correlations would be between what is termed in this text as “cyberbullying” and “cyberaggression” respectively.

We have based our hypotheses on previous research. Regarding the attitudes, studies show that anonymity leads to dissociation and, therefore it is easier to become a bully, without facing the moral consequences (Suler, 2004). Moreover, anonymity, positive attitudes and strength differential have all been found to be predictors for cyberbullying (Barlett & Gentile, 2012).

Therefore, we have postulated two main hypotheses:

1. High levels of all six attitudes toward cyberbullying would be a predictor for cyberbullying and cyberaggression.
2. Low levels of all six attitudes toward cyberbullying would be a predictor for cybervictimization.

Method

Participants

The research included a sample of 847 students from eight Bulgarian high schools, ranged between 13 and 19 years of age ($M = 15.93$; $SD = 1.38$).

489 participants were girls and 358 were boys. According to their grade, the distribution was as follows: 24.7% were in 8th grade, 17.2% in 9th, 22.6% in 10th, 24% in 11th, and 10.3% were in 12th grade. Only 1.3% of the students did not indicate their grade.

Measures

Attitudes toward Cyberbullying Scale

The base of this questionnaire was originally developed by Christopher Barlett and Douglas Gentile (2012). In their article authors give three measures – Anonymity and Strength Differential (10 items), Attitudes toward Cyberbullying (9 items) and Reinforcement Questionnaire (12 items). Plamen Kalchev and Svetlina Koleva (2019) prepared the Bulgarian translation of some items of these scales, combined them to form one measure – Attitudes toward Cyberbullying Scale (ATCS) – in which they represent separate subscales as it will be explained below, and added two more subscales.

In its final form, the ATCS consists of 39 items with statements people usually use to describe their thoughts, emotions and behaviors. Regarding the degree that best fits the adolescents' opinion on the statements, they had to respond on a scale of *F* (*completely false*), *f* (*rather false*), *?* (*hard to tell*), *t* (*rather true*) and *T* (*completely true*). In addition, the ATCS has six subscales. The first four ones (Anonymity, Strength Differential, Positive Attitudes toward Cyberbullying and Reinforcement) include some items that are taken from Barlett and Gentile's article (2012) and translated by Kalchev and Koleva (2019) who also created the last two ones to extend the number of empirical indicators for cyberbullying – Indirectness and Public Visibility.

The Anonymity subscale consists of nine items ($\alpha = .834$; MIC = .366). An exemplary item is “Mean e-mails or text messages that do not have my name attached to them are easy to forward on to others.” The Strength Differential subscale includes three items ($\alpha = .522$; MIC = .274). A sample item is “Anybody can send a mean text messages or e-mail to another person no matter how big, strong, or strengthful they are.” The Positive Attitudes toward Cyberbullying subscale has seven items ($\alpha = .739$; MIC = .307). One of them is “Teasing others on Facebook, e-mails, or text messages is fun.” The Reinforcement subscale is constituted by six items ($\alpha = .797$; MIC = .412). An example is “My friends and I both get satisfaction from being mean to others online.”

The Indirectness subscale, which has seven items ($\alpha = .674$; MIC = .264), was created with the idea that it is easier to be aggressive and to revenge someone online, and not face-to-face (e.g., “If someone is annoying me, I start insulting them online, while not saying anything face-to-face”). The content of the Public Visibility subscale, which has seven items ($\alpha = .824$; MIC = .420), is focused on the presumption that the audience is large, therefore the effects and the

consequences are more significant (e.g., “To expose someone on the Internet is smarter, because the information reaches a lot more people.”).

The Cyberbullying Questionnaire

The questionnaire was developed by Esther Calvete, Izaskun Orue, Ana Estévez, Lourdes Villardón and Patricia Padillain (2010), consisting of 16 items that describe forms of cyberbullying, such as sending threatening or intimidating messages to someone. For the Bulgarian socio-cultural context, the questionnaire was translated and modified by Kalchev and Koleva (2019), where the original first and second question were combined in one (“Sending threatening or insulting messages by e-mail, chats, Facebook or cell phone” instead of two items – one specifically for using e-mail and one for cell phone). This is why the Bulgarian version of the scale has 15 items ($\alpha = .907$; MIC = .428). The adolescents had to respond on a scale of 1 (*never*) to 5 (*very frequently*), regarding how often they engage in a certain behavior (e.g. “Sending threatening or insulting messages by e-mail”; “Broadcasting online other people’s secrets, compromising information or images”; “Deliberately excluding someone from an online group”).

Cyberaggression and Cybervictimization Scale

Based on Michele Ybarra, Marie Diener-West and Philip J. Leaf’s survey (2007), Kalchev and Koleva (2019) translated and combined the six items from the two scales mentioned in the article – the one for youth-reported Internet harassment (termed cybervictimization here) and one for Internet harassment of others online (termed cyberaggression here). The adolescents responded on a scale from 1 (*never*) to 5 (*very frequently*), regarding how often in the past year they happened to “*send rude or nasty comments to someone while online*”, “*spread rumors and gossip online, no matter if they were true or false*” and “*threaten someone online with physical violence*”. These three items ($\alpha = .717$; MIC = .457) refer to the manifestation of cyberaggression and how often the individuals happen to engage in it. The other three items ($\alpha = .768$; MIC = .525) of the scale examine how frequently the adolescents were being cybervictimised by their peers. (*In the past year, how often did/were you: (1) receive rude or nasty comments from someone while online; (2) the target of rumors, spread online, whether they were true or not; (3) receive threatening or aggressive comments while online?*).

Procedure

The research was conducted at the beginning of 2019. It took place in eight different high schools in Bulgaria among adolescents from 8th to 12th grade. Prior to filling out the questionnaire, every participant regardless of age was required to obtain consent from a parent/guardian in accordance to the politics of Bulgarian

schools. This was done by the means of a written declaration in which the parent/guardian states that they are informed that and give consent for their daughter/son to fill out an anonymous psychological questionnaire, used for a students' project, which examines the attitudes and behaviors of youngsters in regards to the cyberspace. It was also mentioned that collected data will only be used for scientific purposes. Then every student was given a questionnaire and 45 minutes to answer the statements. The adolescents were instructed that the research is oriented towards exploring their attitudes and behaviors in different areas of their lives and that their participation is voluntary and anonymous.

Results

Correlation analysis

Correlations between the three cyberbullying behavior variables

As presented in Table 2, there has been found a strong, statistically significant correlation between *cyberbullying* and *cyberaggression* variables ($r = .734, p < .001$). The correlations for both *cyberaggression* and *cyberbullying* with *cybervictimization* are statistically significant and moderate ($r = .468, p < .001$; $r = .412, p < .001$). In general, correlations have been found between all of the scales that measure cyberbullying behaviors.

Table 2
Correlations between the three cyberbullying behavior variables ($N = 833$)

	1	2	3
1. Cyberbullying	-		
2. Cyberaggression	.734	-	
3. Cybervictimization	.412	.468	-

Note: $p < .001$ for all correlations.

Correlations between the six variables measuring attitudes toward cyberbullying

Strong, statistically significant correlations have been found between: *reinforcement* and *positive attitudes* ($r = .765, p < .001$); *anonymity* and *positive attitudes* ($r = .781, p < .001$); *reinforcement* and *anonymity* ($r = .762, p < .001$); *public visibility* and *anonymity* ($r = .724, p < .001$); *public visibility* and *indirectness* ($r = .722, p < .001$).

The other correlations have been found to be moderate. Nonetheless, we have discovered statistically significant correlations between all of the scales, measuring attitudes toward cyberbullying. Results are shown in Table 3.

Table 3
Correlations between the six variables measuring attitudes toward cyberbullying (N = 810)

	1	2	3	4	5	6
1. Positive attitudes	-					
2. Strength differential	.467	-				
3. Reinforcement	.765	.452	-			
4. Public visibility	.690	.548	.654	-		
5. Indirectness	.550	.541	.532	.722	-	
6. Anonymity	.781	.520	.762	.724	.665	-

Note: p < 0.001 for all correlations.

Correlations between the variables for attitudes toward cyberbullying and these for cyberbullying behaviors

As it could be seen in Table 4, we have found that the correlations between *cybervictimization* and all of the attitudes are weak. On the other hand, weak and mostly moderate correlations have been found for almost all of the attitudes with *cyberaggression* and *cyberbullying*.

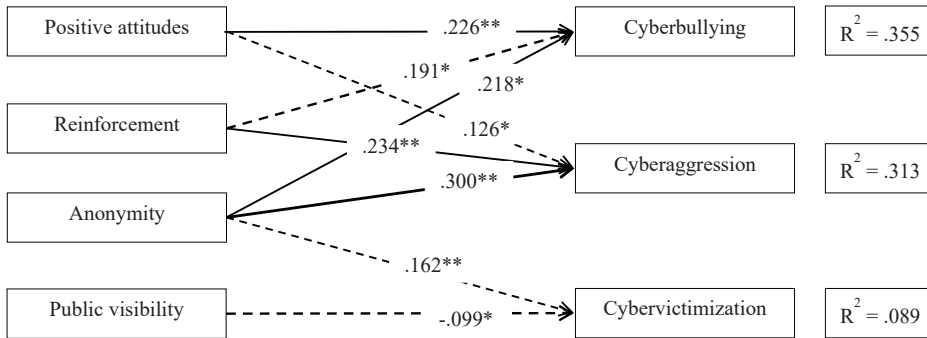
Strength differential correlates negligibly with all three variables, measuring cyberbullying behaviors. *Indirectness* does correlate weakly with the *cyberbullying* variables, with the exception of the correlation with *cybervictimization*, which is negligible ($r = .160, p < .001$).

Table 4
Correlations between the variables for attitudes toward cyberbullying and these for cyberbullying behaviors. (N = 803)

	Cyberbullying	Cyberaggression	Cybervictimization
Positive attitudes	.553	.490	.262
Strength differential	.273	.273	.153
Reinforcement	.540	.509	.263
Public visibility	.463	.409	.241
Indirectness	.367	.331	.160
Anonymity	.546	.527	.279

Note: p < .001 for all correlations.

Regression analysis



Note: Only the significant predictors are presented in the figure. Levels of significance are given as follows:

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

Figure 1. Attitudes toward cyberbullying as predictors of cyberbullying behaviors

To examine the extent to which attitudes toward cyberbullying (positive attitudes, strength differential, reinforcement, public visibility, indirectness, and anonymity) predict cyberbullying behaviors (cyberbullying, cyberaggression, cybervictimization) a multiple regression analysis was ran. The results of the full original model could be seen in **Figure 1**. Overall, the models indicates a fair level of prediction for *cyberbullying* ($R = .596$, $F(6,797) = 73.211$, $p < .001$), *cyberaggression* ($R = .560$, $F(6,803) = 61.009$, $p < .001$) and *cybervictimization* ($R = .299$, $F(6,802) = 13.108$, $p < .001$).

As regards *cyberbullying*, high levels of *positive attitudes* ($\beta = .226$), *reinforcement* ($\beta = .191$) and *anonymity* ($\beta = .218$) were found to have a significant effect on it, explaining 35% of its variance ($R^2 = .355$). High levels of same three attitudes are significant predictors of *cyberaggressive* behavior as well, explaining 31% of its variance ($R^2 = .313$), with beta coefficients as follows: *positive attitudes* ($\beta = .126$), *reinforcement* ($\beta = .234$) and *anonymity* ($\beta = .300$). Concerning *cybervictimization*, high levels of *anonymity* ($\beta = .162$) and low levels of *public visibility* ($\beta = -.099$) have a significant but poor effect on its occurrence, explaining only 8.9% of its variance ($R^2 = .089$).

Discussion

After the regression analysis, used in order to measure the effect of the attitudes on the manifestation of cyberbullying, cyberaggression and cybervictimization, the following results were present:

1) *Positive attitudes toward cyberbullying, anonymity and reinforcement* have a significant positive effect on cyberbullying and cyberaggression levels.

2) **Low** levels of *public visibility* have a significant effect on the levels of cybervictimization.

Therefore, both of our hypotheses were partially confirmed.

Moreover, we have found an unexpected result:

3) High levels of *Anonymity* are a predictor for cybervictimization.

Also, something that was somewhat expected, cyberbullying and cyberaggression did end up being strongly correlated and influenced by the same predictors. This implies that in this text, the two terms are indeed synonymous and one of the two scales we have used is sufficient to measure the phenomenon of Internet harassment.

Effects on cyberbullying and cyberaggression

Regarding *positive attitudes toward cyberbullying*, it is logical that positivity toward certain behavior will make engaging in it more likely. According to *The Theory of Planned Behavior* (Ajzen, 1985; as cited in Ajzen & Driver, 1991) norms, perceived control and attitudes influence the intentions for certain behavior. Intentions and perceived control are thought to be direct predictors of behavior. Although the model does not examine attitudes as a direct predictor, they still play a key role in activating behavior. Regarding our study, if we have in mind Ajzen's model, having positive attitudes towards cyberaggressive behavior makes engaging in it more likely.

Regarding *anonymity*, we have found out a possible explanation for the result. According to Suler (2004), being anonymous online leads to dissociation. The person does not link their actions to their real life and so they do not feel responsible for them. The consequences for the self-image could be averted, as the bully might feel like those actions are not part of their true identity, and therefore, they do not feel guilt, moral obligations and so on (Suler, 2004).

Moreover, being anonymous while bullying someone would not lead to any consequences offline. Parents, teachers, etc. would not receive any information about who is standing behind the anonymous profile. Therefore, no further actions can be taken. The act of bullying is more attractive when one knows they will not be held in charge.

Regarding *reinforcement*: We came to a conclusion that if you feel good doing something, it is more likely that you will do it again. Therefore, if you feel stronger, better, even happier when you bully someone, these emotions might encourage you to continue engaging in this behavior. Moreover, there is a strong thrive to fit in during adolescence which explains why teenagers would be more dependent on the reinforcement of their peers (Erikson, 1968).

As stated in the results section, *strength differential* and *indirectness* showed no significant effects on the manifestation of either three behaviors. In

our opinion, these results could be explained by the fact that both these scales had low Cronbach's Alpha coefficients, therefore low reliability. This might explain the lack of effect they had. As regards to *public visibility*, its content could potentially be taken as controversial to remaining anonymous – if you expose someone in front of everyone on the Internet you could also expose yourself. For example, “To humiliate someone on the Internet is smarter because information reaches a larger number of people” could be seen as smart in terms of the bullying reaching its full destructive capacity but what if it turns against the bully, then the “boomerang” of it would also hit them strong.

Effects on cybervictimization

Public visibility – our interpretation is based on the possible connection between real life and online world. We think that people who are more introverted and shyer in real face-to-face communication are probably the same when it comes to social media. They do not share personal information on the Internet, they are not so active online in general. Therefore, they may be convenient victims. Studies have shown that cybervictimization is often related to high levels of depression, low self-esteem, loneliness, anxiety, stress and more (Underwood & Ehrenreich, 2017). Therefore, people who are anxious, depressed, stressed, lonely, etc. would be less likely to be active in social media. Moreover, these factors probably make them vulnerable to cyberbullying as they do have insecurities.

Anonymity – the result we had for anonymity as a predictor for cybervictimization was unexpected. Our analysis showed that high levels of anonymity are a predictor for cybervictimization. Therefore, the more you believe that bullying someone while being anonymous is acceptable, the more likely it is that you are bullied.

We have based our interpretation on the results from the correlation analysis, as well as other studies. As it was stated before, we found a statistically significant, moderate correlation between the Cybervictimization scale and both Cyberbullying ($r = 0.412, p < 0.001$) and Cyberaggression ($r = 0.468, p < 0.001$) scales. Therefore, high levels on cybervictimization scale correlate with high levels on Cyberbullying and Cyberaggression scales. Thus, we have found out that being bullied is linked to being a bully. Studies have shown that cyberbullying predicts cybervictimization in the course of 1 year (Jose, Kljakovic, Scheib & Notter, 2012). Being a bully leads to being a victim in the online world. This is a reason we suggest that Cybervictimization should be put as a predictor of Cyberbullying in the regression analysis in the future, as well as Cyberbullying of Cybervictimization – both directions of prediction would be interesting to examine.

Therefore, having positive attitudes towards bullying anonymously might result from the fact that you have already been a bully online. And so, it is more likely that you'll also be a victim later on (or already are). Moreover, the

correlations we found might also contribute to the possible explanation. As we said, being a victim of cyberaggression is linked to being a bully. Thus, you already have a positive opinion on anonymity when it comes to the phenomenon. Because you've been anonymous while bullying someone and also because you've been bullied anonymously. Moreover, we saw that anonymity was a strong predictor for cyberbullying and cyberaggression too, as well as for cybervictimization. We suggest that these two phenomena are connected and this might be an explanation for the result.

Moreover, when it comes to cybervictimization, as we stated, a step forward would be to put cybervictimization as a predictor in the analysis. Studies (Jose, et al., 2012) have shown that oftentimes people who have been/still are victims of bullying, are more likely to become bullies themselves as a compensatory mechanism. More factors include suppressed anger, feelings of helplessness and so on. These factors have shown effect on the emerging of cyberaggressive behavior.

Regarding the fact that nowadays, we live in a “technological age”, it is important to clear out the reasons and the predictors for cyberaggressive behavior. We believe that obtaining more information on the subject will be a useful tool for teachers, psychotherapists, parents, psychologists and so on. As it is noted in the introduction section, studies have shown the negative effect of cybervictimization on mental health. Knowing how the process works will make possible for professionals to come up with effective plans for prevention and treatment. Moreover, growing up in the “Internet age”, children become vulnerable at a very young age so it is necessary for us to understand better how cyberaggressive behavior emerges and develops, in order to know what actions to take.

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STAVOVI PREMA SAJBER BULINGU I SAJBER AGRESIVNOM PONAŠANJU KOD ADOLESCENATA

Apstrakt

S obzirom na učestalost i posledice sajber nasilja, važno je ispitati moguće prediktore ove pojave. Naša studija istražuje dve strane online ponašanja (sajber buling, koje se takođe spominje i kao sajber agresija, i sajber viktimizaciju) kao funkciju šest stavova (pozitivni stavovi, razlika u snazi, anonimnost, potkrepljenje, indirektnost i javna vidljivost) koje ljudi mogu imati prema njemu. Da bismo istražili našu hipotezu, sproveli smo istraživanje u osam bugarskih škola sa uzorkom od 847 srednjoškolaca (358 dečaka i 489 devojčica), starih između 13 i 19 godina ($M = 15,93$; $SD = 1,38$). Učesnici su zamoljeni da anonimno odgovore na tri upitnika samoprocene – Skala stavova prema sajber bulingu, Upitnik o sajber bulingu i Skala sajber agresije i viktimizacije. Da bi se ispitao efekat koji bi šest stavova prema elektronskom nasilju mogao imati na gore pomenute dve pozicije, izvršena je višestruka regresiona analiza. Rezultati upućuju na to da su tri od šest stavova (pozitivni stavovi prema sajber bulingu, anonimnost, potkrepljenje) značajni prediktori sajber bulinga / sajber agresije (β u rasponu od .126 do .300), a da su javna vidljivost ($\beta = -.99$) i anonimnost ($\beta = .162$) značajni prediktori sajber viktimizacije.

Ključne reči: stavovi prema sajber bulingu, sajber agresija, sajber viktimizacija.

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SOCIAL STRUCTURE IN CHILDREN'S GROUPS: FRIENDSHIP AND POPULARITY⁴

Abstract

This study describes the structure of children's social group with a focus on friendship and popularity. It was expected that the declared friendships will vary over time, and children will be able to identify highly popular group members. Also, the dominance was expected to have a significant impact on child's popularity. The data was obtained during 77 days of participant observation and interviews in a children's summer camp, $N = 26$ (14 girls and 12 boys). Variables as dominance, friendship and child's popularity were based on dyadic interactions. The child's position in the hierarchy was estimated by the normalized David's score. The relation between the popularity and dominance was assessed by beta regression with a logit link. The friendship stability and the declared/observed friendship consistency were explored by the robust canonical correlation between the sociometric matrices. The results show quite high consistency of declared and observed friendships ($r = .69, p < .05$) as well as the temporal stability of declared friendships ($r = .62, p < .01$). The relation between the child's popularity and position in the dominance hierarchy is much weaker. At the beginning of the vacations, this relation was weak but statistically significant ($\beta = .016, p = .011$) but it tended to disappear ($\beta = .012, p = .08$).

Key words: Children's group, Dominance hierarchy, Friendship, Popularity, Sociometry

Introduction

The study of social networks and their dynamics has long tradition in the social and developmental psychology (e.g., Furman & Buhrmester, 1985). The relation between the child's position in the peer group and other important phenomena is well known. We can mention several examples such as hope and subjective well-being (Parker et al., 2015), development of aggressive (Xu, Farver, Schwartz, & Chang, 2004) and risk-taking behaviors (e.g., DeLay, Laursen, Kiuru, Salmela-Aro, & Nurmi, 2013), academic self-beliefs (for a

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review, see Marsh et al., 2007), and future educational and occupational plans (see Dietrich, Parker, & Salmela-Aro, 2012), to mention only a limited selection. However, most of these studies were based on questionnaires and similar self-report techniques. Most studies on children's peer groups are based on peer-, teacher-, or self-report; there is only a limited amount of research based on direct observation available (Cillessen & Mayeux, 2004). According to these authors, there is much consistency among results from peer-reports, teacher-reports, and behavior observations (Coie & Dodge, 1988). On the other hand, the results of self-report data are in less agreement with the other three sources of information. Results of the meta-analysis (Newcomb, Bukowski, & Pattee, 1993) show that the most important reason for this is lower variability of the self-report data leading to the fewer distinctions between the sociometric status groups compared to other methods. However, these results as well as the research cited in the meta-analysis (Newcomb, Bukowski, & Pattee, 1993) are more than one generation old. Therefore, one of the main goals of this study is to compare the self-reported (declared) and observed peer-group status.

Another problem is the stability of the peer group structure measured using sociometric methods can undergo substantial changes through time (Parker & Seal, 1996), although the lower correlations may also be the result of weaker test-retest reliability of the measurement instruments (Jiang & Cillessen, 2005). However, according to this meta-analysis, the mean stability correlations for various sociometric measures (acceptance, rejection, social preference, and liking ratings) across short-term intervals (< 3 months) were quite high and the mean correlations varied between .70 and .80 (Jiang & Cillessen, 2005). Without any further consideration, it may be relatively risky to take the self-reported sociometric data as the valid depiction of the peer group structure (Lansford et al., 2006). Therefore, this study provides the analysis of the relation between the self-reported (declared) and empirically observed friendships as well as the stability of the declared friendships over the time.

Another set of problems is connected with the various aspects of sociometric status of a peer group member. According to the previous research, the relation between one's popularity in the group may be related to her or his position in the dominance hierarchy (Pellegrini, Roseth, Van Ryzin, & Solberg, 2011). However, this relation is not straightforward and may be moderated by some personality characteristics, particularly the social dominance orientation (Mayeux, 2014). She points at the research findings that among adolescents of both genders, peer popularity is related with relatively high levels of relational aggression. Mayeux's results show that social dominance orientation moderates the relation between popularity and relational aggression among girls but not among boys. In particular, popular girls display more relational aggression when they are more dominance-oriented. Of course, the fact that someone behaves relationally aggressive does not imply that this person really succeeds in the

dominance hierarchy; on the other hand, Mayeux (2014) concludes that striving for popularity among adolescent girls may often be connected with the strive for dominance. One of the limitations of her study was that it was based on self- and peer-report methods. Also the developmental aspect may be relevant concerning the use of Mayeux's study for this research.

Children build popularity and friendship on the basis of prosocial behavior, mutual sympathy, but also the preference of dominant children who predict the direction of the whole group (Lease, Musgrove, & Axelrod, 2002). Dominant children tend to manage the whole group, and their opinions often become the opinions of other children. Hawley (1999) emphasizes that in the developmental perspective, the dominance shifts from the coercive to prosocial strategies. Although in the age of 6, the aggressive children may be considered to be popular among others, this relation will most probably reverse during the following 3 years. In the research literature, various strategies of the dominant children to expand their personal network are described (Omark, Omark, & Edelman, 1975). One of these strategies may be the making of temporary alliances with the children of lower position in dominance hierarchy. As Gifford-Smith and Brownell (2002) discuss in their review, the goals of being liked and having power are often in conflict, so children need to learn to balance them. Establishing cliques can be one possible strategy of balancing these goals. This idea is supported also by the experimental study (Charlesworth & La Freniere, 1983) where the most efficient strategy for utilization of the desirable limited resource (in their study, access to the movie viewer) appeared to be the combination of dominance and establishing the co-operative group of friends.

In the situation of the sociometric interview, children designate other group members as their "friends". This procedure may reflect the establishing of the temporary alliance (or clique). If there is a positive relation between the popularity of the child and his/her dominance rank, it is expected that the lowest-ranked children in the dominance hierarchy are endorsed by other children as their friends less frequently than the more dominant children and vice versa. However, for understanding the relation between dominance and popularity (i.e., the frequency of being designated as friend by other children) is crucial the activity of lower-ranking group members. If they want to raise their status in the dominance hierarchy, they probably will endorse those on the top of the hierarchy more often than those below them.

Considering the various aspects of the children's sociometric status in the peer group, the aim of this work is to shed light to the peer group structure and its stability over time. Particularly, this study addresses the following research questions: 1) Can we consider the declared network of mutual friendships to be consistent with the observed one? 2) Will the declared friendships of children be stable over time? and 3) Will the individual child's popularity affect his or her position in the dominance hierarchy within the peer group?

Regarding the first question, assuming the validity of self-reported sociometric matrix, we expect a strong correlation between the declared and observed friendship of children. On the basis of prior research (Jiang & Cillessen, 2005) indicating the reasonable stability of sociometric instruments over the time under 3 months, we expect also the strong correlation between the declared friendship matrices at the beginning and at the end of the camp stay. The third hypothesis is also based on the prior research (Strayer & Strayer, 1976); in accordance with it, we expect the positive relation between the individual's popularity and her/his position in the dominance hierarchy.

Method

Participants

The research was conducted at a children's Jewish (Union for Reform Judaism) summer camp in Massachusetts, USA. The participants were 26 children, including 14 girls and 12 boys. Children were between 6 and 8 years of age. Twenty-two children from my research group were US citizens and 4 children were from Israel. All children were part of a children's camp where they spent 24 hours a day for 77 days. They were in contact with their parents through letters and personally only once during the entire stay. The whole group of children had their own counselors who took care of them throughout their stay.

Procedure

Regarding the data collection, the study combines the participant observations and semi-structured interviews. Both data collection techniques were performed for 77 days when the first author of this study was a direct part of the children's camp as a singing instructor. On the basis of observations, it was possible to record the manifestations of dominance as well as the displays of friendship among children, which were recorded in pre-prepared observation sheets. The semi-structured interviews with children were used for the construction of sociometric matrices.

Both declared (self-reported) as well as observed friendships are considered to be dyadic in their character; if children form a triad of close friends, this triad is considered to consist of three dyadic relations (Gifford-Smith & Brownell, 2002). Unlike popularity (which can be unidirectional, thus child A can endorse another child B but not reciprocally), friendships are defined as symmetric relations. The dominance hierarchy matrix was based on the agonistic (competitive and/or aggressive) behavioral displays (Addison, 1986).

The matrix of **declared** (self-reported) **friendships** was based on two sociometric interviews implemented at the beginning and at the end of the camp

stay. The aim of the repeated sociometric interviews was to verify the stability of declared friendships over time. The interview design follows the earlier Czech study (Klusák, 2014). Each child had to endorse 3 other children concerning the 6 possible options, for example, with who they would like to play with, to participate in sport or other activity, or simply “to be a friend”. The matrix of one-sided endorsement is called **popularity matrix** and is used for constructing of declared friendship matrix and calculating the **popularity score** (raw score of the one-sided endorsements). Because the declared friendship matrices are symmetrical, they consist of the number of mutual endorsements between each two members of the group. In the case of unequal number of endorsements, lower value was used. In particular, if one child of a pair did not endorse another one, the weight of their mutual declared friendship is coded zero.

The coded observations provided the raw data for constructing the **observed friendship matrix**. As displays of friendship were coded spontaneous group or team formations during playing games and various common activities such as meals, rituals, competitions, etc. Here must be mentioned that for the most time, the activities were strictly regulated concerning the group formation; there was only a limited set of opportunities for free grouping. Such opportunities were for example the above mentioned activities. Therefore, we can say that if the child A spontaneously shared some common activity with the child B during the camp stay more often than with another child C, we can take it as a proxy measure for the observed friendship.

Based on the studies of Hawley (1999; 2003) and Ingram (2004) on the social dominance and aggression among children, the behaviors used to reconstruct the **dominance hierarchy** were coded the attempts to take the leading position in the group, to assert one’s ideas or views, displacements (interaction causing the other individual to move from a given location or leaving the toy or other item to the ‘winner’), etc.

Data Analysis

After the appropriate coding and creating popularity, friendship and dominance matrices, statistical data analysis was performed using the tools available in various packages of the statistical environment R (R Core Team, 2019). The tools for social network analysis and its graph-like depiction used to assess the actual interaction of children are available in the *igraph* package (Csárdi & Nepusz, 2006).

The position of the individual in the dominance hierarchy was assessed by the David’s score (Kanovský, Mentel, & Stoláriková, 2015) which takes considers the probability of winning the competitive situation. One of the most important properties of the analyzed dominance matrix is the monotonicity of the hierarchy. This is based on two compounds: linearity (based on the prevalence of transitive triads, Shizuka & MacDonald, 2012), and steepness (de Vries, Stevens,

& Vervaecke, 2006; Leiva & de Vries, 2014). Linearity assessment can be done using the R package *statnet* (Handcock et al., 2003) and steepness test is available in the *steepness* package (Leiva & de Vries, 2014). To assess the stability of the declared friendship over time, the robust canonical correlation between data sets has to be used. It is available in the R package *ccaPP* (Alfons, Croux, & Filzmoser, 2016a; Alfons, Croux, & Filzmoser, 2016b). Since the friendship and popularity scores are essentially ordinal, the Kendall correlation is used along with the projection method. This method allows comparing the total correlation between two matrices. Last, the relation of popularity on dominance is analyzed using beta regression implemented in the package *betareg* (Cribari-Neto & Zeileis, 2010). The beta regression is necessary because the outcome (position in the hierarchy) is bounded variable.

Results

The visualization of the spontaneous social interaction frequency between individuals is depicted in the network (weighted graph) form (Figure 1).

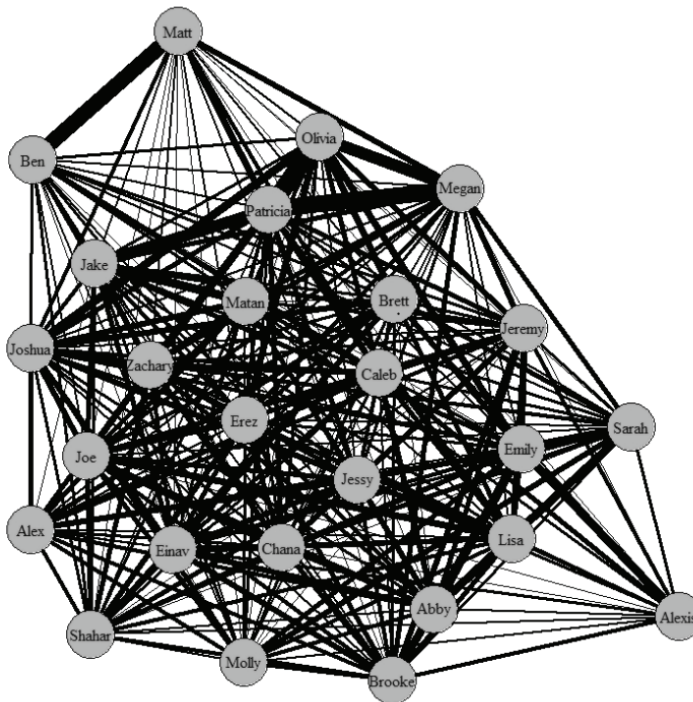


Figure 1. Social interaction network (based on the observed friendship matrix).

Line thickness shows the amount of interactions; the thinnest line corresponds to one observed spontaneous interaction during the observation period, whereas the thickest line means the most frequent interactions between the two actors (up to 20 interactions per dyad).

The dominance hierarchy can be considered monotonous (Figure 2) although two “steps” in the hierarchy are clearly visible.

The estimated value of the steepness coefficient (slope) was equal $-.32$ and it was statistically significant ($p < .001$). The linearity testing revealed that out of 1753 triads, 1531 (i.e., 87.34 %) are transitive. Permutation test comparing the empirical result with the sample of 1000 random matrices revealed that the linearity is statistically significant ($p < .001$).

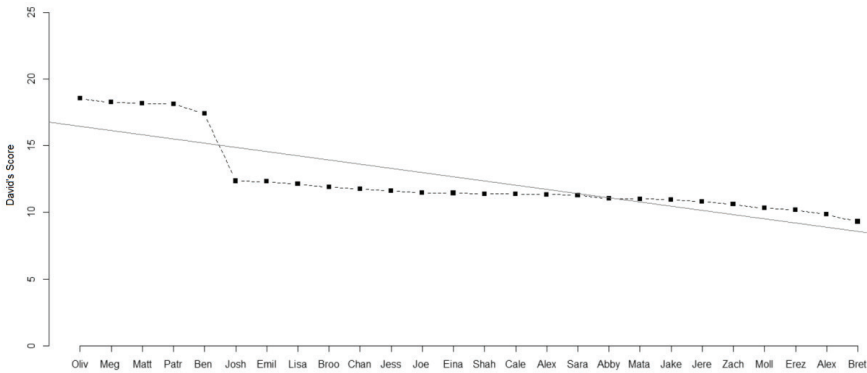


Figure 2. Dominance hierarchy in the group (David’s score with a slope line).

The network of declared mutual friendships is relatively stable ($r_{12} = .62$; $p < .01$). The concordance between the matrix of declared and observed friendship is more interesting, though. Although both kind of sociometric matrices are symmetrical, as stated above, there is a difference between them: the declared friendship matrices consist of the number of mutual endorsements out of 6 possible options between each two members of the group at the beginning and at the end of the camp stay. The observed friendship matrix is cumulative and consists of coded behaviors during the whole time.

The robust canonical correlation between the declared friendship matrix from the beginning of the camp and the observed friendship matrix was really high ($r_1 = .85$; $p < .01$). However, this consistency between self-report and behavior decreased to the end of a stay ($r_2 = .69$; $p < .05$). Here we must emphasize that the matrix of observed friendships has a cumulative nature because it summarizes the “friendly” or “pro-social” interactions between children throughout the duration of the camp. Thus it is not possible to compare the matrix of observed friendships at the beginning and at the end of the camp stay.

As for the relation between the child's popularity and his or her position in the dominance hierarchy, this is much lower. At the beginning of the vacations, this relation was weak but statistically significant ($\beta = .016$, $p < .05$, $Pseudo-R^2 = .169$) but it tended to disappear ($\beta = .012$, $p > .05$; $Pseudo-R^2 = .071$). For the effect size estimation, the Pseudo- R^2 for beta-regression has been used (Cribari-Neto & Zeileis, 2010).

Discussion and conclusions

Based on the analysis of interviews with children at the beginning and at the end of the stay, and the subsequent correlation of the data, it can be concluded that the declared friendships of children are relatively stable over time. This contradicts the assumption stated above based on studies by Gifford-Smith and Brownell (2002) that the declared friendships of children will not be stable over time, and that children will be identified as the best friends of the group's favorite. The outcome of my study may be influenced by the fact that the children I have studied know each other for a long time, and their friendships were not newly created in the children's summer camp. Furman and Buhrmester (1985) also worked this hypothesis in their study, arguing that if children in a peer group are long-term and have already established friendship networks based on previous experience, the stability of declared friendships is more likely.

To determine the consistency of observed and declared friendships, it was necessary to correlate both types of friendships at the beginning of the stay with the observed interactions. This correlation appeared to be significant, which means that the children were really interacting with the children they declared as their friends. Subsequently, by the same kind of correlation between the sociometric matrices we compared the declared friendships of children at the end of their stay with the observed interactions. The estimated correlation was lower than the former one (declared/observed friendships) but it was still relatively close to the values of the test-retest correlations found in the meta-analysis (Jiang & Cillessen, 2005), although their results showed higher correlations between subsequent sociometric matrices. It can be concluded that in spite of some observable changes in friendships, the declared friendships are relatively stable over time and that they are rather consistent with the observed ones. This relative stability is a result of two mutually opposing processes. First, the peer group of children was under the permanent supervision and much of their daily activities including formal group formations were regulated by the camp staff. This could lead also to the re-arrangement of the informal groups and dyadic friendships. On the other hand, we must take into account the relatively short duration of the summer camp (77 days) limiting the opportunity of major changes in the peer group structure.

The results of popularity impact on the hierarchy have shown that in the beginning there is a significant impact of the declared popularity on the hierarchy,

which means that the more popular children are at the beginning, the more likely they are to be dominant. This result is in accordance with the theory of Strayer & Strayer (1976) who claim that dominance has a significant impact on children's popularity. They also assumed in their own study that children with the highest dominance score would be among the most popular (Strayer & Strayer, 1976). These authors argue that popular children tend to be dominant precisely in order to gain their imaginary place in the group's rankings at the beginning of developing or renewing friendships. Therefore, if the children return to camp after a year, they must seem to confirm their position in the group. After a certain time since the opening of the camp, when the children already have their position in the group, they do not tend to manifest themselves as strongly as at the beginning of the camp in order to gain a position in the group, because they already have their position (Strayer & Strayer, 1976).

This study faces two limitations. First of them was the lack of opportunity to compare the behavioral coding between two or more observers. This could possibly lead to the bias in assessing the children's behavior. However, this limitation was not possible to overcome for organizational reasons. The second possible limitation is a relatively short period of camp stay (77 days) compared to the time the children know each other. It could be assumed that their peer group structure may be rather stable. However, as we can see, even in such a short period, the visible changes in the group structure have been observed.

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SOCIJALNA STRUKTURA U DEĀJIM GRUPAMA: DRUGARSTVO I POPULARNOST

Apstrakt

Ovo istraŝivanje opisuje strukturu deĀije socijalne grupe sa fokusom na drugarstvo i popularnost. OĀekivalo se da Āe se deklarirana drugarstva vremenom menjati i da Āe deca moĀi da identifikuju veoma popularne Ālanove grupe. TakoĀe, oĀekivalo se da Āe dominacija znaĀajno uticati na deĀiju popularnost. Podaci su prikupljeni tokom 77 dana posmatranja ispitanika i koriŝćenja intervjua u deĀjem kampu ($N = 26$ (14 devojĀica i 12 deĀaka). Varijable poput dominacije, drugarstva i deĀje popularnosti zasnovane su na dijadiĀkim interakcijama. Pozicija deteta u hijerarhiji bila je procenjivana uz pomoĀ normalizovanih Davidovih skorova. Odnos izmeĀu popularnosti i dominacije procenjen je beta regresionim koeficijentima i logit vezom. Stabilnosti drugarstva i deklarirane/posmatrane doslednosti drugarstva istraŝene su robustnom kanoniĀkom korelacijom sociometrijskih matrica. Rezultati pokazuju priliĀno visoku konzistentnost deklariranog i posmatranog drugarstva ($r = .69, p < .05$), kao i vremenske stabilnosti deklariranog drugarstva ($r = .62, p < .01$). Povezanost izmeĀu deĀije popularnosti i pozicije u hijerarhiji dominacije je mnogo slabija. Na poĀetku odmora, ova veza je bila slaba ali statistiĀki znaĀajna ($\beta = .016, p = .011$), ali je teŝila da nestane ($\beta = .012, p = .08$).

KljuĀne reĀi: deĀja grupa, hijerarhija dominacije, drugarstvo, popularnost, sociometrija

POLITICALLY RADICAL ORGANIZATIONS FROM SERBIA AND MILITANT EXTREMISM – CONTENT ANALYSIS OF WEBSITES⁵

Abstract

In the study (Saucier et al., 2009) that inspired our research, written materials related to numerous militant extremist groups around the world were analyzed, and the list of 16 themes common to the militant extremist mindset was created. In this content analysis, we analyzed the content of the websites of politically radical organizations (3 right-wing and 2 left-wing) from Serbia, by using these 16 themes as categories for the analysis, to get insight in their affinities for militant extremism. The unit of analysis was paragraph, and a total of 1475 paragraphs were analyzed. The results showed that 88.14% of the analyzed paragraphs did not contain any of these themes, and that the most frequent were themes like „Civil government as „illegitimate”, ”Perception that ‘the ability of our group to reach its rightful position is being tragically obstructed’ and „Glorifying the past, in reference to one’s group“. Themes that could be characterized as “particularly violent” (e.g. “Duty and obligation to kill, or to make offensive war“) were not present at all or were present in very few paragraphs. The results were interpreted as an indicator that people are approaching to these groups due to dissatisfaction with the current socio-political situation, while their violent “reach” is probably not the militant extremism.

Key words: militant extremism, politically radical organizations, patterns of thinking, socio-political situation

Introduction

We daily hear in the media about the different violent political activities in various world regions. Terrorism and militant extremism have been labeled as a threat to the safety of the state and society, but there is a widespread belief that such forms of action are not common in Serbia. Although frequently mentioned in mutual context, militant extremism and terrorism are not the same. Militant extremism is defined as zealous adherence to a set of norms and beliefs with

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two additional (key) characteristics: 1) approving and advocating for measures that are outside social norms; 2) willingness and intention to resort to violence (Saucier, Akers, Miller, Knežević, & Stankov, 2009). On the other side, terrorism is treated as a method or tactic (not a pattern of behavior) that is reflected in the induction of terror (Goldstick, 2002).

The psychological characteristics of militant extremist and related phenomena have attracted the attention of researchers for a long time. Researches in the domain of authoritarian personality are considered to be “predecessor” of researches of the psychology of militant extremism (Saucier et al., 2009). For example, in one study (Altemeyer, 1996), the author concluded that the authoritarian personality is characterized by 3 clusters: 1) conventionalism; 2) authoritarian submissiveness; and 3) authoritarian aggression. At a glance, it can be said that the third cluster can be linked to militant extremism, though probably it can not be reduced to that.

In a model (Hoffer, 1951) that emerged by extending the psychological findings of Fascism and Nazism to other ideologies (Bolshevism, Anarchism etc.), fanatics are defined as individuals who respond to chronic frustration by finding their own identity and destiny in a one-sided commitment to goals that are sacred to them. They are also characterized by degrading viewpoint towards the current reality, with thinking more about the utopian future. Despite presenting some interesting insights into theorizing on this topic, Hofer’s model has not been fully completed nor has any operationalization been made on the basis of his work.

Examining extremists who have a tendency toward terrorism, Hoffman (1998) concluded that they seek to achieve a series of 5 sequential goals: getting attention focused on their cause, obtaining acknowledgment of it, obtaining acceptance that their cause is justified, achieving authority to effect the changes they advocate, and finally consolidating control over a people or state. Nevertheless, this approach did not cover all types of extremists, as these are not the goals of each of them, e.g. there are those extremists who resort to terrorism not to seize power but to provoke a momentum and a social revolution.

In his work, which is largely based on the study of members of Islamist groups, Moghaddam (2005, 2006) has dealt with how a person’s self is transformed so that that person can construct the identity of a member of an extremist group. He provided a list of 11 elements that are sequentially observed in the thinking of extremists: a) perceived deprivation; b) a broader dissatisfaction with the world; c) refusal to become merely a good copy of some externally imposed (e.g., Western) model of personhood; d) feelings of being treated unfairly and a subjective sense of injustice; e) a perception that one has no voice in decisions, no way to improve the deprived, dissatisfying and unjust situation; f) an aggressive attitude toward an external enemy with the belief that a certain external enemy is the source of all big problems; g) the ends justify the means, doing anything

to destroy or weaken the enemy, with even killing of civilians being justified in reaching the goal; h) “we must kill or we will be killed” thinking and, related to it, “us versus them” thinking; i) belief that the cause is all that is worth living for; j) a felt obligation to conform to all norms set by one’s group/cause, and k) a conviction that one heroic act will improve the world.

The study (Saucier et al., 2009) that inspired our research, was made intending to create the model of militant extremist mindset that is independent of ideology, suggesting that the militant extremism is a pan cultural phenomenon. They analyzed written materials (books, pamphlets, articles, internet sites) made by militant extremist groups from all over the world: Ireland, Egypt, Israel and Palestine, Uganda, Sri Lanka, China, Japan, Peru and USA. These groups follow different ideologies: leftists, nationalists, homophobes, religious fanatics, etc. At the end, they created the list of themes common to the militant extremist mindset. These themes⁶ are: 1) *The necessity of unconventional and extreme measures*. This theme indicates aspirations towards political measures that are beyond the norms of social and political system; it is often connected with preferences for revolutionary methods and violence (e.g., „The only solution is the social revolution and the armed people!”); 2) *Use of tactics that function to absolve one of responsibility for the bad consequences of the violence one is advocating or carrying out*. Militant extremists may argue that violence is necessary to be taken seriously, or that they were forced to resort to violence for some reason, or that someone else is in fact responsible for it (e.g., „In doing so, even police protection was not sufficient to fully protect these communist freaks and cowards, and their sinister flags, from the rightful wrath of Serbian nationalists.”); 3) *Prominent mixtures of military terminology into areas of discourse where it is ordinarily rarely found*. In militant extremism, military concepts could be mixed with religious, political, civil and mundane concepts. They can speak about “holy war”, claim that they are “living life as if we’re in a battlefield” etc.; 4) *Perception that “the ability of our group to reach its rightful position is being tragically obstructed.”* This theme indicates feeling of deprivation of one’s group (social class, nation, political group etc) relative to other groups; militant group members perceive their path to a desired and deserved goal is blocked (e.g., “They tried to ban our organization in the Constitutional Court and failed; we have been arrested, beaten, exposed to various intrigues and media attacks, and they continue to do so.”); 5) *Glorifying the past, in reference to one’s group*. When one’s group is oppressed and frustrated (or perceived so, like in theme 4), insights in group’s “glorious” past provide “evidence” for special importance of the group (e.g., “We are rightly proud of the heroic resistance that our nations, led by Communist Party of Yugoslavia, have shown in fighting the enemy.”); 6) *Utopianizing*. This theme is focused on concepts of great and glorious future that will come true as a result of fighting for the cause (e.g., “Once again, the

⁶ Cited examples are extracted from the websites analyzed in our research.

red flag of working class will stop the strike of the imperialist war and terminate the capitalistic barbarism.”); 7) *Catastrophizing*. Militant extremists have a tendency to think that great calamities either have occurred, are occurring, or will occur. They can say things like “Mankind today is on the brink of a precipice” or “everything’s heading straight for destruction and there’s no turning back”. 8) *Anticipation of supernatural intervention: Miraculous powers attributed to one’s side, miraculous events coming to help one’s side, or commands coming from supernatural entities*. It is common for militant extremists to believe that supernatural entity will come and help them to defeat the opponents; this theme is related to enhancing the courage of group members (e.g., “Therefore, those who follow the ideals of Eternal Serbia and the vow of the Holy Prince Lazarus cannot be defeated.”); 9) *A felt imperative to annihilate (exterminate, crush, destroy) evil and/or purify the world entirely from evil*. Some militant extremists can be obsessed with evils in the world and also can seek to purify the world of evils in drastic ways. Claims like “we are commanded to exterminate the demons” or “the earth should be cleansed of corruption, by force if necessary” reflect this theme; 10) *Glorification of dying for the cause*. In militant extremism there is a common distinction between relatively “meaningful” and “meaningless” deaths. A “meaningful” death is usually the one that occurs as a result of heroic fight for the cause (e.g., “They lost them on the battlefield, but with such a sacrifice, their movement undoubtedly won a strong spiritual and moral impulse that will strengthen it.”); 11) *Duty and obligation to kill, or to make offensive war*. Previous theme (10) is about putting a high value on dying for the cause, whereas this theme is about putting a high value on killing the opponents for the cause, frequently arguing that it is the only way to win. Statements like “it may or may not be right to kill, but sometimes it is necessary” reflects this position; 12) *Machiavellianism in service of the “sacred.”* While Machiavellianism in other contexts refers to immoral behavior in order to gain individual benefits, in the context of militant extremism, immoral behavior is “justified” by purpose of “sacred” cause. “Every effort, including violence if necessary, must be exerted to reach a sacred objective” and “a sincere believer can do no wrong” are good examples of this theme; 13. *An elevation of intolerance, vengeance, and warlikeness into virtues (or nearly so), including in some cases the ascribing of such militant dispositions to supernatural entities*. These attributes are considered unfavorable in other contexts, but in militant extremism, they could be judged as favorable and necessary. Statements like “if somebody interferes with our peace, we will not tolerate it” and “those who are unwilling to take violent action on behalf of strong beliefs are cowards” reflect the concept of this theme; 14) *Dehumanizing or demonizing of opponents*. This theme is in service of facilitating a disregard for the opponent’s point of view, and removing inhibitions against attacking them. Demonization is more frequent among religious extremists, whereas secular extremists are more likely to dehumanize the opponents (e.g., “This is made possible by the old European

and American oppressors and their devilish trainees from Brussels, Berlin, the Vatican and Washington.”); 15) *The modern world as a disaster*. In militant extremism there is a common belief that modernity is actually a disaster for humanity. This theme is connected with catastrophising and glorification of the past (e.g., “The capitalist system kills humanity in us, turns us against each other, creates and spreads hatred based on irrelevant differences, such as skin color, ethnic origin, and sexual orientation.”); 16) *Civil government as illegitimate* (Saucier et al., 2009). It is very common for militant extremists to claim that the sources of (state) authority that they oppose are in fact illegitimate; using different ideological “evidence” to prove their claims (e.g., “In today’s Serbia, for acquiring the ministerial or any other high political and governing position, it is necessary to be the same kind of person - obscure, lapsed and unsuccessful or, in other words, to be “nobody”).

Written materials from this extensive study (Saucier et al., 2009) were later used for creating the scale of militant extremist mindset (Stankov, Saucier, & Knežević, 2010a; Stankov, Higgins, Saucier, & Knežević, 2010b). Items on this scale were created in accordance with statements from written materials that were analyzed by Saucier et al. (2009). 132 statements were selected and empirically tested on three samples (in Australia, Serbia and USA), and factor analysis was applied after that. At the end, they determined three factors: 1) “Justification of violent acts”, 2) “Justification of violence in the name of supernatural entities” and 3) “Sins of the Western civilization” (Stankov et al., 2010b). Participants from Serbia had low scores on the “Justification of violent acts” and on the “Justification of violence in the name of supernatural entities”, while their scores on the “Sins of the Western civilization” were higher (Stankov et al., 2010a). Higher scores on that factor were interpreted as a consequence of the conflicts in the recent history.

However, extensive analysis by Saucier et al. (2009) did not include organizations from Serbia, and there was no other analysis of politically organizations from Serbia regarding militant extremism. Since we have not heard of the existence of some “classic” militant or terrorist groups in our country, non-parliamentary organizations that advocate ideas that are politically radical, whether right-wing or left-wing, have been selected as the best “candidate” for analysis.

Research Question

We decided to examine presence and frequency of the militant extremism themes in written materials (from websites) of politically radical organizations from Serbia, in order to get insight in their affinities towards militant extremism. So, we used themes from Saucier et al. (2009) as categories for the analysis of content of websites of these organizations. However, it is important to emphasize that we conducted only a content analysis of their websites, and on the basis

of that it cannot be determined whether these groups and their members have affinities for militant extremism in real life.

Method

We approached the analysis of the websites of organizations that advocate politically radical ideas in the similar way as the authors of the article (Saucier et al., 2009) described above. We used a method called *content analysis*, which is defined as a research technique for objectively, systematically and quantitatively describing the manifest content of communication (Havelka, Kuzmanovic, & Popadic, 2008).

Sample

We conducted our content analysis on written materials from websites of 2 left-wing organizations: “SKOJ” (Union of Communist Youth of Yugoslavia – organization that advocates Marxism, Leninism and re-establishment of Socialistic Federal Republic of Yugoslavia) and “Anarcho-syndicalist Initiative” (criticizes capitalism, supports revolutionary syndicalism and anarchism); and 3 right-wing organizations: “Srpski obraz” (Serbian Honor – declared as a movement for spiritual and national renewal of Serbian people and state), “Naši” (Our people - nationalist and eurosceptic movement) and “Serbian Action” (organization aimed to recover “authentic Serbian ideals and values”). These organizations were chosen because of their popularity on the internet (Facebook pages) at the time of the analysis; the analysis was carried out in 2015, as a part of the exam on the course Individual differences. We analyzed the population of written materials that were published on the websites of these organizations in the period from September 2013 to September 2015. Paragraph was the unit of analysis, and a total of 1475 paragraphs (257 from left-wing organizations websites and 1118 from right-wing organizations websites) were included in the analysis.

Procedure

Two independent coders read written materials from five politically radical organizations websites and estimated presence of the 16 militant-extremist themes in each paragraph. The inter-coder reliability was 98.17%. After that, the number of paragraphs by category was quantified (counted).

Results

Table 1
Number of paragraphs with militant extremist content

	Leftist		Rightist			TOTAL
	SKOJ	ASI	Serbian action	Our people	Serbian honor	
Paragraphs containing militant extremist themes	13.55% (37)	35.71% (30)	25.41% (47)	5.75% (34)	7.89% (27)	11.86% (175)
Paragraphs without militant extremist themes	86.45% (236)	64.29% (54)	74.59% (138)	94.25% (557)	92.11% (315)	88.14% (1300)
TOTAL	273	84	185	591	342	1475

Paragraphs with no militant extremist themes were more frequent on the websites of SKOJ ($\chi^2_{(N=273)} = 145.059; p < .001$), ASI ($\chi^2_{(N=84)} = 6.857; p < .01$), Serbian action ($\chi^2_{(N=185)} = 44.762; p < .001$), Our people ($\chi^2_{(N=591)} = 462.824; p < .001$) and Serbian honor ($\chi^2_{(N=342)} = 242.526; p < .001$). Therefore, significant majority of analyzed paragraphs of each group did not contain any of militant extremist themes.

The paragraphs containing militant extremist themes were more frequent within leftist than within rightist groups ($\chi^2_{(N=1475)} = 21.464; p < .001$). However, this could be a statistical artifact, because one rightist (Serbian action) and one leftist (ASI) in total had more paragraphs with militant extremist themes than other organizations ($\chi^2_{(N=1475)} = 88.38; p < .001$).

Table 2
Frequencies of paragraphs with militant extremist themes within different groups

	Leftist		Rightist			TOTAL
	SKOJ	ASI	Serbian action	Our people	Serbian honor	
1. The necessity of unconventional and extreme measures.	-	16.67% (5)	2.13% (1)	8.82% (3)	-	5.14% (9)
2. Absolving one of responsibility for the bad consequences of supported violence	2.7% (1)	3.33% (1)	4.26% (2)	2.94% (1)	-	2.86% (5)
3. Military terminology	-	-	-	-	-	-

4. Perception that “our group to is being tragically obstructed.”	13.51% (5)	20% (6)	19.15% (9)	29.41% (10)	-	17.14% (30)
5. Glorifying the past	29.43% (11)	6.67% (2)	14.89% (7)	14.71% (5)	22.22% (6)	17.71% (31)
6. Utopianizing.	8.11% (3)	6.67% (2)	12.77% (6)	-	3.7% (1)	6.86% (12)
7. Catastrophizing.	-	-	-	-	-	-
8. Anticipation of supernatural intervention	-	-	8.51% (4)	-	7.41% (2)	3.43% (6)
9. A felt imperative to annihilate evil and/or purify the world entirely from evil.	-	-	-	-	-	-
10. Glorification of dying for the cause.	-	-	4.26% (2)	-	11.11% (3)	2.86% (5)
11. Duty and obligation to kill.	-	-	-	-	-	-
12. Machiavellianism for the “sacred.”	-	-	-	-	-	-
13. An elevation of intolerance, vengeance, and warlikeness into virtues	-	-	-	-	-	-
14. Dehumanizing of opponents.	2.7% (1)	3.33% (1)	6.38% (3)	2.94% (1)	7.41% (2)	4.57% (8)
15. The modern world as a disaster.	16.22% (6)	13.33% (4)	14.89% (7)	2.94% (1)	11.11% (3)	12% (21)
16. Civil government as illegitimate	27.03% (10)	30% (9)	12.77% (6)	35.29% (12)	37.04% (10)	26.86% (47)
TOTAL	37	30	47	34	27	175

As presented in Table 2, the most frequent themes were: „Civil government as illegitimate“ (26.68%), „Glorifying the past, in reference to one’s group“ (17.71%) and ”Perception that ‘the ability of our group to reach its rightful position is being tragically obstructed’” (17.14%) and “The modern world as a disaster” (12%). There were no significant differences between leftist and rightist groups in frequencies of these themes.

The least frequent were themes: “Absolving one of responsibility for the bad consequences of supported violence”, “Glorification of dying for the cause”, ”Anticipation of supernatural intervention” and “Dehumanizing or demonizing of opponents”.

At the end, we can also notice that there were no paragraphs containing themes: “Military terminology”, “Catastrophizing”, “A felt imperative to

annihilate evil and/or purify the world entirely from evil”, “Duty and obligation to kill”, “Machiavellianism in service of the “sacred.” and “An elevation of intolerance, vengeance, and war likeness into virtues”.

Discussion

We analyzed content of websites of five (2 left-wing and 3 right-wing) organizations from Serbia, “searching” for military extremism themes defined in previous (Saucier et al., 2009) research. Results showed that vast majority (88.14%) of analyzed paragraphs did not contain any of these themes.

The most frequent theme was „Civil government as illegitimate“, with no significant difference between leftist and rightist groups in frequency. We can assume that dissatisfaction with the existing situation in the country and society is a motivator for people to accept the ideas of one of the politically radical groups, and also to perceive the current government as guilty for that situation and so as illegitimate.

We can assume that the situation is similar with themes: ”Perception that „the ability of our group to reach its rightful position is being tragically obstructed” and “The modern world as a disaster”. Their appearance indicates dissatisfaction with the current position of the group (nation, religion, class, ideological group, etc.); the group is perceived as obstructed by other, opposing groups or by modern world (capitalist, Westernized, industrialized, etc.).

Saucier et al. (2009) argued that when perceiving the present situation as frustrating, the perception of the past as “golden” often occurs. Number of paragraphs containing theme „Glorifying the past, in reference to one’s group“supports their claim. Therefore, the members of these groups see the world today as a disaster, their group as obstructed by others, and do not recognize the current government’s legitimacy, while perceiving the past as the “golden age” of the group. Of course, the impact of concrete ideological positions is huge in this case as well. For example, SKOJ (communist youth), in line with its name, glorifies the SFRY and partisan fighting in the Second World War, while “Serbian Action” glorifies the Kosovo battle, Nemanjic dynasty etc.

On the other side, themes like “Duty and obligation to kill, or to make offensive war”, “Machiavellianism in service of the “sacred.”, “An elevation of intolerance, vengeance, and war likeness into virtues (or nearly so), including in some cases the ascribing of such militant dispositions to supernatural entities”, “Prominent mixtures of military terminology into areas of discourse where it is ordinarily rarely found” and “A felt imperative to annihilate (exterminate, crush, destroy) evil and/or purify the world entirely from evil.” were not present at all. Also, themes like “Use of tactics that function to absolve one of responsibility for the bad consequences of the violence one is advocating or carrying out”,

“Glorification of dying for the cause” and “Dehumanizing or demonizing of opponents” were present in very few paragraphs. Based on their definitions and contents, these themes could be named as “particularly violent”.

Having in mind low frequency of “particularly violent” themes within analyzed content, we can suppose that violent “reach” of analyzed groups is not militant extremism or terrorism, but rather street fights, hooliganism etc. This interpretation could be supported with the fact that military extremism or terrorism acts are not frequent in Serbia; also, we could not find media content about involvement of the members of these groups in militant extremism activities or terrorist acts. We can assume that analyzed groups probably have no capacity to participate in armed conflicts or to make terrorist attacks.

However, our research provided only limited insight into this topic, as we analyzed only the websites of these organizations. Thus, this interpretation cannot be given solely on the basis of the analyzed content; so, we would suggest analysis of different types of data in future research: interviews and focus groups with group members, their results on psychological inventories etc.

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POLITIČKE RADIKALNE ORGANIZACIJE IZ SRBIJE I MILITANTNI EKSTREMIZAM – ANALIZA SADRŽAJA SAJTOVA

Apstrakt

U jednom ranijem istraživanju (Saucier et al., 2009), analizirani su pisani materijali povezani sa brojnim militantnim ekstremističkim grupama širom sveta; na osnovu toga sačinjena je lista od 16 tema koje su karakteristične za načine razmišljanja militantnih ekstremista. U ovom istraživanju analizirali smo sadržaj internet sajtova politički radikalnih organizacija (3 levičarske i 2 desničarske) iz Srbije, koristeći pomenute teme kao kategorije za analizu, kako bismo stekli uvid u njihove sklonosti ka militantnom ekstremizmu. Pasus je bio jedinica analize, a ukupno je analizirano njih 1475. Rezultati su pokazali da 86.68% analiziranih pasusa ne sadrži nijednu od tih tema, a da su najveću učestalost imale teme: „Građanska vlada kao nelegitimna“, „Percepcija da je mogućnost grupe da dosegne pravednu poziciju tragično ometena“ i „Glorifikovanje prošlosti sopstvene grupe“, dok se teme koje bi se mogle okarakterisati kao „posebno nasilne“ (npr. „Dužnost i obaveza da se ubije ili da se izazove rat“) nisu pojavile uopšte ili su se pojavile u veoma malom broju pasusa. Rezultati su tumačeni kao pokazatelj toga da se ovim grupama pristupa usled nezadovoljstva trenutom društveno-političkom situacijom, pri čemu militantni ekstremizam verovatno nije nasilnički „domet“ ovih grupa.

Ključne reči: militantni ekstremizam, politički radikalne organizacije, obrasci razmišljanja, društveno-politička situacija

**Psychology of Personality
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Research paper

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THE ROLE OF COGNITIVE STRATEGIES IN THE RELATIONSHIPS BETWEEN DARK TRIAD PERSONALITY TRAITS AND SUBJECTIVE WELL-BEING⁷

Abstract

Previous research focused on the relationship between Dark Triad personality traits and subjective well-being, but the factors explaining individual differences in terms of cognitive strategies for achieving happiness (life of pleasure, of engagement and of meaning) remained poorly understood. This study examined the mediation effects of orientations to happiness on the relationships between dark personality traits and the emotional and cognitive components of subjective well-being (positive affectivity and life satisfaction). The sample was composed by 460 Italian adults ($M_{age} = 42.17$), who completed a self-reported questionnaire comprising the Short Dark Triad, the Orientations to Happiness scale, the Satisfaction with Life scale and the PANAS. Descriptive statistics, zero-order and partial correlations, and hierarchical regression analyses were applied to the data. Findings from correlations indicated the positive associations of narcissism with the three paths of happiness, and the two positive components of subjective well-being, as well as its negative association with negative affect. Psychopathy and Machiavellianism were positively associated with pleasure of life, and unrelated to the cognitive component of subjective well-being. Hierarchical regressions showed that the relationships between narcissism and positive affectivity were partially mediated by the three orientations, whereas the relationships between narcissism and life satisfaction were fully mediated by engagement and meaning to life. The associations between psychopathy and positive affectivity were fully mediated by pleasure and engagement. These findings highlighted the contribution of cognitive strategies to pursuit well-being.

Key words: Dark triad personality traits, Cognitive strategies, Orientations to happiness, Subjective well-being, Life satisfaction

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Introduction

In recent years, the interest in well-being within the psychological field has grown rapidly in order to investigate the sources of happiness and the many aspects of human flourishing (Bubić & Erceg, 2016; Cooke, Melchert, & Connor, 2016; Huta & Waterman, 2013; Pollock, Noser, Holden, & Zeigler-Hill, 2016). In this vein, research on well-being has developed two parallel approaches or perspectives. The first approach, the *hedonic*, which focuses on pleasure and happiness and on the achievement of well-being through the satisfaction of one's desires, refers to the study of well-being in association with the emotional and cognitive components of subjective well-being (SWB), positive affects/emotions and life satisfaction (Diener, 2009; Pavot & Diener, 2008). The second approach, the *eudaimonic*, according to which well-being is obtained by fulfilling one's potential in the pursuit of complex and meaningful goals (Henderson, Knight, & Richardson, 2013; Ryan & Deci, 2000), deals with the study of well-being according to Ryff and Keyes' (1995) theory of psychological well-being (PWB).

Assuming the hedonic perspective, many studies have sought to investigate the association between SWB and personality traits according to the Big Five model. Among the traits, neuroticism and extraversion have proved to be more consistently correlated with SWB, although in an opposite direction (Gutiérrez, Jiménez, Hernandez, & Puente, 2005; Hayes & Joseph, 2003; Lauriola & Iani, 2017; Steel, Schmidt, & Shultz, 2008), whereas conscientiousness and agreeableness have been found to be positively – although moderately – associated with SWB (Hayes & Joseph, 2003; Lucas, 2008; Pollock et al., 2016).

Within personality research, there has been also increasing scientific interest in the relationship between Dark Triad personality traits and SWB: individuals high on “dark” personalities are portrayed as disagreeable, callous, dishonest, and aggressive; they tend to be less empathetic and show antisocial behaviours. In details, the three Dark Triad traits are characterized by entitlement, superiority, dominance (narcissism), glib social charm, manipulateness (Machiavellianism), callous social attitudes, impulsivity, and interpersonal antagonism (psychopathy) (Jonason, Li, Webster, & Schmitt, 2009; Paulhus & Williams, 2002).

Narcissism, considered the “lighter” side of the dark triad personality, was found to be positively associated with SWB (Jonason, Baughman, Carter, & Parker, 2015; Ng, Cheung, & Tam, 2014; Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004), whereas psychopathy, considered the “darker” side, and Machiavellianism were found to be inconsistently related to well-being measures. Jonason et al. (2015) found negative associations of SWB measures with both Machiavellianism and psychopathy. Aghababaei and Błachnio (2015) reported a negative association between psychopathy and life satisfaction in both correlations and regressions, whereas the connection of psychopathy with happiness resulted to be negative in the correlations and non-significant in the

regressions. The relationship between Machiavellianism and life satisfaction was found to be non-significant in both above-mentioned analyses, whereas the relationship between Machiavellianism and happiness resulted to be negatively significant in the correlations and non-significant in the regressions.

Following the general trend in literature that has provided empirical evidence on the linkages between dark triad traits and SWB, the current research sought to investigate individual differences in adopting certain cognitive mechanisms, which could influence the experience of life situations, affective moods and SWB. According to Peterson and colleagues (2005), individuals use three distinct cognitive strategies to seek happiness: life of pleasure (maximizing positive experiences, i.e., hedonism), life of engagement (activities that produce a state of flow), and life of meaning (activities that contribute to greater general good, i.e., eudemonia).

In light of the lack of findings from the associations between the dark personality traits and the orientations to happiness, the focus of the research was to examine the mediating role of the three orientations to happiness in the relationships between socially aversive traits and SWB in terms of life satisfaction and positive affects. We expected that: (1) narcissism will be positively related to the three orientations and SWB measures and negatively related to negative affect (H1a); (2) the three orientations mediated the associations of narcissism with life satisfaction and positive emotions (H1b); (3) psychopathy will be positively associated with two orientations, i.e., pleasure and engagement, and positive and negative emotions (H2a), and negatively with satisfaction with life and the orientation to meaning of life (H2b). The negative associations of psychopathy will be justified by the interpersonal antagonism linked to a wide array of socially undesirable outcomes, whereas the positive associations of such trait with the two orientations are hypothesized on the basis of dysfunctional impulsivity. This characteristic could lead individuals high on this trait to adopt short term and more emotional-oriented strategies and to be engaged in activities in order to reach immediate gains. We also expected that: (4) pleasure and engagement positively mediated the associations of psychopathy with the emotional component of SWB measures, i.e., positive affects (H2c). Finally, as Machiavellianism is centered on cold selfishness, pure instrumentality and interpersonal manipulation of others, and it tends to pay much attention to positive reputation by building alliance, we hypothesized (5) its negative relations with both positive SWB measures (H3a), its positive relations with negative emotions and the orientation to pleasure (H3b), and, finally, a non-significant association with life of meaning (H3c). The last hypothesis was based on the main characteristic of this trait, i.e., the tendency in the pursuit of personal success, which is obviously in contrast with those activities that contribute to the greater general good, such as parenting, developing friendships or community services.

Method

Participants

A sample of 460 Italian adults ($M_{age} = 42.17$; $M = 273$, $F = 187$), all informed that the study was voluntary and anonymous, completed a paper-and-pencil survey package. The participants signed a written informed consent approved by the local University Ethical Board.

Instruments

The Italian translation of the **Short Dark Triad** (SD3; Jones & Paulhus, 2014) comprising 27 items (9 for each dimension), which measure the three Dark Triad traits. Respondents were asked to rate how much they agreed (from 1 – *strongly disagree* to 5 – *strongly agree*) with statements such as: „I tend to manipulate others to get my way” (Machiavellianism), „I tend to lack remorse” (Psychopathy), and „I tend to want others to admire me” (Narcissism). Because no validity study has been carried out in the Italian sample, a CFA was performed using item parceling according to the item-total correlations assignment method. Fit indices showed adequate values, $\chi^2 32.818$, $df = 10$, $p \geq .001$; CFI = .97; RMSEA = .07, 90% CI = .06–.08; SRMR = .03. All factor loadings were significant and ranged from .496 to .772. Alpha values were .61 (Narcissism), .71 (Psychopathy), and .72 (Machiavellianism).

The Italian translation of the **Orientations to Happiness Scale** (Peterson et al., 2005). Designed to measure three approaches to happiness, i.e., engagement (item example: „I seek out situations that challenge my skills and abilities”), meaning (item example: „I have a responsibility to make the world a better place”), and hedonism (item example: „Life is too short to postpone the pleasures it can provide), the scale comprises 18 items (6 for each dimension) ranged on a 5-point Likert scale (from 1 – *not at all* to 5 – *very much*). Given the lack of the Italian validation of the instrument, a CFA was run by using parcels to evaluate the structural properties. Fit indices showed good values, $\chi^2 12.977$, $df = 6$, $p \geq .001$; CFI = .98; RMSEA = .050, 90% CI = .08 – .09; SRMR = .027. All factor loadings were significant and ranged from 0.48 to 0.81. Alpha values were .63 (Pleasure), .63 (Engagement), and .65 (Meaning);

The Italian version of the 5-item **Satisfaction with Life Scale** (Diener, Emmons, Larsen, & Griffin, 1985; Di Fabio & Busoni, 2009). The scale, ranged on a 7-point Likert scale, includes five items assessing global cognitive judgments of one’s life satisfaction (item example: „I am satisfied with my life”). Alpha value was .84.

The Italian version of the 20-item **Positive/Negative Affect Schedule** (PANAS; Watson, Clark, & Tellegen, 1988; Terracciano, McCrae, & Costa, 2003). The scale consists of 10 adjectives, 10 referring to PA (i.e., enthusiastic, interested), 10 referring

to NA (i.e., afraid, distressed). Respondents were asked to rate the extent to which they experienced each feeling over the past few weeks using a 5-point Likert scale (from 1 – *very slightly* to 5 – *extremely*). Alpha values were .82 and .83.

During the translation of the first two scales, a standard two-step procedure was followed: the questionnaires were translated into Italian, verified and collected, and were back-translated by a language’s native speaker for consistency monitoring.

Results

Descriptive statistics for all scales used in this study are detailed in Table 1.

Zero-order correlations were performed to assess the associations among the variables of interest. Furthermore, partial correlations were also reported to factor out the influence of the other two traits in the patterns of associations with SWB measures and with three routes of happiness (Table 2).

Table 1
Mean scores and standard deviation of the observed variables

	<i>Min-Max</i>	<i>Mean (SD)</i>
Age	18 -56	42.17 (4.15)
Narcissism	1.00 - 5.00	2.90 (.51)
Machiavellianism	1.00 - 5.00	2.91 (.65)
Psychopathy	1.00 - 5.00	2.25 (.61)
Pleasure	1.00 - 5.00	3.49 (.63)
Engagement	2.00 - 5.00	3.29 (.48)
Meaning	1.00 - 5.00	3.37 (.61)
Life satisfaction	1.00 - 7.00	4.64 (1.15)
Positive Affects	1.00 -5.00	3.60 (.67)
Negative Affects	1.00 -5.00	2.31 (.73)

Table 2
Zero-order and partial correlations among the variables of interest

	Pleasure	Meaning	Engagement	Life Satisfaction	Positive Affect	Negative Affect
Machiavellianism	.313***	-.044	.191***	-.044	.090	.202***
	.159**	-.021	.053	-.032	.012	.144**
Narcissism	.273***	.180***	.231***	.115*	.225***	-.095*
	.143**	.216***	.124**	.138**	.173***	-.173***
Psychopathy	.377**	-.034	.228**	-.023	.164**	.143**
	.178***	-.100*	.160**	-.055	.059	.111*

Note. * $p < .05$; ** $p < .01$; *** $p < .001$. Zero-order correlations (r) are shown in the first row, partial correlations (sr) of each dark trait controlled for the other two dark traits are shown in the second row.

Results indicated that Machiavellianism and psychopathy were unrelated to life satisfaction and positive emotions and positively related to negative emotion, whereas narcissism was positively associated with the three orientations, life satisfaction and positive emotion. Moreover, like narcissism, both Machiavellianism and psychopathy resulted to be positively related to pleasure orientation. Unlike Machiavellianism, partial correlations showed that psychopathy resulted positively related to engagement and negatively to meaning of life. Furthermore, as zero-order correlation showed a positive link between psychopathy and positive emotions, and given the positive associations of this trait with the two paths of happiness, we examined if and at what extent these associations remained significant. Finally, given the non-significant associations between Machiavellianism and the positive components of SWB measures, it was excluded in the following analyses.

The three orientations to happiness as potential mediators in the relationships between narcissism and the positive SWB measures were analyzed using two hierarchical multiple regressions (Step 1 contained narcissism; Step 2 included the three orientations to happiness). When examining life satisfaction as dependent variable, Step 1 was significant ($R^2 = .018$, $F_{(1, 458)} = 8.352$, $p < .010$), as was Step 2 ($R^2 = .11$, $F_{(4, 455)} = 13363$, $p < .000$), thus indicating that the mediation was significant ($\Delta R^2 = .09$, $F_{(3, 455)} = 15.135$, $p < .010$). Results showed life satisfaction was fully mediated by engagement ($\beta = .22$, $p < .000$) and meaning ($\beta = .16$, $p < .010$), but not by pleasure ($\beta = .02$, $p = .719$) with narcissism dropping out at Step 2 ($\beta = .05$, $p = .29$). When examining positive emotions as dependent variable, Step 1 was significant ($R^2 = .63$, $F_{(1, 458)} = 30.746$, $p < .000$), as was Step 2 ($R^2 = .16$, $F_{(4, 455)} = 21.481$, $p < .000$), thus indicating that the mediation was significant ($\Delta R^2 = .10$, $F_{(3, 455)} = 17.298$, $p < .000$). Results provided evidence for partial mediation, whereby the effect of narcissism (β) in positive emotions shrank but remained significant from .25 to .15 and it was localized to pleasure ($\beta = .11$, $p < .00$), engagement ($\beta = .21$, $p < .000$) and meaning ($\beta = .12$, $p < .010$).

The same analysis strategy was applied when examining the potential mediators of the two orientations to happiness in the association between psychopathy and positive affects. Step 1 containing psychopathy was significant ($R^2 = .03$, $F_{(1, 458)} = 14.930$, $p < .000$), as was Step 2 ($R^2 = .13$, $F_{(4, 455)} = 22.033$, $p < .000$), thus indicating that the mediation was significant ($\Delta R^2 = .10$, $F_{(2, 456)} = 24.809$, $p < .000$). Results showed that positive affects were fully mediated by engagement ($\beta = .25$, $p < .000$) and pleasure ($\beta = .14$, $p < .010$) with psychopathy dropping out at Step 2 ($\beta = .06$, $p = .21$).

Discussion

In light of the increasing attention by researchers on the associations between dark personality traits and SWB, the present study sought to provide a further evidence for these associations by identifying the potential mediating

variables strategic for better understanding the pathways to reach subjective well-being. To this purpose, our research evaluated the extent to which orientations to happiness, intended as cognitive strategies, mediated the linkages of dark traits with the indicators of SWB, i.e., life satisfaction and positive affects. The obtained results partially supported the expected relationships.

As hypothesized and consistently with previous findings (e.g., Jonason, Baughman, Carter, & Parker, 2015; Ng, Cheung, & Tam, 2014; Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004), zero-order and partial correlational analyses confirmed that narcissism was positively related to SWB indicators, as well as to the three paths to happiness, thus supporting our hypothesis (H1a). When looking at the mediating role of the three paths in the associations between narcissism and life satisfaction, findings revealed that only engagement and meaning might account for the effect of life satisfaction linked to narcissism. In this sense, the mediating role of the orientation to pleasure was not supported, thus in line with some studies generally reporting stronger relationships for engagement and meaning than for pleasure (Peterson, Ruch, Beermann, Park, Seligman, 2007; Vella-Brodrick, Park, Peterson, 2009), even if in contrast with our expectation. Conversely, when considering the relations of narcissism with the emotional component of subjective well-being, findings provided support for the mediating role of the three paths, thus suggesting that these proximal factors contributed to explain the effects of positive affects linked to narcissism. Consequently, the mediating role of the three routes to happiness in the relationships between narcissism and the both components of subjective well-being was partially supported (H1b). In short, the hedonic pathway seemed to play no role when individuals high on this trait seek a general satisfaction of life. Indeed, if it is true that narcissists show a tendency to satisfy immediate ego needs using fast life strategies, thus experiencing frequent positive emotions, it is equally true that, when looking at the cognitive aspect of subject well-being, they seem to adopt cognitive mechanisms more oriented towards a eudaimonic approach (meaning) and a flow state (engagement). Being characterized by a cognitive flexibility, they are able to shift between alternative mind-sets in goal-oriented behaviors (Murdock, Oddi, & Bridgett, 2013; Ng et al., 2014), i.e., from an immediate to a delayed approach to life.

With regard to psychopathy, findings partially supported our hypotheses: being characterized by a dysfunctional impulsivity, individuals high on this trait seemed to be more emotional orientated and more focused on their flow experience to seek short-term rewards. Similarly, psychopaths showed the tendency to experience higher levels of positive and negative emotions. Such positive associations were consistent with our expectations (H2a). As expected, the negative association of psychopathy with the eudaimonic orientation to happiness was confirmed (H2b), thus giving support to the previous negative associations with aversive health outcomes (Adams, Luevano, & Jonason, 2014;

Crysel, Crosier, & Webster, 2013; Jonason, Bryan, & Tost, 2010). However, contrary to our hypothesis, a non-significant association was found between the trait and life satisfaction, thus in contrast with Aghababaei and Błachnio's study (2015), where a negative association was reported.

As for the mediating role of the two orientations in the relationships between psychopathy and positive affects, as expected results confirmed these linkages that fit to the theoretical assumption that psychopaths prefer immediate gains that lead them to be more-hedonically oriented and, therefore, to seek a diminished life expectancy (Jonason et al., 2015). Likewise, being related to planning and acting rashly under both negative and positive emotions, these individuals are focused on their flow experience perceived as highly and intrinsically enjoyable, thus remaining particularly sensitive to positive stimuli and events. Consequently, the findings were consistent with our hypothesis (H2c): a more positively oriented aspect emerged when looking at the connection of this trait with the path of engagement and pleasure. The positive relations could also suggest the adaptive features of the dysfunctional impulsivity. Indeed, psychopaths tend to successfully fulfill executive functions showing better performances in stressful environments (for instance, the achieving of higher ranking positions) despite of emotional anomalies, such as social charm, low neuroticism, and shallow effect (Coid, Freestone, & Ullrich, 2012; Durand, 2016).

Findings from the trait Machiavellianism partially confirmed the expected relationships. Contrary to our hypothesis, this trait was not related to SWB measures (H3a), but as supposed, it was positively associated with the path of pleasure and negative emotions (H3b) and unrelated with the path of meaning of life (H3c). In this vein, results provided evidence for the tendency of individuals high on this trait to seek personal success by adopting a more-hedonic orientation, which is obviously in contrast with the tendency to activate behaviors that contribute to a general good.

In sum, this investigation provided additional insight into well-being literature focused on the relationships between dark traits and subjective well-being by examining the specific contribution of the three pathways to happiness within these connections. Narcissism showed the brighter side of the dark traits, given its positive associations to the three orientations to happiness, which partially mediated its relationships with the positive affects and fully mediated its relationships its relationships with the cognitive component of SBW measures. As for psychopathy, engagement and pleasure fully mediated the connection between the trait and the emotional components of SWB measure, thus suggesting that the dysfunctional impulsivity could also include adaptive features. Finally, Machiavellianism resulted to be characterized by a hedonic orientation and positively associated only with higher levels of negative affects.

Future research could further explore such connections by replicating the findings with more extensive and reliable measures. The instrument of the dark personality traits and the three orientations to happiness need to be improved, given that their values of Cronbach' alphas were almost acceptable. Finally,

beyond the grandiose aspect of narcissism, it should be examined other variants, such as agentic vs communal and/or vulnerable aspects.

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ULOGA KOGNITIVNIH STRATEGIJA U ODNOSU IZMEĐU OSOBINA LIČNOSTI MRAČNE TRIJADE I SUBJEKTIVNE DOBROBITI

Apstrakt

Iako su se prethodna istraživanja fokusirala na proučavanje odnosa između osobina ličnosti mračne trijade i subjektivne dobrobiti, slabo su ispitani faktori koji objašnjavaju individualne razlike u kognitivnim strategijama za dostizanje sreće (zadovoljstvo životom, angažovanje i smisao života). Ovo istraživanje ispituje medijatorske efekte orijentacija ka sreći na odnos između osobina ličnosti mračne trijade i emocionalnih i kognitivnih komponenti subjektivne dobrobiti (pozitivni afektivitet i zadovoljstvo životom). Uzorak obuhvata 460

italijanskih odraslih ispitanika ($M_{age} = 42.17$), koji su popunjavali Kratku skalu mračne trijade, Skalu orijentacije ka sreći, Skalu zadovoljstva životom i PANAS. Za analizu podataka korišćena je deskriptivna statistika, zero-order i parcijalne korelacije, kao i hijerarhijska regresiona analiza. Nalazi pokazuju pozitivne korelacije između narcizma i tri orijentacije ka sreći, kao i sa dve komponente subjektivnog blagostanja. Takođe, zabeležena je i negativna povezanost između narcizma i negativnog afektiviteta. Psihopatija i makijavelizam su u pozitivnoj vezi da zadovoljstvom životom, ali su nepovezani sa kognitivnom komponentom subjektivne dobrobiti. Rezultati hijerarhijske regresione analize su pokazali da je odnos između narcizma i pozitivnog afektiviteta parcijalno posredovan uz pomoć tri orijentacije ka sreći, dok je relacija između narcizma i zadovoljstva životom u potpunosti posredovana angažovanjem i smislom života. Odnos između psihopatije i pozitivnog afektiviteta je u potpunosti posredovan zadovoljstvom i angažovanjem. Ovi nalazi ističu doprinos kognitivnih strategija za ostvarenje dobrobiti.

Ključne reči: osobine ličnosti mračne trijade, kognitivne strategije, orijentacije ka sreći, subjektivna dobrobit, zadovoljstvo životom

ASSOCIATIONS OF PERSONALITY TRAITS WITH EATING BEHAVIORS IN ADULTS⁸

Abstract

With the increasing epidemic of obesity across the world, recent research has begun to focus on genetically determined eating behaviors and their interaction with the “obesogenic” environment. There is a growing need to further understand those eating patterns in order to develop early-life interventions and prevention techniques for weight-related health problems. While there is plenty of research on personality traits and eating disorders, a lot less is known about the links between personality traits and appetitive characteristics. The aim of this study is to examine the associations of the Big Five personality factors with eating behaviors in 321 Bulgarian adults (aged $M=36.36$, $SD=11.08$, 82.6% of women). The data was analyzed by the methods of descriptive statistics, correlation analysis and multiple regression analysis. Correlation analysis showed that Food Fussiness was negatively correlated with Imagination ($r=-.19$, $p<.01$), Agreeableness ($r=-.22$, $p<.01$) and Extraversion ($r=-.30$, $p<.01$). Enjoyment of Food was positively correlated with Extraversion ($r=.12$, $p<.05$) and Agreeableness ($r=.14$, $p<.05$). Neuroticism was associated with Emotional Overeating ($r=.17$, $p<.01$) and Food Responsiveness ($r=.28$, $p<.01$). Extraversion was negative predictor of Food Fussiness ($\beta=-.23$, $p<.001$) and positive predictor of Food Responsiveness ($\beta=.13$, $p=.03$). Neuroticism was a positive predictor of Emotional Overeating ($\beta=.16$, $p=.01$) and Food Responsiveness ($\beta=.30$, $p<.001$). These findings suggest that Neuroticism and Extroversion are important variables that could further explain why some people are more likely to overeat in an environment with easily accessible palatable foods.

Keywords: eating behavior, appetitive traits, personality traits, psychology of eating, obesity

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Introduction

Obesity has reached epidemic proportions globally, with at least 2.8 million people dying each year as a result of being overweight or obese (WHO, 2017). The epidemic equally affects children and adolescents, which makes it one of the most serious public health challenges nowadays.

On the one hand, we are living in an “obesogenic” environment where highly palatable, energy-dense foods are easily accessible. On the other hand, not every person responds in the same way to the predisposing environment. There is an individual susceptibility that could be explained with biological mechanisms such as genes but also with differences in behavioral traits. Based on the behavioral susceptibility theory of Jane Wardle, there is an interaction between genetic risk, which includes inherited differences in appetite as mediating mechanism, and the current food environment (Wardle & Llewellyn, 2015, as cited in Llewellyn & Fildes, 2017). Understanding how personality interacts with these appetite differences could further explain people’s response to the “obesogenic” environment and could enable a more personalized approach in addressing a person’s weight problems.

The most frequently used psychometric measure for evaluating eating behavior is the Dutch Eating Behavior Questionnaire (Van Strien, Frijters, Bergers, & Defares, 1986), which only measures three constructs: Restraint, Emotional and External Eating. Restraint Eating captures eating behavior as a result of dieting while Emotional Eating describes eating in response of emotional arousal, and External Eating – eating in response of external food cues. A more comprehensive measure of appetite traits is the Adult Eating Behavior Questionnaire (AEBQ) (Hunot et al., 2016) which is based on the validated parent-report questionnaire – Child Eating Behaviour Questionnaire (CEBQ) (Wardle, Guthrie, Sanderson & Rapoport, 2001) and the behavioral susceptibility theory (Wardle & Llewellyn, 2015). The questionnaire consists of eight different scales - four “food approach” scales: Food Responsiveness, Emotional Overeating, Enjoyment of Food, Hunger and four “food avoidance” scales: Satiety Responsiveness, Emotional Undereating, Food Fussiness and Slowness in Eating. Covering traits such as Satiety Responsiveness, Slowness in Eating and Food Fussiness makes it possible to longitudinally track appetitive traits and weight across the life-course by using the Baby Eating Behavior (BEBQ) (Llewellyn, van Jaarsveld, Johnson, Carnell & Wardle, 2011) and Child Eating Behavior Questionnaire (CEBQ) (Wardle et al., 2001). These traits are also related to several dysfunctions in eating behavior and eating disorders: for instance food fussiness is related to avoidant/restrictive food intake disorder (DSM V, 2013)

The aim of these questionnaires was to measure the individual appetitive characteristics that could affect body mass index (BMI) and could contribute to obesity. Research already indicates that appetitive traits are related to body mass

index (BMI) both in children (Viana, Sinde & Saxton, 2008) and in adults (Hunot et al., 2016). Food avoidance traits tend to be associated with lower BMI and food approach traits – with higher BMI.

Previous research also finds associations between personality traits, eating styles and food choices (Keller & Siegrist, 2019). Conscientiousness promotes restrained eating and reduces external eating, while Neuroticism promotes emotional eating and external eating. Highly conscientious individuals are also more likely to involve in healthy eating behaviors in comparison to extroverted people (Raynor & Levine, 2009). Extraversion promotes external eating and Neuroticism seems to play an important role in emotional eating behaviors in normal - as well as in overweight individuals (Elfhag & Morey, 2007; Heaven, Muligan, Merrileess, Woods & Fairouz, 2001).

CEBQ (Wardle et al., 2001) was used in a recent study that examines associations of children's Big Five personality with eating behaviors (Vollrath, Torgersen & Torgersen, 2018). The study showed that in children the strongest predictors of eating behaviors were Neuroticism, Agreeableness and Conscientiousness. Neuroticism correlated with Slow Eating, Emotional Undereating and Overeating, and Food Responsiveness. Agreeableness was associated with low Fussiness, low Emotional Undereating and Overeating, low Food Responsiveness. Conscientiousness was associated with low Satiety Responsiveness and Food Responsiveness. Enjoyment of Food correlated with Extraversion and Imagination. In adults, such data is lacking.

The aim of the present study is to examine the associations between the Big Five personality traits and appetitive traits in a sample of Bulgarian adults. The adult obesity prevalence rate in Bulgaria increased from 12.4 % in 2001 to 25 % in 2016 positioning the country among the ones in the EU with the highest behavioral risk factors (Indexmundi, 2018, OECD/European Observatory on Health Systems and Policies, 2017). Having more insights on the relation between personality traits and eating behaviors could be useful for the development of a personalized approach to weight problems and thus – overcoming the obesity challenge.

Method

Participants and procedure

Participants were invited to complete an anonymous online survey via online social network sites. Students studying psychology at Sofia University could also voluntarily participate in the research studies. 321 participants took part in the online survey with no financial or material compensation provided. The respondents were informed that the data collected will be used for scientific purposes only. No personally identifiable information was collected. The analysis

was conducted on the responses of 321 participants, mostly female (82.6%), aged 18-71 ($M=36.36$, $SD=11.08$). The characteristics of the sample are presented in Table 1.

Table 1
Descriptive characteristics of the sample

Characteristics n=321	n	%
Gender		
Female	265	82.60
Male	56	17.40
Highest degree or level of school		
Primary School	2	0.60
Secondary School	56	17.40
Bachelor`s degree	77	24.00
Master`s degree	180	56.10
PHD	6	1.90
Marital Status		
Single	71	22.10
In a relationship	40	12.50
In a domestic partnership	81	25.20
Married	112	34.90
Divorced	8	2.50
Widowed	3	0.90
Place of residence		
Capital	211	65.70
Big city	73	22.70
Small town	32	10.00
Village	5	1.60

Measures

Adult Eating Behaviour Questionnaire (AEBQ) (Hunot et al., 2016)

Appetitive traits were assessed via the Bulgarian translation of the AEBQ. The validity and reliability of the questionnaire has been previously demonstrated (Hristova, 2018). The questionnaire measures 3 food approach scales and 4 food avoidance scales instead of the original 8. The Hunger scale was removed based on communication with the authors and their recommendation, due to the strong correlation between the Hunger scale and the Food Responsiveness scale (Hunnot

et al., 2016), and in light of the later confirmation study (Hunot-Alexander et al., 2019). The 3 food approach scales are as follows: Food Responsiveness – measuring desire for food due to external food cues (4 items, e.g. *I often feel hungry when I am with someone who is eating*), Enjoyment of Food – measuring general interest in food (3 items, e.g. *I enjoy eating*), and Emotional Overeating – measuring eating due to negative emotions (5 items, e.g. *I eat more when I am anxious*). The 4 food avoidance scales are: Food Fussiness – measuring pickiness (5 items, e.g. *I refuse new foods at first*), Emotional Undereating – measuring decreased food intake due to negative emotions (5 items, e.g. *I eat less when I am upset*), Satiety Responsiveness – measuring levels of satiety (3 items, e.g. *I often get full before my meal is finished*) and Slowness in Eating – measuring speed of eating (4 items, e.g. *I eat slowly*). The questionnaire consists of 30 items, measured with a 5-point response format (from *strongly disagree* to *strongly agree*).

The Mini-IPIP personality scale (Donnellan, Oswald, Baird & Lucas, 2006)

The Mini-IPIP personality scale is a short measure of the five-factor model personality traits, measured by the International Personality Item Pool (IPIP) - a methodology for measuring the Big Five Factors, developed by M. Donnellan and colleagues (Donnellan et al, 2006). The 5 personality traits that are covered are as follows: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Intellect/Imagination (or Openness). The questionnaire contains a total of 20 items. Each of the five personality traits is measured with 4 items. Each of the items is rated with a Likert-type scale of 1 to 5 points. The questionnaire has already been administered in Bulgaria, and thus a previous translation was used (Kiryakov, 2015).

Demographic Information

Participants' self-reported age, gender, highest level of education completed, marital status and place of residence.

Results

Descriptive statistics

Table 2 provides the descriptive statistics for the scales of the AEBQ and the Mini-IPIP. The Cronbach's alpha values indicate reliability of the scales, mostly above 0.70.

Table 2
Descriptive characteristics of the scales

		<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>	<i>Skewness</i>	<i>Kurtosis</i>	<i>α</i>
AEBQ	Food Responsiveness	4	20	11.47	3.85	0.30	-0.70	0.74
	Enjoyment of Food	4	20	9.33	3.36	0.40	-0.04	0.72
	Emotional Overeating	5	25	13.93	6.70	0.25	-1.19	0.94
	Food Fussiness	5	25	10.35	4.71	0.80	0.09	0.83
	Emotional Undereating	5	25	14.50	6.52	0.07	-1.10	0.93
	Satiety Responsiveness	4	20	9.33	3.36	0.40	-0.04	0.60
	Slowness in Eating	4	20	9.82	4.60	0.48	-0.81	0.76
Mini-IPIP	Extraversion	5	20	12.85	3.58	0.01	-0.62	0.72
	Agreeableness	4	20	16.51	2.92	-0.84	0.98	0.70
	Conscientiousness	4	20	15.26	3.70	-0.65	-0.15	0.70
	Neuroticism	4	20	11.60	3.93	0.01	-0.44	0.73
	Imagination	6	20	15.65	3.44	-0.46	-0.80	0.76

The analysis of the measures of asymmetry (skewness and kurtosis) showed that the distribution is approximately normal. The skewness coefficients are below 1 and both kurtosis and skewness values are within the acceptable range of $-/+2$ (Trochim & Donnelly, 2006; Field, 2013; Gravetter & Wallnau, 2014; Kim, 2013).

Based on the analysis of the distribution, Pearson's correlation coefficient was used to determine correlations between the scales (Table 3). Food Fussiness was negatively correlated with Extraversion, Agreeableness and Imagination, meaning that extraverted, agreeable and imaginative individuals were less fussy about their food. Food Responsiveness was positively related to Neuroticism, which means that people with high scores on Neuroticism were more responsive to food. They also tended to overeat when emotionally upset as can be seen from the small positive association between Neuroticism and Emotional Overeating. Enjoyment of Food is positively correlated with Extraversion and Agreeableness.

Table 3
Correlations between personality traits and appetitive characteristics

	EF	EOE	EUE	FR	SE	SR	FF
Extraversion	0.12*	-0.07	0.00	0.03	0.00	-0.04	-0.30**
Agreeableness	0.14*	-0.05	0.06	0.04	0.06	0.02	-0.22**
Conscientiousness	0.06	-0.09	0.10	-0.09	0.07	0.03	0.02
Neuroticism	-0.05	0.17**	0.10	0.28**	-0.06	-0.01	0.11
Imagination	0.07	-0.09	0.02	-0.06	0.06	-0.06	-0.19**

Note: *Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

EF=Enjoyment of Food, EOE=Emotional Overeating, EUE=Emotional Undereating,
FR=Food Responsiveness, SE=Slowness in Eating, SR=Satiety Responsiveness,
FF=Food Fussiness

Regression models

For the purpose of checking if and how well personality traits can predict appetitive traits, a multiple regression analysis was conducted. The VIF values are all well below 10 (for Extraversion VIF=1.30, Agreeableness VIF=1.23, Conscientiousness VIF=1.02, Neuroticism VIF=1.10, Imagination VIF=1.20), the tolerance statistics are above 0.2 (0.77, 0.81, 0.98, 0.91, 0.84) and the average VIF=1.17 which is very close to 1. The VIF values and the tolerance statistics confirm that there is no multicollinearity (Field, 2013).

A separate regression analysis was performed for each of the appetitive traits. The results show that personality traits could be used as predictors only for Emotional Overeating, Food Responsiveness and Food Fussiness. The significant full models are presented in Table 4, 5 and 6. For the remaining of the appetitive traits the regression models were not statistically significant: Enjoyment of Food ($F(5, 315)=1.81, p=.11$), Emotional Undereating ($F(5, 315)=1.54, p=.18$), Slowness in Eating ($F(5, 315)=.99, p=.43$), Satiety Responsiveness ($F(5, 315)=.46, p=.81$).

Table 4

Regression analysis – personality traits as predictors of Emotional Overeating

<i>R</i>	<i>R</i> ²	<i>Adj R</i> ²	<i>F</i>	<i>p</i>	
0.21	0.04	0.03	2.86	0.02	
<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>			
	<i>B</i>	<i>SE</i>	<i>Beta</i>	<i>t</i>	<i>p</i>
(Constant)	15.87	3.22		4.93	0.00
Extraversion	0.01	0.12	0.01	0.11	0.91
Agreeableness	-0.04	0.14	-0.02	-0.27	0.78
Conscientiousness	-0.17	0.10	-0.09	-1.67	0.10
Neuroticism	0.28	0.10	0.16	2.79	0.01
Imagination	-0.13	0.12	-0.07	-1.15	0.25

Personality traits accounted for only 4% of the variation in Emotional Overeating with Neuroticism as a significant positive contributor ($\beta=.16, p=.01$).

Table 5
Regression analysis – personality traits as predictors of Food Responsiveness

<i>R</i>	<i>R</i> ²	<i>Adj R</i> ²	<i>SE</i>	<i>F</i>	<i>p</i>	
0.32	0.10	0.09	3.68	7.07	0.00	
		<i>Unstandardized Coefficients</i>	<i>Standardized Coefficients</i>			
		<i>B</i>	<i>SE</i>	<i>Beta</i>	<i>t</i>	<i>p</i>
(Constant)		8.26	1.79		4.60	0.00
Extraversion		0.14	0.07	0.13	2.13	0.03
Agreeableness		0.05	0.08	0.03	0.58	0.56
Conscientiousness		-0.10	0.06	-0.09	-1.71	0.09
Neuroticism		0.29	0.06	0.30	5.34	0.00
Imagination		-0.08	0.07	-0.07	-1.25	0.21

Personality traits accounted for 10% of the variation in Food Responsiveness with Neuroticism ($\beta=.30, p<.001$) and Extraversion ($\beta=.13, p=.03$) as significant positive contributors.

Table 6
Regression analysis – personality traits as predictors of Food Fussiness

<i>R</i>	<i>R</i> ²	<i>Adj R</i> ²	<i>SE</i>	<i>F</i>	<i>p</i>	
0.34	0.11	0.10	4.47	8.03	0.00	
		<i>Unstandardized Coefficients</i>	<i>Standardized Coefficients</i>			
		<i>B</i>	<i>SE</i>	<i>Beta</i>	<i>t</i>	<i>p</i>
(Constant)		17.81	2.18		8.18	0.00
Extraversion		-0.31	0.08	-0.23	-3.85	0.00
Agreeableness		-0.18	0.10	-0.11	-1.85	0.07
Conscientiousness		0.05	0.07	0.04	0.67	0.50
Neuroticism		0.03	0.07	0.03	0.48	0.64
Imagination		-0.11	0.08	-0.08	-1.36	0.18

Personality traits accounted for 11% of the variation in Food Fussiness with Extraversion ($\beta=-.23, p<.001$) as a significant negative contributor.

Discussion and Conclusion

The aim of this study was to examine the associations between the Big 5 personality traits and appetitive characteristics. Using a Bulgarian sample of adults, it found that Food Fussiness is significantly correlated with lower Imagination, lower Agreeableness and lower Extroversion. Food Responsiveness and Emotional Overeating is positively correlated with Neuroticism, and Enjoyment of Food is positively associated with Extraversion and Agreeableness. An evaluation of the predictability of personality traits to appetitive characteristics revealed that personality traits account for very little of the variation. The results point to Extraversion and Neuroticism as the most relevant predictors of the eating behavior-related dimensions. The results show that Neuroticism has a positive contribution to Emotional Overeating and Food Responsiveness. Extraversion has a positive contribution to Food Responsiveness as well and a negative contribution to Food Fussiness.

Neuroticism seems to be correlated with the highest number of appetitive traits and also is the strongest predictor of some of them. This finding is in line with previous research on personality traits and eating behavior: in children it was found that the strongest predictor was Neuroticism and that it correlated with Slow Eating, Emotional Undereating and Overeating, and Food Responsiveness (Vollrath et al., 2018). Neuroticism leads to unhealthy food choices by promoting emotional and external eating (Keller & Siegrist, 2015) and neurotic individuals have tendency to eat for comfort due to negative emotions (Elfhag & Morey, 2008). These results align with studies on disordered eating – higher score in Neuroticism was related to pathological eating behaviours (Miller, Schmidt, Vailancourt, McDougall & Laliberte, 2006). On the one hand, people with high scores on Neuroticism tend to be emotionally unstable and vulnerable to stress and anxiety, and also more impulsive. On the other hand, previous research has shown that Neuroticism correlates positively with the values stimulation (the need for excitement and novelty) and hedonism (pleasure or sensuous gratification for oneself) from the value theory of Schwartz (Toccas, Sagiv, Schwartz & Knafo, 2002; Schwartz, 1992), and also with substance abuse (Soldz & Vaillant, 1999). This could further explain why neurotic people tend to eat for comforting, as a sensuous gratification for oneself or as stimulation. In these terms, we can speculate that the positive contribution in the current study of Neuroticism to emotional overeating (using food for comforting and stimulation in the presence of negative emotions) and food responsiveness (impulsively and/or abusively using food for gratification or stimulation) is theoretically logical.

Extraversion is another personality trait that shows significant association with eating behavior. In children, Extraversion is associated with Enjoyment of Food (Vollrath et al., 2018) which was also confirmed in the current adult sample. On the other hand, Extraversion was related negatively to Food Fussiness.

This result is not surprising since Enjoyment of Food and Food Pickiness are opposing appetitive traits. Additionally, Extraversion has a positive contribution in predicting Food Responsiveness. The results from the current study were confirmed by previous research which found that Extraversion promotes external eating (Keller & Siegrist, 2015). Similar to Neuroticism, Extraversion is also positively correlated with attributing importance to stimulation and hedonism values (Toccas, et al., 2002). Having a meal often involves gathering with other people and sharing food, which is more inherent to extraverted individuals, who enjoy the presence of others. Eating could also be seen as pleasurable activity and gratification. Thus, eating due to external cues (e.g. other people having a meal) and despite lack of hunger could serve as a possible explanation of the results of the current study.

Food Fussiness is associated with the highest number of personality traits – negative association with Imagination, Agreeableness and Extraversion. Results suggest that picky eaters tend to dislike changes and new things, are less cooperative and more introverted. These associations are logical when considering the definition of picky eating behavior – selective eating (dislike for change) and avoidance of new food (dislike for new things). For a picky eater gathering for a meal could be challenging, since eating is not an enjoyable activity and is often shared with other people, and thus picky eating could be associated with lower scores on Extraversion, as in our research. Previous research was focused mainly on food pickiness in children with studies examining adult pickiness emerging only recently. Based on adult samples, picky eaters enjoy food less and believe that they are unhealthy eaters (Kauer, Pelchat, Rozin & Zickgraf, 2015). Based on another study, adult picky eaters can be of 2 types – ones that only have the picky eating characteristics and others who exhibit symptoms of an eating disorder (Wildes, Zucker & Marcus, 2012). Because there are few studies in the area, comparison with other results is not possible at this time. Associations between personality traits and Food Pickiness have not been examined previously.

In conclusion, the current research demonstrates that there are significant associations between personality traits and appetitive characteristics in agreement with the theory and previous findings. The results of the study provide more insights on the picky eaters' behaviors and fill a gap in the literature. However, further examination of the association between fussy eating behavior and personality traits is needed. An evaluation of the personality traits as predictors of appetitive characteristics shows that they account for very little of the variation. A significant result of this study is that the five chosen personality traits are extremely insufficient to explain the expression of different appetitive characteristics. There are obviously a number of other factors that can serve as a better basis for predicting appetitive traits such as genetic predisposition, environmental factors and others. This could also be seen as a main limitation of this research. There remains a need to further examine genetic and environmental

factors, which could yield new theoretical insights and practical implications. One of them is developing a personalized approach for people with an eating disorder or suffering from obesity.

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POVEZANOST OSOBINA LIČNOSTI I OBRAZACA PONAŠANJA U ISHRANI KOD ODRASLIH

Apstrakt

S porastom epidemije gojaznosti širom sveta, nedavna istraživanja su počela da se fokusiraju na genetski određena ponašanja u ishrani i njihovu interakciju sa „gojaznim“ okruženjem. Sve je veća potreba za dodatnim razumevanjem ovih obrazaca u ishrani kako bi se razvile intervencije u ranom životu i preventivne tehnike za zdravstvene probleme povezane sa težinom. Iako postoji dosta istraživanja o osobinama ličnosti i poremećajima ishrane, o vezi između osobina ličnosti i obrazaca ponašanja u ishrani se zna mnogo manje. Cilj ovog istraživanja je ispitivanje povezanosti faktora ličnosti Velikih pet sa ponašanjem u ishrani kod 321 odrasle osobe u Bugarskoj (starosti $M = 36,36$, $SD = 11,08$, 82,6% žena). Podaci su analizirani metodama deskriptivne statistike, korelacione analize i multiple regresione analize. Korelaciona analiza pokazala je da je Probirljivost u ishrani negativno povezana sa Imaginacijom ($r = -.19$, $p < .01$), Saradljivošću ($r = -.22$, $p < .01$) i Ekstraverzijom ($r = -.30$, $p < .01$). Uživanje u hrani pozitivno je povezano sa Ekstraverzijom ($r = .12$, $p < .05$) i Saradljivošću ($r = .14$, $p < .05$). Neurotizam je povezan sa Emocionalnim prejedanjem ($r = .17$, $p < .01$) i Responzivnošću na hranu ($r = .28$, $p < .01$). Ekstraverzija je bila negativni prediktor Probirljivosti u ishrani ($b = -.23$, $p < .001$) i pozitivan prediktor Responzivnosti na hranu ($b = .13$, $p = .03$). Neurotizam je bio pozitivan prediktor Emocionalnog prejedanja ($b = .16$, $p = .01$) i Responzivnosti na hranu ($b = .30$, $p < .001$). Ova otkrića sugerišu da su Neurotizam i Ekstroverzija važne varijable koje bi mogle dalje objasniti zašto su neki ljudi skloniji prejedanju u okruženju s lako dostupnom namirnicama.

Ključne reči: obrasci ponašanja u ishrani, osobine ličnosti, psihologija ishrane, gojaznost

PSYCHOLOGICAL PAST, PRESENT AND FUTURE IN RELATION TO FUTURE CONSIDERATIONS AND SELF-ESTEEM⁹

Abstract

The concept of time is viewed as a basic dimension of human functioning that influences decisions, judgments and actions. Our self is constructed by the way we align experiences along our psychological timeline. The aim of the study is to establish the relations between time perspectives according to Zimbardo Time Perspective Inventory (Zimbardo & Boyd, 1999) and several self-related constructs, measured by Preference for Consistency Scale (Cialdini, Trost, & Newsom, 1995), Consideration of Future Consequences Scale (Strathman, Gleicher, Boninger, & Edwards, 1994) and Rosenberg Self-Esteem Scale (Rosenberg, 1965), and to determine the effect of demographic variables on temporal profiles. The sample consisted of 542 participants (60.6% females; age range: 18-70 years; $M = 26.46$; $SD = 11.27$). Results showed Past-negative orientation to be negatively correlated with Self-esteem. Future factor is associated with Preference for consistency. Present-fatalistic has negative correlations with Consideration of future consequences. Women scored higher than men regarding Present-hedonistic, Past-positive, and Present-fatalistic scales. Participants up to 21 years showed higher scores in relation to Present-hedonistic orientation compared to the group aged over 21 years. Respondents with higher educational degree scored above those with secondary education according to Future and Present-fatalistic orientation. The study contributes to the research providing evidence about the predictive effect of individual differences in time perspective to diverse psychological and behavioral outcomes.

Key words: Time perspective, Zimbardo Time Perspective Inventory, Preference for consistency, Consideration of future consequences, Self-esteem

Introduction

Time perspective categorizes our personal and social experience into past, present and future temporal frames, that helps us give meaning and coherence to these events (Zimbardo & Boyd, 1999). Time perspective is crucial to our

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present and future plans, to the way we see ourselves in relation to the past, the future and other people, and to the way we act in the present (Lennings, 2000). Time perspective is the process by which people categorize, archive and recover personal and social experiences through temporal frames (past, present, and future), influencing various aspects of human behavior.

One of the first theorists of time perspective Kurt Lewin suggests that the analysis of the subjective temporal frames of past and future have a central importance in the explanation of human cognition and behavior, as they are always active in the present (Lewin, 1965). Moreover, our self is constructed by the way we align experiences along our psychological timeline (Shmotkin & Eyal, 2003). The work of Zimbardo and Boyd also accentuated the great importance of the construct of time perspective as an individual-differences variable with implications to diverse aspects of human behavior. Researchers found fundamental relations of time perspective with the cognitions about our self (Zimbardo & Boyd, 1999).

The model proposed by Zimbardo and Boyd (1999) consisted of five time perspective dimensions: 1) Past-negative – related to the recollection of negative experiences, including the negative reconstruction of past events, and also anxiety, depression and anger toward the past; 2) Past-positive – a tendency to reflect on past events with a sentimental, affectionate and pleasant attitude toward the past; 3) Present-fatalistic – which represents a feeling of hopelessness or lack of control over the various events in the present; 4) Present-hedonistic – which refers to a perspective oriented toward the search for sensations and novelty, with disregard for possible future consequences, attraction to immediate pleasure, risk-taking and sensation seeking, with little concern for future consequences. The future time, on the other hand, is related to forward thinking and goal setting, often neglecting present enjoyment (Zimbardo & Boyd, 1999).

The construct of consideration of future consequences measures a stable individual difference in the extent to which individuals consider distant versus immediate consequences of potential behavior. Recent research showed that the Present-hedonistic factor was associated with the individual's concept of future consequences and correlates positively with novelty and sensation seeking (Zimbardo & Boyd, 1999). Despite some findings suggesting that a focus on the present is associated with subjective well-being and general happiness (Csikszentmihalyi & Rathunde, 1993; Keough, Zimbardo, & Boyd, 1999), seeking immediate gratification, while disregarding the consequences of actions, is typical of a predisposition to a present temporal bias. The present-hedonistic orientation was found to be associated with the lack of consideration of future consequences (Zimbardo & Boyd, 1999). The future time orientation correlated significantly with the consideration of future consequences. The present-fatalistic factor correlated negatively with the consideration of future consequences (Zimbardo & Boyd, 1999).

The construct of preference for consistency measures the tendency to base one's responses to incoming stimuli on the implications of previous expectations, commitments, and choices. The tendency for consistency was considered as a need inherent to human cognitive functioning (Abelson & Rosenberg, 1958; Festinger, 1957). The present-hedonistic orientation was found to be associated with the lower levels of preference of consistency. The future time orientation correlated significantly with the preference for consistency (Zimbardo & Boyd, 1999).

Self-esteem is a very popular construct in psychological research and has attracted great attention because of its predictive power. It was defined as the positive or negative attitude towards the self, including feelings of self-acceptance, self-respect and worth for one's own self (Rosenberg, 1986). Self-esteem represents the conjunct of the person's judgments of their own worthiness. In other words, self-esteem is the evaluative part of the self-concept (Heatherton & Wyland, 2003). It was found to be related to personality variables such as extraversion, neuroticism and negative and positive affectivity (Watson, Suls & Haig, 2002) and mental health phenomena such as depression (Fleming & Courtney, 1984; Furr & Funder, 1998; Neiss, Stevenson, Legrand, Iacono, & Sedikides, 2009), happiness, life satisfaction, and well-being (Diener & Diener, 1995; Gray-Little & Hafdahl, 2000).

Research suggests that particular time profiles interfere with various aspects of human functioning, particularly the past-negative orientation has been correlated with the low self-esteem, and it has been demonstrated that individuals with a negative orientation toward the past have fewer close friends (Zimbardo & Boyd, 1999). Findings from Lyubomirsky and Nolen-Hoeksema (1995) and Nolen-Hoeksema and Morrow (1993) confirm these results. In contrast, high past-positive time orientation is related to high levels of self-esteem and happiness (Zimbardo & Boyd, 1999).

Very few studies directly addressed the relationship between time perspective and self-esteem. Zimbardo and Boyd (1999) found negative correlations of the past-negative and present-fatalistic orientation, and positive with past-positive and self-esteem. Another study showed the same pattern of correlations with past-negative and present-fatalistic being negatively correlated with the construct (Anagnostopoulos & Griva, 2012). In addition, a study involving Italian adolescents established that severe suicidal ideation is mostly explained by psychopathological symptoms, self-esteem and past-negative and present-fatalistic time orientations. Suicide ideators had lower self-esteem and score higher in past-negative and present-fatalist than non-ideators (Laghi, Baiocco, D'Alessio, & Gurrieri, 2009).

Objective

The aim of the research was to establish the relations between time perspective profiles and several self-related constructs – consideration of future

consequences, preference for consistency and self-esteem. Also, the aim of the research was to examine the effects of demographic variables on temporal profiles.

Method

Participants

A total of 542 Bulgarian participants completed the study, aged between 18 and 70, most of them were university students ($M = 26.46$, $SD = 11.27$). 60.6% of the sample were female. Regarding age, the sample was divided into two groups considering that the half of the sample were aged below 22 years old. The first group ranged between 18 and 21 years, represented 53% of the participants, the second (from 22 to 70 years) consisted of 47% of the sample. About 43% of the sample possessed a higher educational degree, 57% completed secondary education.

Instruments

The study was conducted by means of a battery of questionnaires, translated to Bulgarian by two independent translators and the discrepancies between the translations were discussed and resolved. The reliability estimates for the scales were good – Cronbach's alpha between 0,70 – 0,90.

Time perspective was measured through **The Zimbardo Time Perspective Inventory** (ZTPI; Zimbardo & Boyd, 1999). This inventory was validated to Bulgarian sample by Stoyanova and Karabeliova (Stoyanova & Karabeliova, 2019). ZTPI is a self-report measure made up of 56 items in the form of statements and uses a 5-point Likert scale ranging from *Very uncharacteristic (1)* to *Very characteristic (5)*. The five factor structured inventory measures multiple time perspectives as individual temporal profiles and investigates orientation towards Past-negative ($\alpha = .82$), Past-positive ($\alpha = .80$), Present-fatalistic ($\alpha = .74$), Present-hedonistic ($\alpha = .79$) and Future time perspectives ($\alpha = .77$).

Consideration of Future Consequences Scale (CFCS; Strathman et al., 1994) is a 12-item scale ($\alpha = .76$) that measures a stable individual difference in the extent to which people consider distant versus immediate consequences of potential behaviors. The instrument uses a 5-point Likert scale ranging from *Extremely uncharacteristic (1)* to *Extremely characteristic (5)*.

Preference for Consistency Scale (PCS; Cialdini et al., 1995) is an 18-item scale ($\alpha = .85$) that measures a tendency to base one's responses to incoming stimuli on the implications of previous expectations and choices. Individuals who score low on the scale demonstrate a preference for change, spontaneity, and unpredictability in the way they respond to social stimuli and do not demonstrate a strong preference for congruity with past behavior. Individuals who score high on the scale, on the other hand, value personal consistency and strive to

respond to most situations in a manner consistent with prior attitudes, behaviors, and commitments. The instrument uses a 9-point scale ranging from *Strongly disagree (1)* to *Strongly agree (9)*.

The 10 items of **The Rosenberg Self-Esteem Scale (RSES;** Rosenberg, 1965) assess the degree of one’s perceived self-esteem. The scale ($\alpha = .77$) measures global self-worth by measuring both positive and negative feelings about the self. The scale is unidimensional and uses a 4-point Likert scale format ranging from *Strongly agree (1)* to *Strongly disagree (4)*. The scale ranges from 0 to 30. Scores between 15 and 25 are within normal range. Scores below 15 suggest low self-esteem.

Design and Procedure

The survey was conducted via online platform. Participants were able to fill out the questions completely confidentially. The purpose of the study was presented and how the collected data will be used. The participants were informed that pressing “send” at the end of the questionnaire will be accepted as a demonstration of informed consent. Age, gender and educational level were considered as independent variables and different time orientations, consideration of future consequences, preference for consistency and self-esteem were considered as dependent variables.

Results

Table 1. presents the results of descriptive analysis of the constructs in the study.

Table 1
Descriptive statistics of the constructs in the study

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>Skewness</i>	<i>Kurtosis</i>
Past-negative	542	2.98	.76	1.00	5.00	.067	-.490
Present-hedonistic	542	3.54	.58	1.87	5.00	.010	-.209
Future	542	3.49	.59	1.62	4.85	-.200	-.278
Past-positive	542	3.46	.69	1.25	5.00	-.187	-.351
Present-fatalistic	542	2.62	.68	1.00	5.00	.320	.099
Consideration of future consequences	542	2.89	.58	1.00	5.00	-.076	.299
Preference for consistency	542	4.11	.89	1.22	9.00	-.266	-.155
Self-esteem	542	1.89	.72	1.30	4.00	-.258	-.415

Table 2
*Correlations between time perspective, consideration of future consequences,
 preference for consistency and self-esteem*

	Consideration of future consequences	Preference for consistency	Self-esteem
Past-negative	-.052	.193**	-.524**
Present-hedonistic	-.173**	-.087	.024
Future	.389**	.376**	.175**
Past-positive	-.050	.147**	.174**
Present-fatalistic	-.504**	.117**	-.135**

Note. **p < .01.

Table 2. presents correlations between time perspective scales and the constructs of consideration of future consequences, preference for consistency and self-esteem. Consideration of future consequences was inversely correlated the Present-hedonistic and the Present-fatalistic scales. As expected, the construct has shown to be positively related to the future orientation. The construct of preference for consistency was positively associated with Past-negative, Future, Past-positive, Present-fatalistic scales. Both time perspective scales representing the negative view of the world and ourselves – past-negative and present-fatalistic were found to be in a negative correlation with self-esteem. Otherwise, perceiving the past and future in a positive manner was associated with higher levels of self-esteem.

Significant demographic differences presented in Figure 1. were proven through One-way ANOVA. There were significant gender differences concerning the present-hedonistic ($F_{(1,540)} = 13,449, p < .001$), past-positive ($F_{(1,540)} = 4.947, p < .05$) and present-fatalistic ($F_{(1,540)} = 10.734, p < .001$) dimensions. Women scored higher than men according to these three time perspective orientations: present-hedonistic (Mw = 3.62, SDw = .57; Mm = 3.43, SDm = .60), past-positive (Mw = 3.52, SDw = .69; Mm = 3.39, SDm = .68) and present-fatalistic (Mw = 2.71, SDw = .63; Mm = 2.51, SDm = .76).

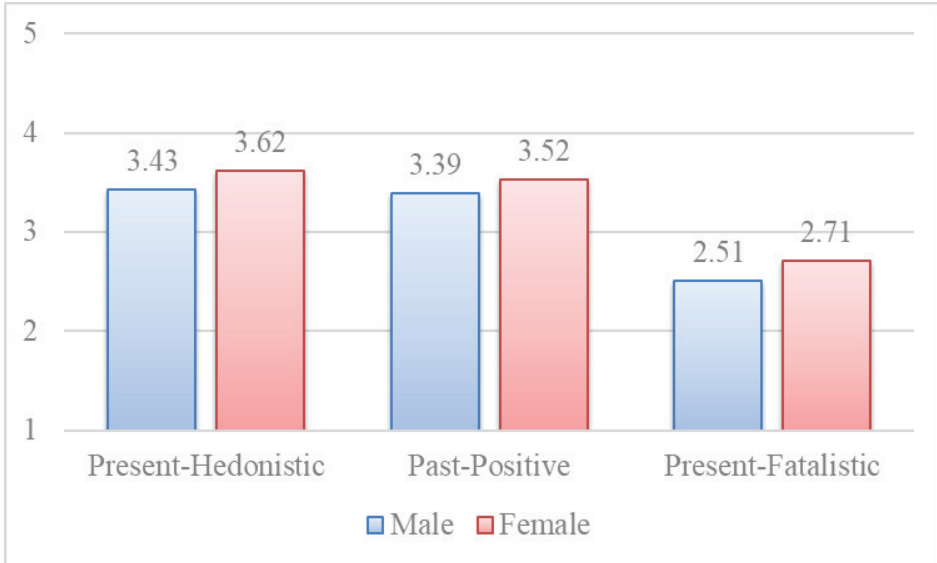


Figure 1. Demographic differences in time perspective according to gender.

Age is a significant factor regarding present-hedonistic orientation ($F_{(1,540)} = 6.944, p < .01$). These results are presented in Figure 2. The first group of participants up to 21 years showed higher scores compared to the group aged over 21 years (M up to 21 = 3.63, SD up to 21 = .57; M over 21 = 3.45, SD over 21 = .58).

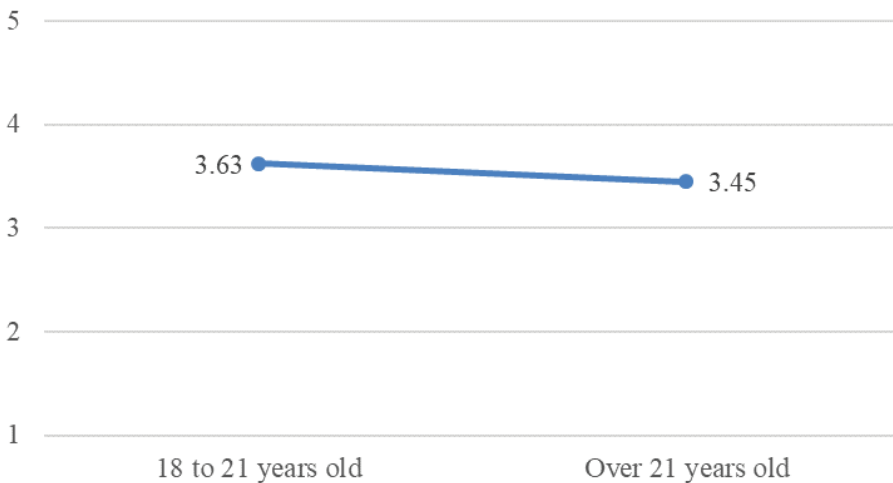


Figure 2. Demographic differences in the present-hedonistic orientation according to age.

Educational degree has a significant effect on Future ($F_{(1,526)} = 9,363, p < .001$) and Present-Fatalistic ($F_{(1,526)} = 4,159, p < .05$) orientations. Respondents with higher educational degree scored above those with secondary education on both future ($M_h = 3.57, SD_h = .57; M_s = 3.41, SD_s = .60$) and present-fatalistic scales ($M_h = 2.69, SD_h = .70; M_s = 2.57, SD_s = .67$).

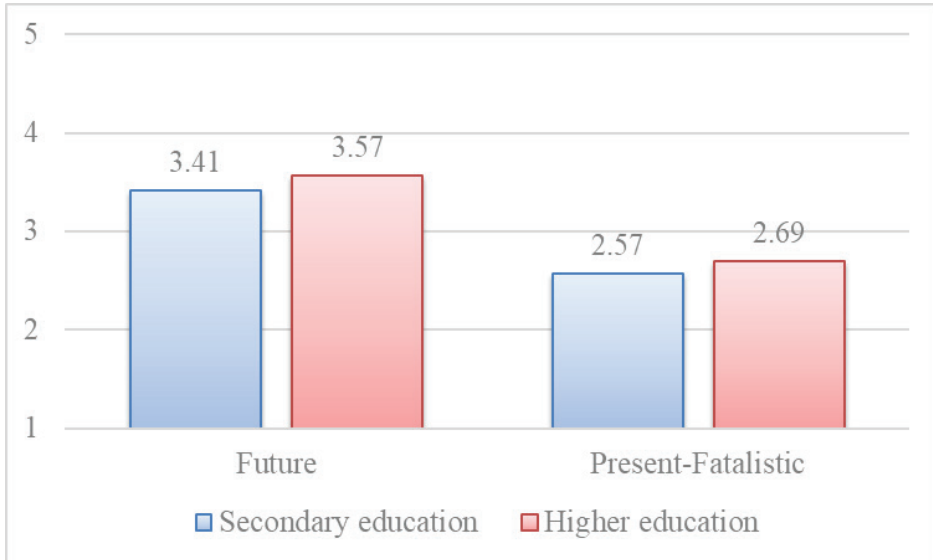


Figure 3. Demographic differences in time perspective according to the educational degree.

Discussion

Data have shown time perspective profiles to be related in significant ways to many fundamental psychological constructs, e.g., consideration of future consequences, preference for consistency and self-esteem. Significant demographic differences in time perspective emerged in the study in relation to gender, age and education.

Consideration of future consequences was inversely correlated with both present related scales in the study – the hedonistic view of the present and the fatalistic orientation toward the present. Pleasure-seeking, risk-taking behavior and beliefs of the lack of control over one’s faith were negatively associated with considering the future consequences of current behavior. These results seem obvious taking into account that cognitive biases of predominantly present-oriented time perspective would exclude considerations of the future consequences of decisions and choices taken today. Living for the moment is a tendency that is popular nowadays and is typical of the younger generations. Such a view of

one's life and time displace detailed behavioral plans and long-term goals toward the future. The fatalistic view of the present is related predominantly with beliefs that we are just instruments in the hands of fate. Such an orientation excludes the opportunity to lead your fate and life outcomes. Findings of Zimbardo and Boyd confirmed these results (Zimbardo & Boyd, 1999). As expected, the construct has shown to be positively related to the orientation toward future goals and expectations. These results were also shown in Zimbardo's original study.

The construct of preference for consistency was positively associated with all temporal profiles, except the hedonistic view of the present. The strongest relation of the construct was with the future orientation, which could be interpreted as a wish prior behavior to be coherent to important goals set in the future so the process of achievement to be more fluent. Preference for consistency reveals a tendency to base our behavior on the implications of previous expectations and choices. Even stronger relation between the future orientation and the preference for consistency was reported in the original study of Zimbardo and Boyd (1999). They did not find relations between the positive orientation toward the past and preference for consistency, yet such an association was revealed in the Bulgarian sample. These results take into consideration the possibility that our previous experience (either positive or not) determines our decisions and behavioral plans that may have implications not only to our present, but also in the process of achieving future goals. In this point of view our behavior lay in the continuum between past, present and future. The balance between these time orientations is the key point of Zimbardo's theory of the balanced time perspective that is related to optimal functioning (Zimbardo & Boyd, 1999). The fatalistic view of the present was positively related to the preference for consistency, that means people with fatalistic view of the present, also restrain themselves from new and novel responses to situations. These results are obvious considering their beliefs for the lack of control over one's life choices that is typical to this time perspective profile.

Future oriented time perspective was proven to be associated with both psychological constructs in the study related to planning of the behavioral outcomes and goal setting in the future. When this time perspective dominates it is possible that striving to achieve important goals in the future is often in the expense of the pleasures and rewards in the present. This time perspective was found to be related with positive self-esteem. Detailed behavioral plans for achieving substantial goals in the future are related to the beliefs that everything that happens is a result from my own achievements and conscious personal efforts.

Both time perspective profiles with a negative valence – the negative view of the past and the fatalistic view of the present were found to be related with lower levels of self-esteem. Results of Zimbardo and Boyd confirmed these relations (Zimbardo & Boyd, 1999). The negative evaluation of self is related to the insufficient trials to find oneself capable of controlling his own fate. The

negative background of perceiving the past as a source of embitterment and pity decreases the evaluation of self-worth. Otherwise, perceiving the past and future in a positive manner was associated with higher levels of self-esteem.

Women showed higher scores concerning the positive orientation toward the past. These results could be linked to women's warmer and sentimental attitude toward family traditions, rituals, and memories. Gender also significantly differentiated the sample concerning present-oriented time perspectives. Women scored higher than men in relation to these time perspectives. These results could be explained with the predominant orientation of women toward everyday aspects of life. The role in the society associated with the female gender is most often linked with the pragmatic view of everyday living.

Analysis of age differences in time perspective profiles revealed that in Bulgarian socio-cultural context the younger age (up to 21 years) is more related to the hedonistic view of the present, seeking of pleasure, risk-taking behavior and living for the moment. Findings of Mello and Worrell (2015) supported that older adolescents report more hedonistic attitudes and turn to pleasure seeking and living in the moment. The results are consistent with prior research showing that adolescents emphasize the present time dimension more than past and future (Bowles, 1999).

Educational degree significantly differentiated the sample regarding the future and the fatalistic orientation to the present. Results that showed people with a higher educational degree to be more future-oriented are obvious regarding their life choices of achieving educational standards that may result in better life outcomes (e.g. potential career and personal development). The fatalistic view of the present involves beliefs of insufficient personal control over situations and environment. Similar research showed people with a secondary degree associated with low socio-economic status tend to show more fatalistic attitude than graduate (D'Alessio et al., 2003). These results contrast with our findings showing that people with a higher educational degree to be more fatalistic oriented regarding their present. These results might be related to the complicated and uncertain socio-economic environment in Bulgaria in the last two decades. In the current situation, the educational degree and profiling as a specialist in a certain field of expertise do not automatically mean a satisfactory level of quality of life. Educated people founding themselves in the unpredictable reality of labor market, often feel despair that their achievements do not result from their hard work.

Findings of the study contribute to a growing body of research providing evidence about the predictive effect of individual differences in time perspective to diverse psychological and behavioral outcomes.

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PSIHOLOŠKA PROŠLOST, SADAŠNJOST I BUDUĆNOST U RELACIJI SA RAZMATRANJEM BUDUĆIH POSLEDICA I SAMOPOŠTOVANJEM

Apstrakt

Koncept vremena se posmatra kao osnovna dimenzija ljudskog funkcionisanja koja utiče na odluke, suđenja i akcije. Naš self konstruisan je na način na

koji usklađujemo iskustva prema našoj psihološkoj vremenskoj liniji. Cilj ovog istraživanja je ispitati relacije između vremenskih perspektiva koje su operacionalizovane preko Zimbardovog Inventara vremenske perspektive (Zimbardo & Boyd, 1999) i nekoliko drugih konstrukata, merenih preko Skale preferencije konzistentnosti (Cialdini, Trost, & Newsom, 1995), Skale razmatranja budućih posledica (Strathman, Gleicher, Boninger, & Eduards, 1994) i Rozenbergove skale samopoštovanja (Rosenberg, 1965). Takođe, cilj istraživanja je i utvrđivanje efekata sociodemografskih varijabli na vremenske profile. Uzorak obuhvata 542 ispitanika (60.6% žena; raspon starosti: od 18 do 70 godina; $M = 26.46$; $SD = 11.27$). Rezultati pokazuju da je Negativna prošlost negativno korelirana sa samopoštovanjem. Faktor budućnosti je povezan sa preferencijom konzistentnosti. Fatalistička sadašnjost je negativno korelirana sa razmatranjem budućih posledica. Žene pokazuju više skorove u odnosu na muškarce u pogledu Hedonističke sadašnjosti, Pozitivne prošlosti i Fatalističke sadašnjosti. Ispitanici do 21 godine pokazuju više skorove na Hedonističkoj sadašnjosti u poređenju sa grupom ispitanika koji su stariji. Ispitanici sa višim obrazovnim statusom imaju veće skorove na orijentaciji ka budućnosti i fatalističkoj sadašnjosti u odnosu na ispitanike sa srednjoškolskim obrazovanjem. Ovo istraživanje daje doprinos u pružanju podataka o vrednosti individualnih razlika u vremenskoj perspektivi za objašnjenje različitih psiholoških i bihejvioralnih ishoda.

Ključne reči: vremenska perspektiva, Zimbardov Inventar vremenskih perspektiva, preferencija konzistentnosti, razmatranje budućih posledica, samopoštovanje

THE RELATIONSHIP BETWEEN IMPOSTOR PHENOMENON AND FEAR OF FAILURE¹⁰

Abstract

The existing study explores the relationship between impostor phenomenon (IP) and fear of failure in Bulgarian socio-cultural context. IP depicts the painful cycle of feeling incompetent and unintelligent, the inability to internalize success, and the fear of being exposed as a fraud. One of the strategies people use to cope with IP experiences is to avoid situations in which they can fail and reveal their fraudulence. For the purposes of the study, Clance Impostor Phenomenon Inventory (Clance, 1987) and Performance Failure Appraisal Inventory (PFAI; Conroy, 2001) were used. The sample consisted of 80 participants (86,3% females; age range: 18-64 years, $M = 37,08$, $SD = 12,16$). IP was significantly associated with general fear of failure ($r = .618$; $p < .05$) and all subscales of PFAI. People with higher IP scores are more concerned about devaluing their self-esteem ($r = .609$, $p < .05$), experiencing shame or embarrassment ($r = .542$, $p < .05$) and how failure will affect their future ($r = .487$, $p < .05$). There's a weak positive correlation between IP and fear of upsetting the important others ($r = .258$, $p < .01$) and moderate positive correlation to fear of losing the interest of others ($r = .344$, $p < .05$). Results show that gender and work position are differentiating factors for IP. The research implications contribute to the existing literature and may be used in counselling practice to help impostors reach their optimal level of psychological functioning.

Key words: Impostor phenomenon, fear of failure

Introduction

The term *impostor phenomenon* (IP) was introduced by Rosaline Clance and Susan Imes in 1987. It depicts the experiences and feelings of high-achieving individuals who consider themselves insufficiently intelligent and competent and have a constant, intrusive fear of being exposed as "impostors". Fraudsters, fortunate, phony – these are some of the words people with IP describe themselves with.

Although impostors usually have remarkable professional and academic achievements – earned degrees, scholastic honors, high managerial positions at work, high scores on standardized tests, respect of colleagues and authorities

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– they have difficulty in accepting praise and positive feedback from others (Clance et al., 1995). Impostors tend to focus on their flaws and mistakes. They overestimate the intellectual abilities and competence of others and compare their own weaknesses with the strengths of others. Impostors believe that they do not deserve the achievements and recognition they have gained because they cannot internalize their successes (Clark, 2014). They think that they are not smart enough, competent enough and consider their success as a result of anything else but their own abilities. Fraudsters believe their accomplishments are a matter of a coincidence, luck, a fluke or a mistake. They think that they got the job because they happen to be at the right place in the right moment or got promoted because they know the right people. They won a contest not because their wittiness and wisdom but because they successfully fooled the jury by charisma and social skills. They think that the odds were in their favor and they just deceived others. However, they fear that at some point, they will run out of luck or their charisma will fail them, and their true face will be exposed (Clance, 1985).

Impostors describe IP as a self-perpetuating and cyclic process accompanied by excruciating feelings and depleting experiences (Harvey & Katz, 1984). The IP cycle begins when a person faces a new project or a challenging work task. Since they consider themselves incompetent and inadequate, impostors perceive this new task not as a chance for success and progress but as an opportunity to be exposed as fraudulent. On the one hand, if they fail, other people will see their lack of expertise and abilities. On the other hand, if they succeed, others will set higher expectations for them which the impostors will feel obliged to meet.

One of the most common patterns of behavior which the impostors demonstrate when they are exposed to challenging or achievement-related tasks is over-preparation (Clance & Imes, 1987; Thompson et al., 2000). Clance and O'Toole (1988) suggest that the underlying motive of the behavior in these situations is fear of failure. When impostors are exposed to challenging or achievement-related tasks, they usually experience high levels of anxiety, self-doubts and worry because they fear to fail. Their inability to complete the task at the highest standards and meet the expectations of others will induce feelings of humiliation and shame (Clance & O'Toole, 1988). Therefore, in order to avoid failure and being exposed as fraudulent, they make great efforts to prepare themselves as much as possible and complete the task perfectly. They work hard, often in their free time, stay late in the office, search for additional information and thoroughly check every detail. Their efforts usually pay off and when success comes others start to compliment them on their achievement. The completion of the task, however, gives the impostors sense of relief and accomplishment temporarily. They believe the congratulations of others are unrighteous, attribute their accomplishments to hard work and diligence and not to their own abilities, belittles their success and ultimately feels like a greater liar (Clance & Imes, 1987). When impostors face the next challenge, IP cycle starts again.

There are several other studies which examines the relationship between IP and fear of failure empirically. For example, Fried-Buchalter (1997) examines the relationship between impostor phenomenon, fear of success and fear of failure among female and male managers. According to the results, a significant positive correlation between fear of failure and IP was observed. Three independent studies examine the relationship between IP and impostor syndrome among students (Nelson et al., 2019; Neureiter & Traut-Mattausch, 2016; Ross et al., 2001). Nelson et al. (2019) examined the relationship between fear of failure, IP and self-efficacy among STEM (Science, Technology, Engineering and Mathematics) students and found a moderate positive correlation between IP and general fear of failure. Neureiter and Traut-Mattausch (2016) and Ross (2001) received similar results. In addition, Ross found that IP is best predicted by fear of failure followed by self-handicapping behavior. No data about the IP, and especially how it correlates to fear of failure, in Bulgarian socio-cultural context was found.

IP was first considered to be a women's characteristic (Clance & Imes, 1987). However, recent studies show IP is equally distributed among men and women (Austin, 2009; Cowman & Ferrari, 2002; Harvey, 1981). According to Clance and Matthews (1980), about 70% of people (regardless of their gender) have felt like a fraud at least once in their careers. However, imposturous feelings are usually observed to be stronger in women than in men (King & Cooley, 1995; Kumar, 2006). In addition, women and men react differently to IP experiences – men are prone to avoid situations in which their incompetence might be discovered, while women tend to outperform others to feel competent enough (Nelson, 2011).

Findings about how age affects IP experience are quite contradictory. Some researchers reported that age is not a differentiating factor for IP (Lester, 1995; Want & Kleitman, 2006). Findings from other studies (Thompson, 1998) show that age was negatively associated with IP. Chae et al. (1996) reported that age had no effect on IP but interaction between age and gender differentiated IP and younger women had higher IP scores. In a study of Brauer and Proyer (2017) there was a significant negative correlation among working professionals but not among undergraduates.

Most studies on IP are conducted in academic environment (Clark, Vardeman & Barba, 2014; Cowie et al., 2018; Craddock et al., 2011; Gordon, 2003; Qureshi et al., 2017). Since the intellect is idealized in the academic community, it is thought to be a good prerequisite for the emergence and maintenance of IP (Zorn, 2005). However, these studies examine the level and distribution of IP either in high school (Dudău, 2014) or in higher education (Parkman, 2008), and no study was found to investigate if and how IP differentiates among people with different educational degree.

Although there are a great number of popular online publications about how employees can overcome IP and unleash their full potential, there are far

less studies concerning IP at work. Some of them examine IP among managers (Bechtoldt, 2015; Fried-Buchalter, 1997), others investigate how IP affect career planning (Neureiter & Traut-Mattausch, 2016), and job satisfaction and commitment at work (Vergauwe et al., 2015) among employees. Yet, no study examines and clarifies if work position is a differentiating factor for IP.

Objective

The objective of this study is to examine the relationship between IP and fear of failure, as well as the dimensions of fear of failure, among Bulgarians and to serve as a starting point for further research of these two constructs in Bulgaria. It also aims to investigate the effect of several demographic factors on IP, some of which are scarcely addressed in previous studies.

Method

Participants

The sample consisted of 80 participants, most of them were women (86,3%). There were 5 participants, who were below the age of 18 and thus were excluded of the final sample of the study. The age of the participants varied from 18 to 64 ($M = 37,08$, $SD = 12,16$). For the purposes of the data analysis participant were separated into groups. The first group ranged between 18 and 31 years and represented 50% of the participants, the second (from 31 to 64 years) consisted of 50% of the sample. Regarding the level of education and the position at work, participants were divided into two groups as well. In terms of education, 20% of the sample reported high education, and 80% a higher educational degree (bachelor's degree, master's degree, PhD or higher). About one third of the participant (31,2%) were on managerial position and 68,8% were on expert position.

Instruments

Clance Impostor Phenomenon Scale – CIPS (Clance, 1978). CIPS is a self-report questionnaire which measures if people have IP characteristics and to what extent ($\alpha = .83$). Higher scores imply higher levels of IP. The tool is suitable for quick screening of IP cognitions and emotions in the counseling practice or psychotherapy. The questionnaire contains 20 items (e.g. „*Sometimes I feel or believe that my success in my life or in my job has been the result of some kind of error*”). CIPS includes a 5-point Likert scale (from “1 – I don't agree at all” to “5 - I totally agree”).

Performance Failure Appraisal Inventory – PFAI (Conroy, 2001). PFAI is a self-report questionnaire which measures the levels of general fear of failure and five of its dimensions – Fear of experiencing shame and embarrassment, Fear of

devaluing one's self-esteem, Fear of having an uncertain future, Fear of important others losing interest, Fear of upsetting important others. PFAI consists of 25 items, with Likert response scale (from *I don't agree at all* to *I totally agree*) and includes the following scales: 1) Fear of experiencing shame and embarrassment ($\alpha = .80$) contains 7 items (e.g. „*When I am failing, it is embarrassing if others are there to see it*"); 2) Fear of devaluing one's self-esteem ($\alpha = .68$) contains 4 items (e.g. „*When I am failing, it is often because I am not smart enough to perform successfully*"); 3) Fear of having an uncertain future ($\alpha = .79$) contains 4 items (e.g. „*When I am failing, I believe that my future plans will change*"); 4) Fear of important others losing interest ($\alpha = .81$) contains 5 items (e.g. „*When I am not succeeding, people seem to want to help me less*"); 5) Fear of upsetting important others ($\alpha = .75$) contains 5 items (e.g. „*When I am failing, important others are disappointed*") and 6) General fear of failure ($\alpha = .87$) contains all 25-items of the questionnaire.

Demographic Information

Participants reported their age, gender, education completed and job position.

Design and Procedure

Data was gathered in February 2018 via the online platform Assessia (www.assessia.com). Participants were asked to fill in a self-report questionnaire by answering all the questions sincerely. All of them were informed beforehand for the purposes of the study and agreed to voluntarily take part in the anonymous process of data gathering. Because of the platform settings, participants were not able to move forward the next section of statements and to complete the questionnaire without answering all of the questions. There were no missing data. Age, gender, educational level, and position at work were considered as independent variables and IP and fear of failure were considered as dependent variables.

Data analysis was conducted with IBM SPSS v. 21, using the following statistical procedures: descriptive statistics, correlation analysis and Independent Sample T-test.

Results

Descriptive statistics

Table 1. presents descriptive statistics (mean, standard deviation, minimum and maximum) for each dependable variable on the whole sample in the study.

Table 1
Descriptive statistics for all dependent variables

Variable	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>M</i>	<i>SD</i>
Impostor Phenomenon	80	27.00	86.00	58.26	11.91
Fear of Experiencing Shame and Embarrassment	80	1.14	4.86	3.16	.75
Fear of Devaluing Self-esteem	80	1.25	4.75	2.64	.80
Fear of Uncertain Future	80	1.00	4.25	2.57	.84
Fear of Important Others Losing Interest	80	1.00	4.60	2.38	.84
Fear of Upsetting Important Others	80	1.00	4.60	2.21	.77
General Fear of Failure	80	1.28	3.67	2.59	.58

Relationship between impostor phenomenon and fear of failure

Correlation analysis was applied to examine the association between IP and fear of failure. The results indicate that there is a statistically significant positive relationship between the impostor phenomenon and general fear of failure ($r = .618, p < .05$). Impostor phenomenon is also positively associated with all dimensions of fear of failure. Results are presented in Table 2.

Table 2
Correlations between IP and fear of failure dimensions

	Impostor Phenomenon	Experiencing Shame and Embarrassment	Devaluing one's self-esteem	Having an uncertain future	Important others losing interest	Upsetting important others
Experiencing shame and embarrassment	.542**					
Devaluing one's self-esteem	.609**	.517**				
Having an uncertain future	.487**	.462**	.466**			
Important others losing interest	.344**	.505**	.359**	.357**		
Upsetting important others	.258*	.312**	.311**	.247*	.515**	
General fear of failure	.618**	.765**	.730**	.707**	.762**	.655**

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

Differences in impostor phenomenon in terms of demographic factors

Independent Sample T-test was conducted to examine the effects of each independent factor on IP. The choice of this statistical procedure is based on the findings of previous studies (Chae et al., 1996).

The results show that gender is a differentiating factor for IP ($t_{(78)} = 2.549$, $p < .05$) (Figure 1).

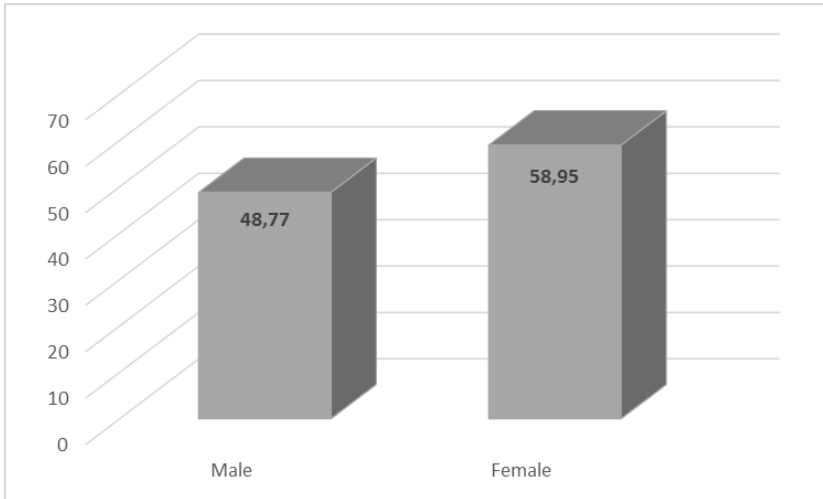


Figure 1. Variances of IP depending on gender.

This study found that participants at an expert position had statistically significantly higher IP scores than participant at managerial position ($t_{(78)} = 2.143$, $p < .05$) (Figure 2).

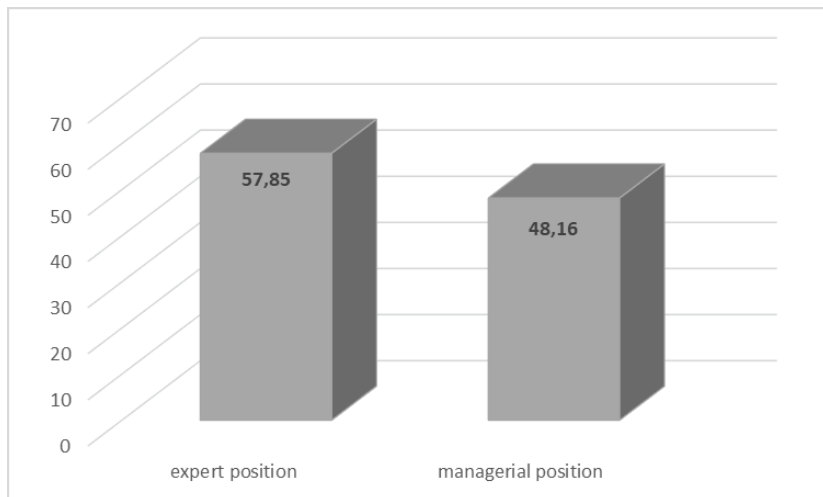


Figure 2. Variances of IP depending on the work position.

Age ($t_{(78)} = .891, p > .05$) and educational degree ($t_{(78)} = .890, p > .05$) have no significant effect on IP.

Discussion

Studies have shown that people with higher levels of impostor phenomenon experience more intensive fear of failure (Fried-Buchalter, 1997; Ross et al., 2001; Nelson et al., 2019; Neureiter & Traut-Mattausch, 2016). This implication is supported by the results of this study, which show that there is a positive significant correlation between IP and the global scale of fear of failure. Fraudsters are unsure, lack confidence, worry that they cannot handle a task, and will disappoint others. An individual with IP fears that failure may lead to the disclosure of their incompetence and others would proclaim them for fraudulent (Hoang, 2013). These experiences force impostors to work hard in order to achieve their goals.

The results of this study report a significant positive correlation between IP and all dimensions of fear of failure. People with higher IP scores have higher fear of experiencing negative emotions and devaluing themselves. They tend to believe that failure will prove their lack of talent and abilities (Clance & O'Toole, 1988). They are prone to criticize themselves more severely (Leary, 2010), do not like the fact that other people will witness their failure and the doubters will be right about the impostor's incompetence. The results also show that people who score higher on IP have more concerns about how their failures will affect the opinion that important others have about them. They are more likely to believe that their failure will upset or disappoint others and lose their trust. In addition, they are more likely to think that when they fail others will criticize them or lose interest in them and will not be willing to help (Harvey & Katz, 1985). A positive correlation between the IP and fear of uncertain future was also observed.

Although the majority of studies reported that there's no significant gender differences in IP (Austin, 2009; Cowman & Ferrari, 2002; Harvey, 1981), there are several studies according to which women tend to experience stronger feelings of IP than men (King & Cooley, 1995; Kumar, 2006). King and Cooley (1995) examined a sample of 127 college students and reported significantly higher CIPS scores among females. The results of our study confirm these findings. The results show that compared to men, women are more prone to believe that they are not competent enough and that other people will find out their lack of knowledge and skills. They tend to think that their achievements are due to some kind of an error and to discount the importance of what they have done. However, we might keep in mind that the women and men in the sample are not equally distributed.

A higher position in the organizational hierarchy implies greater challenges and, consequently, higher IP levels. A high position is an equivalent of success,

but it is also an opportunity the incompetence and lack of abilities to be exposed. However, the current study shows that people in lower positions have higher levels of IP. This can be explained by the fear of success, which usually stops people from unleashing their full potential, accepting challenges and more responsibilities (Horner, 1972). In addition, these results put emphasis on a sample among which IP has been scarcely examined – people on expert positions. Furthermore, it makes a comparison between them and employees on managerial positions.

Limitations of this study and recommendations

There are several limitations to be considered. First, the sample of participant is not representative for the Bulgarian population. This implies the need of another study among a larger sample of more diverse and balanced groups of participants. In the future, this will give the researchers the opportunity to make more detailed and in-depth analysis about the effect of the demographic factors on IP. Due to the prevailing number of women who participated in this study, it is recommended that more men should be included in future studies. It would be interesting and useful to investigate IP among teenagers and students as global studies indicate that this age group is particularly susceptible to IP experiences.

Conclusion

This study is one of the first in Bulgaria that address the topic of IP. It provides information on variations in IP depending on a number of demographic factors. On the one hand, it enriches the existing literature on the topic, and supports the findings of other studies worldwide. On the other hand, it draws attention to issues that are, till this moment, not addressed or only scarcely examined. The results of the correlation analysis emphasize the need of a more detailed and global study of causality of the relationship between IP and other constructs.

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POVEZANOST IZMEĐU FENOMENA VARALICE I STRAHA OD NEUSPEHA

Apstrakt

Ovo istraživanje ispituje povezanost između fenomena varalice (FV) i straha od neuspeha u bugarskom socio-kulturalnom kontekstu. FV se odnosi na bolni skup osećanja nekompetentnosti, neinteligentnosti, kao i nemogućnosti internalizacije uspeha i strah od prikazivanja sebe kao valalice ili prevaranta. Jedna od strategija koju ljudi koriste za suočavanje sa FV iskustvima jeste izbegavanje situacija u kojima mogu podbaciti i otkriti svoju obmanu. Uzorak obuhvata 80 ispitanika (86,3% žena, raspon starosti: od 18 do 64 godina, $M = 37,08$, $SD = 12,16$). Od instrumenata korišćen je Clance Invenar fenomena varalice (Clance, 1987), kao i Inventar za procenu neuspeha u izvođenju (IPNI; Conroy, 2001). FV je značajno povezan sa generalnim strahom od neuspeha ($r = .618$; $p < .05$), kao i sa svim subskalama IPNI-a. Ispitanici koji su pokazali više skorove na FV-u više su zabrinuti zbog devalviranja njihovog samopoštovanja ($r = .609$, $p < .05$), doživljavanja stida i srama ($r = .542$, $p < .05$), kao i zbog toga kako će se neuspeh odraziti na njihovu budućnost ($r = .487$, $p < .05$). Zabeležena je slaba pozitivna korelacija između FV-a i straha od uznemiravanja bitnih drugih ($r = .258$, $p < .01$), kao i umerena pozitivna povezanost FV-a sa strahom od gubitka interesovanja drugih ($r = .344$, $p < .05$). Rezultati pokazuju da su pol i radna pozicija faktor diferencijacije za FV-a. Nalazi ovog istraživanja dopunjuju postojeća saznanja na temu FV-a. Praktične implikacije dobijenih podataka ogledaju se u korišćenju u okviru savetodavnog rada, a u cilju pomaganja „varalicama” da dostignu optimalni nivo psihičkog funkcionisanja.

Ključne reči: fenomen varalice, strah od neuspeha

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Research paper

VALIDATION OF THE TRANSGRESSION RELATED INTERPERSONAL MOTIVATIONS INVENTORY (TRIM-12) IN BOSNIAN-HERZEGOVINIAN CULTURE AND THE RELATIONSHIP WITH THE ALTERNATIVE FIVE FACTOR MODEL OF PERSONALITY TRAITS¹¹

Abstract

Transgression Related Interpersonal Motivations Inventory (TRIM-12) assesses prosocial changes in interpersonal motivation. It consists of 12 items (Revenge-5, Avoidance-7). The aim of this study is the validation of the TRIM-12 scale in Bosnian-Herzegovinian culture. The relationship with personality traits was also examined. The sample consisted of 259 respondents (185 women) between 20 and 68 years of age. Personality traits (Neuroticism, Extraversion, Sensation seeking, Aggression, Activity) were assessed using ZKA-PQ-SF. The structure of the questionnaire was tested using confirmatory factor analysis, while relations to personality traits were analyzed using Pearson's correlation analysis. The reliability of the TRIM-12 scales is satisfactory (Revenge $\alpha = .81$; Avoidance $\alpha = .84$). Confirmatory factor analysis resulted in two robust factors that are in accordance with Avoidance and Revenge scales. Results also show acceptable fit indices of the tested model: $\chi^2/df = 3.66$; $p < .01$; CFI = .87; TLI = .84, RMSEA = .10; SRMR = .07. The Avoidance dimension does not correlate with personality traits, while the dimension of Revenge significantly correlates with Aggression, Neuroticism and Extraversion. The results suggest satisfying psychometric characteristics of TRIM-12. Results justify the consideration of forgiveness as a motivational component in the context of personality traits.

Key words: Forgiveness, TRIM-12 Inventory, Validation, AFFM personality traits

Introduction

Although serious research on the tendency to forgive has only begun in the last two decades of the twentieth century (McCullough, Pargament, &

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Thoresen, 2000), significant progress has been made to shed light on the nature of the construct and the ability to measure it. Yet, there is still no single, unique, definition of forgiveness. Most theorists and researchers agree with Coyle and Enright (1998), who say that forgiveness is first and foremost different from: excusing (which involves justifying the offense), justifying (mitigating the offense with alleviated circumstances), forgetting (losing the memory of the offense from consciousness), and denial (unwillingness or inability to perceive the caused offense). Over time, different authors have formed different conceptualizations of forgiveness, that resulted in different conceptions and measuring instruments. Thompson & Snyder (2005) define forgiveness “*as the framing of a perceived transgression such that one’s responses to the transgressor, transgression, and sequel of the transgression are transformed from negative to neutral or positive*”. The reframing happens as a result of one’s motivation to resolve the dissonance caused by the transgression and their response to it, since having to face with transgression one is forced to deal with information that are not in accordance with their assumptions about others, the world or themselves. When the one who forgives reframes the transgression, getting rid of the negative attachment towards the transgressor or a transgression, his responses might change in terms of valence (from negative to neutral or positive) and strength (intensity of the thoughts, feelings or behaviors), but also by combining changes in these two response components. When forgiving another person is in question, the one who forgives by reframing a perceived transgression, may open himself/herself to the possibility of developing well-meaning and positive feelings towards the forgiven. If positive feelings develop, the person who has forgiven may or may not have reconciled with the person who has caused her pain. However, this conceptualization sees neither reconciliation nor compassion as necessary components of forgiveness. Forgiveness is seen as an intrapersonal relationship that can aim to forgive oneself, others, or certain situations (Thompson & Snyder, 2003). Another theoretical point of view regards forgiveness as willingness to abandon one’s right to anger and negative condemnation, as well as willingness to indifferently treat someone who has hurt us, while at the same time seeking to cultivate the undeserved qualities of compassion, generosity, even love for that person (Enright, Freedman, & Rique, 1998). Unlike the previous one, this conception includes benevolence and spontaneous love for the perpetrator as components of forgiveness. Seen this way, the subject of forgiveness cannot be an event, but forgiveness can only be directed at themselves or others (Enright & Zell, 1989). According to the third conceptualization, forgiveness reflects a prosocial change in interpersonal motivation and such experience: a) reduces motivation to avoid personal and psychological contact with the perpetrator; b) reduces the motivation for revenge or any other form of harm to the perpetrator; and c) increases motivation for benevolence (McCullough, 2000; McCullough, Rachal, Sandage, Worthington, Brown, & Hight, 1998). Unlike previous authors,

McCullough et al. place the motivation at the center of the definition, implying that forgiveness is an intrapersonal process related to interpersonal relationships (McCullough, 2000). According to this model, forgiveness depends on a change in motivation and does not include changes in cognition, emotion and behavior. The model involves goodwill as a process of transforming the value of a relationship from negative to positive (Snyder & Thompson, 2003). Reconciliation is excluded from the model, as is the possibility of forgiving oneself. McCullough's definition can only be applied to forgiving others (Thompson & Snyder, 2003).

The aim of this study is to consider the instrument that operationalizes the Transgression related interpersonal motivation model of McCullough et al. In general, forgiveness can be defined as a response, personality disposition, or the quality of social units (McCullough & Witvliet, 2002). As a response, forgiveness can be understood as a prosocial change in the victim's thoughts, feelings, and behaviors towards the one who hurt her. In short, all definitions that are based on this property have one thing in common: when one forgives - he responds (cognitively, affectively, or behaviorally). If we define forgiveness as a disposition in a person's personality, then it is understood as a tendency to forgive others in different interpersonal situations. Finally, if it is defined as the quality of social units, forgiveness is observed with characteristics such as intimacy or trust. Some units are characterized by a greater degree of forgiveness, such as marriages, families, local communities, etc. In this model, the focus is on forgiveness in response to certain negative situations. According to McCullough's (2000) conceptualization of forgiveness, as a prosocial change in a person's motivation to avoid or seek revenge against the perpetrator, two postulates are emphasized. The first is that forgiveness is, at its core, a motivational construct. McCullough et al. (2001) assumed that most people were motivated to respond by negative behavior towards the person who had done him/her harm. They also hypothesize that the two negative emotional states that characterize interpersonal interactions correspond to the motivational systems that govern human responses to distortions of interpersonal relationships. The first corresponds to a motivational system of avoiding personal and psychological contact with the perpetrator and the second relates to the feeling of righteous anger that motivates revenge. So, when the injured partner says that he or she has not forgiven his or her close partner for the pain that he or she has suffered, the destructive level of motivation to avoid and/or to seek revenge against the offender is in increase. When an injured partner declares that he she has forgiven his/her partner, his/her perception no longer creates the motivation to avoid the offender and the desire for revenge. Another starting point of this model is that forgiveness is prosocial, suggesting that, when forgiving, people become less motivated to harm the person who did them harm and strive for more helpful reactions to that person (McCullough, 2001). Therefore, forgiveness is quite similar to other prosocial changes that occur in social life, such as assertiveness, adjustment, sacrifice. All these changes lead to

the person acting in a way that may personally cost him, but which will contribute to the well-being of the other person or the relationship.

The first questionnaire based on the motivational paradigm of the forgiveness was the Wade's Forgiveness Scale (WFS; Wade, 1989). From the starting pool of 600 items an 83-item inventory was constructed, with 9 subscales that assess the degree of forgiveness in emotion, behavior, and cognition. McCullough et al (McCullough et al., 1998) segregated two subscales (Revenge and Avoidance) with five and seven items, respectively, and that abbreviated version was called the Transgression-Related Interpersonal Motivations inventory (TRIM-12). Respondents answer on the 5-point Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree).

TRIM is conceptualized by considering unforgiveness as a fear-based secondary emotion that motivates avoidant or revenging behavior. Examples of included items are: "I want to see him/her hurt and miserable"; I am living as if he/she doesn't exist, isn't around". Scores range from 12 to 60 and higher scores suggest greater unforgiveness. Authors reported very high internal consistency, reliability, convergent, divergent and predictive validity, as well as robust two dimensional structure and stable relationship with other forgiveness measures (McCullough et al., 1998; McCullough & Hoyt, 2002; McCullough et al, 2010; 2014; Worthington, Witvliet, Pietrini, & Miller, 2007). The TRIM-12 is probably the most frequently used forgiveness questionnaire that was translated and successfully validated in many cultures.

The TRIM Inventory was afterwards extended with the 6-items Benevolence scale and named TRIM-18 (McCullough & Hoyt, 2002). All three scales showed high reliability and consistent relationship with personality traits (McCullough, 2001; McCullough & Hoyt, 2002; Mullet, Neto, & Rivière, 2005; McCullough, Root, & Cohen, 2006) and related psychological variables, such as quality of close relationships (Palcari, Regalia, & Fincham, 2009) or emotional intelligence (Rey & Extremera, 2014). Nevertheless, a factor structure of the 18-items version of the TRIM Inventory is not as stable as it was within the TRIM-12. The TRIM-18 retains 2-factors; first factor is well defined, highly loaded by Avoidance scale items, while the second factor is defined by Revenge and Benevolence items. In other words, Benevolence cannot be confirmed as the forgiveness dimension, in a way that Revenge and Avoidance certainly are.

Whether it's a 12 or 18-point version of the inventory, Revenge and Avoidance scales have consistently showed satisfactory psychometric properties in many languages and cultures (Guzman, 2010; Guzmán, Tapia, Tejada, & Valenzuela, 2014; Lopet-Alvarez, 2012; Karremans & Van Lange, 2004; Ghaemmaghami, Allemand, & Martin, 2011; Brüdere-Ruska, & Perepjolkina, 2014; Worthington, Lavelock, van Oyen, Witvliet, Rye, Tsang & Toussaint, 2015). All studies that use TRIM Inventories report robust two-factor structure underlying Revenge and Avoidance scales. Therefore, the aim of this study is to translate and validate

Transgression-Related Interpersonal Motivations inventory in Bosnian and Herzegovinian culture, and B-C-S language (which is a variation of the same language spoken in Croatia and Serbia). While considering better general psychometric properties and more robust structure of the 12-items inventory version, we decided to validate TRIM-12 that includes Revenge and Avoidance scales only. In addition to psychometric analysis, Avoidance and Revenge scales will also be analyzed in relation to personality measures. A broader validation of the scales will give a more accurate insight into the nature of Avoidance and Revenge, as motives for unforgiveness.

Research to date has shown relatively stable relationships of forgiveness with personality traits. From the “Big Five” personality traits model, high correlations were found with agreeableness and neuroticism (McCullough & Witvliet, 2002). The same authors also claim that individuals with higher tendency towards forgiveness show significantly lower neuroticism, narcissism, hostility, and passive aggression. According to McCullough (2001), the tendency towards forgiveness shows the highest connection with traits of agreeableness and emotional stability. Agreeableness is a personality trait that includes facets of altruism, empathy, caring, and generosity, so people with higher scores tend to maintain and enhance their interpersonal relationships. Thus, they experience less conflict than it is the case with less pleasant individuals. Research results consistently show that people with higher agreeableness rank higher on forgiveness measures and low on measures of revenge. Emotional stability, as a personality trait, implies a low vulnerability to negative experiences and negative emotions. Emotionally stable personalities don't tend to be hypersensitive and moody. In an analysis of the relationship between positive psychological characteristics and interpersonal forgiveness, Rey and Extremer (2014) confirmed that higher agreeableness, conscientiousness, gratitude, and optimism, in other words, reduced neuroticism, are significantly associated with decreased motivation for revenge. On the other hand, motivation towards avoidance is negatively associated with agreeableness and openness, and positively with neuroticism and hostility (Maltby et al., 2008).

Studies to date have also identified differences in personality traits in dispositional forgiveness and forgiveness in a given situation (Exline et al, 2004). Thus, forgiveness as a disposition was found to be associated with higher agreeableness, extraversion, conscientiousness and openness, and lower neuroticism. In examining forgiveness in specific situations, higher scores on TRIM scales related to motivation for forgiveness were associated with lower openness to experience and slightly higher extraversion. Research has also shown that the same personality traits have the most important influence on tendency to forgive over a longer period of time. Maltby and associates (2008) confirmed that previously identified personality traits correlate with forgiveness, immediately after the disturbance of an interpersonal relationship. However, neuroticism, particularly hostility, are important predictors of revenge and avoidance even after two and a half years.

As can be seen from the research presented above, personality has been predominantly assessed by traits from models based on the lexical paradigm. In addition to research using the „Big Five“ personality traits, Shepard & Belicki (2008) examined the relationship between forgiveness and personality traits from the HEXACO model. Agreeableness was identified as the most important correlate, while anxiety, as the facet of Emotionality, was found to be a negative correlate and the most powerful predictor of forgiveness among Emotionality facets. Honesty-Humility and Extraversion measures were also found positively associated with forgiveness. The links of forgiveness and caution and diligence, as facets of conscientiousness (Shepard & Belicki, 2008), were interesting, but have not been confirmed in other studies. Overall, studies investigating the relationship of forgiveness and the characteristics of lexical personality models are largely compatible. In this research, Alternative Five-factor model will be used to assess personality traits, a model that is very rarely used in similar studies. Bearing in mind that it is a psychobiological model, that conceives and describes basic personality traits in a different way, its application should provide additional insights into the nature of knowledge about the tendency to forgive. In addition, the obtained findings can be used to validate findings gathered in studies with personality traits assessed with lexical models.

Alternative Five Factor Model was developed by Marvin Zuckerman (1991) on the basis of studies on the psychobiology of personality and temperament. The AFFM postulates five physiologically based dimensions. After the great amount of conducted studies which have examined relations with biological markers, relationship with other psychological and physical variables and relationship with other personality models, originally proposed descriptions and names of the traits were modified. Revisited AFFM encompasses five basic personality dimensions and each includes four facets: Neuroticism (Anxiety, Depression, Dependency, Low Self-Esteem); Extraversion (Positive Emotions, Social Warmth, Exhibitionism, Sociability); Sensation Seeking (Adventure Seeking, Experience Seeking, Disinhibition Boredom/Impulsivity); Aggression (Physical Aggression, Verbal Aggression, Anger, and Hostility); and Activity (Work Compulsion, General Activity, Restlessness, and Work Energy). Several versions of the questionnaires were constructed in an effort to develop a valid instrument for assessing personality traits on the platform of Zuckerman's psychobiological theory of personality. Following the revision of the AFFM, the new adequate version of the questionnaire named Zuckerman-Kuhlman-Aluja Personality Questionnaire (Aluja, Kuhlman, & Zuckerman, 2010) was developed. Longer version consists of 200 items and shorter of 80 items. Studies consistently show satisfying psychometric properties of the ZKA-PQ-SF, robust factor structure and generalizability of the AFFM measures across cultures (Aluja et al., 2019). Studies also find a high convergence between AFFM and Five Factor Model (Zuckerman, Kuhlman, Joireman, Teta, & Kraft, 1993) and high correlations

among Neuroticism and Extraversion measures (Aluja, Garcia, & Garcia, 2002).

In our opinion, AFFM can be useful in illuminating the relationship between motives for unforgiveness as dynamic personality processes and basic, biologically-based personality traits. It is hypothesized that Revenge should be associated to Aggression, while Avoidance should be related to Neuroticism and Extraversion.

Method

Participants and procedure

Participants completed self-reported questionnaires that had been distributed by trained interviewers. Three days later questionnaires were collected. All participants were instructed to put the questionnaire back into the envelope and to seal it before handing them over. This procedure was a sufficient indicator of respecting respondents' anonymity. All respondents voluntarily participated in the research. The sample included 259 participants (185 female), between 24 and 63 years of age ($M = 40.84$, $SD = 8.50$).

Instruments

Transgression-Related Interpersonal Motivations Inventory (TRIM-12; McCullough et al, 1998) is the short, 12-items questionnaire that assesses episodic forgiveness composed of two subscales; Avoidance (7 items) and Revenge (5 items). Respondents answer on a five-point Likert scale, ranging from 1 – absolutely disagree to 5 – absolutely agree. The TRIM-12 was translated on B-C-S from the original English version of the instrument, following standard back-translation procedure.

Personality traits were assessed with the B-C-S translation of the **Zuckerman-Kuhlman-Aluja Personality Questionnaire-Short Form (ZKA-PQ-SF;** Aluja et al, 2019). The ZKA-PQ-SF consists of 80 items (16 per scale), that estimate five personality dimensions of the AFFM, each including 4 facets: Neuroticism (Anxiety, Depression, Dependency, Low Self-Esteem); Extraversion (Positive Emotions, Social Warmth, Exhibitionism, Sociability); Sensation Seeking (Adventure Seeking, Experience Seeking, Disinhibition, Boredom/Impulsivity); Aggression (Physical Aggression, Verbal Aggression, Anger, and Hostility); and Activity (Work Compulsion, General Activity, Restlessness, and Work Energy). The response to each item ranges from 1 – strongly disagree to 4 – strongly agree.

Statistical analysis

Descriptive parameters and psychometric characteristics of the Avoidance and Revenge scales, and their items, were considered first using statistical software IBM SPSS Statistics 21. Dimensionality of the questionnaire TRIM-12 was tested using confirmatory factor analysis with the statistical package Jamovi 0.9.6.1. Relationship with personality traits was examined using Pearson's linear correlation.

Results

Descriptive analysis

Values of the means and standard deviations presented in Table 1 are similar to the obtained values in the previous studies (Aluja et al., 2019). Skewness and kurtosis values (<1.00) suggest no significant deviation from the normal curve (Kaplan, 1988). Cronbach α reliability coefficients show satisfying values for both scales. No significant differences between female and male participants were found considering Avoidance ($t_{(257)} = 1.45, p > .05$; Cohen's $d = .20$), nor Revenge ($t_{(257)} = 1.64, p > .05$; Cohen's $d = .23$).

Table 1
Avoidance and Revenge scales – descriptive statistics

	AM	RM
M	24.59	11.66
SD	6.43	4.71
Sk	-.433	.614
Ku	-.288	-.141
Min	7	5
Max	35	25
α	.84	.81

Note: S – skewness; K – kurtosis; AM – Avoidance motivation;
RM – Revenge motivation.

Descriptive statistics regarding specific items is presented in Table 2. Significant values of skewness were registered in items TRIM3 ($Sk = 1.89$), TRIM5 ($Sk = -1.15$) and TRIM9 ($Sk = 1.02$), items that, according to the criterion $Sk < 2$ (Kaplan, 1988), show a significant deviation from the normal distribution. Significant vertical deviations from the normal distribution are evident in items TRIM4 ($Ku = -1.25$), TRIM6 ($Ku = -1.23$) and TRIM10 ($Ku = -1.29$). A negative

kurtosis suggests that it is a platykurtic distribution. Item TRIM3 shows the highest kurtosis value ($Ku = 3.68$) which indicates leptokurtic distribution and corrected item-total correlation values are significant for all items. Item TRIM11 shows the weakest contribution to the reliability of the Revenge scale.

The first Hotelling principal component of the Avoidance scale explains 50%, and 57% of the variance within Revenge scale. Scree test clearly indicates a single significant dimension per scale, and all items significantly loaded on the principal component. Correlation between the sum score and the Hotelling first component was very high, $r = 1.00$, for Avoidance, and $r = .99$ for Revenge scale. Correlation between Avoidance and Revenge scale first Hotelling components is positive ($r = .37, p < .01$) and is very similar to the correlation between scales sum scores ($r = .38, p < .01$).

Table 2
Items-descriptive statistics

	items	<i>M</i>	<i>SD</i>	<i>Sk</i>	<i>Ku</i>	r_{it}	α_{id}	IPC
AM	TRIM2	3.59	1.23	-.76	-.33	.56	.82	.69
	TRIM4	3.06	1.40	-.05	-1.25	.57	.82	.69
	TRIM5	3.97	1.18	-1.15	.53	.52	.82	.64
	TRIM7	3.77	1.23	-.79	-.35	.59	.81	.72
	TRIM8	3.42	1.25	-.42	-.83	.64	.81	.76
	TRIM10	3.15	1.43	-.10	-1.29	.57	.82	.70
	TRIM12	3.63	1.30	-.57	-.81	.65	.80	.78
RM	TRIM1	2.57	1.31	.41	-.93	.62	.76	.77
	TRIM3	1.61	.94	1.89	3.69	.44	.81	.61
	TRIM6	3.09	1.38	-.09	-1.23	.59	.77	.75
	TRIM9	2.05	1.27	1.02	-.023	.62	.76	.78
	TRIM11	2.35	1.30	.63	-.724	.70	.74	.84

Note: *Sk* – Skewness; *Ku* – kurtosis; r_{it} – corrected item-total correlation; α_{ID} – reliability if item deleted; IPC – First Principal Component; AM – Avoidance motivation; RM – Revenge motivation.

Confirmatory factor analysis of the TRIM-12

The structure of the TRIM-12 scale was verified by a confirmatory factor analysis using the maximum likelihood method. The following indicators were used to estimate the fit of the model: chi-square (χ^2), ratio of chi-squared and degrees of freedom (χ^2/df), Tucker-Lewis index (TLI), comparative fit index (CFI), root mean squared standardized residuals (SRMR) and the root mean squared error approximation (RMSEA) (Kline, 2010). Good fit indices are considered to

be $\chi^2/df \leq 3$, GFI, NFI, and CFI values $> .90$, RMSEA value $< .10$, and SRMR value $< .08$ (Kline, 2005). The results obtained in Table 3 show that the empirical data agrees with the assumed model with respect to the RMSEA and SRMR indices (Kline, 2005). On the other hand, the value of the obtained chi-square and the degrees of freedom ratio ($\chi^2/df = 3.66$) is higher than the recommended value, whereas the comparative fit index (CFI) has values lower than recommended.

Table 3
Goodness of fit measures

CFI	TLI	SRMR	RMSEA	RMSEA 90% CI		AIC	BIC
				Lower	Upper		
.873	.842	.0688	.101	.0861	.117	9348	9480

Note: CFI – comparative fit index; TLI – Tucker-Lewis index; SRMR – Standardized Root Mean Square Residual; RMSEA – root mean square error of approximation; AIC – Akaike information criterion; BIC – Bayesian information criterion.

Table 4
Factor structure

TRIM2	.629
TRIM4	.617
TRIM5	.557
TRIM7	.683
TRIM8	.731
TRIM10	.637
TRIM12	.712
TRIM1	.689
TRIM3	.507
TRIM6	.687
TRIM9	.699
TRIM11	.812

Standardized factor loadings presented in the Table 4 clearly prove the existence of two dimensions that correspond to the Avoidance and Revenge scales. All items have high factor loading on the corresponding factors. Item TRIM3 („*I wish that something bad would happen to him/her*”) can be singled out due to the lowest correlation with Revenge factor.

Overall results of TRIM-12's psychometric properties are only partially satisfying. Descriptive statistics and internal consistency of the scales correspond to the results of previous validation studies (McCullough & Hoyt, 2002; McCullough et al, 2010; Worthington, Witvliet, Pietrini, & Miller, 2007). Reliability coefficients and content of the principle components indicate that Revenge and Avoidance scales are robust one-dimensional scales. As independent measures of the avoidance or revenge, both scales can be accepted as valid. However, fit indices within confirmatory factor analysis did not provide full confirmation of the two-factor model. In other words, the questionnaire should be reanalyzed within new samples, and content of some items, for example – TRIM3, should be reconsidered.

Correlation with personality traits

Results presented in Table 5 show descriptive parameters for ZKA-PQ-SF personality traits questionnaire and facets scores. Obtained results are in accordance with data obtained within cross-cultural validation study of the 80-items version of Zuckerman-Kuhlman-Aluja Personality Inventory (Aluja et al, 2019). Reliability coefficients for scale are satisfactory, ranging from .76 to .88. Lower reliability coefficients were found for the Aggression facets Anger (A3) and Hostility (A4), and for the facet Restlessness (AC3). All personality measures show non-significant values of skew indexes. Only facet Physical aggression (A1) shows significant skewness and kurtosis values which suggest leptokurtic and positively skewed distribution.

Correlation analysis results show positive correlation between the dimensions of Avoidance and Revenge ($r = .38, p < .01$). Avoidance also correlates weakly with certain personality traits, as well as with facets of Aggression, Extraversion and Sensation Seeking (AG2 $r = .14$; EX3 $r = .14$; SS4 $r = .12$). Scores on the Revenge scale are positively correlated with all facets of Neuroticism (NE1 $r = .25, p = .000$; NE2 $r = .20, p = .001$; NE3 $r = .17, p = .007$; NE4 $r = .13, p = .037$) and Aggression (AG1 $r = .20, p = .001$; AG2 $r = .16, p = .011$; AG3 $r = .23, p = .000$; AG4 $r = .24, p = .000$). Revenge scale also shows negative associations with two Extraversion facets (EX1 $r = -.13, p = .030$; EX2 $r = -.23, p = .000$). Higher scores on Neuroticism and Aggression indicate higher scores on the Revenge scale, and point out to individuals that have a stronger motive for revenge and are not prone to forgiving others. On the contrary, the more pronounced Extraversion indicates a weaker motive for revenge.

Table 5
Personality traits and motives for unforgiveness – descriptive statistics and correlation with TRIM-12 scales

	<i>M</i>	<i>SD</i>	<i>Sk</i>	<i>Ku</i>	<i>Min</i>	<i>Max</i>	α	r_{AM}	r_{RM}
NE	41.94	7.36	.25	-.24	27	64	.88	.04	.22**
AG	35.44	7.75	.59	.03	20	58	.81	.10	.27**
EX	49.13	6.74	-.44	.28	27	64	.82	.09	-.15*
AC	38.89	7.01	.46	.15	22	62	.79	.04	.04
SS	36.40	8.81	.35	-.11	18	64	.76	.07	.10
NE1	8.47	2.82	.51	-.19	4	16	.76	.03	.25**
NE2	8.90	2.80	.23	-.43	4	16	.74	.04	.20**
NE3	9.81	2.63	-.07	-.38	4	16	.66	.03	.17**
NE4	9.22	2.03	.84	.47	6	16	.57	.03	.13*
AG1	7.60	2.66	1.22	1.23	4	16	.88	.05	.20**
AG2	10.53	2.49	.08	-.32	4	16	.66	.14*	.16*
AG3	8.98	2.74	.39	-.29	4	16	.51	.08	.23**
AG4	8.33	2.29	.38	.16	4	16	.52	.03	.24**
EX1	12.53	1.92	-.24	.09	6	16	.65	.03	-.13*
EX2	11.75	2.70	-.55	.14	4	16	.69	.01	-.23**
EX3	11.83	2.54	-.31	-.13	4	16	.78	.14*	.00
EX4	13.03	2.13	-.78	.34	6	16	.65	.07	-.05
AC1	8.58	2.84	.30	-.52	4	16	.67	-.01	.03
AC2	10.69	2.79	.10	-.51	4	16	.71	.06	.05
AC3	9.98	2.56	.18	-.45	4	16	.58	.06	.09
AC4	12.69	2.11	-.39	-.43	7	16	.60	-.00	-.06
SS1	7.51	3.17	.81	-.16	4	16	.74	.04	.06
SS2	11.12	2.52	-.40	.27	4	16	.60	.00	.04
SS3	9.47	2.25	.32	.09	4	16	.62	.04	.09
SS4	10.78	1.96	.15	.62	4	16	.72	.12*	.10
AM	24.59	6.43	-.43	-.29	7	35	.84		.38**
RM	11.66	4.71	.61	-.14	5	25	.81		

Note: NE1 – Anxiety, NE2 – Depression, NE3 – Dependency, NE4 – Low Self-Esteem; EX1 – Positive Emotions, EX2 – Social Warmth, EX3 – Exhibitorism, EX4 – Sociability; SS1 – Adventure Seeking, SS2 – Experience

Seeking, SS3 – Disinhibition, SS4 – Boredom/Impulsivity; AG1 – Physical Aggression, AG2 – Verbal Aggression, AG3 – Anger and AG4 – Hostility; AC1 – Work Compulsion, AC2 – General Activity, AC3 – Restlessness and AC4 – Work Energy, AM – Avoidance motive, AM–Revenge motive; **p < .01; *p < .05.

Discussion

The main objective of this study was to explore the psychometric properties and the dimensionality of the TRIM-12 in The Bosnian-Herzegovinian culture. A further objective was to examine the relationship between TRIM-12 scales, Revenge and Avoidance, and basic personality traits. Unlike most studies to date, in this research personality traits were examined using Alternative Five Factor Model.

Results of the psychometric analysis confirmed that Revenge and Avoidance scales have high internal consistency coefficient and have robust principal components similar to the previous validation studies (Brüdere-Ruska et al., 2014; Guzmán, 2010; Guzmán et al., 2014; McCullough, 2001; 2002; Mullet, Neto, & Rivière, 2005). According to the skew indices, both scales are normally distributed. Within the Avoidance Scale Item TRIM5 (*„I don't trust him/her"*) is positively skewed, while items TRIM4 (*„I live as if he/she doesn't exist, isn't around"*) and TRIM10 (*„I cut off the relationship with him/he"*) indicate platykurtic distributions. Among the Revenge scale score distribution is positively skewed for the item TRIM9 (*„I am going to get even"*). Within the same scale, item TRIM3 (*„I wish that something bad would happen to him/he"*) shows the highest value of both skew indices indicating leptokurtic and positively skewed distribution. The same item shows the weakest contribution to the first Hotelling component of the Revenge scale as well as the weakest factor loadings within confirmatory factor analysis. It is assumed that this could be related to the translation of the item. We believe that item translated this way does not distinct situational, reactive, malicious wish against a person that hurt us from the permanent hostility or hate towards a person. Some corrections in translation will be considered and their impact on item psychometric properties will be examined within following studies.

Results obtained in the CFA analyses did not completely support a two-factor structure of the TRIM-12. Although Revenge and Avoidance factors strongly correspond to the scale content, two-factorial solution did not satisfy all required criteria. RMSEA and SRMR indices showed acceptable values, but the values of the Chi-square/df ratio and CFI did not provide full confirmation of the two-factor model. The preparation for the following psychometric examinations of the TRIM-12 should also include inspection of local misspecifications with correlated residuals. Since the reasons for somewhat lower fit may be located in some shared characteristics between pairs of items, size of loadings, and sample

size, hence the lack of fit cannot necessarily be attributed to misspecifications of the model. Withal, similar examples were found in validation studies of the Transgression Related Interpersonal Motivations Inventory in other studies (Fernández-Capo et al., 2017).

Correlation analysis surprisingly shows no significant relationship between the dimension of Avoidance and personality traits. Most studies which described personality using lexical “Big Five” model have found Avoidance significantly correlated with Neuroticism and Agreeableness (Fernández-Capo et al, 2017; Maltby et al, 2008; Maltby et al, 2003; McCullough & Hoyt, 2002; Rey & Extremera, 2014). Differences related to nature of facets between AFFM Aggression and BFI Agreeableness could be an acceptable reason why there was no correlation between Avoidance and Aggression. Nonetheless, facets of Neuroticism within BFI and AFFM are very similar (anxiety, depression, low self-esteem/self-confidence) and empirical comparative analysis confirmed that AFFM and BFI significantly share variance within the domain of Neuroticism (Aluja, García, & García, 2002; Zuckerman, Kuhlman, Joireman, Teta, & Kraft, 1992). Thus, differences in results cannot be attributed to the nature of facets of Neuroticism. On the other hand, Revenge dimension’s positive correlations with Neuroticism and Aggression, and all their facets, are in accordance with studies that assess personality traits using “Big Five” model. Revenge dimension shows weaker association with Extraversion than previously reported. Obtained results show negative correlation with facets of Positive Emotions (EX1) and Social Warmth (EX2), but show no correlation with other Extraversion facets. Differences in Extraversion facets between AFFM and BFI are the most probable reason for different results in this study. In the first place, facets of Exhibitionism (EX3) and Sociability (EX4) are more related to the quantity and intensity of social interactions, so it is not unexpected to find them uncorrelated with Revenge. However, corresponding facets of the BFI Extraversion (Activity and Excitement) also show no correlation with Revenge (Maltby et al, 2008). Sensation Seeking and Activity show no association with forgiveness dimensions. Descriptions of these traits do not overlap with motivation for avoidance or revenge. Therefore, these relations were not expected.

The AFFM provides, at least, a very useful framework for deeper reconsideration of findings obtained in personality studies based on BFI model. Looking from that perspective, results from this study undoubtedly complement exploration of forgiveness within lexical paradigm in personality psychology. If we consider the obtained results, related to the Avoidance-Neuroticism relationship, along with the results of analysis of the Forgiveness relations with personality dimensions from the Eysenck’s PEN model (Maltby et al., 2008), we can conclude that certain differences in results are to be expected, depending on the choice of the model, lexical or psychobiological personality model. Thus, different results in these studies can easily be a product of differences between personality models. As such they should not be treated just as opposing, but we should consider their compatibility first. Description of “Big Five”

personality traits more consistently includes personality tendencies related to motives for unforgiveness. That is why we consider reasonable to expect a smaller number of significant relationships between forgiveness dimensions and AFFM personality traits.

In general, we could conclude that B-C-S version of the Transgression-Related Interpersonal Motives Inventory (TRIM-12) fulfills basic psychometric criterions. Some additional examinations are required in order to be sure if some minor interventions are needed for TRIM-12 to be considered as an adequate, valid questionnaire. However, TRIM-12 should be additionally examined within other, different, samples, as well. On the other hand, AFF model of personality can be a useful platform for the exploration of different psychological constructs as it complements the findings obtained by applying other personality models.

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VALIDACIJA TRIM-12 TRANSGRESIONOG INVENTARA OPRAŠTANJA U BOSANSKO-HERCEGOVAČKOJ KULTURI I ODNOS SA OSOBINAMA LIČNOSTI MJERENIM ALTERNATIVNIM PETOFAKTORSKIM MODELOM LIČNOSTI

Apstrakt

Transgresioni inventar sklonosti ka opraštanju TRIM-12 procjenjuje prosocijalne promjene u interpersonalnoj motivaciji. Sastoji se od 12 stavki predstavljenih kroz dva faktora (Osvetoljubivost – 5; Izbjegavanje – 7). Cilj ove studije je validacija TRIM-12 skale u bosansko-hercegovačkoj kulturi, prilikom čega će biti ispitana i veza sa osobinama ličnosti. Uzorak je podrazumijevao 259 ispitanika (185 žena) između 20 i 68 godina starosti. Osobine ličnosti (Neuroticizam, Ekstraverzija, Traženje senzacija, Agresivnost i Aktivitet) su procjenjene ZKA-PQ-SF upitnikom ličnosti. Stuktura upitnika ispitana je konfirmatornom faktorskom analizom, dok su relacije sa osobinama ličnosti testirane koristeći Pirsonov koeficijent korelacije. Pouzdanost TRIM-12 skale je zadovoljavajuća (Osvetoljubivost: $\alpha = .81$; Izbjegavanje: $\alpha = .84$). Konfirmatorna faktorska analiza ukazuje na dva robusna faktora, koja odgovaraju skalama upitnika. Rezultati ukazuju na prihvatljive indekse fita testiranog modela: $\chi^2/df = 3.66$; $p < .01$; CFI = .87; TLI = .84, RMSEA = .10; SRMR = .07. Dimenzija Izbjegavanja nije u korelaciji sa osobinama ličnosti, dok dimenzija Osvetoljubivosti značajno korelira sa Agresivnošću, Neuroticizmom i Ekstraverzijom. Rezultati sugerišu zadovoljavajuće psihometrijske karakteristike inventara TRIM-12, te opravdavaju razmatranje sklonosti ka opraštanju u svjetlu motivacijske komponente u kontekstu osobina ličnosti.

Ključne riječi: Sklonost ka opraštanju, TRIM-12 inventar, validacija, AFFM osobine ličnosti

Appendix

B-C-S translation of the TRIM-12

- ___ 1. „Platiće“ on/ona meni.
- ___ 2. Držim distance među nama koliko god je to moguće.
- ___ 3. Poželim da mu/joj se nešto loše desi.
- ___ 4. Živim kao da on/ona ne postoji, nije tu.
- ___ 5. Ne vjerujem mu/joj.
- ___ 6. Želim da on/ona dobije šta zaslužuje.
- ___ 7. Teško mi je da se ljubazno ponašam prema njemu/njoj.
- ___ 8. Izbjegavam ga/je.
- ___ 9. Vratću mu/joj to.
- ___ 10. Presječem veze sa njim/njom.
- ___ 11. Želim da ga/je vidim povrijedenog/povrijedjenu i jasnog/jadnu.
- ___ 12. Povlačim se od njega/nje.

Clinical and Health Psychology

A SYSTEMATIC REVIEW OF MOBILE PHONE APPLICATIONS FOR COMPASSIONATE INTERVENTIONS¹²

Abstract

The rapid expansion of mobile applications is increasingly relevant to the field of therapy as they offer cost-effective and scalable solutions to address the mental health treatment gap. The goal of this study was to review the efficacy and effectiveness of mental health apps focused on compassionate interventions. We used a systematic review methodology to select relevant literature for further analysis. Google Scholar and ProQuest were used to search for the following keywords: compassion and “mobile apps” or compassion and “mobile application”, which generated 5,194 results. Out of these, we selected articles based on the following inclusion criteria: using mobile apps for intervention and quantitative measurement of compassion. The selected articles were evaluated in terms of mobile apps efficacy for cultivating compassion using a systematic narrative approach. Our findings suggest that mobile apps are a feasible way to increase not only compassion and self-compassion, but also mindfulness, body image, mental well-being, resilience, and are also helpful in reducing psychological distress, anxiety, and symptoms of depressiveness among others. Compassionate interventions distributed through mobile apps can improve some aspects of negative mental state in the short term and may strengthen positive mental health when used regularly. Further research is required to examine the long-term effects of these apps.

Key words: mobile phone applications, compassion, self-compassion, intervention

Introduction

According to the World Health Organization, the development of mobile applications focused on the mental health of individuals has been rapidly increasing in recent years (Anthes, 2016). Mental Health Apps (MH-apps) tear down the financial and geographical barriers of traditional therapy and can provide intervention for a wide range of psychological disorders (Anthes, 2016). MH-apps already cover all stages of clinical care, including immediate crisis intervention, prevention, diagnosis, treatment, and post-treatment patient

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control (Chandrashekar, 2018). Technological solutions are considered the future of therapy due to low cost, constant availability, high comfort, anonymity, and scalability to a wide population (National Institute of Mental Health, 2017). Additionally, a 2010 survey shows that up to 76% of respondents ($n = 525$) expressed an interest in using smartphones to monitor mental health, but only if this application was free (Proudfoot et al., 2010).

By removing the barriers of the traditional therapeutic process, we can offer people an alternative way of help to improve mental health problems. Only a relatively low percentage of people suffering from mental illness are willing to seek professional help. In the US, 18.1% of the total population suffers from an anxiety disorder, but only 36.9% of them are willing to find and participate in therapy sessions (Kessler, Chiu, Demler, Merikangas, & Walters, 2005). Thus, mobile applications could reduce barriers of traditional therapy (e.g., discomfort, stigma about mental health problems) and offer an alternative to people who typically would not seek help through a therapist or a group session (Kovandzic et al., 2011).

Although intervention using a mobile app is a relatively new concept, its effectiveness has been investigated in alleviating the symptoms of depression and anxiety (Bakker, Kazantzis, Rickwood, & Rickard, 2018; Firth et al., 2017; Ly et al., 2015), schizophrenia (Ben-Zeev et al., 2014; Firth & Torous, 2015), or borderline personality disorder (Rizvi, Dimeff, Skutch, Carroll, & Linehan, 2011). MH-apps are also effective in increasing mindfulness (Howells, Ivtzan, & Eiora-Orosa, 2014), emotional self-awareness (Morris et al., 2010), self-esteem (Mak et al., 2018), and positive body perception associated with by self-worth (Rodgers et al., 2018). Having said that, we have some concerns about a generalization and long-term effects of current mobile intervention studies. Lack of longitudinal studies, small samples of participants can contribute to an over-generalization of results and the effectiveness of any intervention.

Compassion and self-compassion

According to Strauss and colleagues (2016), compassion includes five main elements: recognizing suffering, understanding the universality of suffering, feeling empathy, tolerating personal discomfort stemming from the suffering of others, and the motivation to alleviate suffering. According to previous research (Halamová, Baránková, Strnádelová, & Koróniová, 2018), people define compassion in terms of emotional, cognitive, behavioral, biological, and evaluative aspects which support this multidimensional concept of compassion. Interestingly, the emotional part of compassion is the most frequently mentioned by participants and also is reflected in people's facial expressions (Baránková, Halamová, Gablíková, Koróniová, & Strnádelová, 2019; Kanovský, Baránková, Halamová, Strnádelová, & Koróniová, 2019). According to Neff (2009), self-compassion is compassion turned inward.

Self-compassion delivered through interventions showed positive and significant results in increasing happiness and reduction in self-criticism, shame, stress, anxiety, and symptoms of depression (Gilbert, & Procter, 2006; Neff, & Germer, 2012). Self-compassionate people show higher rates of life satisfaction (Bluth & Blanton, 2014), stress resistance and gratitude (Bluth & Eisenlohr-Moul, 2017). In addition, we know that self-compassion helps in stress management, rejection or failure, and reduces the stress associated with processing negative feedback (Leary, Tate, Adams, Batts Allen, & Hancock, 2007).

Progressively more studies are focused on the use of technological advancements in psychological trials. Halamová, Kanovský, Varšová, and Kupeli (2018) utilized email communication to distribute short-term online emotion focused training for self-compassion and self-protection. Results show a positive significant effect of the training on increasing self-compassion, self-reassurance, and in reducing self-uncompassionate responding and self-criticism (Halamová et al., 2018).

Finlay-Jones, Kane, and Rees (2016) investigated the effectiveness of self-guided 6-week online self-compassion training for reducing psychological distress and increasing self-compassion and happiness among psychology trainees. This internet-based training was built around six main modules: (1) introduction to self-compassion, (2) mindfulness, (3) self-kindness, (4) interconnectedness, (5) dealing with difficult emotions, and (6) integrating self-compassion into clinical training. Participants who completed all modules reported significant increases in self-compassion, happiness and significant decreases in depressiveness, stress, and emotion regulation. These changes were maintained after 3-month follow up measurements (Finlay-Jones, Kane, & Rees, 2016).

Krieger et al. (2016) explored the feasibility of an online self-compassion program that was tested on participants suffering from harsh self-criticism. The online program consisted of 7 sessions, each focused on different aspects of mindfulness and self-compassion. The results show a significant decrease in inadequate self, hated self, perceived stress, and fear of self-compassion and increase in self-compassion, mindfulness, reassuring-self, and life-satisfaction. These changes were maintained after 6 and 14 weeks follow up measurements (Krieger et al., 2016).

Eriksson et al (2018) created a web-based intervention aimed to measure the effectivity of a 6 weeks mindful self-compassion program on stress and burnout symptoms in a group of practicing psychologists. The training encompassed 36 exercises in (1) kind attention, (2) kind awareness, (3) loving-kindness with oneself and others, (4) self-compassion, (5) compassion with others, and (6) Quiet Practice. Significant results were observed for self-compassion and mindfulness. Moreover, levels of self-coldness, perceived stress, and burnout symptoms were significantly decreased (Eriksson et al., 2018)

Lastly, a study explored the feasibility of a web-based self-compassion intervention to reduce student assessment anxiety. Assessment anxiety is associated with excessive worry and cognitive disruption which can contribute to academic failure (McEwan, Erlander, & Gilbert, 2018). Students were randomly assigned to practice either web-based compassionate imagery exercises or to a control condition (web-based practicing relaxation exercises). Results show that both groups significantly improved wellbeing, and reduced assessment anxiety (McEwan, Erlander, & Gilbert, 2018).

The current review aims to provide a contemporary appraisal of efficacy and effectiveness of mental health apps focused on compassionate interventions.

Method

Databases ProQuest and Google Scholar were systematically searched to identify relevant publications. Search terms: compassion and “mobile apps” or compassion and “mobile application” were used to identify relevant articles. Full-text articles were obtained and further screened and were discarded if they did not meet the inclusion criteria: a mobile app intervention and quantitative measurement of compassion. We eliminated studies if: (1) the app intervention was not compassion-based; (2) the paper used only quantitative measurement of compassion; (3) the intervention was an Internet, email or a text messaging intervention without mobile application component; (4) the study assessed only interventions, but not apps; (5) the paper was a trial protocol, trial registration, systematic review, or was in another language other than English. Out of 5,194 search results, only 5 articles met our criteria.

The results are reported in a narrative summary. We considered the meta-analytical approach but due to low amount studies included, a variety of outcomes and scales used to evaluate participants we decided to evaluate each paper separately in a narrative approach. Only studies with significant evidence supporting the app intervention over a control group were included.

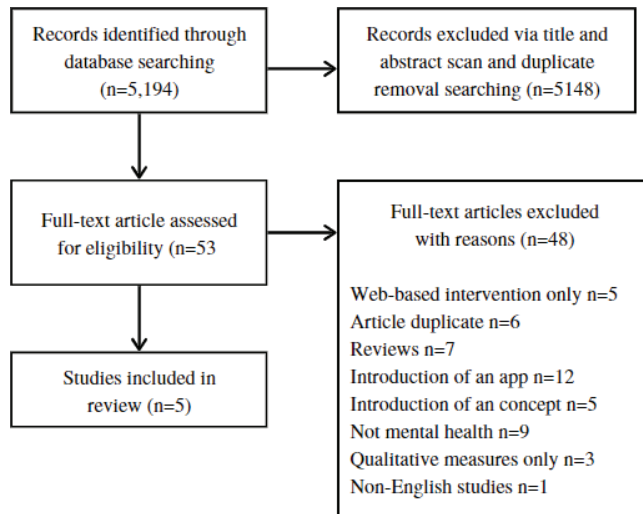


Figure 1. PRISMA Literature Flow Diagram.

Results

Research resulted in three studies that self-developed a brand-new mobile application solely for the study. They are BodiMojo (Rodgers et al., 2018), Living with heart (Mak et al., 2018) and unnamed (Harrer et al., 2018). Two studies used “Headspace” a guided mental health intervention platform available via a smartphone application (Lim, Condon, & DeSteno, 2018; Morrison Wylde, Mahrer, Meyer, & Gold, 2017).

Table 1

Overview of reviewed studies, sample size, intervention method and outcomes

Study	Sample	Intervention	Outcome
Rodgers et al., 2018	$n = 274$, adolescents	6-week, mindfulness and self-compassion intervention.	significant improvement in appearance esteem – $F_{(2, 423)} = 3.99, p = .023, \eta p^2 = .018$. self compassion – increased in both groups over time, but more so in the intervention group, $F_{(2, 400)} = 7.38, p = .002, \eta p^2 = .036$, and a main effect of time $F_{(2, 400)} = 3.45, p = .043, \eta p^2 = .017$. no improvements in appearance comparison and body image flexibility.

Mak et al., 2018	n = 349, general population	30 days, self-compassion intervention, mindfulness-based intervention, and cognitive behavioral psychoeducation intervention.	<ul style="list-style-type: none"> • mental well-being was significantly enhanced (mean difference = 0.35, 95% CI 0.24-0.46, $p < .001$). • psychological distress significantly reduced (mean difference = -0.26, 95% CI -0.33-0.19, $p < .001$). • compassion enhanced by SCP (mean difference = 0.25, 95% CI 0.14-0.36, $p < .001$) and CBP (mean difference = 0.21, 95% CI 0.09-0.32, $p < .001$). • No effect at 3 month follow-up measures. • increased mindful awareness ($p < .01$), no significant effect found in follow-up measures. <p><i>SCP (self-compassion program) CBP (cognitive behavioral psychoeducation)</i></p>
Lim et al., 2018	n = 56, university students	Group 1: mindful meditation, body and breath exercises, noticing mind- wandering, and non-judgmental self- perceiving, Group 2: cognitive based interventions.	<ul style="list-style-type: none"> • intervention group significantly more likely to give up their seats (37%) to the person in pain when compared to the active control group (14%). • Significant increase in compassion fatigue ($b = -0.64$, $p = .05$), TDM group predicted more compassion fatigue compared to the SDM group ($b = 36.45$, $p = .05$). When PTSD symptoms were above the clinical cut-off, there was no difference ($b = -0.70$, $p = .80$).
Wylde et al., 2017	n = 95, pediatric nurses	Group 1: traditional mindfulness training, Group 2: mobile app mindfulness training, visualizations, reflections self-compassion, body perception, and breathing exercises.	<ul style="list-style-type: none"> • The TDM predicted significantly less compassion satisfaction ($b = -4.58$, $p < .10$) and more burnout ($b = 3.94$, $p < .10$). • TDM group had significantly less awareness levels compared to the SDM group ($b = -2.309$, $p < .01$) <p><i>TDM (traditional interventions) SMD (mobile application intervention)</i></p>

Harrer et al., 2018

n = 150, university students
Cognitive-behavioral and emotion regulation techniques.

Positive, long term effects:

- stress (7 weeks 95% *CI* 0.36-1.02, *p* < .001)
- anxiety (7 weeks 95% *CI* 0.43 to 1.09, *p* < .001)
- depression (7 weeks 95% *CI* 0.30 to 0.96, *p* < .001)
- college-related productivity (7 weeks 95% *CI* 0.01 to 0.65, *p* < .04)
- academic work impairment (7 weeks 95% *CI* 0.01 to 0.66, *p* < .01)
- results sustained at a 3-month follow-up
- no significant effects for self-compassion, perfectionism, resilience, and self-esteem.

Mobile apps characteristics

The “BodiMojo” application (Rodgers et al., 2018)

Two-hundred seventy-four late adolescents and young adults recruited from high schools undergone a 6-week mindfulness and self-compassion based mobile intervention. Participants used the BodiMojo application, with content based on self-compassionate training which includes 3 constructs – mindfulness, self-kindness, and common humanity. Features like customizable colors of animated avatar “buddy” were integrated to facilitate engagement of the training. The training consisted of two main daily tasks – feeling tracking and practicing a wellness tip. Feeling tracking was based on selecting adequate words from a “mood cloud” that resonated with the current mood of a participant. The daily wellness tip was based on training sessions such as self-kindness activities, self-acceptance, and self-regulation (Rodgers et al., 2018).

Self-Compassion was measured by the “Self-compassion scale” a 5-point 26 item questionnaire that measures six components of self-compassion (SAOSE). Additionally, three body perception constructs were also assessed: body esteem, physical appearance comparison, and body image flexibility. Researchers used a series of 3 (time) × 2 (group) repeated measures analyses of variance after the 6-week intervention period, and at 12 weeks. The results show significant improvement in appearance esteem over time ($F_{(2, 423)} = 3.99, p = .023, \eta p^2 = .018$). Self-compassion increased in both groups over time, but more so in the intervention group as compared to the control group (interaction effect $< F_{(2, 400)} = 7.38, p = .002, \eta p^2 = .036$, and a main effect of time – ($F_{(2, 400)} = 3.45, p = .043, \eta p^2 = .017$) The findings of this study did not reveal improvements in appearance comparison and body image flexibility (Rodgers et al., 2018).

The “Living With Heart” application (Mak et al., 2018)

This study aimed to test the efficacy of three mobile application-based programs: the self-compassion intervention, mindfulness-based intervention, and cognitive behavioral psychoeducation intervention. Mindfulness training consisted of several exercises, such as body scanning, mindful breathing, eating or walking, and thought to distance exercise. The self-compassion training used a variety of daily exercises, including body scanning, affectionate breathing, compassionate meditation, journaling, and self-compassion break. Lastly, the Cognitive Behavioral Psychoeducation Program (BCP) consisted of coping strategies like stress management, negative thought restructuring, and relaxation skills such as abdominal berating, imagery or muscle relaxation (Mak et al., 2018). All participants were required to complete 28- daily sessions throughout one month. Out of 2161 study subjects, 349 completed all exercises, post-study, and 3-month follow up assessment.

The effectiveness of the mobile app on compassion was measured with 13 items Self-Compassion Scale. Participants rate on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always). Results show a positive impact on all three conditions (mindfulness program, BCP, self-compassion program) in improving mental health, well being, and reduction of psychological stress. Mental well-being was significantly enhanced overtime (mean difference = 0.35, 95% CI 0.24-0.46, $p < .001$), psychological distress was significantly reduced in all 3 conditions (mean difference = -0.26, 95% CI 0.33-0.19, $p < .001$). Self-compassion program (mean difference = 0.25, 95% CI 0.14-0.36, $p < .001$) and cognitive behavioral psychoeducation program (mean difference = 0.21, 95% CI 0.09-0.32, $p < .001$) enhanced self-compassion at postprogram. MBP did not significantly improve self-compassion at postprogram and none of the interventions significantly improved self-compassion from baseline to 3 month follow-up measures. Finally, all interventions significantly increased mindful awareness ($p < .01$), however, the change from baseline to follow-up was not significant.

The “Headspace application” study 1 (Lim, Condon, & DeSteno, 2018)

Fifty-six participants recruited from North-eastern University with no previous meditation experience were randomly assigned to either (1) three-week mindfulness-based meditation program (with self-compassion exercises) or (2) an active control group which completed three- week cognitive-based training program “luminosity”. The “headspace” group was instructed to complete at least 12 out of 14 daily exercises. Each training session averaged 12 minutes a day and the training program was based on exercises such as mindful meditation, body and breath exercises, noticing mind-wandering and non-judgmental self-perceiving. The “luminosity” program participants were required to complete 14 sessions of cognitive training aimed to enhance memory, attention speed, flexibility, and

problem-solving skills. Each session took 10 minutes to complete (Lim, Condon, & DeSteno, 2018).

Researchers used a behavioral paradigm scenario to measure the effect of the training programs. Participants who completed training sessions entered a lab waiting area and they encountered a row of three chairs. Two male actors occupied two of the chairs, leaving one chair open of the participant to sit on. After a participant had been sitting for 1 minute, the third actor appeared, playing the role of the suffering person in a pain (audible sighs, showing mild pain, wincing). Two male actors were trained to act indifferent (ignore the person in pain). Researchers measured scenario with two possible outcomes: (1) participant offered his seat to a person in pain, or (2) two minutes passed without any helping response (Lim, Condon, & DeSteno, 2018).

Results show that participants who were assigned to a three-week “headspace” program intervention were significantly more likely to give up their seats (37%) to the person in pain when compared to the active control group (14%). Furthermore, there were no significant differences in empathic accuracy was not increased by either intervention method (Lim, Condon, & DeSteno, 2018).

The “Headspace application” study 2 (Morrison Wylde, Mahrer, Meyer, & Gold, 2017)

Morrison et al. (2017) aimed to compare the effects of a traditional mindfulness training intervention to a smartphone delivered mindfulness intervention in a group of 95 pediatric nurses. Participants in the traditional mindfulness intervention (TDM) undergone 4 mindfulness training sessions during the one month. These sessions consisted of several different activities, such as mindful standing, sitting, walking, breathing, or eating and were led by a Buddhist Priest each morning before a work shift. Mobile app group (SDM) undergone one-month (4 sessions) self-guided mindfulness training which consisted of mindfulness introduction, basic training, but also utilize visualization, reflection, and other techniques, such as self-compassion, body perception, and breathing exercises (Morrison et al., 2017). Participants were required to complete The Compassion Fatigue Self Test (CFST) – 66-item self-report questionnaire measuring individuals’ levels of compassion satisfaction, compassion fatigue, and burnout in helping professions. Furthermore, levels of stress (The Life Events Checklist), trauma symptoms (PCL-C scale), and mindfulness (FFMQ scale) were measured.

Results showed a significant increase in compassion fatigue ($b = -0.64, p = 0.05$), TDM group predicted more compassion fatigue compared to the SDM group ($b = 36.45, p = 0.05$). However, when PTSD symptoms were above the clinical cut-off, there was no difference ($b = -0.70, p = 0.80$). Results showed marginal group differences in compassion satisfaction and burnout. The TDM predicted significantly less compassion satisfaction ($b = -4.58, p < .10$) and more

burnout ($b = 3.94, p < .10$). Lastly, findings show that the TDM group had significantly less awareness levels compared to the SDM group ($b = -2.309, p < .01$). In summary, results indicate that the group of nurses who used mobile applications reported significantly more awareness levels which are tied to mindful experience when compared to the TDM group. The mobile application intervention also showed more compassion satisfaction and was less inclined to professional burnout. Additionally, the mobile intervention was more successful in lowering compassion fatigue compared to traditional training (only if it had sub-clinical PTSD at the start of the training) (Morrison et al., 2017).

Unnamed application (Harrer et al., 2018)

Harrer et al. (2018) aimed to evaluate the efficacy of the application-based stress management intervention in a group of college students. Hundred and fifty participants with elevated stress levels were selected and randomly assigned to either (1) mobile intervention group or (2) a waitlist control group (Harrer et al., 2018). The intervention was based on cognitive-behavioral techniques using problem-focused and emotion regulation-focused coping techniques. Participants were required to complete 7 main modules (non-elective) and 7 elective modules, completing a module took on average 60 minutes. The main modules were an introduction, problem-solving, muscle- and breath relaxation, mindfulness, acceptance, and tolerance, self-compassion, my master plan, and booster session. Participants could also choose a minimum of two and a maximum 7 of elective modules: social support, rumination, and worrying, time management, procrastination, anxiety, sleep, motivation, nutrition, and exercise, dealing with writer's block and concentration (Harrer et al., 2018).

Harrer et al. (2018) aimed to evaluate the efficacy of the application-based stress management intervention in a group of college students. Hundred and fifty participants with elevated stress levels were selected and randomly assigned to either (1) mobile intervention group or (2) a waitlist control group (Harrer et al., 2018). The intervention was based on cognitive-behavioral techniques using problem-focused and emotion regulation-focused coping techniques. Participants were required to complete 7 main modules (non-elective) and 7 elective modules, completing a module took on average 60 minutes. The main modules were an introduction, problem-solving, muscle- and breath relaxation, mindfulness, acceptance, and tolerance, self-compassion, my master plan, and booster session. Participants could also choose a minimum of two and a maximum 7 of elective modules: social support, rumination, and worrying, time management, procrastination, anxiety, sleep, motivation, nutrition, and exercise, dealing with writer's block and concentration (Harrer et al., 2018).

Self-compassion was measured with the Self-Compassion Scale (SCS-D). Participants rate 13 items on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always). Findings indicated a significant positive and long term

effects of the intervention compared with the waitlist group for stress (7 weeks 95% *CI* 0.36-1.02, $p < .001$); anxiety (7 weeks 95% *CI* 0.43 to 1.09, $p < .001$); depression (7 weeks 95% *CI* 0.30 to 0.96, $p < .001$), college-related productivity (7 weeks 95% *CI* 0.01 to 0.65, $p < .04$), and academic work impairment (7 weeks 95% *CI* 0.01 to 0.66, $p < .01$). These results were sustained at a 3-month follow-up assessment, and similar findings emerged in students with symptoms of depression (Harrer et al., 2018). No significant effects were found for self-compassion, perfectionism, resilience, and self-esteem.

Discussion and conclusion

The main objective of this review study was to summarize the evidence on the efficacy of mobile applications focused on compassion-based interventions in improving the psychological wellbeing of individuals. To the best of our knowledge, this is the first systematic review of its kind. Given the extensive usage of smartphones among the general population, MH-apps are projected to play a big role in mental health treatment in upcoming years. However, not many applications that are currently available on the market are clinically validated. According to Martinez-Perez et al, only 2% of MH-apps had been tested and results were published in scientific journals (Martinez-Perez et al., 2013).

All presented research papers used compassionate or self-compassionate in combination with other strategies such as cognitive-behavioral interventions, emotion regulation techniques, visualizations, reflections, mindful meditation, body and breath exercises, noticing mind-wandering, and others. Our findings suggest that self-compassion intervention delivered through mobile app technology is effective in increasing compassion and self-compassion, but also mindfulness, body image, and mental well-being. Furthermore, if combined with other interventions, these applications are an effective way to help in reducing psychological distress, anxiety, and symptoms of depression (Harrer et al., 2018). These findings and implications could be significant because, in comparison with face-to-face interventions, mobile app interventions are easily accessible and have the potential to meet the need for mental health needs worldwide. With that being said, in case of severe mental health problems, it is necessary to consult any intervention, whether in-person or via other mediums with a doctor or other mental health professionals.

Limitations of this review are mainly the small number of studies included and the heterogeneity of the participants (students and nurses), heterogeneity of research aims, methodology, and outcome measures which may have impacted the generalizability of the results and self-reported measures. Moreover, despite our best efforts to identify and find all available research papers in this field, some studies, especially those unpublished in academic databases were not included

for obvious reasons. It is questionable if generalization on long-term effects could be drawn from 3 months follow up measures. Additionally, nonspecific factors such as different family, friends or physician support and unexpected life changes may have played a role in outcomes of studies. The review identified only five published peer-reviewed studies. Thus, the results should be interpreted by taking this low number of studies into account. It may also overrepresent studies where an effect was found, as the grey literature was not searched for studies that may have found null results and not been published. Lastly, one limitation of this review is that a meta-analysis could not be conducted because of the heterogeneity of the studies and their reported outcomes. However, a proper meta-analysis would make the effectiveness of mobile health apps easier to determine and quantify.

In conclusion, mobile app technology is effective engine for increasing compassion and self-compassion. We believe our results will help researchers and health care providers to understand how mobile applications in combination with self-compassion-based intervention could help people cost- effectively and efficiently.

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SISTEMATSKI PREGLED MOBILNIH TELEFONSKIH APLIKACIJA ZA SAOSEĆAJNE INTERVENCIJE

Apstrakt

Brza ekspanzija mobilnih aplikacija sve je relevantnija za oblast terapije jer nudi ekonomična i skalabilna rešenja za rešavanje nedostatka mentalnog zdravlja. Cilj ove studije bio je da se preispita efikasnost i efektivnost aplikacija za mentalno zdravlje fokusiranih na saosećajne intervencije. Koristili smo metodologiju sistematskog pregleda da bismo odabrali relevantnu literaturu za dalju analizu. Google Scholar i ProQuest korišćene su za pretragu sledećih ključnih reči: saosećanje i „mobilne aplikacije“ ili saosećanje i „mobilna aplikacija“, što je generisalo 5.194 rezultata. Od dobijenih podataka odabrali smo članke na osnovu sledećih kriterijuma za uključivanje: korišćenje mobilnih aplikacija za intervenciju i kvantitativno merenje saosećanja. Izabrani članci procenjeni su u smislu efikasnosti mobilnih aplikacija za negovanje saosećanja koristeći sistematski narativni pristup. Naša nalazi sugerišu da su mobilne aplikacije ostvariv način da se poveća ne samo saosećanje i samilost, već i samosvesnost, telesna slika, mentalno blagostanje, otpornost, a takođe pomažu u smanjenju psihičkog distresa, anksioznosti i simptoma depresivnosti. Saosećajne intervencije distribuirane putem mobilnih aplikacija mogu kratkoročno poboljšati neke aspekte negativnog mentalnog stanja i mogu ojačati pozitivno mentalno zdravlje ako se redovno koriste. Potrebna su dalja istraživanja kako bi se ispitali dugoročni efekti ovih aplikacija.

Ključne reči: mobilne telefonske aplikacije, saosećanje, samosaosećanje, intervencija

ANXIETY ABOUT AGING AND QUALITY OF LIFE IN EARLY AND MIDLIFE ADULTHOOD¹³

Abstract

The aim of this research was examining differences in terms of anxiety about aging and quality of life in individuals in early and midlife transitional periods, as well as the correlation between these variables. The research included 200 participants (100 participants in early adult transition, aged 19 to 22, and 100 participants in midlife transition, aged 40 to 45). Measures WHOQOL-BREF (World Health Organization Quality of Life-Bref) and Anxiety about Aging Scale (AAS) were used. The results showed that anxiety about aging ($t = 2.29, p = .023$) was higher in early adult transition ($M = 56.08$) compared to midlife transition ($M = 52.19$). There was no significant difference between these two groups regarding quality of life, but it was found that individuals in midlife transition ($M = 24.47$) had higher scores on dimension Physical health ($t = -2.48, p = .014$) compared to those in early adult transition ($M = 23.27$). It has also been determined that there was negative correlation between quality of life and anxiety about aging in midlife transition ($r = -.402, p = .001$). The results in this research were considered in the framework of Levinson's theory and previous research results. We can conclude that understanding anxiety about aging and quality of life in early adult and midlife transitional periods requires considering specific characteristics of these periods.

Key words: anxiety about aging, quality of life, early adult transition, midlife transition

Introduction

Adult development has long been neglected in psychology. The growing popularity of theoretical approaches to adult development came in the 1970s with Daniel Levinson as one of the pioneers of a new approach to lifelong development (Anđelković, 2016). Levinson's theory of life structure (1986; 1996; as cited in Aktu & Iihan, 2017) is that individual life structure develops within an organized order and non-changing pattern, relative to transitional and building periods and

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age, during early, mid, and late adulthood in a life cycle. During building periods within the life cycle, the individual accomplishes the task of building a structure. The first and basic task of an individual is to build a life structure. Individuals during adulthood accomplish a task of structure change in transitional periods. During this period, individual's first task is to review the present structure, seek opportunities of change in self-representation and social relationships and to put forward preferences fundamental for the next life structure. The development of individual manifests itself in three building periods: early adulthood (from 22 to 40 years), midlife adulthood (from 45 to 60 years) and late adulthood (over 65 years). What makes this theory special are three big transitional periods between the three building periods (Levinson, 1977; 1978; 1986; 1996; as cited in Anđelković, 2016). Early adult transition (from 17 to 22 years) is characterized by two processes: the process of separation from primary family and the process of examining one's own capabilities. There are five tasks to complete: forming "a dream" – one's vision, desires and core plan for his or herself in this world, choosing profession, establishing a connection with person who has role of mentor, as well as establishing close relationships and friendships. In midlife transition (from 40 to 45 years) the individuation process is dominant. It is accomplished through four tasks: reconsideration, confrontation and reintegration of opposites between young and old, destruction and creation, masculinity and femininity, approaching and separating (Levinson, 1978; as cited in Pavlović, 2011). In late transition (from 60 to 65 years) the individuation process continues and searching for meaning of life considering retirement and declining physical strength. The current study is focused on early adult transition and midlife transition, so we won't go into a more detailed description of the late transitional period.

Adaptation and acceptance of developmental tasks and roles that an individual encounters during development can present a real challenge and affect both positively and negatively the experience of one's own adequacy, quality of life, as well as the development of anxiety about the changes that the aging process carries with it.

Anxiety about aging is a term for fear of aging. Fear of aging is defined as the fear associated with the process of one's personal aging. The second kind of fear, the fear of being old, is related to fear of aging since it is viewed from a personal standpoint; however, it is seen as a state, not a process. Fear of old age is defined, therefore, as the fear associated with the personal state of being old. The third specific fear, fear of old people, involves the perception of others and is defined as the fear associated with old people (Lasher & Faulkender, 1993). Mostly, aging is accompanied by fear and anxiety. However, some studies have shown that fear of aging is associated with different things at different ages. One of the assumptions is that in early adulthood, aging is associated with fear of the unknown, whereas in older people, fear of aging is associated with fear for their health and finances (Brunton & Scott, 2015). Anxiety about aging represents

anticipation of negative physical, psychological and personal losses and threats that may be experienced during the aging process (Lasher & Faulkender, 1993; Watkins, Coates & Ferroni, 1998). It is to be distinguished from general anxiety and, according to some authors; it is strongly associated with physical and psychological well-being in old age (Lasher & Faulkender, 1993; Lynch, 2000). Age has been proposed as possibly the most important factor affecting aging anxiety. Lynch (2000) showed that anxiety about aging is highest in younger age (18–39 years old), declines slightly in midlife (40–49 years old), and declines further in later life (50+ years old). Abramson and Silverstein (2006), using slightly different age groupings (18–34, 35–64, and 65+ years old), confirmed that younger adults are more likely to express anxiety about the aging process. For our further discussion it's important to mention that Levinson (1978; according to Aktu & Ihan, 2017) found different views of aging based on the developmental period that an adult is in. In one study (Karadeniz et al., 2009; as cited in Aktu & Ihan, 2017) it was stated that adults (33-39) in a building period viewed aging positively, and adults (28-33) in a transition period viewed it negatively. On the other hand, individuals in midlife transition period were found to have positive views of aging. A mentioned study showed that individuals accomplished the tasks of modifying their life structures in a transitional period (ages 28-33) of their lives and the tasks of preserving their life structures in a building period (ages 34-39) of their lives.

Although there are a number of studies examining the factors associated with anxiety about aging, among the available scientific papers, no research has been found that examines the link between subjective quality of life and anxiety about aging. When it comes to quality of life, it refers to individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns (World Health Organization, 1996). The above definition implies a general subjective determination of the concept of quality of life, since it is conditioned by individual observation of life position in relation to personal goals, expectations, standards and concerns. Quality of life, used as a parameter of an individual's general well-being, can be expressed through various objective indicators (e.g. monthly income, availability of institutions important for providing necessary assistance and support) and subjective indicators (e.g. marriage satisfaction, life satisfaction, social support, feeling of happiness). We will mention studies examining the links between quality of life and age, which is important for one of the aims of this paper. Studies about quality of life and age don't provide unambiguous results. Diener et. al. (2009; as cited in Anđelković & Budić, 2013) showed that there were no differences in life satisfaction between different age groups, while some other authors stated that quality of life declines with age. Research conducted in Serbia (Anđelković & Zubić, 2014), comparing respondents of 3 age groups: early adulthood (age 25 to 40), midlife adulthood (age 41 to 60) and late adulthood

(age 61 to 70), showed that the population in early adulthood had more positive assessment of quality of life in terms of dimensions: Social relations, Social conditions and Psychological health compared to midlife and late adulthood. Difference between age groups was absent only on dimension Physical health.

Method

Research aims

The aim of this research was examining differences in terms of anxiety about aging and quality of life in individuals in early and midlife transitional periods, as well as the correlation between these variables in both subsamples.

Sample and procedure

The sample was convenient and it consisted of 200 participants. 100 of them belonged to transitional period of early adulthood, aged 19 to 22, within 50 females and 50 males. Early adult transition refers to period from 17 to 22 years. However, in this study we left out respondents aged 17 and 18 years since the most individuals today choose to go to college or enter the workforce and choose to leave home at the age of 19 for the first time, which are characteristics of this period (Levinson, 1978; as cited in Pavlović, 2011). Other 100 participants belonged to transitional period of midlife adulthood, aged of 40 to 45, within 50 females and 50 males. The study was conducted through an online questionnaire.

Variables and measures

Anxiety about Aging Scale (AAS, Lasher and Faulkender, 1993) is a 20-item inventory organized into 4 dimensions which operationalize the variable anxiety about aging. Fear of old people measures external contact with others (e.g. "I feel very comfortable when I am around an old person"). Psychological concerns reflect more personal or internal issues (e.g. "I fear it will be very hard for me to find contentment in old age"). Physical appearance contains items relating to anxiety about changes in physical looks (e.g. "I have never dreaded the day I would look in the mirror and see grey hair"). Fear of losses relates to the loss of social support and autonomy (e.g. "I fear that when I am old all my friends will be gone"). Each subscale has 5 items. Respondents indicated their agreement with each item on a five-point Likert-type scale ranging from *strongly agree* (1) to *strongly disagree* (5). The scale was scored so that higher scores reflected higher levels of fear or anxiety. Cronbach-alpha reliability measure in this research was satisfying for dimensions Fear of old people ($\alpha = .77$), Psychological concerns ($\alpha = .82$) and Fear of losses ($\alpha = .78$), while dimensions Physical appearance ($\alpha = .39$) didn't satisfy the reliability criteria in our sample.

WHOQOL-BREF (World Health Organisation Quality of Life-Bref) is a 26-item inventory answered on 5-point Likert-type scale, describing 4 dimensions which operationalize the quality of life. Physical health contains 7 items relating to activities, need for medications, treatment, presence of pain, quality of sleep etc. (e.g. “How much physical pain prevents you from doing what you want?”). Psychological health contains 6 items which refers to satisfaction with body appearance, positive and negative feelings, self-confidence etc. (e.g. “How much do you enjoy life?”). Social relations contains 3 items which refer to interpersonal relations, social support, sexual activity etc. (e.g. “How satisfied are you with your relationships with other people?”). Social conditions contains 8 items relating to financial resources, recreation and rest opportunities (e.g. “How healthy is the environment in which you live?”). The scale was scored so that higher scores reflected higher quality of life. The first two items of the scale (“Are you currently feeling sick?” and “What in your opinion is wrong with your health?”) give a global estimate of quality of life and health and aren’t covered by dimensions. We didn’t include them in the total scores in our research, but we used 24 items covered by the dimensions. Cronbach-alpha reliability measure in this research was satisfying for dimensions Social conditions ($\alpha = .78$) and Physical health ($\alpha = .72$), while dimensions Psychological health ($\alpha = .43$) and Social relations ($\alpha = .54$) didn’t satisfy the reliability criteria in our sample.

Results

The main results of this study were shown in the following tables.

Table 1
Descriptive statistics

Transitional period	Anxiety about aging	<i>M</i>	<i>SD</i>	Quality of life	<i>M</i>	<i>SD</i>
Early	Total AAS	56,08	12,551	Total QOL	90,41	12,312
	Fear of old people	14,66	3,932	Physical health	23,27	3,668
	Psychological concerns	13,09	5,133	Psychological health	22,32	3,149
	Physical appearance	13,69	3,486	Social relations	10,68	2,640
	Fear of losses	14,64	4,145	Social conditions	26,32	4,664
Midlife	Total AAS	52,19	11,355	Total QOL	93,26	11,391
	Fear of old people	14,02	4,002	Physical health	24,47	3,141
	Psychological concerns	12,28	4,654	Psychological health	22,69	2,525
	Physical appearance	12,56	3,993	Social relations	11,24	2,085
	Fear of losses	13,33	4,156	Social conditions	27,35	5,315

Results of descriptive statistics showed that the most pronounced dimension in both age groups, concerning Anxiety about aging, was the Fear of old people. On the other hand, concerning Quality of life, both groups were by far the least satisfied with dimension Social relations.

T-test results have shown that Anxiety about aging was statistically significant ($p = .023$) higher in early adult transition ($M = 56.08$) compared to midlife transition ($M = 52.19$). It has also been determined that individuals in early adult transition, compared to those in midlife transition, had statistically significant higher scores on dimensions Physical appearance ($M = 13.69$, $p = .034$) and Fear of losses ($M = 14.64$, $p = .027$).

Table 2
Differences between participants in different transitional periods on Anxiety about aging

ANXIETY ABOUT AGING	Transitional period	<i>M</i>	<i>t</i>	<i>p</i>	<i>Mean difference</i>
Total AAS	Early	56,08	2,298	0,023	3,89
	Midlife	52,19			
Fear of old people	Early	14,66	1,141	0,255	0,64
	Midlife	14,02			
Psychological concerns	Early	13,09	1,169	0,244	0,81
	Midlife	12,28			
Physical appearance	Early	13,69	2,132	0,034	1,13
	Midlife	12,56			
Fear of losses	Early	14,64	2,232	0,027	1,31
	Midlife	13,33			

Table 3
Differences between participants in different transitional periods on Quality of life

QUALITY OF LIFE	Transitional period	<i>M</i>	<i>t</i>	<i>p</i>	<i>Mean difference</i>
Total QOL	Early	90,41	-1.669	0.091	-2.85
	Midlife	93,26			
Physical health	Early	23,27	-2.485	0.014	-1.20
	Midlife	24,47			
Psychological health	Early	22,32	-0.917	0.361	-0.37
	Midlife	22,69			
Social relations	Early	10,68	-1.665	0.098	-0.56
	Midlife	11,24			
Social conditions	Early	26,32	-1.457	0.147	-1.03
	Midlife	27,35			

T-test results have shown that individuals in midlife transition ($M = 24.47$) had statistically significant ($p = .014$) higher scores only on dimension Physical health compared to those in early adult transition ($M = 23.27$).

T-test results have shown that there were no statistically significant differences between males and females in early adult and midlife transitional periods in terms of Quality of life and Anxiety about aging.

Table 4
Gender differences in early adult and midlife transitional periods on Quality of life and Anxiety about aging

Transitional period	Gender	Quality of life				Anxiety about aging			
		<i>M</i>	<i>t</i>	<i>p</i>	<i>Mean difference</i>	<i>M</i>	<i>t</i>	<i>p</i>	<i>Mean difference</i>
Early	Male	92,50	1,714	0,090	4,18	56,44	0,285	0,776	0,72
	Female	88,32				55,72			
Midlife	Male	94,82	1.376	0.172	3.12	50,10	-1,863	0,065	-4,18
	Female	91,72				54,28			

Table 5
Correlations between dimensions of Anxiety about aging and dimensions of Quality of life in early adult transition

EARLY ADULT TRANSITION	Anxiety about aging	Fear of old people	Psychological concerns	Physical appearance	Fear of losses
Quality of life	-0,091				
Physical health		-0,107	0,029	0,101	-0,072
Psychological health		-0,004	0,006	-0,005	-0,060
Social relations		-0,125	-0,117	-0,061	-0,094
Social conditions		0,072	-0,089	-0,051	-0,252*

* Correlation is significant on level 0.05

Pearson correlation results have shown that there was no significant correlation between Anxiety about aging and Quality of life in early adult transition. However, there was statistically significant negative correlation between subscales Social conditions and Fear of losses in early adult transition ($r = -.252, p = .05$).

Table 6
Correlations between dimensions of Anxiety about aging and dimensions of Quality of life in midlife transition

MIDLIFE TRANSITION	Anxiety about aging	Fear of old people	Psychological concerns	Physical appearance	Fear of losses
Quality of life	-0,402**				
Physical health		-0,132	-0,358**	-0,182	-0,237*
Psychological health		0,028	-0,254*	-0,016	-0,263**
Social relations		-0,034	-0,271**	-0,124	-0,325**
Social conditions		-0,152	-0,352**	-0,045	-0,381**

* Correlation is significant on level 0.05

** Correlation is significant on level 0.01

Pearson correlation results have shown that, concerning the overall results, there was statistically significant negative correlation between Anxiety about aging and Quality of life in midlife transition ($r = -.402, p = .01$). There were negative correlations of all subscales of Quality of life with subscales Psychological concerns and Fear of losses.

Discussion

The aim of this research was examining differences in terms of anxiety about aging and quality of life in individuals in early (from the age of 19 to 22) and midlife (from the age of 40 to 45) transitional periods, as well as the correlation between these variables in both subsamples.

The results showed that overall individuals in early adult transition were more anxious about aging compared to individuals in midlife transition. Also, they were more anxious about changes in physical looks and loss of social support and autonomy in old age compared to those in midlife transition. The

current research results are consistent with many research results (Abramson & Silverstein, 2006; Lasher & Faulkender, 1993; Lynch, 2000). Higher aging anxiety in early adult transition (ages 19 to 22) could be explained with the fact that tasks of building and changing the structure haven't been accomplished yet (Aktu & Iihan, 2017). Higher anxiety about what might be lost in old age, such as friends, life purpose or decision-making ability, could be explained by the fact that the young people are in the period which the current tasks are: creating a life plan, making friends and partnerships, separating from the primary family and choosing a profession; and these young person's tasks haven't been completed yet. Midlife transition adults (ages 40 to 45) have completed these tasks which lead them to have a more positive view of life (Aktu & Iihan, 2017) and are, therefore, generally less anxious about aging. Also, anxiety in early transition adults may reflect more a fear of the unknown rather than a state of being (Lynch, 2000). Another explanation for these results could be the prevalence of societal standards regarding the qualities associated with youth (e.g. physical appearance), which are valued over the qualities associated with age (e.g. life experience of older people).

When it comes to overall quality of life the results showed that there was no significant difference between individuals in early adult and midlife adult transitional periods. The difference between these two groups was only on dimension Physical health which refers to activities, need for medications, treatment, presence of pain, quality of sleep, work ability related with health etc. Previous research conducted in Serbia (Anđelković & Zubić, 2014) showed that early, midlife and late adults didn't differ one from another when it comes to physical health. The authors explained this by referring to George (1989; as cited in Anđelković & Zubić, 2014) who has come to the point that health-related life events are less important source of stress for older people than for younger ones. However, this research included respondents in building period of early adulthood (age 25 to 40), while our research included respondents in transitional period (age 19 to 22). In our research individuals in midlife transition had higher scores on dimension Physical health compared to those in early adult transition. It's known that, while in early adulthood health is maximum, midlife adulthood is a period of beginning signs of physical decline in some areas (e.g. strength, cardiovascular functioning). In this period individual is faced with developmental tasks and the feeling that he/she won't be able to do what he/she could before, and that he/she will need to put more effort into some things that he/she has previously done easier. Levinson (1978; as cited in Anđelković, 2016) vividly points to this characteristic of midlife adulthood, calling it "a period of loss of illusions". In context of Levinson's theory, more precisely the tasks relevant for midlife transition, it's important for individual to accept his/her years, to face its limitations, to take on a roles that are based on experience and authority and to strike a new, mature balance between contrasts of young and old age. It's possible

that the midlife transition respondents in our study have already completed these tasks and are, therefore, more satisfied with their physical health compared to early adult transition respondents. Although the physical health of older people is on average worse compared to younger ones, their greater satisfaction with physical health could be explained by their adjustment to beginning signs of physical decline, their attitude toward health factors and the use of strategies that enable successful aging. Perceiving oneself in the context of current reality, abandoning the youthful aspects of oneself, carefully and consciously re-examining life goals and replacing them with a self-image that is closer to reality can contribute to greater life satisfaction and, therefore greater satisfaction with physical health (Anđelković, 2016). However, it's important to notice that the differences between individuals in these two age groups in terms of physical health aren't pronounced, and given the scores of respondents in both age groups on this subscale, in fact both assess physical health as quite good.

Further, it was examined if there is correlation between Anxiety about aging (Physical health, Psychological health, Social relations and Social conditions) and Quality of life (Fear of old people, Psychological concerns, Physical appearance and Fear of losses) in individuals in early adult and midlife transitional periods. The results showed that there was no significant correlation between anxiety about aging and quality of life overall in early adult transition, but individuals in midlife transition were more anxious about aging if they estimated their quality of life to be lower. When it comes to correlations between dimensions on these two scales in early adult transitional period there was significant negative correlation between dimensions Social conditions and Fear of losses. Individuals in early adult transition who didn't have good financial resources, access to information they need, opportunities for recreation and rest etc. were more anxious about things that could be lost or taken away as they get old (e.g. friends, health, ability to make decisions, purpose of life). Concerns about the ability to handle losses, support oneself financially, and access appropriate health care in old age may be particularly acute for those with few economic resources, causing them to anticipate a problematic old age. In midlife transitional period there were significant negative correlation between all dimensions on scale Quality of life and dimensions Psychological concerns and Fear of losses on scale Anxiety about aging. Individuals in midlife transition who estimated their quality of life to be lower were more anxious about things they have to deal with in order to facilitate a positive adjustment to their late years (e.g. finding pleasure, occupying time, life satisfaction in old age). Also they were concerned of no longer having intangible aspects of life (e.g. meaning, friendship and self-sufficiency). For example, retirement and death of a spouse or close friends carry with them the loss of important aspects of one's existence, such as friendship and belongingness. Thus individuals in midlife transition may fear that "losses" are likely to occur in the near future compared with the individuals in early adult

transition who are younger and consider losses a remote possibility.

At the end, Levinson's theory could be said to differ from the theories of researchers such as Buhler, Gould and Erikson in a few aspects. Levinson's theory of life structure focuses on the concept of change instead of development, despite being based on the approach of periods as other theories do, when explaining the adulthood. In the other words, Levinson stated that an adult individual went through successive building and transitional periods throughout their lives and their lives were on constant change (Aktu & Ilhan, 2017). Those characteristics mentioned above make Levinson's theory of life structure worth to be studied. However, it's important to note that Levinson's theory of life cycle (1978; as cited in Anđelković, 2016) was based on the study of biographical data obtained in a study which involved, at first 40 men and later women of various professions, aged 35 to 45. This was too small and too restricted sample. In addition, and perhaps even more important is that development couldn't be as it is today, more than 40 years after.

Conclusion

Examining the differences in anxiety about aging and quality of life, we tried to understand their nature in transitional periods of early and midlife adulthood. As the most important, we would single out the finding that individuals in early adult transition were more anxious about aging compared to those in midlife transition. When it comes to quality of life, these two age groups differed only in terms of physical health. Individuals in midlife transition were more satisfied with their physical health compared to those in early adult transition. Additionally, individuals in midlife transition who estimated their quality of life to be lower were more anxious about aging. However, these two periods are characterized by different processes. The quality of life and anxiety about aging could also be linked to some personality traits that may change during transitional periods. We believe that the direct involvement of many psychological factors and personality traits related to quality of life and anxiety about aging, such as self-image, would contribute to a more complete understanding of this area. Based on everything said above, it can be concluded that understanding anxiety about aging and quality of life in early adult and midlife transitional periods requires considering specific characteristics of these periods. The limitations of this research stem from the sample size or the small number of participants and low reliability of some scales. Also, it would be important to include respondents from several age groups (building and transitional periods) and compare anxiety about aging and quality of life in context of family conditions such as number of children, experience of losses or chronic diseases, as well as socioeconomic factors such as salary satisfaction etc.

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ANKSIOZNOST POVEZANA SA STARENJEM I KVALITET ŽIVOTA U RANOM I SREDNJEM ODRASLOM DOBU

Apstrakt

Cilj ovog istraživanja bio je ispitivanje razlika u pogledu anksioznosti povezane sa starenjem i kvaliteta života kod osoba u tranzitornim periodima ranog i srednjeg odraslog doba, kao i povezanost ovih varijabli. Uzorak u istraživanju je činilo 200 ispitanika (100 ispitanika u tranzitornom periodu ranog odraslog doba, starosti od 19 do 22 god. i 100 ispitanika u tranzitornom periodu srednjeg odraslog doba, starosti 40 do 45 god). Instrumenti koji su korišćeni su: WHOQOL-BREF (World Health Organisation Quality of Life-Bref) i Skala anksioznosti povezane sa starenjem (AAS, Lasher and Faulkender, 1993). Rezultati su pokazali da je anksioznost povezana sa starenjem ($t = 2.29, p = .023$) viša kod osoba u tranzitornom periodu ranog odraslog doba ($M = 56.08$) u poređenju sa osobama u tranzitornom periodu srednjeg odraslog doba ($M = 52.19$). Nije bilo značajne razlike između ove dve uzrastne grupe u pogledu kvaliteta života, ali je nađeno da osobe u tranzitornom periodu srednjeg odraslog doba ($M = 24.47$) imaju više skorove na dimenziji Fizičko zdravlje ($t = -2.485, p = .014$) u poređenju sa osobama u tranzitornom periodu ranog odraslog doba ($M = 23.27$). Takođe je dobijena negativna korelacija kvaliteta života i anksioznosti povezane sa starenjem u tranzitornom periodu srednjeg odraslog doba ($r = -.402, p = .001$). Rezultati u ovom istraživanju razmatrani su u okviru Levinsonove teorije i u odnosu na rezultate prethodnih istraživanja. Možemo zaključiti da je za razumevanje anksioznosti povezane sa starenjem i kvaliteta života neophodno uvažiti specifične karakteristike tranzitornih perioda ranog i srednjeg odraslog doba.

Ključne reči: anksioznost povezana sa starenjem, kvalitet života, tranzitorni period ranog odraslog doba, tranzitorni period srednjeg odraslog doba

Organizational and Marketing Psychology

EMPLOYEES' SATISFACTION BOOSTERS: THE ROLE OF SOCIAL BENEFITS¹⁴

Abstract

This research paper is focused on social benefits for increasing employees' satisfaction through the HRM systems. 352 professionals working in Bulgarian and international companies participated in the survey. Employees' satisfaction is measured by a questionnaire developed for Bulgarian population by Ilieva (2006). Social benefits are explored by a 3-item scale, part of a bigger instrument evaluating HRM practices (Ilieva, 2006; Ilieva, 2009; Alexandrova, 2017). Some additional questions are added for identifying the compensation structure in place, the preferred type of social benefits and the employees' attitudes towards such type of policies within the organizations. The results show that social benefits are very solid predictor of employees' satisfaction, explaining 32,6% of the variations ($F=168,92, p < .001$). In 76,3% of the participants' answers remuneration package includes additional part. However, only 49% of the employees are happy with that. Even when measuring their satisfaction, remuneration has the lowest mean value of $M = 3.46$. The practical aspects of this research show that the key to employees' effectiveness and high satisfaction rates is the right combination and way of communication of those benefits.

Key words: social benefits, employees' satisfaction, HRM strategy

Introduction

Employees' satisfaction essence

Employees' satisfaction is one of the most researched topics within the work and organizational psychology, business strategy, management studies, etc. It seems to be crucial for the overall success of every company and one of the most important key performance indicators.

The term "job satisfaction" refers to the attitudes and feelings people have about their work. Positive and favorable attitudes towards the job indicate job satisfaction. Negative and unfavorable attitudes towards the job indicate job dissatisfaction (Armstrong & Taylor, 2014).

Satisfaction is a positive emotional experience and a basis for forming a sustainable value attitude towards work, and that is why it determines work

¹⁴ Corresponding author: **Error! Main Document Only.**

activity (Ilieva, 1998). This definition also shows that satisfaction is related to the personal beliefs and value system of each person.

There are also different approaches in the analysis of job satisfaction predictors. In short those are summarized by George and Jones (2012) in Graphic 1. Based on that we may see that social benefits and pay in general go under the work situation category. It is important to have in mind that relation when we analyze how those boost the employees' satisfaction. It is hard to put the thin line between the basic needs and real satisfaction.

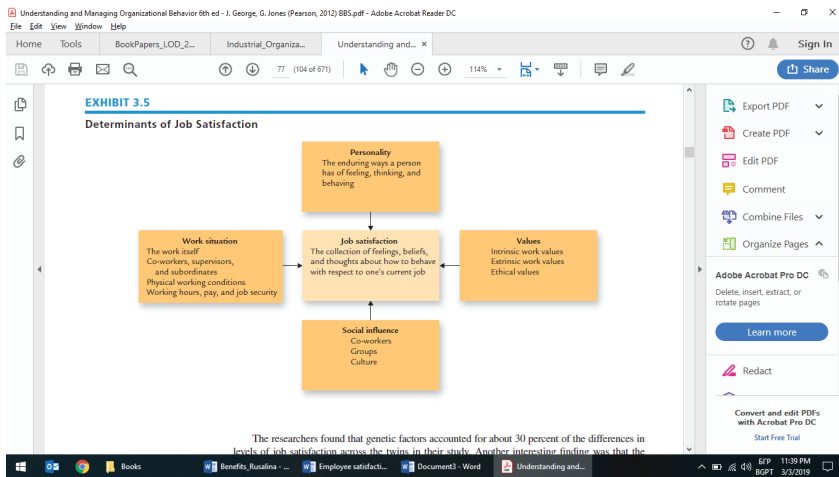


Figure 1. Determination of Job Satisfaction
Source: (George & Jones, 2012)

When employees experience engagement or commitment, a number of positive outcomes occur. For example, the UK Workplace Relations Survey (2011) found that more engaged employees had higher employee participation in company programs, retention, receptiveness to change, and loyalty. In addition, employees' engagement has also been found to be related to less: role conflict and stress; cynicism about the organization and its goals and more to: sense of control over one's work environment; confidence in the future of the organization; sense of self-confidence in the ability to make change happen in the organization; willingness to learn and experiment; willing to stay with the company (lower turnover or higher retention); motivation; creative ideas and solutions; continuous improvement; team working; organization identity.

It is not so easy to measure employee satisfaction. That is why many consulting firms, such as Mercer, Towers Watson, AON, etc. have created engagement surveys. Based on that, seven common factors, briefly defined and then developed below, were identified (George & Jones, 2012):

- **Vision:** The work unit has a clear sense of the future that engages hearts and minds and creates pride among employees.

- **Opportunity:** The work on offer provides a chance to grow both personally and professionally, through participation in the work unit's activities.
- **Incentive:** The compensation package is fair and equitable, including base salary, bonus, and other financial incentives.
- **Impact:** The work itself makes a difference or creates meaning, particularly as it connects the employee with a customer who uses the employee's work.
- **Community:** The social environment includes being part of a team when appropriate, and working with co-workers who care.
- **Communication:** The flow of information is two-way, so employees are in the know about what is going on.
- **Experimentation:** The work hour, alignment, and other policies are flexible and designed to adapt to the needs of both the firm and the employee.

Based on the results of those surveys companies are undertaking different actions in order to improve the well-being and productivity of their staff. Even it might be settled as a competition for winning an international award – e.g. Best Employer, Great Place to Work, etc. so that additional external benefits can be attracted.

Social benefits in the HRM framework

The bonuses, social benefits and services provided to employees in the business organization are directly related to two of the core business management functions - motivation and satisfaction of the employees. This is quite an inevitable part of the whole human resources management system (HRM) and is also a key aspect of it (Alexandrova, 2016; Alexandrova & Ilieva, 2017).

“Employee benefits consist of arrangements made by employers for their employees that enhance the latter's well-being. They are provided in addition to pay and form important parts of the total reward package” (Armstrong & Taylor, 2014, p.427).

“Employee benefits are group membership rewards that provide security for employees and their family members. They are sometimes called indirect compensation because they are given to employees in the form of a plan (such as health insurance) rather than cash. A benefits package complements the base-compensation and pay-incentives components of total compensation” (Gomez-Mejia, Ballein, & Cardy, 2012, p.398).

Besides motivating the employees with promotions and development in the organization, in most cases companies attract and retain personnel with benefits packages which are on top on the remuneration. These packages can include a quite big range of financial incentives and different activities which are related to the employee well-being, health or spare time. According to some authors (Steward

& Brown, 2011) employee benefits can be placed into two broad categories – required by law and voluntarily provided to employees by the organizations. The benefits which are required by law are the ones which the employer is obligated to pay to each employee on a labor contract in the company. Their purpose is to secure future risks related to the health and the possibility of unemployment of each employee and to fill the pension fund. Such benefits are social security, unemployment insurance, worker’s compensation etc.

Discretionary benefits are another type of the additional social benefits which are not mandatory. Depending on their monetary expression they can be separated on two categories – tangible or intangible. Tangible benefits are those measured in monetary term – like insurance, transportation card, etc. The tangible benefits are preferred by the employees, because they can see the added value in monetary expression. Intangible benefits are less direct, for example, appreciation from a boss, likelihood for promotion, nice office, etc. Also the intangible benefits are related with the learning and the development of the employee in the organization. Internal and external training programs, certification in specific areas etc.

The design on the compensation package is very important for attracting and retaining employees. It is very important that the additional benefits correspond with the company values. They can be used very successfully as part of the employer branding strategy in order to attract potential candidates. They are part of the reward strategy and the reward system and in some big companies there is a dedicated person from the HR department who is responsible for the formation of the social benefits package.

Reward systems are one of the four human resource management policy areas incorporated into (Beer, Spector, Lawrence, & Mills, 1984) and (Fombrun, Tichy, & Devanna, 1984) HRM models. The benefits help for achieving the HRM goals of commitment, flexibility and quality. Some of the components of the pay structure may be:

1. **Fixed pay:** This is the basic salary paid to the employee irrespective of any other factor. This is stated clearly in the employment contract. It is the compensation or salary or wage which an employee will get as long as he or she is an employee of the company.
2. **Variable Pay:** This is the additional compensation paid to employee based on employee’s performance, company performance etc. Since variable pay is based on the performance of an individual, it motivates the employees to perform even better.
3. **Equity Pay:** Employees are awarded shares of the company, often at a discounted price. Employees are expected to make money out of them by the appreciation of the stock price and the growth of the company. This is mostly given to the senior management who have served the company for a long time.

4. **Other benefits:** Benefits such as medical facilities, insurance policies, company owned car or flat, etc. all play an important role in motivating employees. These benefits are given by the company as a part of recognizing the services of an employee.

Another important aspect of the benefit strategy is related with the choices that have to be made (Gomez-Mejia, Ballein, & Cardy, 2012). In order to have a working and satisfactory reward system the companies should ensure:

1. **Benefits mix** - this is the complete package of benefits that a company offers its employees. At least three issues should be considered when making decisions about the benefits mix: the total compensation strategy, organizational objectives, and the characteristics of the workforce.
2. **Benefits amount** - the choice of benefits amount governs the percentage of the total compensation package that will be allocated to benefits as opposed to the other components of the package (base salary and pay incentives).
3. **Flexibility of benefits** - the flexibility of benefits choice concerns the degree of freedom employees have to tailor the benefits package to their personal needs. Some organizations have a relatively standardized benefits package that gives employees few options. This system makes sense in organizations that have a fairly homogeneous workforce. In these firms, a standardized benefits package can be designed for a “typical” employee.

As a conclusion of all presented we can summarize the positive effects of social benefits:

- Benefits issues are important and employees’ managers must help employees understand and make the best use of their benefits. For instance, if an employee has a child who needs urgent medical attention, the employee’s manager should be able to explain the company’s medical benefits to ensure that the employee obtains all available coverage.
- Benefits are a powerful recruiting tool. Managers at firms that offer enticing benefits can use this advantage to recruit high-quality applicants.
- Benefits help retain talented employees. Firms that offer an attractive benefits package to employees give managers an advantage because the package often helps reduce turnover.
- Certain benefits play a part in managerial decisions. Some benefits - such as vacations, family and medical leave, and sick days - give employees scheduling flexibility. Managers need to be aware of these benefits to effectively manage work schedules.
- Benefits are important to managers as they need to be aware of their own benefit options. Some decisions, particularly those concerning

retirement plans, have long-term consequences. Good decisions in this area made early in a career can affect quality of life at the end of and after a career.

Based on the presented theoretical framework we want to investigate what are the employees' satisfaction boosters and what exactly is the role of the social benefits. Our main hypothesis is that the presence and diversity in social benefits will increase the employees' satisfaction.

Method

Sample

The sample of this research consists of 352 professionals working in Bulgarian and international companies in various sectors mainly IT and telecommunications sector. By international companies we mean, companies with headquarters in a country different from Bulgaria. Their employees are Bulgarians or foreigners who live and work in Bulgaria.

45% of the participants are men and 56.5% are women. The age of the respondents is between 18 and 53 years with a mean value of $M = 30.82$ years. 94.6% are actively working. 66.5% of those professionals have 5+ years of total working experience and 54.3% work between 1 and 5 years in their current organization. In relation with the hierarchy in the organization 66.4% are on a Specialist or a Senior Specialist role. When it comes to the nationality of the organization - 73.3% work in an international one – the rest in Bulgarian one.

Measures

Job satisfaction is measured with a scale of 19 statements, called Job Satisfaction Questionnaire. The questionnaire was constructed based on a study of the most commonly used tools for satisfaction testing (Ilieva, 1998, 2006). It measures the basic aspects of satisfaction as satisfaction with the content of work, the environment, colleagues and leadership, pay and work as a whole. Some of the questions are: How satisfied are you with: "The conditions you are working at"; "The recognition that you get for the work well done"; "The professional relationships between the management and the employees"; "Your chances to get promoted" and other. The scale used is a Likert one from 1 = *Very dissatisfied* to 5 = *Completely satisfied*. Cronbach's inner consistency factor in the present study for the whole scale is $\alpha = .65$. The Cronbach internal consistency coefficient for the individual subscales ranges from .66 to .84. Subscales are Conditions and Work Environment (4 items, $\alpha = .69$); Work Contents (5 items, $\alpha = .84$); Work Group (3 items, $\alpha = .68$); Management (4 item, $\alpha = .87$); Remuneration (2 items, $\alpha = .66$) and Your Work as a Whole (1 item).

Scale for Social Benefits in the HRM system is used from the dissertational work of B. Alexandrova, 2018 (Александрова, 2018) - the scale “Remunerations and Social Benefits” is with 3 statements with $\alpha = 0.72$. The questions are: “The incomes that have ensure a good standard of living for me”; “I have the opportunity to use additional social benefits (e.g. more vacation days, bonuses, additional health insurance, etc.)”; “Different HRM (human resources management) activities are planned”. The scale used is a Likert one from 1 = *Completely disagree* to 5 = *Completely agree*. Some other questions are also added to reveal the current picture in the different organizations: What is the format of your remuneration?; What is your attitude to the additional social benefits to your remuneration and are you satisfied with them?, etc.

Procedure and statistical analyses

The procedure of gathering the data was completely online via the Google Docs forms. The statistical analyses used are descriptive statistics, frequencies analysis, and correlation and regression analyses.

Results

The perceptions of employees about social benefits

One of the first and important aspects of this research was to explore what are actually the perceptions of the employees about the social benefits, what they actually have in place in their organizations and if they are happy or not with that.

Descriptive statistics and a frequency analysis was done. The results show that 41.2% of all employees that responded have a remuneration format that consists of fixed salary and social benefits. 35.5% of them have fixed salary, variable payment and social benefits and 13.6% have a fixed salary only. As a whole there is a tendency in more than 75% of the cases (at least in the ones that are explored here) to grant additional rewards in the form of any kind of benefits and variable payment (most often a bonus scheme related with some results). Though even when measuring their satisfaction, remuneration has the lowest mean value of $M=3.46$. Other than that, the most desired social benefits are additional health care, food vouchers, additional annual paid vacation days, home office days, cards for public transportation, sports cards, etc.

The other point that was taken and analyzed is the actual subjective satisfaction of the employees. 49.7% said that they have social benefits and are satisfied with them. However, 29.5% do not find what they have as satisfactory; 11.6% do not have any social benefits but want to have such; 6% do not have social benefits but would prefer additional money and 3.1% cannot decide.

Employees' satisfaction boosters: The role of social benefits

In Table 1. Are shown the correlations between the Social Benefits scale and the different aspects of employees' satisfaction. The highest correlation coefficients between HRM Social benefits and employees' satisfaction are those with remuneration as a satisfaction component ($r = .677, p < .001$) and conditions and work environment ($r = .545, p < .00$).

Table 1
Correlations between Social Benefits scale and components of Employees' Satisfaction

		Your work as a whole.	Conditions Work Environment	Work Contents	Work Group	Management	Remuneration
HRM Social Benefits	Pearson Correlation	.473**	.545**	.454**	.401**	.458**	.677**
	<i>n</i>	352	352	352	352	352	352

** Correlation is significant at the 0.01 level (2-tailed).

A further regression analysis was done and the results are presented in Table 2. The predictor in the model are the social benefits and the criteria is the employees' satisfaction (whole scale). Regression model is statistically significant ($F=168,92, p < .001$) and social benefits explain 32,6% of Employees' Satisfaction variance.

Table 2
Regression analysis - Social Benefits as predictor of Employees' Satisfaction

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,571 ^a	,326	,324	11,33

a. Predictors: (Constant), HRMSocialBenefits

Discussion

Attracting and retaining the best employees is not an easy mission and many companies struggle with that. The workforce has changed a lot and people have become picky when it comes to their well-being at work. What makes employees happy has become now a mix of various factors and the road to success is to find the exact proportion of each of it. A new role has emerged – “chief happiness

officer” – in the strive of the companies to set the greatest HRM strategy and catch-up with the desires of their most valuable asset – their people.

For many years in the scientific researches and in practice it was proven that remuneration – either a basic need or a key to real motivation – is an important part of the working environment for the employees. Very often basic pay is legally obliged with some ranges and employers are not so flexible. However, social benefits might be a powerful instrument in the hands of companies in the war for talents. That is why this research paper explores how people perceive this concept and what they really want.

Many organizations are proud and want to show off how much they give to their employees. However, not always this means happy and satisfied employees. In general, most of the companies from our sample have realized that just paying the salary is not enough to have engaged professionals. That is why they strive to give more. This is what the results also say. Social benefits are present in more than 75% of the explored social packages of employees. This is a good sign for the change in the way of thinking. However in only less than 50% employees are really satisfied. The idea is actually that people need to be heard - what they really want and it is not always expensive and unrealistic. It is absurd to have a sport card as a benefit in a production company in a small town where it is useless. Much better will be for example a bigger additional health insurance package. It seems that many of the respondents want to have a company sponsored car. But when you ask those why they cannot answer. If you have a fancy office in the center of the city and a lot of public transportation with limited parking places – how would you benefit the company car? It is still visible the inborn desire of the people to compare with the others without really asking themselves what they really need and why? This will save quite a lot of nerves and vast investments.

One promising idea that is currently not seen in many companies is to give the possibility of the employees to create their own social benefits package up to a predefined limit – e.g. up to 200 BGN per month or something similar. This will empower employees to also realize how much companies invest in them and take the responsibility of managing their needs. It is very often to see in practice how people share with their friends that they do not get enough. Unfortunately, employees get used to the conditions they have and they do not value those. E.g. company sponsored transportation to the workplace is not seen as a benefit but as an obligation to the company. Food vouchers and additional health insurance are “must have”. If you give chips for the vending machines and free coffee in the office this is superb. But if you calculate how much this costs to the organizations – numbers may be 200 BGN +, taxes paid by the company, dealing with vendors, etc. What people really see is only the monetary face of the remuneration. And this is the direction in which companies should work so that employees can see the many different opportunities ahead. And when they have their own responsibility to deal with all that stuff, plan time and resources, speak out and

stand for the decisions taken – this will be something else. It is not like today I want the kindergarten in the office but tomorrow I want the massage for myself. This is not so dynamic process. Usually there are policies and minimum terms defined to be followed. Thus and the work done by the HR/administrative staff taking care of the social benefits in the organizations will be actually valued.

As expected, it turned out that social benefits explain 32,6% of the variations in employees' satisfaction as whole, which puts them as one of the key predictors of the last. And all that goes to the well-defined and set HRM system. Specifically when it comes to the social benefits and remuneration aspects, here we mean ensuring good standard of living, the actual presence of social benefits and different kinds of related activities in place. When this is managed well and it is also evaluated high by the employees, then we have good and satisfactory relations. When we consider the contribution of social benefits to certain components of employees' job satisfaction, the highest one of those is with the remuneration as a satisfaction component itself. Then we go for the work environment and conditions, the work as a whole, the management, work contents and the work group. Here we may see the tendency and the shift from what I get for what I do, what exactly I do, who is showing the way and the last are actually the colleagues I do it with. Even though our results indicate that the biggest contributions of social benefits are in the domains of remuneration (45,83% of variance explained) and work conditions (29,7% of variance explained) as a employees' satisfaction components, it is interesting to see that there is also a moderate relation between the reward system (social benefits in place) and the actual essence of the work done (work as a whole (explaining 22,37% of the variance) and work contents (with 20,61% of variance explained)). For improvement of satisfaction with management and colleagues there are some more important factors than social benefits. This aspect is not to be put in focus here but it is worthy to further examine.

In general, we see and confirm the strong influence that social benefits have over employees' satisfaction. It is not only about having them in place but also asking people what they want to have and why. The key answer is to give flexibility and responsibility to manage this on their own but as well in alignment with the company's policies and procedures. Social benefits themselves may vary but we have to have in mind what is really applicable and what not. Together with that an accent should be put on the results we get like productivity, performance, engagement, motivation, etc. It is also crucial to have in mind the work that is done and the specific job tasks, together with the conditions provided. This is in the heart of employees' satisfaction when it comes to the influence of social benefits. When people can ensure for themselves and their families a good standard of living, variety of leisure time activities to balance between work and life and so on, this will make them more satisfied, happy, creative, motivated to give more.

All those analyses have in mind the limitations of the survey presented below. We strongly focus on the interrelations between the social benefits and

employee satisfaction. Due to the regression analysis we see those 32,6% of explanation of the influence of the first over the second. Based on that we also have a critical understanding and careful interpretation of the results and stay away from generalizations.

Conclusion and limitations of the study

Employees' satisfaction has always played a key role when it comes to productivity, performance, revenue, leading positions on the market, etc. It is also quite an important element of the best practices of the human resources management systems.

This research is actually a humble attempt to verify all those tendencies studied in the recent years. Of course it has its limitations related to the methodology, sample, and analysis approach. For example the reliability measures for some scales are little below the satisfactory level of 0.7. The HRM questionnaire consists of only three items and that might be re-vised. Deeper statistical analyses should be applied as well (e.g. regression analysis for each of the satisfaction components and only the scale as a whole). But for sure it sets a good base for further investigation as we can conclude and further elaborate on some of the key findings in it:

- Social benefits play an important role in employees' satisfaction.
- 76,7% of the employees that took part in this research receive additional social benefits and/or variable pay (in addition to the base salary).
- There is a perceived standard "social benefits package" that includes additional health insurance, sport cards, food vouchers, public transportation cards, home office, flexible working hours, additional vacation days, etc..
- However, only half of employees are happy with what they get so companies need to further investigate what are the real employees' satisfaction boosters as remuneration itself has the lowest values (compared for example to leadership, work environment, etc.).
- Further to that, the perception of social benefits has the highest correlation specifically with satisfaction coming from the remuneration.
- In total social benefits explain 32,6% of the employee satisfaction.
- Further researches need to deeper explore the understanding of monetary and non-monetary rewards, compensation packages and benefits that employees get.
- It seems that people are focused more or less on base salary and do not fully evaluate the other payment methods.
- Together with that companies should start offering not what they have but what employees are looking for so that they will be motivated, engaged, performing with high standards and satisfied.

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POVEĆANJE ZADOVOLJSTVA ZAPOSLENIH: ULOGA SOCIJALNIH BENEFITA

Apstrakt

Ovaj istraživački rad fokusiran je na ulogu socijalnih benefita u povećanju zadovoljstva zaposlenih kroz HRM sisteme. U istraživanju je učestvovalo 352 zaposlenih iz Bugarske, koji rade u bugarskim i međunarodnim kompanijama. Zadovoljstvo zaposlenih mereno je upitnikom koji je za bugarsko stanovništvo adaptirala Ilieva (2006). Socijalni benefiti ispitani su pomoću skale od tri stavke, dela većeg instrumenta za procenu HRM praksi (Ilieva, 2006; Ilieva, 2009; Alekandrova, 2017). Pored toga, uključena su i dodatna pitanja za utvrđivanje postojeće kompenzacione strukture, preferirane vrste socijalnih benefita/davanja i stavova zaposlenih prema takvoj vrsti praksi unutar organizacija. Rezultati pokazuju da su socijalni benefiti vrlo dobar prediktor zadovoljstva zaposlenih, objašnjavajući 32,6% varijanse ($F = 168,92, p < .001$). U 76,3% odgovora učesnika paket naknada uključuje neki dodatni deo. Međutim, samo 49% zaposlenih je zadovoljno time. Čak i kada se meri njihovo zadovoljstvo, finansijska naknada ima najnižu srednju vrednost od $M = 3,46$. Praktični aspekti ovog istraživanja pokazuju da je ključ efikasnosti i visokog stepena zadovoljstva zaposlenih u pravoj kombinaciji socijalnih benefita i načinu komuniciranja tih prednosti.

Ključne reči: socijalni benefiti, zadovoljstvo zaposlenih, HRM strategije

COACHING PSYCHOLOGY: ARE WE THERE YET WITH THE EVIDENCE BASE? ¹⁵

Abstract

One of the repeating themes in research about coaching psychology has been a need for expanding the evidence base. The aim of this paper is to review scholarly literature on coaching outcomes and coaching process. More specifically, the answers to the following questions are raised: (1) does coaching work; (2) how does it work: what are the specific aspects of the coaching process that bring most value. Overview of systematic reviews and meta-analyses points to generally positive coaching outcomes, but also to a need for more studies of coaching effectiveness. Outcomes identified across studies include improvements in self-efficacy, goal attainment, leadership behavior, organizational commitment and productivity. Findings of the process research point to the general interest in the turning points in coaching. Both in individual and group coaching moments of learning and moments of action were found to be key aspects of the coaching process, while supporting team goal setting and creating measures of team success were singled out as crucial aspects of the team coaching process. Implications for practice and future research are discussed.

Keywords: coaching, coaching psychology, coaching outcomes, coaching process.

Coaching as an organizational practice has been gaining popularity in the past couple of decades, although its grounding in academic psychology has not followed accordingly. There has been an increase in theoretical elaborations with the aim of mapping the principles, operating models and tools and techniques in coaching psychology. One of the repeating themes in research about coaching psychology has been a need for expanding the evidence base. The aim of this paper is to review scholarly literature on coaching outcomes and coaching process. More specifically, the answers to the following questions are raised: (1) does coaching work; (2) how does it work: what are the specific aspects of the coaching process that bring most value to the coachee. To answer these questions quantitative studies were examined, pointing to areas in which coaching interventions are perceived as effective. Moreover, qualitative studies were examined to offer insights into the mechanics of the coaching process.

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Introduction: What is this thing called coaching and is there any psychology in it?

Some of the definitions refer to coaching as “a personal development process, that includes the enhancement of self-awareness and the capacity to learn and build on that learning” (Vaughan Smith, 2007, p. 31), “the art of facilitating the performance, learning and development of another” (Downey, 1999, p. 15), “a transactional and reconstructive process in which the person adds to her/ his own repertoire of actions” (Usher & Johnston, 1997, p. 143). What is common to these definitions is their reference to change in the context of learning, rather than in the context of mental health interventions. As opposed to psychotherapy, coaching is diagnosis-free, the coach partners with the coachee who is seen as healthy, resourceful, and capable of moving themselves forward into the future (Vaughan Smith, 2007).

By the 2000s numerous coaching models have been established, many of which were based on the psychological models of counseling and psychotherapy. Coaching psychology was defined as enhancing well being and performance in personal life and work domains underpinned by models of coaching grounded in established adult learning or psychological approaches (Palmer & Whybrow, 2006). The most recent comprehensive publication on coaching psychology introduces behavioural and cognitive coaching, person-centered coaching, gestalt coaching, coaching with personal construct psychology, narrative coaching, solution-focused coaching, systemic coaching and psychodynamic coaching (Palmer & Whybrow, 2019). It seems obvious that despite the influences from a broad interdisciplinary field (e.g. adult learning, management, philosophy), psychological underpinnings remain the foundations of the discipline. According to Passmore (2010) coaching psychology should not only ground coaching in psychological approaches. Instead, coaching psychology should be referred to as the scientific study of behaviour, cognition and emotion within coaching to deepen our understanding and enhance our practice within coaching (Passmore & Theeboom, 2015).

What is the evidence-base in coaching

The term *evidence base practice and management* can be defined as improving the process of decision making by collecting and critically analyzing evidence and integrating it to make a practical decision or solve a problem (Briner & Rousseau, 2011). What is implicit in the definition is the integration of practitioner’s expertise and external evidence from research, especially systematic reviews. The movement towards evidence base practice was fueled by a claim in 1990s that only about 15% of medical interventions were supported by solid scientific evidence (Smith, 1991). When it comes to the field of work and organizational psychology, Briner & Rousseau (2011) suggest that it is not strongly

evidence-based due to the following reasons: (1) there are very few systematic reviews; (2) the latest research findings are not easily accessible to practitioners; (3) demand for evidence-based practice from clients and customers is not very high; (4) practice decisions are rarely integrative, combining practitioners' expertise, evaluation of best available research evidence, the local context and perspectives of those who may be affected by intervention decisions; (5) initial training and professional development focus on developing an evidence-based approach only to a limited extent, in favour of traditional academic training. Two key lines of improving the evidence-based practice in work and organizational psychology are seen as improving the practice-oriented evidence and systematic reviews orientation.

When it comes to coaching psychology, Lai & Palmer (2019) suggest that evidence-base is even more challenging due to the complexity of relevant stakeholders, goal setting and external factors. These authors draw on a comparison of two systematic reviews on coaching psychology covering the periods of 1995-2010 and 2011-2016 to conclude that the number of studies has considerably increased, including the number of experimental design studies. In a more recent systematic review, Athanaosopolou & Dopson (2018) conclude that coaching outcome research is highly heterogeneous in terms of goals of the intervention, making the comparison across studies difficult. However, after almost two decades of coaching psychology research there are several systematic reviews and meta-analyses that perhaps allow for preliminary answers regarding coaching effectiveness.

Does coaching work?

Although this question may seem as clear and simple, the answer varies. On one hand, some systematic reviews and meta-analyses point to generally positive coaching outcomes (Athanasopoulou & Dopson, 2018; Blackman, Moscardo, & Gray, 2016; Theeboom, Beersma, & van Vianen, 2013), while others conclude that although findings lean towards positive effects, we just do not know that yet (Grover & Furnham, 2016). Overview of systematic reviews and meta-analysis of studies on coaching effectiveness is displayed in Table 1.

In general, positive coaching outcomes at individual level were identified in domains of self-efficacy, goal attainment, adaptability and leadership behaviors, but also coping and resilience. Perhaps the most consistent findings were in the domain of self-efficacy and goal attainment, which is not surprising having in mind that coaching as a practice indirectly contributes to learning how to formulate goals and make incremental steps in fulfilling them. Organizational levels outcomes were noted in areas of improved leadership, increased productivity and job satisfaction, reduced turnover intentions and as support mechanism for other learning and development intervention. These findings were relatively consistent across different types of research designs in the reviewed studies.

Despite the overall positive trends on coaching outcomes, there seems to be high level of variability between the effect sizes. For example, even negative outcomes were found among coaches with low levels of pre-intervention motivation (Bozer, Sarros, & Santora, 2013). Therefore, there seems to be a need for more data in order to make definitive judgment on each of the outcomes investigated. In order to confirm coaching effectiveness in future, more studies with experimental rigour and large enough samples would be required (Passmore & Fillery-Travis, 2011).

These findings may sound promising, especially because the outcomes that were singled out in coaching effectiveness studies are among the top issues of employee and organizational development. If coaching may facilitate progress in employee self-efficacy and goal attainment, while improving leadership organization wide, than it may be an intervention of choice for some of the key challenges of modern workplaces. Effectiveness studies further help make a distinction between what is realistic and what belongs to the domain of “hype”.

Table 1

Overview of systematic reviews and meta-analysis of coaching outcomes studies

Author/s	Number of studies reviewed	Goals of the review	Research design	Evidence of positive coaching outcomes	Overall findings & Implications
Theeboom et al. (2013)	N=18	Meta-analysis of effectiveness of coaching within an organizational context.	RCT (8); QEF (6); WSD (4). ¹⁶ Measures: self-report (12); other-report (6)	Performance and skills (g = 0.60, 95% CI, 0.04–0.60, p = 0.036); Well-being (g = 0.46, 95% CI, 0.28–0.62, p < 0.001); Coping (g = 0.43, 95% CI, 0.25–0.61, p < 0.001); Work attitudes (g = 0.54, 95% CI, 0.34–0.73, p < 0.001); Goal-directed self-regulation (g = 0.74, 95% CI, 0.42–1.06, p < 0.001).	“The point estimate of the overall weighted effect size was significant (g = 0.66, 95% CI, 0.39–0.93, p = 0.000), suggesting that coaching, in general, has a significant positive effect across the range of outcome measures we examined.” (p. 10)
Jones et al. (2015)	N=17	Meta-analysis synthesizing the existing research on the effectiveness of workplace coaching	Within-subjects (14) and between-subjects designs (3)	Affective (10); Skill based (10); Results (3)	“Our analyses indicated that coaching had positive effects on organizational outcomes overall (d = 0.36), and on specific forms of outcome criteria (skill-based d = 0.28; affective d = 0.51; individual-level results d = 1.24)”(p. 249)

¹⁶ RCT- randomized control trial; QEF-Quasi-experimental field study; WSD-within subjects design.

Blackman et al. (2016)	N=111	Systematic review of the empirical evidence into business coaching effectiveness	Case studies (54), QES (34), Comparisons to other developmental interventions (23) Measures: self-reports	Coachee outcomes work life balance; social competencies; self-awareness and assertiveness; developing relationships/networks; adapting to change; setting and achieving goals; role clarity; changing behaviors Employer outcomes: increased productivity; support mechanism for other training programs; improvements to communication; effectiveness of organizations or teams	“All of the reviewed studies reported that the target coaching program was seen by most participants as effective in some way” (p. 469)
Grover & Furnham (2016)	N=52	Systematic review of the academic and practitioner literature pertaining to the effectiveness of business and executive coaching as a developmental intervention for organisations.	Pre & post design (30); retrospective (16); control group (24); longitudinal (5). Measures: self-report (40); other-report (24); multi-source (12); objective (3)	Individual outcomes (32): Self-efficacy; Wellbeing and resilience; Goal attainment Organizational outcomes (18): Leadership and manager behavior; Reduced turnover intentions; Increased satisfaction and commitment	“considerable variation among the coaching outcomes and coaching mechanism explored” (p. 23) “Unfortunately, it is clear there is not enough data to make a definitive judgment about the effectiveness of coaching on each of the outcomes investigated” (p. 23) “However, the results above do lean towards coaching being an effective intervention that helps individuals in terms of their self-efficacy, goal attainment and organisations in terms of their leadership but it also benefits organisations indirectly through the individual” (p. 23)
Burt & Talati (2017)	N=11	Meta-analysis of coaching outcomes.	RCT	Attitudes (g=0.78) Coping (g=0.68) Self-regulation (g=0.43) Well-being (g=0.41)	“The results showed that overall coaching has a moderate significant positive effect on coachees, $\hat{p} = 0.42$, which indicated that coaching is effective for individuals” (p. 17)

Athanasopoulou & Dopson (2018)	N=84	Systematic review of executive coaching outcome studies	ROI (2); meta-analysis (5); experimental studies (15) Mixed methods (37); Qualitative studies (16); Survey (17); Case study (44)	Individual outcomes: Reduced stress; Work satisfaction; Time management; Adaptability; Goal setting; Leadership skills; Communication; Work performance Organizational outcomes: Productivity; Coaching culture; Leadership effectiveness; Work satisfaction.	“We found more than 70 positive outcomes... We came across only 16 studies that report either negative or not-fully positive outcomes”(p. 69) “We also checked whether the experimental/ quasi-experimental/ RCS studies, which are at the top of the design robustness order, report more often negative outcomes. Only three experimental/ quasi-experimental studies report negative or moderate (i.e. not clearly positive, often unintended) outcomes.” (p.69)
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What do we know about the coaching process?

Another type of a question that also contributes to improving the evidence base in coaching concerns the mechanisms of the coaching process. There is a wide consensus that this type of questions is best addressed in qualitative studies (Athanasopoulou & Dopson, 2018; de Haan, 2019; Fillery-Travis & Corrie, 2019). Currently there is only one systematic review of qualitative research of coaching (de Haan, 2019). This review included 101 qualitative studies, out of which 37 process studies. As de Haan (2019) points out, process research seeks to map out and investigate process aspects of coaching (e.g. the interaction patterns, active ingredients as perceived by various stakeholders) and is based on interviews or recordings of conversations, usually analysed by grounded theory approach. This type of research identifies themes and categories that point to the meaningful aspects of the coaching process.

One line of research in the reviewed process studies deals with critical moments in the coaching process. Critical moments were defined as perceptions of change in response to coaching (de Haan, Bertie, Day, & Sills, 2010). The coding scheme that was inductively developed in these studies included four broad categories (de Haan, 2019): (1) moments of learning (insights/reflection); (2) moments of relational change (positive/negative); (3) moments of significant action (coach/coachee led); (4) moments of significant emotional experience (joy/anxiety/doubt). According to de Haan (2019), results of these studies revealed that coachees mainly referred to moments of learning and insight as critical, while coaches saw doubts and emotional experiences as critical. Sponsors of the coaching process attached greatest importance to new initiatives and behavioural changes (de Haan & Nieß, 2015). Aspects of the coaching process that were most helpful in other reviewed studies, which were not based on the critical moments framework, pointed to the role of listening, helpful ideas, feedback and challenge by the coach (de Haan, 2019).

Not included in this systematic review of qualitative process research is a subfield of micro-analysis of the coaching process (Bachkirova, Sibley, & Myers, 2015; Myers & Bachkirova, 2018) and qualitative analyses of the team coaching (Carr & Peters, 2012) and group coaching process (Pavlović, 2012). Micro-analytic studies were aimed at development and use of an instrument for mapping the coaching process. Key themes identified in these studies included the following: (1) focus on the coachee; (2) connection and positivity; (3) fluidity of process; (4) collaboration vs. expert-mode (Bachkirova et al., 2015). As these authors conclude, a typical coaching session is about firmly being in the service of the coachee; the role of the coach is to ask questions and work within the coachee's frame of reference; high value is given to understanding, connection and warmth, as well as a sense of hope and positivity; coaching session is supposed to be fluid and absorbing, not fast paced or highly structured; coaching process was seen as collaborative as opposed to a more expert interventions (e.g. counseling, psychotherapy or consulting). In further studies Myers & Bachkirova (2018) presented an empirically derived model of the coaching process. This model mapped four types of coaching based on the process analysis: client-led, process-led, performance management and dialogic.

In a study of team coaching process Carr & Peters (2012) found that meaningful aspects of the process included working agreements and enabling team participation. Working agreements included collaborative setting up expectations and structure for team meetings, defining team norms and measures of team coaching success. Team participation relied on creating psychological safety, inviting honesty and disclosure during the team coaching process (Carr & Peters, 2012; 2013). These findings to some extent resonate with the findings of quantitative studies of coaching outcomes, which also emphasize importance of goal attainment and self-efficacy. Finally, in a study of group coaching (Pavlović, 2012) two key aspects of the process were identified: innovative moments of reconceptualization and innovative moments of performing change. These i-moments were facilitated by the use of group feedback, supporting the language of agency and use of simulations for practicing new behaviours.

Overall, findings of the coaching process research point to the general interest in the turning points, critical moments and innovative moments. Both in individual and group coaching moments of learning and moments of action were found to be key aspects of the coaching process, while supporting team goal setting and creating measures of team success were singled out as crucial aspects of the team coaching process.

Discussion

There seems to be a general consensus that the field of coaching psychology needs continuous strengthening of its evidence-base. Although systematic reviews

are on the rise, there is a demand for even better quality studies and more reviews as cornerstones of the evidence-base of a discipline. It seems that the general qualification that latest research findings in work and organizational psychology are not easily accessible to practitioners applies also to the field of coaching psychology. One of the streams of improving the evidence-base would than navigate between the researchers and practitioners to infuse the findings about the coaching effectiveness and understanding of the coaching process. Coaching practitioners would benefit from grounding their practice in the available data, especially in terms of understanding the important aspects of the coaching process such as the key role of listening, feedback and challenge. Initial training and professional development of coaches should incorporate the findings about the coaching outcomes in the typical domains, such as self-efficacy, goal attainment, adaptability, leadership and resilience. Wider recognition of the inherent fluidity of the coaching process is also needed among the key stakeholders. For human resource professionals it may be of great importance to have a clear understanding of the organizational level outcomes of coaching, especially the links between improved leadership, job satisfaction and increased productivity and reduced turnover intentions. More clarity is needed about how coaching may support training, mentoring and other learning and development interventions. It may even surprise some of the organizational stakeholders that coaching can be seen as part of the performance management practices. Improving the accessibility of the research findings to the wider network of stakeholders could also have a positive effect on the demand for evidence-based coaching and integrative practice decisions. Finally, evidence itself needs to become more practice-oriented in order to play its important role of informing the key stakeholders.

Special attention should be given to grounding the emerging team coaching practices into the relevant evidence-base. As we are witnessing the increasing team orientation of our organizational life, it seems important to understand how team coaching contributes to team effectiveness. Findings about the key role of working agreements in team coaching may be very informative for the practitioners as they establish relatively clear procedures at the beginning of the team coaching process. Moreover, findings about the links between team participation and psychological safety also seem to provide clear navigation for the practitioners. All organizational stakeholders would benefit from having access to the evidence-base of team coaching. This field also seems most relevant and promising in terms of the organizational impact of coaching.

Conclusions

Based on the overview of systematic reviews and meta-analysis of coaching effectiveness, there seems to be a general tendency of identifying positive outcomes of coaching. Outcomes identified across studies include improvements in self-

efficacy, goal attainment, leadership behavior, organizational commitment and productivity. All these outcomes are among the high priority issues in employee and organizational development. For practitioners and decision makers these findings may clarify what to expect of coaching, as well as in which areas we can expect best outcomes. We can also conclude that more research of coaching effectiveness is needed to support what we already know and to further explore outcomes and limitation of coaching interventions.

Based on the qualitative studies, key aspects of the coaching process can be singled out. Across studies there seems to be a general tendency towards learning and action moments as key to the coaching process. Specifics of the team and group coaching process were also singled out. For practitioners and decision makers these studies clarify how coaching works and what are the different styles of the coaching process. It can be argued that the process studies further clarify what is different about coaching when compared to other types of psychological interventions, such as psychotherapy, counseling, training or consulting. In combination with the coaching effectiveness studies, these findings may inform decision making, setting clear expectations and avoiding mismatch between the developmental need and the choice of intervention.

To further improve the evidence base in coaching, several directions can be identified. First, more systematic reviews of more well designed studies are needed, as well as more qualitative studies that provide further insights into the coaching process. Communicating research findings in ways that motivate practitioners and decision makers to read and use them could help overcome the seemingly low demand for evidence based coaching among the practitioners. Teaching practitioners and decision makers during initial training and professional development on how to integrate the research evidence on coaching with the local context may also improve the current status of coaching in practice. To answer the question from the title of the paper: perhaps we are not already there with the evidence base in coaching, but we seem to be further than expected and further than widely recognized.

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Apstrakt

Jedna od čestih tema u istraživanjima psihologije koučinga odnosi se na potrebu za podacima o efektivnosti u ovoj oblasti. Cilj ovog rada je pregled literature o ishodima i procesu koučinga. Preciznije, u radu se postavljaju sledeća pitanja: (1) da li koučing dovodi do rezultata; (2) na koji način koučing dovodi do rezultata: koji specifični aspekti procesa u koučingu donose najveću vrednost. Na osnovu podataka dobijenih iz sistematskih prikaza literature i meta-analiza, može se ukazati na pozitivne ishode koučinga, ali i na potrebu za daljim studijama efektivnosti. Pozitivni ishodi različitih studija podrazumevaju unapređivanje u domenima samoeфикаsnosti, postavljanja ciljeva, liderskog ponašanja, organizacione posvećenosti i produktivnosti. Nalazi iz procesnih studija ukazuju na interesovanje za temu zaokreta ili kritičnih događaja u koučingu. Ključni aspekti procesa individualnog i grupnog koučinga odnose se na momente učenja i momente akcije, dok su timsko definisanje ciljeva i mera timskog uspeha ključni aspekti procesa timskog koučinga. U radu su diskutovane implikacije ovih nalaza za praksu i buduća istraživanja.

Ključne reči: koučing, psihologija koučinga, ishodi koučinga, proces koučinga.

THE EFFECTS OF BRAND POPULARITY AND THE BIG FIVE ON PERCEIVED QUALITY OF REFRESHMENT PRODUCTS: A REPLICATION STUDY¹⁷

Abstract

With the present study we wanted to replicate our recent findings that brand popularity affects the perceived quality of refreshment products, and that this is more pronounced in emotionally less stable persons. To this end, we conducted two studies, both 2×3 repeated measures design, where we manipulated the brand awareness condition and used three brands from different ordinal popularity categories of orange and cola drinks. In addition, we administered the Ten-Item Personality Inventory (TIPI; Gosling, Rentfrow, & Swann, 2003) to our participants ($N_1 = 100, N_2 = 101$). For cola drinks, highly and moderately popular brands tended to receive better evaluation when the brand was revealed, whereas the opposite was the case for lowly advertised brands. For orange juices, the ratings of lowly and moderately popular brands did not change across conditions, while a highly popular brand was rated better when the brand was revealed. For cola drinks, emotionally less stable persons tended to change their ratings more, but for orange juices this was the case for emotionally stable persons. It seems that either the type of the product or the absolute popularity of the brand moderates the effect of neuroticism on quality perception. With these studies, we found another evidence that brand popularity somewhat affects the perceived quality of refreshment products, but we failed to replicate the predicted effect of emotional stability.

Key words: brand popularity, brand awareness, Big Five, perceived quality, refreshment products

Introduction

The purchase of food products can be determined by different factors. Obviously, the perception of the sensory characteristics is often considered the most important, but the familiarity of the brand seems to be an important determinant as well (Babicz-Zielińska & Pronobis, 2018; Varela, Ares, Gimenez,

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& Gambaro, 2010). Brand's elements are all aspects that help to define the brand in general and to separate it from other brands. This can be its name, a logo-symbol-sign, a character, a slogan, a jingle, or the packaging. The brand is considered to be a pledge, a guarantee or a contract with the manufacturer (Keller, 1998). The product name creates an image of the product in the consumer's mind which is often related to quality and thus becomes the basic reason for the consumer's choice of a particular product (Aaker, 1991).

The brand name seems to lead people to assess food product quality as either higher or lower depending on a brand name strength. This has been demonstrated in various studies that compared the sensory perceptions of food products when the brand or its packaging was present or absent (Beneke & Trappler 2015; Breneiser & Allen, 2011; Dimra & Skuras, 2003; Dopico & Tudoran, 2008; Field et al., 2012; Hilgenkamp & Shanteau, 2010; Kuhar & Tic, 2007). For instance, in a study of blind versus non-blind taste preferential ratings for different cola drinks, the national brand Coca-Cola was rated as the first choice considerably more frequently in the non-blind condition compared to the blind condition (Breneiser & Allen 2011). Dopico and Tudoran (2008) conducted a sensory evaluation of Galician veal, finding that in the presence of brand information, sensory evaluations of this product were significantly higher than in its absence. Similarly, in a blind tasting, Kuhar and Tic (2007) compared the sensory evaluation of pickles; they confirmed that the taste evaluation for the leading brand in the informed test was significantly higher than in the blind test. In our recent study (Mirković & Lakić, 2019) we have explored the effect of brand popularity on general quality evaluation of two refreshment products: potato chips and energy drinks. Our results have confirmed that brand popularity affects the sensory assessment of these refreshment products. The brand with stronger position on the market was better evaluated in labeled tests, while the lowly advertised brand was better evaluated in the blinded condition. In total, our results replicated the finding that the brand name leads people to evaluate the quality of food products as either higher or lower depending on the strength of the brand name (Hilgenkamp & Shanteau, 2010).

Over time, we witnessed a growing interest in research on how personality traits affect consumer decisions (Casidy Mulyanegara, Tsarenko, & Anderson, 2009; Lin 2010), with researchers in this context predominantly focused on the explanatory ability of the Big Five model with its five broad dimensions: extraversion, conscientiousness, agreeableness, openness to experience, and neuroticism. The possible effect of different traits has been revealed in several studies related to marketing and consumer research. For example, Tsao and Chang (2010) found that four out of five traits were noticeably associated with utilitarian and/or hedonic motivation for online shopping, with neuroticism and openness to experience showing somewhat stronger and more unequivocal effects than other traits. It was hypothesized that emotionally less stable people

try to reduce negative cognitive consumption reactions by buying products at low prices and by comparing prices of different vendors (Tsao & Chang, 2010). In agreement with that, in our study (Mirković & Lakić, 2019) with refreshment products, results suggested that people with higher scores on neuroticism are more inclined to search for trust in established brands. Furthermore, it was suggested that conscientious and people with higher scores on neuroticism tend to be more loyal to a brand and they tend to demonstrate preferences towards trusted brands, whereas people with higher scores on extraversion tend to show preferences towards popular brands (Aaker, 1997; Ghorbani & Mousavi, 2014; Matzler, Bidmon, & Grabner-Kräuter, 2006; Milas & Mlačić, 2007; Seimiene, 2012). Finally, some studies suggested that persons who are more open to experience put more value on emotional, aesthetic, symbolic and affective aspects of consumption (Matzler et al., 2006).

For marketing practice, it is important to estimate the effects of brand popularity and consumer personality traits on the perception of product quality. This kind of knowledge is useful for marketing professionals in order to position products on the market, and hence in the minds of consumers. Interestingly, it seems that the largest number of studies which attempted to investigate the relationship between the Big Five traits of the customers and brand loyalty were conducted within the context of fashion products (Aaker, 1997; Ghorbani & Mousavi, 2014; Matzler et al., 2006; Milas & Mlačić, 2007; Seimiene, 2012), and we found a relatively small number of studies (e.g., Breneiser & Allen 2011, Mirković & Lakić, 2019) dealing simultaneously with the effects of brand popularity and the personality traits of a consumer on the perceived quality of refreshment products. With this study, we want to replicate our recent findings (Mirković & Lakić, 2019) that brand popularity affects the perceived quality of refreshment products and that this is more pronounced in emotionally less stable persons. In the original study, we explored the effects of brand popularity on general quality evaluation of different potato chips and energy drink products in two separate trials, whereas in the present study we tested the same effects for orange and cola drinks in two separate trials.

Method

Participants

Analogous to our previous study, we used two convenience samples (university students) to test our hypotheses. A total of 100 participants (26.7% male), aged 18 to 30 years ($M = 21.29$, $SD = 2.16$), were evaluating the cola drinks, while a total of 101 participants (30.0% male), aged 18 to 36 years ($M = 21.22$, $SD = 2.38$), were evaluating the orange drinks. All participants were students of the University of Banja Luka.

Material and procedure

In both studies, we used a 2×3 repeated measures design where we manipulated the brand awareness condition (blind test versus labeled test), and where we used three brands from different ordinal categories of popularity for both cola drinks and orange drinks. The selection of brands and the determination of ordinal categories of popularity were done with the help of data collected in a pilot study. Specifically, the total of 60 university students first provided us with information on which brands of cola and orange drinks they know, buy and consume, after which they rated their popularity. The arithmetic mean was used to determine of ordinal categories of the popularity. Based on these responses we selected following cola drinks: Coca Cola for a strong brand, Pepsi for a medium brand and Sky Cola for a weak brand, and following orange drink: Cappy for a strong brand, Nectar for a medium brand and Frutko for a weak brand.

In both studies, the first task for the respondents was to blind-taste all products, upon which they tasted them with the brand names revealed. The order of exposed cola and orange drinks, in both studies, was left to the participants to choose. In the blind tasting condition, the cola drinks and orange drinks were presented in white plastic cups, with a random number in place of a brand name. In the informed tasting condition, products were presented in their original packages and the experimenter poured the drink into white plastic cups in front of respondents. In both conditions, the respondents tasted each sample and assessed its general quality using a 7-point scale (from 1 - *dislike extremely* to 7 - *like extremely*). To control for the aftertaste effect, respondents used water as palate cleansers between each taste test.

After the tasting procedure, the participants filled an adapted version of the *Ten Item Personality Inventory* (TIPI; Gosling, Rentfrow, & Swann, 2003), a very brief ten-item measure of the Big Five traits: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. The TIPI assesses each trait with only two items targeting the opposite poles of the dimension. Due to extremely small number of items its internal consistency is not deemed relevant at all; nevertheless, the satisfactory degree of its validity for research purposes and its temporal reliability is described both in the original work and its worldwide validation studies (e.g., Oshio et al., 2014; Romero et al., 2012; Storme et al., 2016). The task of our respondents was to evaluate to what extent they agree with each item using a 7-point Likert-type scale (from 1 – *completely disagree* to 7 – *completely agree*).

Data analysis

Data analysis was performed using the statistical software package JASP (Version 0.11.1). To test against the null hypothesis of no effects we used not only *p*-values, but also Bayes factors. We defined our priors as weakly informative distributions, since our research can still be considered as an exploratory

endeavour. Specifically, for testing simple effects of the condition we used a Cauchy distribution with a scale parameter 0.5 (effects being in standardized units), while for testing correlations with the personality traits we used a stretched Beta distribution with a parameter 0.5 (see Quintana & Williams, 2018 for more details with regard to Cauchy and Beta distributions in this context).

Results

For cola drinks (Figure 1), we observed an awareness \times popularity interaction ($F_{(2, 192)} = 5.93, p = .003, \eta^2 = .01$), where both highly ($t_{(100)} = 2.11, p = .037, d = 0.21, BF_{10} = 1.20$) and moderately ($t_{(100)} = 1.83, p = .070, d = 0.18, BF_{01} = 1.37$) strong brands tended to receive better evaluation when the brand was revealed, whereas the opposite was the case for the weak brand ($t_{(100)} = -2.30, p = .024, d = -0.23, BF_{10} = 1.73$).

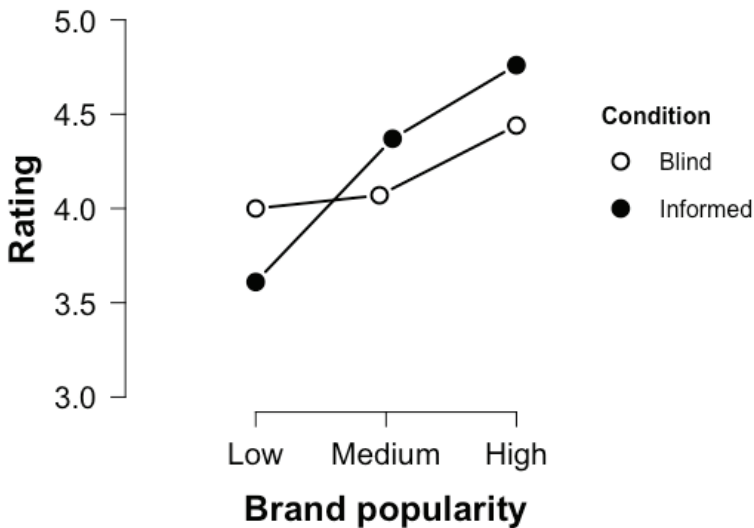


Figure 1. Average product ratings disaggregated by condition and brand popularity for cola drinks.

On the other hand, although Figure 2 suggests an indication of the awareness \times popularity interaction effect for orange juices that effect was statistically negligible ($F_{(2, 192)} = 1.83, p = .163, \eta^2 = .003$). Specifically, the ratings of lowly and moderately advertised brands did not change much across conditions ($d < 0.10, BF_{01} > 5.0$), but we obtained a noticeable change for a highly popular brand where it was rated better when the brand was revealed ($t_{(96)} = 2.20, p = .03, d = 0.22, BF_{10} = 1.13$).

When it comes to the Big Five traits, neuroticism was again found to be the only Big Five trait to obtain small and statistically inconclusive, but still indicative correlations with the change in ratings dependent on the condition. Unexpectedly, we observed opposite trends: for cola products emotionally less stable persons tended to change their ratings somewhat more ($r_{(98)} = .17, p = .089, BF_{01} = 1.35$), whereas for orange juices this was the case for emotionally stable persons ($r_{(98)} = -.16, p = .118, BF_{01} = 1.63$), with both Bayes factors suggesting that correlations were inconclusive.

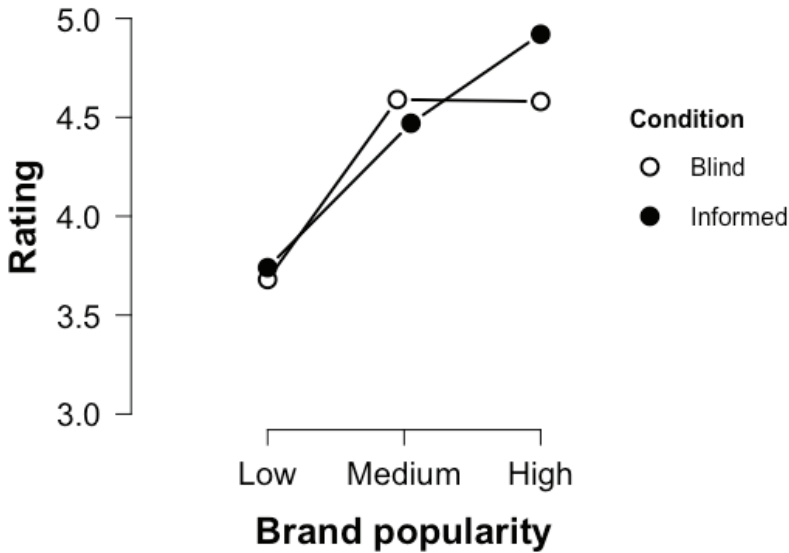


Figure 2. Average product ratings disaggregated by condition and brand popularity for orange drinks.

Discussion and conclusion

As in our previous study (Mirković & Lakić, 2019), where we explored the effect of brand popularity on general quality evaluation of different potato chips and energy drink products, results of this study testing the effects for the orange and cola drinks demonstrated the significant effect of brand popularity and its market position on the sensory assessment of refreshment products. Specifically, the results show that brand awareness may somewhat increase the quality assessment rating of blind samples for better-known brands, and decrease quality assessment rating for lesser-known brands. Namely, for cola drinks, better ratings in the revealed condition were observed for highly and moderately popular brands,

while for orange drinks the trend was obtained only for the highly popular brand. All in all, our results are in line with earlier findings (Dopico & Tudoran, 2008; Di Monaco, Cavella, Di Marzo, & Masi, 2004; Field, Bergiel, Giesen, & Fields, 2012; Kuhar & Tic, 2007; Mirković & Lakić, 2019; Varela, Ares, Gimenez, & Gambaro, 2010) which evidenced that brand name leads people to evaluate the quality of food products as either higher or lower depending on the strength of the brand.

When it comes to the Big Five traits as predictors of the change in ratings dependent on the awareness condition, analogous to the results of our previous study (Mirković & Lakić, 2019), results of this study have replicated that neuroticism is the only Big Five trait which has suggestive correlations with the change in ratings dependent on the condition. Since emotionally unstable persons tend to often feel worried, insecure, and inadequate (Costa & McCrae, 1992), it sounds plausible that they are more inclined to search for trust in the established brands, and that could moderate the sensory perceptions of a product. Previous research (Mulyanegara, Tsarenko, & Anderson, 2007) has already shown that emotionally unstable people prefer trusted brands in order to reduce their anxiety regarding social evaluation of their choices. But unexpectedly, the results in the present study indicated opposite trends: for cola drinks, emotionally less stable persons tended to change their ratings somewhat more, whereas for orange juices this was the case for emotionally stable persons. After verifying that we made no coding mistakes in the analysis, we are left with the speculation that either type of the product or the absolute value of the brand moderates the effect of neuroticism on quality perception.

That said, our conclusions have several limitations. As in our previous study we used convenience sampling and rather small samples of participants, which is specifically reflected in low values of Bayes factors for all presented results. Further, we assessed the Big Five personality traits with an extremely brief self-report instrument that does not capture the various aspects of potentially relevant subdimensions of the Big Five traits. Another important shortcoming that emerged from our findings would be that we did not incorporate absolute values of the brands in the analyses; namely, we used only relative ratings of the brands upon giving instructions to the participants in the pilot studies to name highly, moderately, and weakly popular brands for specific products. Our results suggest that not all highly popular brands are equally highly popular, and vice-versa. Nevertheless, with our studies, we provided another confirmation for the hypothesis that brand popularity can affect the perceived quality of refreshment products (Fornerino & D'Hauteville, 2010; Keller, 1998), but future research needs to concentrate on disentangling the roles of mentioned moderating factors. This finding, that consumers in the context of refreshment products identify product quality with the product brand, seems to be important for marketing professionals in their quest for positioning refreshment products on the market

and in consumers' minds, but also for consumers themselves, in order to become aware of their biases towards specific brands.

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EFEKTI POPULARNOSTI MARKE I VELIKIH PET NA PERCIPIRANU KVALITET OSVJEŽAVAJUĆIH PROIZVODA: PONOVLJENA STUDIJA

Apstrakt

Ovom studijom nastojali smo još jednom provjeriti naše prethodne nalaze (Mirković i Lakić, 2019) da popularnost brenda utiče na percipirani kvalitet osvježavajućih proizvoda i da je to izraženije kod emocionalno manje stabilnih osoba. S tim ciljem sproveli smo dvije studije, obe dizajna ponovljenih mjera 2 × 3, gdje smo manipulirali sviješću o brendu koristeći tri brenda kola i naranča napitaka različitih kategorija popularnosti. Pored toga, na našim uzorcima ispitanika (N1 = 100, N2 = 101) smo primjenili Desetoajtemski upitnik ličnosti (TPI; Gosling, Rentfrow, & Svann, 2003), namenjen procjeni crta ličnosti iz modela Velikih pet. U slučaju kola napitaka, visoko i umjereno reklamirani brendovi su dobijali veću ocjenu kada je brend otkriven, dok je za slabo reklamirane brendove bilo obrnuto. U slučaju naranča napitaka, ocjene slabo i umjereno popularnih brendova se nisu mijenjale u različitim uslovima, dok je visoko popularni brend ocijenjen većom ocjenom kada je brend otkriven. Emocionalno nestabilne osobe su imale tendenciju da više mijenjaju ocjene za kola napitke, dok je za sokove od naranče to je slučaj kod emocionalno stabilnih osoba. Čini se da ili vrsta proizvoda ili apsolutna popularnost brenda umanjuju uticaj neuroticizma na percepciju kvaliteta. Pomoću ovih studija

pronašli smo još jedan dokaz da popularnost brenda donekle utiče na percipirani kvalitet osvježavajućih proizvoda, ali nismo uspjeli da ponovimo predviđeni efekat emocionalne stabilnosti.

Ključne riječi: popularnost marke, svijest o robnoj marki, Velikih pet, percipirani kvalitet, osvježavajući proizvodi

**Symposium: Understanding
Sexual Related Behavior in
Students: Personality, Emotions
and Attitudes**

NEGATIVE AFFECTS ASSOCIATED WITH MASTURBATION RELATED TO ATTACHMENT DIMENSIONS AND LOVE ATTITUDES¹⁸

Abstract

A feeling of shame and guilt related to masturbation can be associated with a preoccupied attachment to a partner, which makes the person feel bad because he sees masturbation as an act of imagined adultery. The main goal of this study is to examine whether personally experienced negative effects associated with masturbation can be predicted based on the dimensions of attachment and love attitudes. Convenience sample was used, which consists of 389 respondents (male – 115; female – 274) students from the University of Nis, age from 18 to 31 ($M=22.89$; $SD=2.63$). We used Experiences in Close Relationships questionnaire, Short Love Attitudes Scale and Negative Attitudes toward Masturbation Inventory. Personally experienced negative affects associated with masturbation achieves a statistically significant correlation only with the attachment Anxiety and love style Mania, and they have also been shown to be statistically significant predictors in single regression. The results of hierarchical regression analysis showed that both models were statistically significant, but that the percentage of explained variance did not change in the second model, nor the F change was significant. This has shown that Mania cannot further explain the criterion, beyond what already explains attachment Anxiety. The results confirmed the first hypothesis that dimensions of attachment have a small but statistically significant role in understanding the negative feelings associated with masturbation among students, while the role of love attitudes is considered but unsustainable. Too much investment in relationships with others and the possible addiction that comes from the negative working model can be the reason why people would feel bad about masturbation, but it should be kept in mind that the impact is relatively small.

Keywords: masturbation, negative affects, attachment, love attitudes

Introduction

Topic of masturbation remains culturally relevant phenomenon and to this day is regarded as highly controversial topic. Such topic is being experienced as taboo usually by religious communities who refer to masturbation as highly

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sinful act. On the other side, others believe that masturbation is normal and is considered to be a part of healthy sexuality (Ramanathan, Sitharthan, Pepper & Wylie, 2014). In Western cultures, it seems that such behavior is socially unacceptable and is seen as unpopular method of deriving sexual satisfaction (Arafat & Cotton, 1974). Coleman (2003) argues that masturbation is not allowed or tolerated in many cultures as a result of sturdy belief that masturbation is self-gratifying bodily pleasure that goes against non-secular or traditional system of beliefs in certain society. One of the reasons why masturbation even nowadays is taboo the very fact that masturbation was pathologized and classified as unnatural act by medical professionals and become associated with guilt, shame, anxiety, moral corruption, impotency, blindness, madness, and even death (Laqueur, 2003, as cited in Kirschbaum & Peterson, 2018). As Kaestle and Allen (2010) argues, by putting a stigma on such topic with known punishment for performing any kind of autoerotism, it might lead to community alienation, conflict in relationships as well as problem with self-esteem and sexual identity. If such statements are followed by Coleman (2003) beliefs that masturbation should be seen as vital part of sexual development and to be used as mark of healthy sexual development it might seem that masturbation was and will be controversial topic and such studies should give a better insight for understanding the nature of masturbation.

Pinkerton, Bogart, Cecil and Abramson state that masturbation might occur within a pattern of active sexuality: “the more sex you have of any kind, the more you may think about sex and the more you may masturbate” (Michaels et al., 1994, p. 165, according to Pinkerton, Bogart, Cecil, and Abramson, 2003). Older study of Debs (1956) claims that masturbation usually arises from loneliness, wherein the individual lacks any form of social interaction and becomes socially deprived (Shekerey, 2011). When it comes to common motives for masturbation, one study of Arafat and Cotton (1974) reports that main reason for masturbation was to alleviate sexual tension and the second common reason was for pleasure. Among other reasons they listed: feeling of loneliness, frustration or mental exhaustion. Along with this, the most common post-masturbatory feeling is that of being physically satisfied.

Recent study of Ramanathan et al. (2009) reported that a main reason for masturbation among males was satisfaction. Another study of Carvalheira and Leal (2013) reported that for female’s masturbation was form of obtaining sexual pleasure (87%), as stress coping (34%) and to fall asleep (32%). Arafat and Cotton (1974) also report that religious reasons and the feeling of guilt were the main reasons for avoiding the act of masturbation. Additionally, post-masturbation feeling of depression was most common in men and the feeling of guilt was more common in women. A study by Laumann (1994) conducted in USA the feeling of guilt after masturbation was reported by every second man and woman and as such existed in different age, whereas even the younger people could not alleviate feelings of fear and guilt (Kontula & Haavio-Mannila, 2003). In terms

of ethnic background, as Das (2007) states, previous studies have found fewer masturbation reports among both black (Laumann & Mahay, 2002; Shulman & Horne, 2003; Staples, 1972; Wilson, 1986) as well as Asian-American women and men (Okazaki, 2002), because of the strong feeling of cultural unacceptance of such behavior in their communities.

Attitudes towards masturbation

Modern day societies are still challenged with stigma around masturbatory activities which was transferred through religion leading to intense feelings of guilt and shame (Carvalho & Leal, 2013).

Masturbation is often accompanied by traditional beliefs that see it as an abnormal act. Coleman (2003) suggest that such treatment a certain topic from a social perspective might lead to relationship, self-esteem, and sexual-identity problems, especially with young people who are on their way to discover healthy sexuality. Furthermore, Coleman (2003) argues that masturbation, seen as an act of self-pleasuring is important in improving sexual health and not only leading to one's actualisation of their sexual needs but forming a sense of autonomy and body integrity and improving self-esteem, sense of identity, positive sexual intimacy, sexual satisfaction, and general health (Kaestle, 2011). According to Abramson (1973), act of masturbation helps in resolving certain psychological conflicts in earlier stages of development and it considered as crucial in forming body image and setting ego boundaries. Several authors who reported higher incidents of masturbation leading to depressive symptoms (for a review, see Hoseini, 2013). Additionally, higher degree of masturbation is associated with poorer mental health, more dissatisfaction with romantic relationship and less love for partners (Costa & Brody, 2012), greater dissatisfaction with mental health life and life in general (Brody, 2010), and less happiness (Das, 2007). Additionally, Hoseini (2013) cites another study by Brody and Costa (2008) conducted on Portuguese sample whose findings suggest that woman who masturbate or are masturbating during an intercourse use immature psychological defence mechanism such as passive aggression, and denial, autistic fantasy. This study was later conducted and confirmed on larger Scottish sample (e.g. Costa & Brody, 2010 as cited in Hoseini 2013). Such results should not be taken for granted as Das (2007) suggest that existing literature on the topic reports contradictory results when it comes to association between masturbation acts and mental well-being. Das (2007) analysed cluster of studies and found that anxiety and depression reduce the need for sexual stimulation and therefore indirectly decrease masturbation. Abramson (1973) states that there is no significant difference in emotional stability regarding masturbation between woman and man. However, when it comes to males, results suggest that masturbation is associated with higher scores on the dimension of neuroticism which is characterized by greater tendency towards emotional lability and reactivity.

Attachment

According to Birnbaum (2016) attachment is seen as the earliest socio-behavioral system evolved in humans with purpose of increasing chances of the surviving in infants and maintaining future reproductive success. Attachment style guide to relational behavior inside the dyad between the child and the caregiver who has to fulfil the basic needs of the infant and which would later develop into infant's schema for interacting with the world around them. Development of attachment style is described as a "womb" for "psychological birth" of the infant and it is necessary for the health of the child (Mohammadi, Samavi & Ghazavi 2016, p. 1). The quality of the interaction between the child and the caregiver acts as crucial when it comes to forming sense of security. If the caregiver is highly responsive to the child's needs, it promotes the sense that one is accepted, loved and supported in the child, and therefore forming a healthy ground for developing further intimate relations with others (Birnbaum, 2016). On the other hand, failing in fulfilling the basic needs of a child may lead in adopting secondary strategies for dealing with the unresponsive or unpredictable environment. Individuals are forming internal working models of self and others during infancy and early childhood period and these models are directly influenced by the representation of availability and responsiveness of attachment figures (Eğeci & Gençöz, 2006). As Vollman (2019) states, internal working models are basic of people expectations of others and guide their social interactions and experiences. Attachment anxiety is reflected in exaggerated fears of abandonment, negative models of self as needy and helpless while maintaining positive model of others. Avoidant attachment maintains negative model of others, experiencing them as unsupportive while keeping a positive model of self as powerful and controlling which results in self-reliance and distance from others in intimate relationships (Birnbaum 2016).

Attachment style might affect the way a person interacts in sexual encounters where insecurely attached individuals tend to have unstable and disrupted sexual activities (Láng, Cooper & Mesko, 2018). Furthermore, anxious adults can use sex as gaining partner self-assurance or as a manipulative tool for achieving intimacy by minimizing the chance of abandonment by their partners and therefore achieving their attachment goals (Birnbaum, 2016). Avoidant adults tend to make distinction between sexual behavior and attachment needs which usually results in infrequent sexual activities and practice sex for self-enhancing reason or to avoid insecurity and stress (Láng, 2018).

On the other hand, individual classified as secure are capable of forming healthy and independent relationship and prefer sexual activities inside the formed intimate union with the partner with tendency to experiencing mutual gratification and satisfaction (Láng, 2018) and pursue mutually rewarding sexual interactions (Birnbaum, 2016).

Love attitudes

Love is usually described as ‘intense feeling that attract and hold adults in relationships’, labelled as positive emotion without a consensus about its definitive meaning (Dinani, Zarbakshsh, Samkhaniyan, Hamidi & Arkiyan 2014, p. 1). One of the widely used love conceptualization is the conceptual model of love attitudes used by Lee (1973, 1977) and further elaborated by Hendrick and Hendrick (1986, 1989). This conceptualization puts love in multi-dimensional perspective consisting of six different types of love styles regard the very fact that individuals have distinct approaches or attitudes toward love (Smith & Klases, 2016). First style of love is Eros, labeled as intense emotional experienced described as passion and strong physical attraction and commitment to the love partner (Hammock & Richardson, 2011). Ludus is the second love color and is usually related to love as a game to be played and enjoyed while having several partners simultaneously and belief that lies and deception are acceptable (Smith, 2016). Individuals with high scores on Ludus are usually less satisfied with their relationship, low level of commitment and liking or loving their partner (Hammock, 2011). Storge is the third love color and is associated with trust, respect, companionship, and strong feeling of commitment to the relationship and to the partner with whom the person shares values and similar attitudes (Smith & Classes, 2016). Pragma is combination of Ludus and Storge where partner is chosen based on reasonable assessment (Dinani et al., 2014) and usually is characterized as practical view on love with conscious consideration if one can make it to be suitable mate (Smith & Classes, 2016). Mania is the combination of Ludus and Eros and is usually referred as obsessive, emotionally strong and intense feeling along with great effort to force love and commitment to the partner with strong need to be loved (Smith, 2016). Lastly, Agape is the combination of Eros and Storge and is usually characterized by self-less and all giving love style, with high level of altruism and responsibility for the partner without any expectations for same behavior from the partner (Smith & Classes, 2016).

The association between sexuality and love styles was firstly explored by Hendrick and Hendrick (1987) and these authors found that Eros lovers are idealistic about sex, unlike the Ludus lovers who primarily was instrumental about sex. Storge lovers showed slight degree of idealism about sex similar to the Mania lovers. Lastly, Agape lovers were explicitly against any form of instrumental sex (Dinani et al., 2014).

Frey and Hojjat (1998) found that Eros and Agape show positive association with intimacy and passion, commitment and satisfaction with the relationship, unlike the Ludus were negative association was found. Furthermore, Eros and Agape were linked to higher levels of reward, satisfaction, investment and commitment in a relationship, whereas Ludus showed opposite association with these variables (Morrow, Clark & Brock, 1995).

Focus of the present study

Attachment Anxiety implies a general concern about rejection and abandonment which is associated with worrying about one's attractiveness and likability that they feel (Tracy et al., 2003). A study by Schmitt & Buss (2001) showed that Anxiously attached people believed that their partners are open to poaching by someone else, as confirmed by other researchers (Schachner & Shaver, 2002). A feeling of shame and guilt related to masturbation can be associated with a preoccupied attachment to a partner, which makes the person feel bad because he sees masturbation as an act of imagined adultery (Writer, 2012). Feeney & Noller (1990) find similarities between Mania style with the characteristics of anxious individuals in struggling to find reciprocity because of the intense emotions they feel toward their partners.

As love attitudes are formed on the basis of attachment and the correlation between these dimensions is moderate, with this paper we want to examine whether personally experienced negative effects associated with masturbation can be predicted based on the dimensions of attachment and love attitudes. We are interested in whether love styles will explain the additional percentage of variance.

Given that Avoidant adults express dislike for much affectionate and intimate aspects of sexuality (Hazan, Zeifman, & Middleton, 1994; Schachner & Shaver, 2004), this dimension is not expected to be a significant predictor, but this assumption will be verified by the tested model. Also, other dimensions of love attitudes, in addition to Mania, will be included, bearing in mind that attachment Anxiety correlates with other dimensions (Collins & Read, 1990; Honari & Saremi, 2015).

h1: Attachment dimensions and love attitudes are statistically significant predictors of negative feelings towards masturbation.

h2: Love attitudes can explain the additional variance in the prediction of negative feelings towards masturbation, when added to the dimensions of the attachment.

Method

Sample

Convenience sample was used, which consists of 389 respondent, usually students from the University of Niš, 115 were male and 274 were female. The age of the respondents ranged from 18 to 31 years and the mean age was 22.89 (SD = 2.63). Data were collected online, during spring 2019.

Variables and Measures

Close Relationship Experience Questionnaire (PAVa; Brennan, Clark & Shaver, 1995; adapted by Kamenov & Jelić, 2003). The questionnaire consists of 18 items related to experiences in love relationships. This questionnaire examines how a person feels in any relationship with a loving partner (girlfriend, boyfriend, husband, wife) rather than how they feel in a specific relationship, if any. The sum of scores on the even-numbered items refers to the Anxiety dimension, which when it comes to partnerships can be briefly described by behaviors such as: worrying about reciprocating love, worrying about abandonment, needing too much closeness. On the other hand, the sum of points on odd-numbered items refers to the Avoidance dimension, which represents the ability, that is, the inability to establish closeness with others. The answers are given on a seven-point Likert-type scale (1 - strongly disagree; 7 - strongly agree).

Love Attitudes Scale (LAS; Hendrick & Hendrick, 1990; adapted by Todosijević, Arančić & Ljubenković, 2001). The scale consists of 42 items, seven for each of the six subscales. The scale is Likert-type, with 5 degrees of disagreement (1 indicates complete disagreement, 5 indicates complete agreement). The scale includes six love styles: 1) Eros - a passionate love; 2) Ludus - game playing love or superficial love; 3) Storge-friendly love; 4) Pragma - practical love; 5) Mania - obsessive love; 6) Agape - selfless love.

Short inventory of negative attitude towards masturbation (NAMI-S; Abramson & Mosher, 1975). The scale has been adapted for the purposes of this paper. We used backward translation method. The items with the highest factor loadings ($> .60$) from the original instrument were selected. Out of a total of 30, 14 items were singled out. For the purposes of the research, we used the dimension Personally experienced negative affect associated with masturbation, which consists of 4 items: "I feel guilty about masturbating.", "When I masturbate, I am disgusted with myself.", "I would be ashamed to admit publicly that I have masturbated.", and "After I masturbate, I am disgusted with myself for losing control of my body.". The PCA points to a single-factor solution (eigenvalues 1 = 2,240; eigenvalues 2 = .974) that explains 55.90% of the variance.

Data analysis

Statistical analysis will be processed by SPSS 21.0. We used the following statistical procedures: descriptive statistics measures (mean, standard deviation, range, skewness, kurtosis), Cronbach's alpha coefficient for estimation of reliability of used scales, correlation techniques (Pearson coefficient of correlation), and hierarchical multiple regression analysis.

Results

Table 1 presents descriptively the statistical measures of the variables used in the survey, with intercorrelations.

Table 1
Intercorrelations, descriptive statistics measures and measures reliability

Indicator	1	2	3	4	5	6	7	8	M(SD)	Sk	Ku	α
1. Anxiety	-								2.98(1.24)	.63	-.07	.87
2. Avoidance	.11*	-							2.58(1.21)	1.01	.70	.83
3. Eros	-.16**	-.38**	-						4.04(.83)	-.92	.58	.74
4. Ludus	.21**	.48**	-.21**	-					2.1(.91)	.76	.01	.54
5. Storge	.03	.04	-.11*	.04	-				2.58(1.27)	.51	-1.00	.88
6. Pragma	.12*	-.04	.04	.09	.11*	-			2.88(1.01)	.02	-.61	.67
7. Mania	.54**	-.12*	.06	.09	-.08	.21**	-		2.66(.87)	.21	-.40	.74
8. Agapre	.15**	-.22**	.17**	-.14**	.05	-.04	.34**	-	2.79(1.11)	.13	-.74	.83
9. PENA masturbation	.19**	.04	-.05	.09	.04	.04	.12*	.05	2.84(.49)	-.61	3.83	.82

Sk– skewness (asymmetry coefficient); *Ku*–Kurtosis (tailednesscoefficient);
PENA masturbation - Personally experienced negative affect associated with
masturbation

The results showed that the reliability of the scales is at a satisfactory level for all dimensions, except Ludus, which has low reliability, and the Pragma dimension, whose reliability is marginal but acceptable. The distribution of variables indicates that there is no excessive deviation from normal (*Sk* and *Ku* values are not outside the range of ± 1.5), except for the variable Personally experienced negative affects associated with masturbation, so the Rankit normalization procedure was applied (Solomon & Sawilowsky, 2009).

The results showed that the inter-correlations between the dimensions are not too high, but mostly moderate, which does not indicate that there may be a problem with multicollinearity. The variable that will be used as a criterion in regression, Personally experienced negative affects associated with masturbation, achieves a statistically significant correlation only with the attachment Anxiety and love style Mania. Since there is no correlation with other dimensions, only these two variables will be included in the continuation of the analysis.

For a better insight into the structure of the relationship, single regression analyses will be conducted to examine the separate contribution of predictors.

Table 2
Dimension Anxiety and dimension Mania as individual predictors of Personally experienced negative affects associated with masturbation

Predictor	Contribution		Model Summary	Predictor	Contribution		Model Summary
	β	p			β	p	
Anxiety	.20	.000	R=.198 R ² =.039 F _(1,387) =15.84 p=.000	Mania	.11	.030	R=.110 R ² =.012 F _(1,387) =4.73 p=.030

The results showed that the contribution of variables in individual models is significant. Anxiety explains 3.9% of the variance of the criteria, and Mania 1.2%. Both contributions are very low.

Given the theoretical assumptions of the relationship between the Anxiety and Mania dimension, where Anxiety is assumed to be a more basic dimension, a hierarchical regression analysis will be conducted. We'll perform this procedure to examine whether Mania makes a certain contribution in the overall variance in addition to the Anxiety dimension.

Table 3
Attachment Anxiety (1) and Mania (2) as predictors of Personally experienced negative affects associated with masturbation (hierarchical regression analysis)

Model	Predictor	Contribution		Model Summary	
		β	p		
1	Anxiety	.20	.000	R=.198 R ² =.039	F _(1,387) =15.84 p=.000
2	Anxiety	.20	.001	R=.198 R ² =.039 F _(2,386) =7.90 p=.000	R ² _{Change} =.000 F _{Change(1,387)} =.01 p=.931
	Mania	.01	.931		

The results showed that both models were statistically significant, but that the percentage of explained variance did not change in the second model, nor the F change was significant. These results indicate that Mania cannot explain the additional percentage of variance in relation to the Anxiety dimension, as assumed.

Discussion

This study aimed to examine how much contribution to understanding the negative affect of masturbation can be made with attachment and love attitudes, i.e. whether it is possible to better understand the level of discomfort that a person feels about masturbating based on personality development and attitudes toward love.

The results showed that there is a statistically significant positive and low correlation between negative affect related to masturbation and the attachment Anxiety dimension, while on the other hand, it does not have a significant correlation with the Avoidance dimension. People who have a negative working model of self, who perceive themselves as inadequate in relation to others, in this case, their partners, achieve higher scores when it comes to the negative affect related to masturbation. Likewise, the regression model of Personally experienced negative affect associated with masturbation shows a relatively low correlation with a set of predictors, while based on the model we can statistically significantly explain only four percent of the variance of the criteria. However, only the attachment Anxiety dimension makes a statistically significant contribution. This kind of marginal contribution only confirms that the link between the working model and the experienced negative affect associated with masturbation exist, but it did not prove to be of great importance, at least in our research. Individuals with high scores on attachment Anxiety tend to feel unsure of their worth and seek reassurance, but are also more likely to be preoccupied with their own needs over the needs of their partners (Mark, Patrick & Murray, 2017). Another study (Write, 2012) finds that persons with preoccupied attachment feel guilty about masturbation because it means they do not share their intimacy with their partner. As we showed in the introductory part, a feeling of shame and guilt related to masturbation can be associated with a preoccupied attachment to a partner, which makes the person feel bad because he sees masturbation as an act of imagined adultery. High attachment Anxiety actually indicates a preoccupied style, which is in line with the results of this study.

The second set of variables in this research concerned love attitudes, i.e. love styles. When it comes to love attitudes, only the Mania dimension was related with Personally experienced negative affect associated with masturbation, and it was low and positive. Mania in romantic relationship shows possessiveness, jealousy and excessive demands on the partner. The relationship is often reduced to tension, and anxiety and resentment occur to a lack of love and attention. People with this love style are shown to rarely achieve satisfaction, which is why they have a constant need for love and attention (Stefanovic-Stanojevic, 2012). This set of traits is reminiscent of those mentioned people with high attachment anxiety, and this is confirmed by some research (Feeney & Noller, 1990; Levy & Davis, 1988) which is why overlapping may occur. We can describe both dimensions as inclined to fall in love easily, become obsessive with regard to

their relationships and partners, and strive to be more intimate with their partners. In both cases, we find dissatisfaction with the background of family relationships (Levy & Davis, 1988). Masturbation can therefore also be seen in this case as an act of partner infidelity and insecurity, which makes a person feel ashamed and guilty, and is associated with negative feelings for masturbation. This is close to the already mentioned idea by Feeney & Noller (1990) who find similarities between Mania style with the characteristics of anxious individuals in struggling to find reciprocity because of the intense emotions they feel toward their partners.

As the striking observed similarity between the constructs of Anxiety in attachment theory and Mania love style, a hierarchical regression analysis was conducted with two sets of predictors. The change obtained in these two steps was not statistically significant, which is why we see that practically the same part of the criterion variance was explained by the Anxiety dimension. Such a result is theoretically expected given the background, i.e. the theoretical similarity of the two constructs (Levy & Davis, 1988), for which there seems to be no reason to use both.

These results are of great importance for further studies examining the negative feelings about masturbation, because of the importance of the topic and the negative effects that masturbation guilt can have (Chakrabarti, Chopra, & Sinha, 2002), as they show that there are some more stable individual differences that concerning the functioning of partnerships are of little importance. Cognitive distortions (Hungry, 2016; Renaud & Byers, 2001) or attitudes toward masturbation (Woo, Brotto, & Gorzalka, 2011; Wright & Cullen, 2001) may be more important in exerting a negative effect on masturbation.

Still, the findings are of benefit to other sexuality researchers, as they may lead them to expand existing research into examining other emotional factors of substantially greater value, focusing their attention on cognition, attitudes, or other sociocultural conditions such as place housing, religious prohibitions, upbringing and conservatism.

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POVEZANOST NEGATIVNIH OSEĆANJA U VEZI SA MASTURBACIJOM SA DIMENZIJAMA AFEKTIVNE VEZANOSTI I LJUBAVNIM STAVOVIMA

Apstrakt

Osećanje stida i krivice u vezi sa masturbatornim aktivnostima može biti povezano sa preokupiranom afektivnom vezanošću za partnera, jer se osoba može osećati loše tokom masturbacije, videći je kao čin zamišljene preljube. Osnovni cilj ove studije je da ispita mogu li se negativna osećanja koja se vezuju za masturbaciju predvideti na osnovu dimenzija afektivne vezanosti i ljubavnih stavova. Korićen je prigodan uzorak koga čini 389 ispitanika (muškarci – 115; žene - 274), uglavnom studenata Univerziteta u Nišu, starosti od 18 do 31 godine ($AS=22.89$; $SD=2.63$). Instrumenti korišćeni u istraživanju su Upitnik bliskih iskustava u partnerskim odnosima, Kratka skala ljubavnih stavova i Inventar negativnih stavova prema masturbaciji. Dobijena je statistički značajna korelacija između doživljenog negativnog afekta u vezi sa masturbiranjem sa dimenzijom afektivne vezanosti Anksioznost i ljubavnim stilom Mania, a obe dimenzije su se pokazale kao statistički značajni prediktori u jednostrunoj regresionoj analizi. Rezultati hijerarhijske regresione analize pokazali su da su oba modela statistički značajna, ali da se procenat objašnjene varijanse nije promenio u drugom modelu, niti je promena F statistika bila značajna. Ovo je pokazalo da Mania ne može više objasniti kriterijum, osim onoga što već objašnjava anksioznost. Rezultati su potvrdili prvu hipotezu, da dimenzije afektivne vezanosti imaju malu, ali statistički značajnu ulogu u razumevanju negativnih osećaja povezanih sa masturbacijom, dok je uloga ljubavnih stavova razmatrana, ali nije održiva u ovom kontekstu. Preveliko ulaganje u odnose sa drugima i moguća zavisnost koja potiče iz negativnog radnog modela sebe može biti razlog zašto bi se ljudi osećali loše zbog masturbacije, mada treba imati na umu da je efekat relativno mali.

Ključne reči: masturbacija, negativna osećanja, afektivna vezanost, ljubavni stavovi

PREDICTION OF SEXUAL SATISFACTION BASED ON BODY UNEASINESS¹⁹

Abstract

The aim of this research is to explore the possibility of predicting sexual satisfaction based on a person's sense of uneasiness with one's body, which is described as being afraid, ashamed or embarrassed and thinking that something is wrong with our body. The Ego-centered sexual satisfaction represents a person's ability to experience erotic and sexual sensations. Partner/sexual activity centered sexual satisfaction is derived from an individual's perception of their partner's sexual reactions and the diversity of sexual activities. The data were collected using New Sexual Satisfaction Scale Short Form and Body Uneasiness Test, on a sample of student participants from the University of Niš, aged 18-31 years. Results indicate that both of the sexual satisfaction subscales can be predicted by a model containing body uneasiness subscales. The model is statistically significant ($F_{(5,332)}=10.665, p<.001$) and explains 13.8% of the variance of Ego-centered subscale, with Body Image Concerns, Compulsive Self-Monitoring and Depersonalization as statistically significant predictors. Statistically significant model ($F_{(5,332)}=9.480, p<.001$) explains 12.5% of the variance of Partner/sexual activity centered subscale, with the Body Image Concerns as a statistically significant predictor. We can presume that body uneasiness can diminish one's ability to experience sexual satisfaction. These results demonstrate the need to further investigate body uneasiness since it can affect our inner world, as well as the interpersonal area of functioning.

Key words: sexual satisfaction, body uneasiness, students

Introduction

Sexual satisfaction is a concept that is difficult to define, measure and truly comprehend. People understand this term, but it is strongly affected by an individual meaning associated with the concept. As a consequence, a simple question such as "How would you define sexual satisfaction?" creates discordance (Pascoal, Narciso & Pereira, 2014). In a qualitative, exploratory study, where this exact question has been asked, researchers identified two main themes: personal

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sexual well-being and dyadic processes. The first theme emphasized the personal positive sexual experiences, while the second established the importance of mutuality, creativity, acting out desires and the frequency and novelty of sexual activity (Pascoal, Narciso & Pereira, 2014).

Sexual satisfaction has been associated with sexual functioning, relationship and marital satisfaction, more recently it has been linked with a sense of well-being (Taleporos & McCabe, 2002) and actual physical health (Whipple, Knowles, Davis, Gianotten & Owens, 2007). Researchers have also singled out sexual satisfaction as an important component of sexual health and a sexual right (Pascoal, Narciso & Pereira, 2014). Other authors have defined sexual satisfaction as one of the crucial dimensions of intimate relationships, important source of life satisfaction and positive factor of physical and mental health (Trudel, Turgeon & Piché, 2010). The association of body image problems and sexual behavior has been found both in men and women. A study reported that college-aged individuals who had less satisfying dating situations and sex lives were less satisfied with their overall appearance (Hoyt & Kogan, 2001). Distress and distraction over the appearance of our body may be contributing to the overall sexual satisfaction. Furthermore it may affect our general mental health (Pujols, Meston & Seal, 2010).

Sexual satisfaction

Some authors have measured sexual satisfaction just by asking subjects one question about their satisfaction with coitus (Zhou, 1994). In reality, this is a more complicated concept and has different approaches. There are various components and variables of sexual satisfaction and some people can be more satisfied with one aspect of their sexual life than the other.

Some definitions of this concept point to the notion that sexual satisfaction represents a sense of enjoyment or satisfaction with one's sexual life and it's a highly personal sentiment greatly related to individuals' past sexual experiences, current expectations and future aspirations (Davidson, Darling & Norton, 1995).

There has been shown the link between some aspects of romantic relationship variables, like closeness and quality of a relationship, with sexual satisfaction (Newcomb & Bentler, 1983). Also, stability of marriage and the stability of the romantic relationship are connected with sexual satisfaction (Hurlbert & Apt, 1994; Obradović, 1988). Some studies showed that college-aged women who are in a committed relationship, use effective contraceptive methods, who are more consistently orgasmic and report high frequencies of sexual intercourse usually tend to express higher levels of sexual satisfaction (Pinney, Gerrard & Denney, 1987). Other studies showed that frequency of sex did not affect overall quality of a relationship once sexual satisfaction was controlled (Greeley, 1991). Also, it has been shown that if couples maintain high quality of communication about sex, which is necessary for the initiation or refusal of sex and can also enhance sexual

arousal, these couples are more likely to have a satisfying sexual relationship (Sprecher & McKinney, 1993).

Some studies showed that there is a link between body image and sexual satisfaction. Greater internalization of appearance ideals from media and beauty standards leads to greater body surveillance, which can lead to higher body shame and lower sexual self-esteem, which predicts less sexual satisfaction. Also, the study showed that body surveillance and body shame directly predicted sexual satisfaction (Calogero & Thompson, 2009). These results assert the socio-cultural effects and its practices that objectify women which affects women's experiences of sexual satisfaction.

There is a certain connection between sexual assertiveness – which represents sexual communication and ability to communicate your own sexual needs and initiate sexual behavior (Shafer, 1977); and sexual self-esteem – which represents affective reactions to the subjective appraisals of one's sexual thoughts, feelings and behavior (Zeanah & Schwarz, 1996) with sexual satisfaction. Given that there has been found a strong correlation between these three variables, the conclusion is that people with higher sexual satisfaction are more comfortable asserting their sexual needs, they initiate sexual behavior and they see their own sexuality in a positive way.

Studies linked sexual satisfaction with feelings of self importance, sense of completeness and successfulness (Heiman & LoPiccolo, 1988) and defined sexual satisfaction as one of important dimension of gender and sexual identity (Hurlbert & Apt, 1994). One of the main reasons why there hasn't been much research studies of sexual satisfaction in the past and why are there more now in the past few years is because of the nature of research phenomenon – it's an intimate problem and somewhat ignored by the academic community.

Body uneasiness

Body image is a concept which gained a lot of interest, especially in the Western culture where most people are preoccupied with body shape, health and youth. Body image can be defined as the representation of our own body which we form in our mind, a self-perspective, the way in which our body appears to ourselves (Schilder, 1935). Another definition states that body image is one's attitude towards one's body, particularly its size, shape, and aesthetics (Cash & Pruzinsky, 1990, as cited in Hoyt & Kogan, 2001). This concept was expended by adding and emphasizing the affective domain (Slade, 1988). Body image also refers to individuals' evaluations and affective experiences regarding their physical attributes. It is influenced by feelings and it actively influences our behavior, self-esteem and psychopathology (Hoyt & Kogan, 2001).

It appears that the subject of female body image is a significant issue for women in today's society. A growing number of studies deal with body dissatisfaction in women, since it has been indicated that, over the lifespan,

women are significantly more dissatisfied with their body image than are men (Cuzzolaro, Vetrone, Marano, & Garfinkel, 2006). This worry about physical appearance has been associated with physical attractiveness. Studies found that men emphasize physical attractiveness in a potential sexual partner to such a great extent that they are unwilling to enter any type of a relationship if the woman is not deemed to be desirable as a sex partner (Hoyt & Kogan, 2001). Once a relationship has been formed, body image still plays an important role by affecting romantic and sexual behavior. A study found that women with a positive sexual schema, relative to those with a negative schema, view themselves as emotionally romantic or passionate and as women who are behaviorally open to romantic and sexual relationships and experiences (Anderson and Cyranowski, 1995, as cited in Hoyt & Kogan, 2001).

People with body image problems tend to display not only dissatisfaction with their bodies, but general sense of uneasiness with their bodies, which is less specific and difficult to describe and define. These people can enhance avoidance and compulsive checking behavior.

Body image disorders can be manifested as a specific dissatisfaction linked to body parts, or as specific characteristics or functions and as wide and general uneasiness. This can be caused by some extreme negative life events, such as mental and physical traumas. Consequences can be great alteration in perception, feelings, attitudes and experiences of the body in the form of body rejection, hate, bodily detachment, indifference to sensation, sense of lack of control, loss of bodily boundaries. Such changes may facilitate and enhance self-destructive behavior even suicide, when person is under stress (Leenaars, 1988).

It has been shown that suicidal individuals suffer from altered body experience, like - dissociation, body detachment, apathy toward and negative feelings about the body (Orbach, Mikulincer, King, Cohen & Stein, 1997). Studies on dissociative behavior, one among patients with eating disorders found that persons who had severe dissociative experiences are showing tendencies for self-mutilation and suicidal behavior (Demitrack, Putnam & Brewerton, 1990) and that dissociation allows suicidal patients to break apart their body from mental selves, which allows them to objectify their bodies, therefore enabling self attack (Maltsberger, 1993).

It's important to state that body uneasiness and body dissatisfaction are not the same term, that body uneasiness is related to more general and not well-defined phenomena and this concept includes affective reactions like anxiety, worry, mistrust, doubt, suspicion and embarrassment (Cuzzolaro, et al., 2006).

Focus of the study

Problems of body uneasiness have been associated with interpersonal distrust, social insecurity, avoiding behaviors and compulsive checking behavior (Cuzzolaro, et al., 2006). Many individuals with poor body image are less

comfortable in intimate situations. Individuals obsessing over physical appearance and body features frequently do not want to be seen undressed by their partners. These fears and obsessions can easily detract from the pleasures those with more positive body images normally experience (Hoyt & Kogan, 2001). Maintaining high level of sexual arousal requires a sort of sexual awareness and concentration. This sexual focus, our ability to experience joy, sexual desire or excitement facilitates our sense of sexual satisfaction (Štulhofer & Buško, 2008). How is this ability affected when we are constantly troubled by our sense of embarrassment and anxiety towards our body? What happens when we are unable to be sexually aware or present, when we are unable to allow ourselves to enjoy that certain moment?

If we have in mind that sexual satisfaction represents a sense of enjoyment and openness with one's body and intimacy, it can be assumed that being immensely involved in our physical appearance diminishes the sense of sexual satisfaction. Our assumption is that a persons' sense of body uneasiness plays a role in their sexual satisfaction, hence the focus of this research will be to explore the possibility of predicting sexual satisfaction based on a person's sense of uneasiness with one's body.

Method

Sample and procedure

Research sample involved mainly student participants from Niš (N=389), aged 18-31 years ($M=22.89$, $SD=2.63$). Sample includes 70.4% of females and 29.6% males. Online surveys were completed by the majority of participants, and the remaining data was collected by distributing paper surveys.

Variables and instruments

The New Sexual Satisfaction Scale (NSSS; Štulhofer, Landripet, Matko, Kladari & Buško, 2007). The questionnaire was developed within a project focused on impact of pornography on young people's sexual socialization. Two subscales were created: the *Ego-centered and Partner/sexual activity centered sexual satisfaction*. Unlike the majority of similar measures, the NSSS is not gender, sexual orientation or relationship status specific scale. The conceptual framework was provided as a result of sex counseling and psychotherapy literature (Štulhofer, Buško, & Landripet, 2008). The New Sexual Satisfaction Scale - Short Form (The NSSS-S; Štulhofer, Buško & Brouillard, 2011) used in this research, was created from the NSSS scale, and one-factor solution was proposed by the authors in the initial study. This Likert type 5-point scale consists of 12 items. Croatian translation was used for the purposes of this paper, with an alternation of few of the words.

After analyzing the results of our study, two factors were extracted from the NSSS-S which parallels the initial NSSS factor structure. The first factor focuses on personal experiences and sensations during intercourse (*The Ego-centered subscale*) and the second factor is primarily focused on person's perception of their partner's reactions and sexual activity in general (*Partner/sexual activity centered subscale*), as proposed in the initial NSSS scale (Štulhofer et al., 2007). We conducted the principal component analysis (KMO=.89; Varimax rotation method was used) where two components were extracted based on Guttman-Kaiser criterion (eigenvalue for the first factor - 3.448, which explains 28.73% of the variance; 2.999 for the second factor, explaining 24.99% of the variance). The scale had good psychometric characteristics both subscales had satisfying internal consistency reliability in this study (Ego-centered subscale $\alpha=0.83$; Partner/sexual activity centered subscale $\alpha=0.78$).

Body Uneasiness Test (BUT•A; Cuzzolaro, et al., 2006). The questionnaire is a Likert type 6-point scale contains five factors: *Weight Phobia* (WP) or the fear of being or becoming fat, unwittingly adding weight; *Body Image Concerns* (BIC) defined as worries related to physical appearance; *Avoidance* (A) explained as body image related avoidance behavior; *Compulsive Self-Monitoring* (CSM) the compulsive need to check our physical appearance; *Depersonalization* (D) or the sense of detachment and estrangement feelings toward the body. The scale has been adapted for the purposes of this paper. We used backward translation method.

For the purpose of conducting a larger research, and because there was a need for more economical measuring instrument, body uneasiness was measured in this study using a shorter adapted version of BUT•A scale. The original BUT•A scale (Cuzzolaro, et al., 2006) consists of 34 items, organized in five previously mentioned factors. Out of the 34 original items, 17 were used in our study. Items used in our study were selected based on item factor loadings provided by the authors of the scale in their initial research (Cuzzolaro, et al., 2006); with the exception of Compulsive Self-Monitoring subscale, all of the original items were used in the case of this subscale. The factor structure proposed by the authors of the scale (Cuzzolaro, et al., 2006) remained the same in this research with minor differences (KMO=.91). Principal component analysis was conducted (Equamax rotation method was used) and five-factor solution was extracted (the extracted factors explained: 15.9%; 15.73%; 14.55%; 13.76%; 11.34% of the variance). All of the subscales had adequate internal consistency reliability in this research: Weight Phobia $\alpha=0.71$, Body Image Concerns $\alpha=0.87$, Avoidance $\alpha=0.78$, Compulsive Self-Monitoring $\alpha=0.71$, Depersonalization $\alpha=0.88$.

Results

First of all, inter-correlations between variables were analyzed.

The results indicate that the inter-correlations between the variables are statistically significant. All of the correlations between subscales of Body

Uneasiness and subscales of Sexual Satisfaction are low, negative and statistically significant ($p < 0.01$). Correlations between the predictors are moderate, with the exception of following high degree correlations between: Depersonalization and Body Image Concerns; Depersonalization and Avoidance; Body Image Concerns and Avoidance. This could indicate that there may be a problem with multicollinearity.

Table 1
Inter-correlations between variables

	1.	2.	3.	4.	5.	6.	7.
1. Ego-centered	-						
2. Partner/sexual activity-centered	.657*	-					
3. Weight Phobia	-.248*	-.198*	-				
4. Body Image Concerns	-.321*	-.345*	.597*	-			
5. Avoidance	-.281*	-.264*	.523*	.730*	-		
6. Compulsive Self-Monitoring	-.263*	-.145*	.589*	.489*	.673*	-	
7. Depersonalization	-.310*	-.288*	.453*	.712*	.854*	.454*	-

Multiple linear regression analysis was used in order to test hypotheses of this research concerning possible prediction of sexual satisfaction based on a person's sense of uneasiness with one's body. Collinearity statistics were included in the analysis in order to detect possible multicollinearity.

Table 2
Prediction of ego-centered sexual satisfaction and collinearity statistics

<i>Body Uneasiness</i>	β	p	Model Summary	Tolerance	VIF
<i>Weight Phobia</i>	-.027	.696	$F_{(5,332)} = 10.665$ $R = .37$ $R^2 = .13$ $p = .000$.539	1.854
<i>Body Image Concerns</i>	-.179	.027		.401	2.491
<i>Avoidance</i>	.235	.075		.151	6.634
<i>Compulsive Self-Monitoring</i>	-.192	.018		.394	2.541
<i>Depersonalization</i>	-.289	.009		.216	4.633

The model is statistically significant and explains 13.8% ($R^2 = .13$, $p = .000$) of the variance of Ego-centered subscale, with *Body Image Concerns* ($\beta = -.18$, $p = .027$), *Compulsive Self-Monitoring* ($\beta = -.19$, $p = .018$) and *Depersonalization* ($\beta = -.29$, $p = .009$) as statistically significant predictors. Results also indicate that multicollinearity isn't present in the data, considering low values of tolerance and variance inflation factor (VIF).

Table 3
Prediction of partner/sexual activity-centered sexual satisfaction and collinearity statistics

<i>Body Uneasiness</i>	β	p	Model Summary	Tolerance	VIF
<i>Weight Phobia</i>	-.014	.837	$F_{(5,332)}=9.480$ $R=.35$ $R^2=.12$ $p=.000$.539	1.854
<i>Body Image Concerns</i>	-.284	.001		.401	2.491
<i>Avoidance</i>	.010	.942		.151	6.634
<i>Compulsive Self-Monitoring</i>	.041	.613		.394	2.541
<i>Depersonalization</i>	-.114	.305		.216	4.633

This model is statistically significant and explains 12.5% ($R^2=.12$, $p=.000$) of the variance of Partner/sexual activity centered subscale, with the *Body Image Concerns* ($\beta=-.28$, $p=.001$) as a statistically significant predictor. Results also indicate that multicollinearity isn't present in the data, considering low values of tolerance and variance inflation factor (VIF).

Discussion

The aim of this research is to explore the possibility of predicting sexual satisfaction based on a person's sense of uneasiness with one's body. The research hypotheses were partially confirmed.

It was concluded that the model containing body uneasiness subscales explains 13.8% of the variance of Ego-centered subscale, through the process of multiple linear regression analysis, where enter method was used. Statistically significant predictors were Body Image Concerns, Compulsive Self-Monitoring and Depersonalization, but with negative beta values. These finding indicate that sexual satisfaction which is ego-centered can be affected by the sense of uneasiness with one's body in a negative way. The body image concerns subscale measures worries related to physical appearance. Individuals with body image concerns spend a lot of time thinking about their body, and often wish to change the way they look. People who report compulsive self-monitoring tend to spend more time checking their appearance. High scores on depersonalization indicate, in body image disturbances, feelings of detachment and estrangement toward one's body, to the point of complete sense of depersonalization (Cuzzolaro, et al., 2006).

Ego-centered sexual satisfaction reflects one's personal experiences and sensations. Person's ability to be aware of erotic sensations, sexual arousal and pleasure contributes to one's sexual satisfaction from an ego-centered point of view. Some authors emphasize the importance of sexual concentration and attentiveness in order to maintain high level of sexual arousal (Bancroft, 1983; Hawton, 1986; Heiman & LoPiccolo, 1988, as cited in Štulhofer & Buško, 2008).

The authors have claimed that being unable to maintain sexual concentration can lead to lower sexual satisfaction, and inability to achieve climax. This lack of sexual focus can be a consequence of being overly aware of personal sexual performance, or a form of sexual self-monitoring (Zilbergeld, 1992, as cited in Štulhofer & Buško, 2008). Being overly immersed in our thought process prevents us from actually being in the moment. Egotism can lower the ego-centered sexual satisfaction. This mechanism often hinders sexual satisfaction - person becomes more involved with herself, rather than fully experiencing satisfaction (Clarkson & Cavicchia, 2013).

It came as no surprise that specifically body image concerns, compulsive self-monitoring and depersonalization were statistically significant predictors of one's ego-centered sexual satisfaction. Body image concerns and compulsive self-monitoring are subscales which describe persons' inability to shift their focus away from their own body. These aspects of body uneasiness underline the compulsive nature of one's thought process concerning one's body and the uncontrollable need to check one's physical appearance (Cuzzolaro, et al., 2006). This constant preoccupation and related negative feelings toward one's body makes it so much more difficult for individuals who experience body uneasiness to be present and sexually aware.

Depersonalization encompasses feelings of estrangement and detachment, sensation that one's body does not belong to them and that it could change at any given time, emotions such as shame, embarrassment, mistrust, doubt and suspicion (Cuzzolaro, et al., 2006). Perhaps the struggle of connecting with one's bodily experience generates the difficulty in feeling the sensations from within the body. If there is a constant worry that the individual's body isn't really hers, trusting the sensations could surely be challenging. Dismissing body's signals, for instance erotic sensation, and sexual arousal, can lower the experienced sexual satisfaction.

Statistically significant model containing body uneasiness subscales explains 12.5% of the variance of Partner/sexual activity centered subscale. Body Image Concerns was the only statistically significant predictor in this model.

Partner/sexual activity centered subscale reflects participant's perception of their partner's reactions and sexual activity in general. This includes one's perception of partner's emotional openness during intercourse, ability to surrender to sexual pleasure and the creativity, variety and frequency of sexual activity (Štulhofer et al., 2011). Individual observes this aspect of sexual satisfaction through the interpersonal - intimacy, sexual communication and assertiveness, trust in sexual partner, and that personal boundaries wouldn't be crossed (Štulhofer & Buško, 2008). Their perception of partner's responsiveness and sexual activities affects partner/activity-centered sexual satisfaction.

Results indicate that body image concerns have a negative impact on person's experienced partner/activity-centered sexual satisfaction. Being worried

about one's physical appearance, viewing one's body as disappointing and shameful lowers individual's ability to concentrate on their partner, and allow the feeling of sexual satisfaction. Body image concern has been described as a tiring and exhausting constant devaluation of one's physical appearance (Cuzzolaro, et al., 2006). Perhaps this strong sense of uneasiness makes being able to perceive one's partner and react to them exceedingly difficult.

Conclusion

Our hypotheses were partially confirmed, and the results indicate that ego-centered and partner/activity centered sexual satisfaction can be negatively impacted by our sense of body uneasiness. Statistically significant predictors were Body Image Concerns (Ego-centered and partner/activity sexual satisfaction), Compulsive Self-Monitoring and Depersonalization (Ego centered sexual satisfaction). Research sample is consisted of mainly female student population which is a limitation of this study, as well as the problem of a possible multicollinearity. The results of this study have to be interpreted with care having these limitations in mind. Research results are nevertheless of great value considering the effect that our personal experience of body uneasiness can have on our sexual satisfaction with our sexual partners. In the modern age, with sex-positive and body positivity movements, facilitating the research concerning body uneasiness can be of great importance for people experiencing mental health issues related to body uneasiness, as well as mental health practitioners who are there to provide support in overcoming these issues.

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PREDIKCIJA SEKSUALNOG ZADOVOLJSTVA NA OSNOVU TELESNE NELAGODE

Apstrakt

Ispitali smo da li se seksualno zadovoljstvo može predvideti na osnovu doživljaja telesne nelagode, koja se opisuje anksioznošću, strahom ili stidom i uverenjem da nešto nije u redu sa našim telom. Seksualno zadovoljstvo usmereno na sebe predstavlja sposobnost osobe da doživi seksualne senzacije. Seksualno zadovoljstvo usmereno na partnera i seksualne aktivnosti proizilazi iz seksualnog ponašanja i reakcija partnera, raznolikosti seksualnih aktivnosti. Podaci su prikupljeni Novom kratkom skalom seksualnog zadovoljstva i Testom telesne nelagode, na uzorku koji čine uglavnom studenti Univerziteta u Nišu, starosti 18-31 godine. Rezultati multiple linearne regresije pokazuju da se supskale seksualnog zadovoljstva mogu predvideti modelom koji sadrži supskale telesne nelagode. Statistički značajan model ($F_{(5,332)}=10.665, p<.001$) objašnjava 13,8% varijanse seksualnog zadovoljstva usmerenog na sebe, statistički značajni prediktori su Zabrinutost izgledom tela, Kompulzivno samonadgledanje i Depersonalizacija. Statistički značajan model ($F_{(5,332)}=9.480, p<.001$) objašnjava 12,5% varijanse seksualnog zadovoljstva usmerenog na partnera i aktivnosti, prediktor Zabrinutost izgledom tela je statistički značajan. Doživljaj seksualnog zadovoljstva može biti ugrožen kod osoba koje imaju doživljaj otuđenosti od sopstvenog tela i koje su tokom seksualnog odnosa usmerene na svoj fizički izgled ili preokupirane time. Postoji potreba za daljim istraživanjem telesne nelagode jer ovaj doživljaj ima uticaj na naš unutrašnji svet i na interpersonalno funkcionisanje.

Ključne reči: seksualno zadovoljstvo, telesna nelagoda, studenti

AUTHORITARIANISM AS A PREDICTOR OF HOMOPHOBIA AMONG STUDENTS²⁰

Abstract

Homophobia can be defined as irrational fear of, aversion to, or discrimination against homosexuality or homosexuals. Authoritarian personality type is characterized by inflexibility, conservative and rigid thinking and low capacity for introspection. Furthermore, such individuals strongly reject others who don't fit within the traditional value system and individuals that are being socially marginalized. We hypothesized that such personality type can perceive homosexuality as endangering, because it differs from conservative values. Aim of this research is to examine the latent structure of homophobia on this sample, and to explore relationship between homophobia and authoritarianism; and also to examine if authoritarianism can be significant predictor of homophobia. The sample is consisted of 389 respondents (male – 115; female – 274), mostly students from the University of Nis, aged 18-31 (M=22.89; SD=2.63). Measuring instruments were the following: Homophobia scale (H25) and Authoritarian scale (UPA-S). Using EFA, three factors of homophobia were extracted: threat to me, threat to society and discrimination. All three factors are moderately correlated with all three dimensions of authoritarianism: submissiveness, aggression, and stoicism. All three dimensions proved to be statistically significant predictors of homophobic factors. The best predictor of all three factors is authoritarian aggression, while the other two dimensions have proven to be marginally significant in some cases. Such results are complementary with our hypothesis. Authoritarianism as phenomenon implicitly perceives homophobia as potential threat and menace both for individual and society, and is linked to rigid obedience of law, norms and principles reflected in authoritarian submissiveness; and also with tendency for inflexible and rigid thinking. Authoritarian aggressiveness is reflected in low tolerance for diversity, anti-intracception and aggression pointed at individuals who don't act in obeying manner, who don't respect and accept social norms. The results confirmed the theoretical background on the development of authoritarian personality and the development of homophobic attitudes, but additional research is crucial to a better understanding of the results.

Keywords: homophobia, authoritarianism, authoritarian submissiveness, authoritarian aggressiveness, stoicism

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Introduction

Authoritarianism

The problem of authoritarianism was first discussed in 1941, two years after the outbreak of World War II, in the book *Escape from Freedom* by Erich Fromm. Representing the ways which serve to protect an individual from the sense of isolation and loneliness by blending his individuality with the world around him, escape mechanisms are defined as the solutions which a person takes to cope with the feeling of being powerless in a world greater and more powerful than him. Fromm identifies three major escape mechanisms: authoritarianism, destruction and conformism (Fromm, 1978). From a socio-psychological point of view, Fromm implies that in the process of individuation, social conditions in which an individual grows up play the greatest role, placing family and political climate as the ones which have the most effect. An important moment in early childhood, related to the development of authoritarianism, is the breaking of the relationship with the authority (father figure). Fromm believes that authoritarianism is characterized by two tendencies: masochistic and sadistic, which shape the authoritarian character (Fromm, 1978).

This concept of authoritarianism is primarily theoretical, since Fromm did not empirically verify his thesis. However, his ideas are reflected in further empirical examinations of researchers and theorists, who used his assumptions as the basis of their own theories of authoritarianism.

One such study in the field of social psychology is a study *Authoritarian Personality* by Theodor Adorno et al. (Adorno, Frenkel-Brunswik, Levinson & Sanford, 1969). The authors of this study believed that there would be a relationship of attitudinal syndromes constituting anti-democratic orientation and specific personality structure that has those attitudes (Rot, 2002). The authors compiled specific attitudes present in the population during World War II, and defined them as anti-democratic orientation. Those attitudes were: anti-Semitism (A-scale), ethnocentrism (E-scale) and conservatism (PEC scale). Researchers also constructed the F-Scale, which measures one's personality traits, and they did interviews, and thematic apperception test with the subjects. The data obtained from more than 2000 respondents gave results that support the study's assumptions - there are personalities who are more prone to anti-democratic orientation and they have a certain personality structure called the authoritarian personality structure (Rot, 2002). Explanation of authoritarian structure in the study *Authoritarian personality* lies in early life experiences, where parents play a key role. Harsh, cold and full of restrictive measures against children, they inhibit spontaneity and imagination, creating an atmosphere of "stone facade" that children must unconditionally adopt. Children suppress hostility toward such distant parents and turn that repressed energy on to various minority groups (Adorno, 1969; Petrović, 2001).

In the second phase of the study, researchers defined nine clusters of variables, within the F scale (Fascism scale), based on the hypotheses they extracted from interviews, thematic perception test and previous testings (Adorno, 1969, as cited in Rot, 2002). Below is an overview and a brief explanation of these subscales, as a detailed illustration of the main features of an authoritarian personality structure:

- *Conventionalism*: Rigid devotion to conventional middle class values and authorities;
- *Authoritarian Subjugation*: A submissive and uncritical attitude towards authority;
- *Authoritarian Aggression*: The tendency to punish people who violate conventional, generalized values;
- *Anti-Intracptive*: Closed for inner experiences and experiences;
- *Superstition and stereotyping*: A tendency to think within rigid categories;
- *Power and Firmness*: Seeing relationships in the extremes of domination-submission, strength-weakness, follower-leader and identification with powerful persons and idols;
- *Destructiveness and Cynicism*: Generalized hostile attitude toward others;
- *Projection*: Projection as the dominant mechanism of defense against unconscious emotional urges;
- *Sex*: Excessive interest in sexual habits and perversion.

The conceptualization of authoritarianism made by psychologist Bob Altemeyer substantially alters former explanations of the authoritarianism phenomena (Mihić, Bodroža & Čolović, 2009). Unlike Adorno's theory, as well as Fromm's theory described above, Altemeyer does not explain authoritarianism in psychoanalytic terms but in social learning theory. After several empirical checks, Altemeyer concludes that authoritarianism should be referred to as an attitude syndrome, a covariation of three clusters: authoritarian submissivity, authoritarian aggressiveness, and conventionalism (Mihić, Bodroža & Čolović, 2009). The explanation of the process of formation of authoritarian attitude syndrome, by social learning theory, hypothesizes that by observing a model that exhibits such behavior or being exposed to such thinking and behavior by the social environment person adopts such behavior. Social learning theory implies that attitudes are shaped by the reinforcements given by parents and important figures during formation as well as during interactions in their social environment (Petrović, 2001).

Homophobia

Homosexuality was treated as a disease until the 1980s, however, with the revision of the DSM III Diagnostic and Statistical Manual, it ceased to be regarded

as a diagnostic and pathological category (Bayer, 1981, as cited in Herek, 1984). Thus, homosexuality becomes the subject of sociopsychological research, but this time the goal shifts from the sickness model (Morin, 1977, as cited in Herek, 1984), and instead of discovering the “cause” and “cure” for homosexuality, it is directed toward examining the problems and prejudices faced by a person with a homosexual orientation (Herek, 1984).

The introduction of the term ‘homophobia’ in the late 1960s by Weinberg helped to challenge the traditional notion of homosexuality and shift the focus of society towards the problem of prejudice against gay people and their stigmatization (Herek, 2004). In its original sense, ‘homophobia’ (Weinberg, 1972, as cited in Živanović, Đokić, Lazarević, Orlić & Bjekić, 2014) implies the fear of heterosexual persons from being in the presence of homosexual men and women, as well as intolerance and hatred of them. The mere use of the word ‘phobia’ implies that it is an irrational fear of homosexuals, as in some people there is an irrational fear of snakes, spiders or open spaces (Herek, 1984). However, homophobia is not a one-dimensional construct, reduced to expressing irrational fears, it involves not only a negative affect on homosexuals (aversion, annoyance, disapproval, etc.), but also accompanying behaviors - aggression or avoidance (Wright, Adams & Bemat, 1999). Broadly speaking, homophobia involves a negative attitude toward homosexuals (Haaga, 1991), which includes negative beliefs (cognitive aspect), negative emotions associated with homosexuality (affective component), and aversive behaviors directed toward homosexuals (O’Donohue & Caselles, 1993, as cited in Živanović et al., 2014).

Bernat, Calhoun, Adams & Zeichner (2001) cite research findings showing that more than 90% of gay men and women stated they were the target of verbal violence and threats (Fassinger, 1991). It is also stated that more than a third of respondents saw interpersonal violence as a direct consequence of their sexual orientation (Berrill, 1992). The perpetrators of these aggressive acts are mostly younger men in their late teens or early twenties, and most often the victims are men perceived as homosexual (Harry, 1990).

Homophobia, like any attitude, has an instrumental function and satisfies a certain psychological need (Herek, 1984; Rot, 2002). Functions and sources of homophobia can be multiple (Herek, 1984). The first source of homophobia, according to Herek, is experiential, stemming from the unpleasant experiences a person has had with members of the homosexual orientation, which are generalized to the whole group; the function is to categorize social reality (Herek, 1984).

Another source of homophobia may be a person’s religious or moral beliefs (value-expressive function). Accordingly, research has shown that expressed homophobia is associated with religiosity (Schwartz & Lindley, 2005; Živanović et al., 2014) and conservative political beliefs (Nagoshi et al., 2008; Živanović et al., 2014).

The third source of homophobia may be the norms, attitudes and values occupied by the group to which the individual belongs (*social-expressive function*), and the function of expressing abstract ideological concepts that are as closely related to self-understanding as to the reference group (Herek, 1984). Research has shown that homophobia is more pronounced in the elderly and living in rural areas (Herek, 2000).

The last source of homophobia, according to Herek, is repressed attraction to persons of the same sex, and the function of homophobia is now defensive (Herek, 1984). Namely, homophobia can also arise from the activation of defense mechanisms that result from anxiety associated with repressed attraction to same sex persons (Baumeister, Dale, & Sommer, 1998; Herek, 1987), and suppressed internal conflict is projected on homosexuals (Herek, 1984).

Previous research

Authoritarianism is a highly represented topic in research in the fields of personality psychology and social psychology. A study by Keli and Schellenberg (1998) shows that homophobic attitudes are more commonly encountered in authoritarian individuals. In one study, Barbara Maglica and Anja Vuković found that there is a statistically significant positive correlation between authoritarianism and homophobia, as well as a significant mediator effect of authoritarianism on homophobia, through personality traits (Maglica & Vukovic, 2016).

Previous findings indicate that homophobia is associated with a lack of empathy (Johnson, Brems & Alford-Keating, 1997) and authoritarianism (Altemeyer, 1996; Haddock, Zanna, & Esses, 1993, according to Orlić & Lazarević, 2015). Right-wing authoritarianism (right-wing authoritarianism) is a sociopolitical construct characterized by subordination to the authorities and social norms that these authorities impose, and aggression against groups that violate those norms (Altemeyer, 1981). Persons in which right-wing authoritarianism is highly inclined tend to see members of the group to which they belong as the moral elite of society, and find it has been found to devalue and criticize the 'immoral' actions of those who do not belong to that group. Research has shown that right-wing authoritarianism is associated with many forms of prejudice, including homophobia (Whitley & Lee, as cited in Wilkinskon, 2004).

Focus of the study

Previous research has confirmed the link between atturity and homophobic attitudes. During the construction of the H25 scale (Živanović et al., 2014), homophobia is defined as a negative attitude, belief, and behavior directed towards people of homosexual orientation, which is reflected through the interaction of negative beliefs (cognitive aspect), negative emotions associated with homosexuality (affective component) and aversive behavioral tendencies toward homosexuals (O'Donohue & Caselles, 1993). The paper also introduced the ego-defense mechanism, which has not been part of homophobia so far. Therefore, the examination of the latent structure on this sample is of great importance, in order

to gain insight into the latent dimensions and potential multidimensionality of the construct. Such comprehension could provide new insights into the relationship between homophobia and authoritarianism, which is the subject of this paper.

Method

Sample

Convenience sample was used, which consists of 389 respondents, usually students from the University of Niš, 115 were male and 274 were female. The age of the respondents ranged from 18 to 31 years and the mean age was 22.89 (SD = 2.63). Students make up 75.8% and graduates 20.9% of the sample, while only 3.3% are respondents with lower education. Residence in the city has 68.1% of respondents, 21.3% in the town and 10.5% in rural areas.

The survey was conducted online, mostly distributed via social media by recruited interviewers. Respondents had to agree to the conditions of participation, and they were informed about their rights before filling out the questionnaire. The research was conducted during the spring of 2019.

Variables and Measures

Authoritarianism Scale (UPA-S; Mihić, Bodroža & Čolović, 2009). This instrument combines two possible ways of conceptualizing a complex notion of authority. There are three factors to the scale: *Authoritarian submissiveness* - an explicit tendency to submit to authority, whether it is an individual (leader), institution (state) or abstract principle (laws). This factor consists of 19 items (eg. 'The leader must always be trusted'); *Authoritarian aggression* - refers primarily to an aversion to persons and phenomena that do not fit into the traditional value system (disdain for marginalized social groups, intense intolerance for public expression of feelings). The factor also makes 19 items (eg. 'I am disgusted by all those who whine before others'); *Stoicism* - the perception of the world as a dangerous place where stoic submission to distress is the best survival strategy and strength and firmness occupy a high place in the hierarchy of values). The answers are given on a five-point Likert-type scale where the value of 1 has meaning - *Highly disagree*, and the value of 5 - *Completely agree*. In the initial study (Mihić, Bodroža & Čolović, 2009), the reliability of the test turned out to be excellent, with the Cronbach alpha 0.92 and KMO 0.93.

Homophobia scale (H25; Živanovic et al., 2014). It consists of 25 five-point Likert-type items, and assesses 5 aspects of homophobia: aversive behaviour, repulsiveness, disparagement, social rigidity, and ego defence. In this study, a summary score was used, after inverse-item recoding, where higher scores indicating a higher degree of homophobia. On the validation sample, the test as a whole showed good psychometric characteristics (KMO = .99, α = .97).

Data analysis

Statistical analysis was processed by SPSS 21.0. We used the following statistic procedures: descriptive statistics measures (mean, standard deviation, skewness, kurtosis), Cronbach's alpha coefficient for estimation of reliability of used scales, correlation techniques (Pearson) and multiple regression analysis. EFA was used to examine the latent structure of the questionnaire on the sample.

Results

To start the necessary analyzes in the right way, it is important to examine the latent structure of the *H25* questionnaire. Factor analysis (maximum likelihood method with Promax rotation) was conducted with the aim of gaining insight into the latent structure of the constructed test. Based on the Guttman-Kaiser criterion, three factors were isolated that together explain 56.39% of the data variance. The first factor explains 47.91% of the variance in homophobic attitude.

Table 1
Structure matrix of Homophobia scale (H25)

Item	1	2	3
1. I would never insult homosexuals. (Nikada ne bih vređao homoseksualce. (R))	.52	.43	.57
2. Any actions against the gay population are unacceptable to me. (Bilo kakve akcije protiv gej populacije za mene su neprihvatljive. (R))	.48	.40	.48
3. If we were well organized, we could re-educate homosexuals.(Kada bismo se dobro organizovali, mogli bismo da prevaspitamo homoseksualce.)	.56	.62	.53
4. I would cooperate with people of homosexual orientation. (Sarađivao/la bih sa osobama homoseksualne orijentacije. (R))	.59	.63	.71
5. Homosexuality should be eradicated.(Homoseksualnost bi trebalo iskoreniti.)	.74	.80	.61
6. I don't understand what makes people so annoyed when the gay population is mentioned. (Ne razumem šta je ljudima toliko gadno kada se spomene gej populacija. (R))	.71	.56	.69
7. I don't see why sex among the gay population should be viewed as something dirty. (Ne vidim zbog čega bi seks među gej populacijom trebalo posmatrati kao nešto prljavo. (R))	.81	.58	.71
8. I don't mind watching a movie with a homosexual theme. (Ne smeta mi da pogledam film sa homoseksualnom tematikom. (R))	.70	.50	.52
9. When I see homosexuals, I feel nauseous and my heart starts beating.(Kada vidim homoseksualce osetim mučninu i srce počinje da mi lupa.)	.64	.67	.51
10. I get disgusted when I see two people of the same sex kissing passionately. (Gadi mi se kad vidim dve osobe istog pola kako se strasno ljube.)	.77	.59	.54
11. If someone is gay, it doesn't stop me from appreciating him as a person. (To što je neko homoseksualac ne sprečava me da ga cenim kao ličnost. (R))	.45	.44	.78
12. Being gay does not mean being less valuable. (Biti homoseksualac ne znači biti manje vredan. (R))	.47	.52	.75
13. I don't judge people based on who they go to bed with. (Ne sudim o ljudima na osnovu toga sa kim idu u krevet. (R))	.55	.51	.70

14. Homosexual is just a politically correct name for a fagot.(Homoseksualac je samo politički korektan naziv za pederčinu.)	.60	.63	.50
15. Homosexuals are not worthy of respect.(Homoseksualci nisu osobe vredne poštovanja.)	.42	.66	.56
16. Gay is ok. (Gej je ok. (R))	.84	.74	.75
17. It is inadmissible for a civilized society to persecute homosexuals as if they were beasts. (Nedopustivo je da jedno civilizovano društvo progoni homoseksualce kao da su zveri. (R))	.67	.66	.78
18. In order not to destroy our society, homosexuals need to be isolated. (Homoseksualce treba izolovati kako ne bi uništavali naše društvo.)	.66	.92	.60
19. Homosexuals are a tumor of every society.(Homoseksualci su tumor svakog društva.)	.56	.89	.54
20. Being gay is immoral.(Biti homoseksualac je amoralno.)	.68	.77	.61

In the original study (Živanović et al., 2014), the authors extract a two-factor solution, while a three-factor solution is accepted here. The first factor is primarily saturated with items related to disgust and ego defense. This dimension is reminiscent of a factor that represents an affectively saturated more intimate aversion to homosexuality, which in the original study was called the Threat to Me. The second factor is saturated with items that see homosexuality as a threat to society as a whole and the social order, and in part to aversion and disgust. Živanovic et al. (2014) recognize a similar factor that they identified as a cognitive-behavioral component and called it a Threat to society. The third factor is mainly saturated with items related to humiliation and aversion towards homosexual community, with disparagement, discrimination and attaching less value to persons of homosexual orientation and their deeds and ideas. This factor was not identified in the initial study, so it will be called Discrimination. Factor scores, recorded by the regression method, will be used below.

Table 2 presents descriptively the statistical measures of the variables used in the survey, with intercorrelations.

As can be seen, the distribution has shifted to lower scores. The reason for the shift in distribution is certainly a consequence of the sample structure, which is mostly made up of highly educated females. The gender contribution for this reason will be controlled below. Spearman's correlation coefficient was applied, due to the deviation of variables related to homophobia.

Table 2
Intercorrelations, descriptive statistics measures and measures reliability

Indicator	1	2	3	4	5	M(SD)	Sk	Ku	α
1. Submissiveness	-					1.90 (0.60)	0.63	-0.18	.88
2. Aggression	.59**	-				1.89 (0.56)	0.79	0.26	.86
3. Stoicism	.50**	.68**	-			3.34 (0.82)	-0.37	-0.12	.81
4. Threat to me	.39**	.55**	.44**	-		.00 (0.96)	0.47	-0.96	-

5. Threat to society	.39**	.57**	.43**	.82**	-	.00 (0.97)	1.63	2.01	-
6. Discrimination	.31**	.48**	.27**	.79**	.71**	.00 (0.95)	1.38	1.25	-

Sk – skewness (asymmetry coefficient); *Ku* – Kurtosis (tailedness coefficient); ** $p < .001$

The results of the correlation analysis showed that there is a statistically significant correlation between all variables. The intensity of correlations is very important in this context. There is a moderate correlation between the dimensions of authoritarianism, with the correlation between Aggression and Stoicism being marginally to high. The correlation between the factors of homophobia is high, which indicates the justification of using a one-dimensional measure, but not too high that it cannot be used in the continuation of this paper meaningfully. Finally, the correlations between the dimensions of homophobia and authoritarianism are statistically significant and moderate, which justifies the use of regression analysis below.

In order to test whether the dimensions of authoritarianism are statistically significant predictors of homophobia, three multiple regression analyzes were conducted, with the role of gender being controlled.

Table 3
Dimensions of authoritarianism as predictors of homophobia factor Threat to me

Model	Predictor	Contribution		Model Summary	
		β	<i>p</i>		
1	Gender	-.20	.00	R=.203 R ² =.041	F _(1,387) =16.60 p=.000
	Gender	-.12	.01	R=.594	R ² _{Change} =.31
2	Submissiveness	.06	.22	R ² =.353	F _{Change(3,384)} =61.76 p=.000
	Aggression	.40	.00	F _(4,384) =52.43 p=.000	
	Stoicism	.16	.01		

The result of the regression analysis showed that the dimensions of authoritarianism can predict 31% of the variance of the homophobia factor Threat to me. The statistically significant contribution is made by the dimensions of authoritarian aggression and authoritarian Stoicism. The contribution of gender, which was shown to achieve a statistically significant negative prediction, was controlled. It indicates the tendency of men towards a homophobic attitude, in this case perceived as a threat to themselves. Gender also makes a small but non-negligible contribution to the total explained variance of 35.3%.

Table 4
Dimensions of authoritarianism as predictors of homophobia factor Threat to society

Model	Predictor	Contribution		Model Summary	
		β	p		
1	Gender	-.21	.00	R=.211 R ² =.044	F _(1,387) =17.98 p=.000
2	Gender	-.08	.04	R=.659	R ² _{Change} =.39 F _{Change(3,384)} =88.03 p=.000
	Submissiveness	.09	.07	R ² =.434	
	Aggression	.57	.00	F _(4,384) =73.55	
	Stoicism	.02	.71	p=.000	

The result of the regression analysis showed that the dimensions of authoritarianism can predict 39% of the variance of the homophobia factor Threat to society. The statistically significant contribution is made by the dimension of authoritarian aggression. Gender was also significant in this model, and a negative prediction indicates that men have higher scores in this case as well. The model explains 43.4% of the variance of the criterion.

Table 5
Dimensions of authoritarianism as predictors of homophobia factor Discrimination

Model	Predictor	Contribution		Model Summary	
		β	p		
1	Gender	-.24	.00	R=.236 R ² =.056	F _(1,387) =22.78 p=.000
2	Gender	-.11	.01	R=.594	R ² _{Change} =.24 F _{Change(3,384)} =44.33 p=.000
	Submissiveness	.08	.14	R ² =.353	
	Aggression	.52	.00	F _(4,384) =40.86	
	Stoicism	.11	.08	p=.000	

The third model showed similar results as the previous one. Dimensions of authoritarianism can predict 24% of the variance of the homophobia factor Discrimination. The statistically significant contribution is made by the dimension of authoritarian aggression. Gender was also significant in this model, and a negative prediction indicates that men have higher scores in this case as well. The model explains 35.3% of the variance of the criterion.

Perhaps it is important to mention the marginally statistically significant prediction coefficients in the last two models. Authoritarian submissiveness predicts Threat to society, and the Stoicism dimension predicts the Discrimination factor. However, the size of the contribution of these two dimensions is very low, so this should be kept in mind when interpreting the obtained results.

Discussion and conclusion

The aim of this paper is to examine more closely the relationship between the authoritarian attitude with homophobic attitudes and the dimensions of homophobia obtained in this research. The main subject of this paper is the examination of the latent structure on this sample, which could potentially bring new insights into the relationship between homophobia and authoritarianism.

The paper assumed that all three sub-dimensions of authoritarianism would correlate positively with all homophobic factors. The obtained results confirmed such an assumption that all three dimensions, authoritarian submissiveness, authoritarian aggressiveness, and stoicism, were positively medium correlated with homophobia factors. Such results are consistent with expected theoretical assumptions but do not differ from any other findings. In line with our results, other researchers have similarly found that authoritarians hold negative attitudes towards those who are threatened by the social order because they deviate from the norm (Duckitt, 2006), and especially when it comes to constructs such as homophobia, sexism, and racism (Christopher & Mull, 2006; Haslam & Levy, 2006; Roets, Van Hiel, & Cornelis, 2006), for which correlation has been confirmed.

Similar to the results obtained in the initial study of the construction of an instrument for measuring homophobia (Živanović et al., 2014), where the authors extract a two-factor solution, a three-factor solution was obtained here. Although the separation of the mentioned three factors indicates a certain distinction between society aversion, intimate aversion and discrimination, which implies disparagement of the personality of homosexuals, the results showed that these three components of homophobia stand in a high correlation, which is not justified making a sharp boundary between the listed components of a homophobic attitude. However, it seems that a dimensional approach would still be useful.

The first factor is primarily saturated with items related to disgust and ego defense. It implies the degree of emotional and general non-cognitive anxiety that occurs in an imaginary or actual encounter with persons of homosexual orientation. Along with this component, we also see saturations from items related to the fear of threatening one's sexual identity. The statistically significant contribution in regression analysis is made by the dimensions of Authoritarian aggression and Authoritarian stoicism. This dimension is reminiscent of a factor that represents an affectively saturated more intimate aversion to homosexuality, which in the original study was called the Threat to Me. The second factor is saturated with items that see homosexuality as a threat to society as a whole and the social order, and in part to aversion and disgust. Živanović et al. (2014) recognize a similar factor based on the Behavioral aspect of homophobia is operationalized through items of indicators of aversive behavior, e.g. readiness to support and/or participate in actions aimed at combating homosexuality. The

third factor is mainly saturated with items related to humiliation and aversion towards homosexual community. Also included here is hatred of homosexuals as persons. This factor was not identified in the initial study, so it will be called Discrimination, given the items that have the highest saturations.

Persons who are inclined to submit explicitly to authority, i.e. persons high on the score of authoritarian submissiveness have a positive and moderate correlation with homophobic attitudes. Although marginally statistically significant, authoritarian submissiveness proved to be a positive predictor of Threat to society. In people who value social norms and established forms of dyadic interactions between genders, homosexual experiences are not close to them, which may be why they have formed such condemning attitudes.

An even higher intensity correlation was obtained with a dimension of authoritarian aggression that implies an aversion to persons and phenomena that do not fit into the traditional value system (disdain for marginalized social groups, and intense intolerance for public expression of feelings). Authoritarian aggression proved to be the best predictor, moderate and positive, of all three factors of homophobia. When in a position of authority themselves, authoritarians were aggressive toward unconventional or less powerful groups of people and perceived this behavior to be sanctioned by society or the government (Gormley & Lopez, 2010).

A medium and positive correlation exists between the Stoicism dimension and homophobic factors. Homophobic attitudes then attach to the perception of the world as a dangerous place where stoic submission to distress represents the best survival strategy and strength and firmness occupy a high place in the hierarchy of values. Stoicism is also mentioned as a statistically significant predictor of the Threat to me factor. These factors seem to be somewhat similar, given that Stoicism is an inherent attitude to those who believe that the world is full of threats, while the first factor refers to homosexuality as one of the personal threats (Duckitt, 2006; Živanović et al., 2014). The dimension of Stoicism has only a marginally statistically significant effect on the prediction of the factor Discrimination. So anything that would disrupt such security and that comes from a world that is a dangerous place will be perceived as bad. In this case, these would be different values, which we have already cited as one of the main reasons for creating and maintaining homophobic attitudes. According to this source, homophobia can be a reflection of the norms, attitudes, and values occupied by the group to which the individual belongs (*social-expressive function*), and the function of expressing abstract ideological concepts that are closely related to self-understanding as well as reference groups (Herek, 1984).

However, it should also be borne in mind that in the regression model explaining a significant part of the variance of the criterion, the contribution variables submissiveness and stoicism are not large. Authoritarian aggression proved to be the only statistically significant predictor. It is possible that all

three dimensions explain in one common part some aspects of homophobia. But other possible explanation is that the higher correlation between the two is due to the fact that authoritarian aggressiveness scale has an item that explicitly expresses the hate toward “homosexuals, prostitutes, and drug addicts” and this is the hate toward the marginalized groups that is mentioned in the manuscript. So theoretically, the finding is expected but statistically it may stem from the overlapping content of the two scales.

In any case, in all three dimensions, we notice some of the functions of protecting our own firmly grounded views on what is acceptable and what is not. Therefore, as the introductory section outlines several reasons why homophobic attitudes can be formed, this research may suggest that each of these reasons may have a stake. However, such conclusions should be approached with more care, firstly identifying the latent dimensions of homophobia and then checking the expression of attitudes concerning whether the attitude is based on aversion, experiencing abhorrence, neglect, the rigidity of social norms, or their ego defenses. In this way, the results obtained could be better integrated into the above-mentioned territorial context. The expected differences among homophobic factors did not prove to be as significant as expected. Namely, the results of all three regression analyzes did not show significantly different results. The marginal contribution of other dimensions stands out, which was not detected in all three, but they are still very low and almost insignificant.

The obtained results support the idea of one-dimensionality of the construct of homophobia. Nevertheless, space for multidimensionality is looming, but additional research into latent space is necessary in order for future research to better explore the latent space of homophobia.

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AUTORITARNOST KAO PREDIKTOR HOMOFBIJE KOD STUDENATA

Apstrakt

Homofobija se može definisati kao iracionalan strah ili averzija ili diskriminacija prema osobama homoseksualne orijentacije, tj. homoseksualcima. Autoritarna ličnost odlikuje se rigidnošću, konzervativnim i nefleksibilnim razmišljanjem kao i niskim kapacitetima za introspekciju. Autoritarne osobe odbacuju osobe koje se ne uklapaju u tradicionalne vrednosti ne poštuju norme koje su propisane, kao ni osobe koje su marginalizovane po nekoj osnovi. Naša pretpostavka je da će takav tip ličnosti opažati homoseksualce kao ugrožavajuće za njih, jer nisu u skladu sa vrednostima prema kojima oni žive. Cilj ovog istraživanja je ispitati da li postoji povezanost između homofobije i autoritarnosti, kao i da li se homofobni stavovi mogu predvideti na osnovu autoritarnosti. Uzorak je prigodan i čini ga 389 ispitanika (m=115; ž=274), studenata Univerziteta u Nišu, starosti od 18 do 31 godine (AS=22.89; SD=2.63). Instrumenti korišćeni u istraživanju su Skala Autoritarnosti (UPA-S; Mihić, Bodroža&Čolović, 2009) i Skala homofobije (H25; Živanović et al., 2014). Using EFA ekstrahovana su tri faktora homofobije: pretnja za mene, pretnja za društvo i diskriminacija. Sva tri faktora statistički značajno i srednje koreliraju sa sve tri dimenzije autoritarnosti: submisivnost, agresivnost i stocism. Sve tri dimenzije su se pokazali kao statistički značajni prediktori faktora

homofobije. Najbolji prediktor sva tri fakotra je autoritarna agresivnost, dok su se ostale dve dimenzije pokazale kao marginalno značajne, u pojedinim slučajevima. Dobijeni rezultati u skladu su sa postavljenim hipotezama rada. Autoritarnost se može opaziti kao fenomen koji implicitno opaža homoseksualce kao pretnju i za društvo i za pojedince, a sve to viđeno kao nedostatak adekvatnog prava ili normi, ako govorimo o autoritarnoj submisivnosti, ili kao rigidnost u stavovima i mišljenju, ako govorimo o dimenziji rigidnosti. Autoritarna agresivnost odnosi se na pojedince koji reflektuju nepoštovanje i agresiju usmerenu prema osobama koje se ne ponašaju prema propisanim pravilima, koji ne poštuju zakone i ne postupaju u skladu sa normama. Rezultati su potvrda teorijskih pretpotavki o razvoju autoritarne ličnosti i razvoju homofobnih stavova, ali dodatna istraživanja su od presudne važnosti za bolje razumevanje rezultata.

Ključne reči: homofobija, autoritarnost, autoritarna submisivnost, autoritarna agresivnost, rigidnost

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