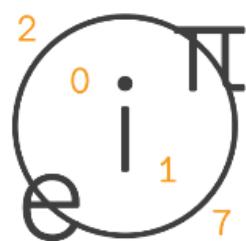


XXIII NAUČNI SKUP



# EMPIRIJSKA ISTRAŽIVANJA U PSIHOLOGIJI

24 – 26. MART, 2017.

FILOZOFSKI FAKULTET, UNIVERZITET U BEOGRADU

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INSTITUT ZA PSIHOLOGIJU  
LABORATORIJA ZA EKSPERIMENTALNU PSIHOLOGIJU  
FILOZOFSKI FAKULTET, UNIVERZITET U BEOGRADU

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Beograd, 2017.

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## THE FLOW EXPERIENCE: THE INFLUENCE OF SKILLS-DEMANDS-COMPATIBILITY ON EXPERIENTIAL AND PHYSIOLOGICAL INDICATORS

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The experience of flow, as reflected in the deep involvement in an activity perceived as intrinsically rewarding, is typically described as an “optimal experience”. In the literature discussing the flow experience, one frequently finds the advice to maximize time in flow to enhance life-satisfaction and subjective well-being. However, this advice seems premature because consequences of flow experiences have not been systematically assessed yet. In order to address this gap, we investigated the influence of skills-demands-compatibility (the central precondition of flow experiences) on several experiential and physiological processes in a series of experiments. The experience of (non-)flow was manipulated based on different modes of computerized tasks. Participants worked on the tasks either in one of two non-adaptive conditions (“boredom” or “overload”), or in an adaptive playing mode condition, in which the difficulty level is constantly adapted to participants’ individual performance level. The latter reliably leads to significantly higher levels of self-reported flow experience compared to non-adaptive conditions. Also, participants showed distinct physiological reactions under adaptive conditions compared to non-adaptive conditions. Our results suggest that flow involves a combination of distinct experiential and physiological processes. Some elements of our findings suggest that flow situations can be associated with physiological stress responses. These results challenge the “rosy picture perspective” on flow that predominates in the literature on the flow experience to date.

## COGNITIVE CONSTRAINTS AND LANGUAGE STRUCTURES

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At the Laboratory for Experimental Psychology (Faculty of Philosophy, University of Belgrade) there is a continuous line of research devoted to better understanding of language processing, in particular, processing of inflected morphology. In the course of several decades this line of research addressed some of the basic issues related to language structuring and the set of cognitive constraints that guide this structuring. Put differently, this research is based on the premise that in order to understand language processing we should get thorough insight into the logic of language structures. The conceptual framework of this research is based on the premise that language is a self-organizing system where language structures emerge as an optimal solution for a given cognitive constraints. The metric applied in this research is derived from information-theoretic framework. Number of experimental data indicates that cognitive system is extremely sensitive to uncertainty variation expressed in terms of the amount of information (entropy). Consequently, the dynamics the language structures is motivated by preservation of optimal information load margins which appear as indices of the stable state of the overall system.

# *PERCEPCIJA*

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## ISPITIVANJE UTICAJA PROSTORNOG KONTEKSTA NA ISPOLJAVANJE EFEKTA KONFIGURALNE ORIJENTACIJE

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U velikom broju eksperimenata je demonstriran efekat konfiguralne orijentacije koji se odnosi na pojavu da je percepcija lokalne prostorne orijentacije uslovljena orijentacijom globalnije strukture. Kao stimulus element u ovim eksperimentima je korišćen jednakostranični trougao koji je u pogledu orijentacije multistabilan percept. U ovom istraživanju je kao stimulus element korišćen oštrogli jednakokraki trougao koji je u mnogo manjoj meri multistabilna struktura u odnosu na jednakostraničan trougao, te se može očekivati da se efekat konfiguralne orijentacije uopšte ne javi ili da bude jako slab. Međutim, kada se jednakokraki trouglovi postave tako da im jedan od krakova bude paralelan sa odgovarajućim krakom narednog trougla, a da im se odgovarajuća temena nalaze na istoj liniji koja predstavlja težišnu liniju trougla, oni se mogu percipirati kao da zapravo pokazuju u dubinu. Do ovoga dolazi zato što se zbog fenomena konstantnosti oblika dobija osećaj da su to zapravo jednakostranični trouglovi koji su posmatrani iz perspektive, koji se nižu jedan za drugim u ravni koja se prostire nešto niže od pravca pogleda, a paralelna je sa njim. Cilj je bio utvrditi da li se efekat konfiguralne orijentacije može postići i na ovakvim stimulusima, čija se globalna orijentacija zapravo ne nalazi u istoj perceptivnoj ravni kao i ravan u kojoj se procenjuje orijentacija svakog pojedinačnog trougla. Uzorak je činilo 24 ispitanika. Faktori su bili: usmerenost pojedinačnog trougla (nivoi levo i desno), konzistentnost konfiguracije (nivoi konzistentna i nekonzistentna) i kontekst (bez konteksta, 2D i 3D kontekst). Dobijena je interakcija faktora konzistentnosti i konteksta ( $F(2)=3.62, p<.05$ ), kao i glavni efekti ovih faktora ( $F(2)=3.92, p<.05$  za kontekst i  $F(1)=7.09, p<.05$  za konzistentnost). Pol ispitanika i konzistentnost su takođe u interakciji ( $F(1)=4.3, p<.05$ ). Ovakvi nalazi govore u prilog robustnosti efekta konfiguralne orijentacije jer se interferišući efekat globalne orijentacije na percepciju lokalnog smera dobija i pod okolnostima kada je stimulus element mnogo manje ambivalentan u pogledu orijentacije, a konfiguracija ne leži u istoj perceptivnoj ravni kao i stimulus element čija se lokalna orijentacija procenjuje.

*Ključne reči:* efekat konfiguralne orijentacije, prostorni kontekst, lokalno procesiranje, globalno procesiranje

## Exploring the influence of spatial context on configural orientation effect

Configural orientation effect is a phenomenon that local spatial orientation is influenced by orientation of global perceptual structure. It has been demonstrated in studies using equilateral triangles which are orientationally multistable. In this study, isosceles triangles were used, which are rather stable regarding orientation, but have other interesting feature – when arranged in a certain sequence it seems as if they pointed in depth, creating a subtle 3D effect. The aim of the study is to determine whether these stimuli may induce configural orientation effect. Factors of interest were consistency (consistent, inconsistent) and context (without, 2D and 3D). Interaction effect ( $F(2)=3.62, p<.05$ ) and main effects of both factors were obtained ( $F(2)=3.92, p<.05$  - context;  $F(1)=7.09, p<.05$  - consistency). These results suggest that configural orientation effect is a robust phenomenon which appears even when global configuration is subtle and stimuli are not multistable locally.

**Keywords:** configural orientation effect, spatial context, local processing, global processing

## PARADOXICAL PERCEPTION OF SIZE – A BELGRADE ILLUSION

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When an observer approaches an object, its retinal size (the size of its projection on the sensory surface of the eye) increases. Usually the observer does not perceive that the actual size of the object has increased. This is presumably due to the mechanism of size constancy, according to which the judgment of actual size of an object is based not only on its retinal size but also on its distance from the observer. However, in some exceptional instances an object appears to decrease in actual size when the observer approaches it (and, correspondingly, appears to increase when the observer retreats from it), contrary to its retinal size, overriding size constancy, and defying all experience. There are very few reported examples of these and related effects, and little is known about them. Here I report such a case, in which the object in question is the temple of St. Sava in Belgrade. The phenomenon can be observed from Belgrade main street, which affords a view of the temple along more than 1 kilometer of its length. No formal experiments were conducted, but about a dozen colleagues and acquaintances have confirmed the paradoxical size impressions, when they were alerted to the

effect. Here I present some considerations that may help explain this puzzling phenomenon. One relevant factor seems to be that, due to perspective foreshortening and occlusion, the temple appears much closer to the observer than it actually is. It can be shown by geometrical arguments that in such a case, although with the approach of the observer the object's retinal size must increase, the computed actual size of the object, based on underestimated distance, must decrease (and vice versa for the retreat of the observer). A second relevant factor involves objects (two buildings) that appear to be at a similar distance from the observer as the temple, but are actually much closer. Geometrical analyses, confirmed by photographs and an animation, show that with approach of the observer their retinal size must increase at a faster rate than the retinal size of the temple; in other words, relative to their retinal size, the retinal size of the temple decreases (and vice versa for observer's retreat). If the perceived size of the temple is based on the comparison of its retinal size to retinal sizes of adjacent objects, it should appear to shrink with approach and grow with retreat, as it indeed does.

*Keywords:* size perception, linear perspective, paradox

This research was supported in part by the Serbian ministry of Education, Science and Technological development, grant ON179033.

## MOTION SOUND SYMBOLISM: EFFECTS OF SPEED AND SHAPE OF THE PATH

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People consistently match non-words such as “takete” to angular shapes and words such as “maluma” to rounded shapes. This phenomenon is widely known as the sound shape symbolism. Stable associations between non-words and experiences in different sensory modalities were also registered (e.g., associations between certain flavors and non-words). Although research in motion perception has indicated that sound is an important factor for motion perception, associations between different motion characteristics and non-words with a particular sound are yet mostly unexamined. This study aimed to investigate how motion speed and shape of the path influence associations between moving objects and non-words. Ten first year psychology students participated in the study. Black dots

moving along a path of fixed length were used as stimuli. Motion speed (30 cm/s, 6cm/s), direction (rightward, leftward) and shape of the path (circular, triangular) were varied. Participants had the task to rate each stimulus on four seven-point scales anchored with soft-sounding non-words on one end and hard-sounding words on the other. The soft-sounding non-words were lula, maluma, bobolo and bouba, while the hard-sounding non-words were ruki, takete, dekter and kiki. In order to analyze whether the participants evaluated the stimuli differently on different scales repeated-measures ANOVAs were conducted. The main effect of speed was statistically significant for two out of four scales – faster stimuli were evaluated as significantly more ruki ( $F(1,9)=11.81, p<.01$ ) and kiki ( $F(1,9)=13.99, p<.01$ ) than slower stimuli. Also, shape of the path was a statistically significant factor for all four scales – stimuli moving along a triangular path were evaluated as more ruki ( $F(1,9)=13.85, p<.01$ ), takete ( $F(1,9)=16.40, p<.01$ ), dekter ( $F(1,9)=19.68, p<.01$ ) and kiki ( $F(1,9)=7.40, p<.05$ ) than stimuli moving along a circular path. The results of the experiment demonstrate that associations between moving objects and non-words are dependent on speed of motion and shape of the path. Lower speed motion is mainly associated with the soft-sounding non-words such as lula and bouba. Also, motion along a triangular path leads to an estimation of moving objects as more associated with the hard-sounding non-words such as ruki, takete, dekter and kiki. These findings represent a relevant contribution to the area of research primarily focused on correspondences between sound and different aspects of visual motion.

*Keywords:* motion sound symbolism, motion speed, shape of the path

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## AVATARS AND VASES: THE AUTOMATIC PROCESSING OF WHAT OTHER PEOPLE SEE

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Building on the findings of previous research, we modified a dot perspective task in order to conduct a simple visual perceptive experiment. Our participants had to rapidly judge their own perspective or that of a 3D avatar when these perspectives showed the same (consistent) or different number of stimuli (inconsistent). Participants had to judge, as fast as possible, how many stimuli (vases) in the scene were seen by them, or by the avatar. Other studies have shown

the information of another person's perspective was processed automatically, prolonging response times for inconsistent trials even when participants made judgements from their own perspective. Recent research has been focused on the contribution of social versus perceptual information for the size of this interference. Our goal was to examine whether perspective taking was under the influence of a salient characteristic: race. Participants ( $N=35$ , all female) had to make judgements from a self/other perspective in consistent and inconsistent trials for two identical female 3D models which differed only in the RGB values of skin color. A repeated measure 2(consistency)x2(perspective)x2(race) ANOVA showed a significant effect of consistency ( $F(1,34)=32.49, p<.01$ ) with faster responses for consistent (571 ms) compared to inconsistent trials (612 ms). The consistency by perspective interaction was also significant ( $F(1,34) = 5.45, p<.05$ ) with post hoc analysis showing a significant consistency effect for the other but not for the self perspective. This interaction was expected but interference was hypothesized to be significant in the self condition even though to a lesser degree. The race effect was also significant  $F(1,34)=4.88, p<.05$  with slightly faster responses for one's own race avatars (582 ms to 601 ms). No other major effects or interactions approached any significance. The methodological differences among recent studies, as well as the implications for further research, will be discussed.

*Keywords:* perspective taking, mentalizing, visual attention

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## TEMPORAL EFFECTS OF ILLUMINATION ON LIGHTNESS

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Anchoring model (1999) was initially conceptualized to describe the lightness computation in simple visual scenes. However, we are usually exposed to complex scenes that contain multiple illumination levels, and large number of surfaces that extend through them. We (2006) showed that the lightness of an object from such scenes is determined by the two rules: the highest illumination and the largest area of illumination. These spatial rules should also be applicable in the temporal domain. The first rule was already tested (2008): the lightness of a target spending equal time in the two illuminations was determined only by its appearance from the higher illumination. In the present study, we revisited this

first rule and tested the second. The same 10 participants took part in 4 experiments, always evaluating the same 5 targets with different reflectance values. Targets were presented in two illumination levels. In E1 participants provided two lightness matches for every target – one for each illumination level. In the other three experiments, the target moved between these two illuminations, and after the target was hidden from their view, participants provided “object matches”. In E2 target spent equal time in both illuminations; in E3 and E4, target spent more time in the higher or the lower illumination respectively. Constancy failure was obtained in E1: targets placed in the higher illumination (HI) were judged as lighter than the same targets placed in the lower illumination (LO) ( $F(1,9)=24.823, p<0.001$ ). In E2 object matches were in a good agreement with matches from the HI ( $F(1,9)=4.556, p=.064$ ) but not with the matches from the LO ( $F(1,9)=11.365, p=.008$ ), reconfirming the first rule. Object matches from E3 and E4 were different from matches in E1. However, when the target spent more time in the higher illumination, its lightness was in a better agreement with the matches from the HI than from the LO ( $F(1,9)=5.931, p=.038$ ). Opposite was true when the target spent more time in the lower illumination ( $F(1,9)=7.989, p=.020$ ). These results suggest that the amount of time that the target spends in each illumination influence its lightness. Our results established that both rules from the spatial domain are applicable to the temporal domain. The highest illumination level determines target lightness both in spatial and temporal domain, while the largest area corresponds to the longest time that the target spends in a particular illumination level.

**Keywords:** Color perception, Lightness, Constancy, Illumination levels, Object color

This research was supported by Ministry of Education and Science, Grants No. 179033 and III47020.

## HEARING THE DISTANCE – PERCEIVED DISTANCE ANISOTROPY IN AUDITORY SPACE

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Anisotropy of perceived space refers to the change of perceived characteristics of an object when it is located on different positions relative to the subject. Previous

studies have shown the presence of perceived distance anisotropy in visual, proprioceptive and auditory space: distances on the vertical axis are observed as bigger than the physically equal distances on the horizontal axis. Goals of this research were to determine whether different distance estimates are the result of (1) anisotropic space model; (2) differences in sound dispersion; (3) proprioceptive information from neck muscles. The study includes 14 psychology students from Faculty of Philosophy, Belgrade. Participants were asked to estimate the distance (1m, 2.5m, and 4m) of the stimuli on horizontal and vertical direction, while sitting on the floor. The eyes of the participants were equidistant from the floor and the wall behind them so that the sound reflection would be equal on both directions. The task was to estimate the distance of the standard, guiding the experimenter to set the distance of the target on the other direction. The stimulus was 350 Hz tone played for 1s (standard), or unlimited duration (target). In order to balance the sound dispersion to the ear from two directions, in some situations the participants wore a box on their head, with the same shape and area towards horizontal and vertical direction. There were 3 situations: 1) with the box, no head moving—equal sound dispersion, without proprioceptive information change; 2) without the box and no head moving – unequal sound dispersion, proprioceptive information change; 3) with the box, with head moving - equal dispersion of the sound, with the proprioceptive information change. The results show that there was a significant difference between the distance estimates obtained on different directions ( $F(1,13)=17.966, p<0.001$ ): vertical distances were observed as larger. The main effect of the situation was not shown ( $F(2,26)=0.521, p>0.005$ ), which indicates that the different estimates of the distance are not a consequence of the sound dispersion, but anisotropic model of perceived space. The lack of the situation effect indicates that the expected influence of the proprioceptive information from the neck muscles is not shown. Previous studies, including ours, have shown that the perceived distance anisotropy is a general characteristic of perception, independent of the sensory modality.

*Keywords:* anisotropy, perceived space, auditory space, distance perception, auditory perception

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## (INTERACTIVE) PROCESSING OF FACE IDENTITY AND EXPRESSION IN SHORT-TERM MEMORY

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There is ongoing debate whether the processing of face identity and expressions is independent or interactive. Recent studies have provided the evidence for interactive processing of face identity and expressions – concretely, enhanced short-term memory for angry faces was shown. However, these studies are facing some of the methodological issues that could affect the results (e.g. small number of stimuli, a small number of participants ...). In order to overcome the limitation of previous studies we conducted 2 experiments. Overall, 40 students took part in the research. The matching task was used. In Experiment 1, 4 faces with the different identity and same expressions (happy, sad, angry, disgust, surprise or neutral) were presented for 2s, followed by 1s interstimulus interval. After that, the probe face was presented. There were 4 possibilities: (1) same identity – same expression (SS); (2) same identity – different expression (SD); (3) different identity – same expression (DS) (4) different identity – different expression (DD). Participants should answer whether particular person were presented on the previous 4-faces display. The similar procedure was used in the Experiment 2. Four photographs of the same person with the different expressions were presented for 2s, followed by 1s interstimulus interval and the probe face. The task was to determine whether particular expressions of probe face were shown on the 4-faces display. The results confirmed interactive processing of face identity and expression ( $F(1,164)=23.670, p<0.001$  for exp.1 and  $F(1,148)=50.511, p<0.001$  for exp.2). In Exp.1 the lowest recognition accuracy was measured for the SD faces while there were no differences among other groups of faces. Different expressions negatively affect recognition of identity. A similar pattern was observed in the Exp. 2. The accuracy for faces with the same expression but different identity was significantly lower than for faces with the same expression and same identity. Unlike the result of previous studies, there were no differences in recognition for different expressions in Exp.1. However, in the Exp.2 differences reach statistical significance ( $F(5,148)=3.369, p<0.01$ ). Namely, happiness and surprise were better recognized than other expressions. In other word, the results of this study provided additional evidence for interactive processing of face identity and expression while the processing of different expression should be further investigated.

*Keywords:* identity, expressions, face recognition, short-term memory

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## UTJECAJ TEŽINE NA PERCEPCIJU UDALJENOSTI

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Na percepciju udaljenosti utječe pojedinčeva sposobnost djelovanja na određenom mjestu i u određeno vrijem te zahtjevi zadatka. Istraživanja su pokazala da sudionici, koji nose opterećen ruksak dok procjenjuju udaljenost do cilja, izvještavaju o većoj udaljenosti od sudionika koji ne nose ruksak. Cilj ovog istraživanja bio je ispitati utjecaj težine tereta na percepciju udaljenosti. Zadatak sudionika je procijeniti udaljenost od početnog do ciljnog mjesta koja iznosi 13 metara. Broj sudionika je bio 60, studenti Sveučilišta J.J.Strossmayera u Osijeku u dobi od 19 do 26 godina ( $M=20.92$ ;  $SD=1.639$ ;  $\bar{Z}=35$ ,  $M=25$ ). Raspodijeljeni su po slučaju u tri skupine (kontrolnu, prvu i drugu eksperimentalnu). U istraživanju su bile postavljene tri hipoteze. Prva hipoteza govori da postoji statistički značajna razlika u procjenama udaljenosti između grupe koja nije nosila i grupe koja je nosila ruksak, bez dodatnog objašnjenja čemu ruksak služi, s tim da će grupa koja je nosila ruksak precjenjivati udaljenost. Druga hipoteza: govori da postoji statistički značajna razlika u procjenama udaljenosti između grupe koja je nosila ruksak, a nije imala objašnjenje čemu ruksak služi i grupe koja je nosila ruksak, a imala je objašnjenje čemu ruksak služi, s tim da će grupa koja nije imala objašnjenje precjenjivala udaljenost. Treća hipoteza govori da ne postoji statistički značajna razlika u procjenama udaljenosti između grupe koja nije nosila ruksak i grupe koja je nosila ruksak, a imala je objašnjenje čemu ruksak služi. Jednosmjernom analizom varijance utvrđeno je da ne postoji statistički značajna razlika u procjeni udaljenosti s obzirom na težinu tereta u ruksaku ( $F(2,57)=1.657$ ,  $p>.05$ ). Prva i druga hipoteza su odbačene, dok je treća

hipoteza je potvrđena. Ovakvi rezultati su u skladu s gledištem o pristranosti - do razlika u procjeni udaljenosti dolazi jer su sudionici prepostavili eksperimentatorovu hipotezu te prema njoj prilagodili svoje odgovore. Dakle, ti učinci nastaju zbog razlika u kognitivnom procesu, a ne u samoj percepciji.

*Ključne riječi:* percepcija, kognicija, udaljenost, utjecaj težine, napor

### Impact of Weight on the Distance Perception

This study explored the influence of weight of backpack on assessment of distance. It was hypothesized that the control group without backpack would estimate the distance smaller in comparison to experimental groups. Also the experimental group with backpack and explanation for wearing it would also estimate the distance smaller than experimental group with backpack but without an explanation. Research sample consisted of 60 students (25 male and 35 female, 19-26 years). The hypotheses were tested with One-way ANOVA and contrary to expectations the results indicate that wearing a backpack does not influence the assessment of distance. The explanation could be that the participants guessed the hypothesis in the experiment and behaved according to it. That would mean that the change is cognitive and not perceptual.

*Keywords:* perception, cognition, distance, impact of weight, effort

# ***KLINIČKA PSIHOLOGIJA***

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## IMPACT OF GENDER AND PAIN INTENSITY ON PAIN PERCEPTION IN DIABETICS

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Pain is a subjective psychological and physiological phenomenon. It is a conscious perceptual process with important emotional and motivational states. Higher pain intensity is reported to be associated with significant clinical and economic burdens, especially in diabetics with painful diabetic neuropathy. Psychology has an important role in transdisciplinary approach to pain. The purpose of the present study was to represent the impact of gender and pain intensity on pain perception in diabetics. The McGill Pain Questionnaire (MPQ) was used to specify subjective pain experience on 129 participants, 65 male and 64 female, aged between 43 and 86 years ( $M=61.16$ ;  $SD=9.727$ ). All were type 2 diabetics, suffered from chronic pain and were referred to our outpatient clinic by diabetologists. The sensory, affective, and evaluative qualities of pain were measured with the MPQ, which is reported to be appropriate for the assessment of pain in many chronic diseases, including diabetes. The pain-rating index (PRI), which includes sensory-discriminative (PRI-S), affective-motivational (PRI-A), cognitive-evaluative (PRI-E) and miscellaneous (PRI-M) aspects of pain were calculated, and present pain intensity index (PPI) was obtained. In the current study, the Cronbach alpha coefficient for the PRI was .871, for PRI-S it was .77, for PRI-A it was .779 and for PRI-M it was .523. Differences in PRI were determined according to gender differences and PPI achievements. Females and males did not differ in PRI achievements. PPI achievement (0-5) disclosed differences in all dimensions of PRI. A one-way between-groups analysis of variance was conducted. Participants were divided into six groups according to their reported PPI (1: no pain; 2: mild pain; 3: discomforting pain; 4: distressing pain; 5: horrible pain and 6: excruciating pain). There was a statistically significant difference at the  $p=.00$  level in PRI dimensions for the six pain intensity groups: PRI-S  $F(40,120)=7.485$ ,  $p<0.001$ ; PRI-A  $F(40,120)=8.867$ ,  $p<0.001$ ; PRI-E  $F(40,120)=4.964$ ,  $p=0.001$  and PRI-M  $F(40,120)=4.964$ ,  $p<0.001$ . PRI scores are higher by greater PPI achievements. Pain perception in diabetics was not related to gender. Pain intensity determines the management of

painful diabetic neuropathy. Assessment of all aspects of reported PRI is an important tool for determining unpleasant subjective experiences.

**Keywords:** diabetics, McGill Pain Questionnaire, pain, pain assessment, psychology

## RISK FACTORS FOR SECONDARY TRAUMATIZATION IN PEOPLE WORKING WITH REFUGEES IN SERBIA

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Professionals who are working with refugees are on a daily basis faced with people who have experienced the most terrifying human suffering, and as such, are subjected to secondary traumatization (ST). ST comprises of typical trauma-related symptoms usually seen in trauma survivors suffering from PTSD. The aim of this study was to provide data on risk factors for ST in people working with refugees in Serbia. A total of 138 participants (75 females, age range from 18 to 73 ( $M=34.45$ ;  $SD=10.87$ ) working with refugees completed Secondary Traumatization Questionnaire, check list of refugees' traumatic experiences which were communicated to them, Hopkins Symptoms Checklist (HSCL) assessing depression and anxiety symptoms, quality of life questionnaire (MANSA), HEXACO PI R personality inventory, and COPE assessing coping mechanisms. Additionally, participants provided various information on work related issues. Qualitative analysis of answers to the questions regarding job-related experiences have shown that the most prominent generators of stress are clustered around three recurrent themes: "lack of organization and cooperation", "not been able to do enough", and "hard to take it and to process it". Factor analysis (Maximum likelihood extraction, Promax rotation) has shown that ST comprises of two correlated factors ( $r=.533$ ,  $p<.01$ ), namely Psychological deficits and Intrusions. Correlation and regression analyses have shown that main risk factors for ST lie in three interrelated sources: 1) work-related issues; 2) personality-related risk factors – high Emotionality ( $\beta=.214$ ,  $p<.05$ ), and Altruism ( $\beta=.348$ ,  $p<.01$ ) for Intrusions [ $R=.407$ ,  $F(7,102)=2.893$ ,  $p<.01$ ], and low Extraversion ( $\beta=-.439$ ,  $p<.01$ ) for Psychological deficits [ $R=.530$ ,  $F(7,102)=5.705$ ,  $p<.01$ ], and usage of maladaptive coping mechanisms –

Psychological deficits have shown to correlate with mental disengagement ( $r=.275, p<.01$ ), behavioral disengagement ( $r=.237, p<.01$ ), focusing on distress and venting of emotions ( $r=.212, p<.05$ ), while Intrusions correlate with mental disengagement ( $r=.236, p<.01$ ) and denial ( $r=.183, p<.05$ ); and 3) quantity of clients' traumatic experiences they were faced with ( $r=.190, p<.05$ ), as well as certain content-related features of such experiences (especially experiences which are severely dislocated from "everyday reality"). The Psychological deficits and Intrusions have shown to be accompanied by symptoms of depression ( $r=.813, p<.01; r=.540, p<.01$ ) and anxiety ( $r=.772, p<.01; r=.475, p<.01$ ), overall lower life quality ( $r=-.452, p<.01; r=-.189, p<.05$ ), and contemplation on work-related experiences long after regular working hours ( $r=.286, p<.01; r=.321, p<.01$ ). Results indicate that psychological vulnerability of people working with traumatized individuals lies in certain personality traits, and usage of maladaptive coping mechanisms, which disable one to deal with work-related issues, and to cope with traumatic contents they were faced with, affecting one's psychological well-being.

**Keywords:** secondary traumatization, ST, refugees, traumatic experiences, intrusions

This research was funded by IRC Serbia.

## IS THERE A BENIGN SCHIZOTYPY? EXPLORING THE DIFFERENCES BETWEEN CLUSTERS OF SCHIZOTYPY ON MENTAL HEALTH AND PSYCHOPATHOLOGY

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Although schizotypy is commonly perceived as an indicator of vulnerability to schizophrenia spectrum disorders, some evidence indicate that there may be a healthy form of schizotypy, which implies good psychological functioning, in spite of some unusual experiences. This benign form of schizotypy is frequently connected to good mental health, enhanced creativity and increased tendency towards spirituality. However, the concept of benign schizotypy is still controversial, due to the lack of systematic empirical validation. Therefore, the aim of our study was 1) to examine by cluster analysis if benign schizotypy subset can be detected in nonclinical population and 2) to validate the clusters by

exploring the differences on mental health and psychopathology. Initially 775 participants (female=83.9%;  $M_{age}=20.49$ ;  $SD=2.35$ ) completed Schizotypal Personality Questionnaire - Brief Revised (SPQ-BR) which measures Interpersonal, Cognitive-perceptual and Disorganized dimension of schizotypy. Two stage cross-validation cluster analysis procedure resulted in 4 clusters: social withdrawal (SW - high interpersonal trait), low schizotypy (LS - all dimensions below the average), unusual experiences (UE - cognitive-perceptual factor above the average) and mixed schizotypy (MS - all dimensions above the average). In the second part of the study, we excluded participants who scored highly on social desirability (which correlates negatively with schizotypy), psychotic symptoms (in order to remove psychotic individuals) and random responding scales. From the rest of the sample, within every cluster, participants were randomly invited for individual testing with a comprehensive battery of psychological tests (for a larger study) which finally resulted in 181 individuals (female=87.3%;  $M_{age}=20.09$ ,  $SD=2.19$ ) who were willing to participate. Cluster membership was a grouping variable. Symptoms of different disorders (PDSQ) and mental health (MHC-SF) were dependent variables. ANOVA showed that 4 groups differed significantly both on psychopathology ( $F(3,177)=21.96$ ,  $p<.001$ ) and mental health ( $F(3,177)=7.05$ ,  $p<.001$ ). Subjects from UE cluster had significantly less symptoms compared to MS cluster, and more symptoms compared to LS group. Furthermore, UE cluster showed significantly better wellbeing than both SW and MS clusters, while there was no significant difference compared to LS group. Our research supports the concept of healthy schizotypy, meaning that individuals although having some unusual experiences may in fact have good wellbeing.

**Keywords:** benign schizotypy, healthy schizotypy, psychopathology, mental health

## MENTALNO ZDRAVLJE OBOLELIH OD HRONIČNIH SOMATSKIH BOLESTI

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Termin „hronična bolest“ označava sve ono što se misli pod pojmom „fizičke onesposobljenosti“, ali i više od toga (Lewis, 1998). Osim somatskih tegoba,

oboleli od hroničnih somatskih bolesti (HSB) često su suočeni sa psihičkim teškoćama. U Srbiji samo od hipertenzije boluje 69,8% starijih od 55 godina (Ipsos Strategic Marketing, 2013), dok se procenjuje da oko 600.000 osoba ima dijabetes (Institut za javno zdravlje Srbije „Dr Milan Jovanović Batut”, 2013). Osnovni cilj ovog istraživanja jeste utvrditi parametre mentalnog zdravlja obolelih od kardiovaskularnih bolesti i dijabetesa, kao dveju najčešćih hroničnih bolesti u našoj zemlji, i uporediti ih sa vrednostima dobijenim kod ispitanika koji ne boluju od HSB. Uzorak je činilo 430 ispitanika (48,6% su osobe obolele od HSB: kardiovaskularne bolesti (25,3%) i dijabetesa (23,3%)). 49,5% ukupnog uzorka činili su muškarci. Raspon godina ispitanika je 40-65 (ukupni uzorak  $M=52.37$ ,  $SD=7.25$ ; oboleli  $M=55.40$ ,  $SD=6.34$ ; kontrolna grupa  $M=49.60$ ,  $SD=5.33$ ). Korišćeni instrumenti su: upitnik o demografskim podacima, skala DASS-21 (Lovibond & Lovibond, 1995) koja meri depresivnost, anksioznost i stres, i skala blagostanja MHC-SF (Keyes, 2009) koja meri emocionalno (EB), psihičko (PB) i socijalno blagostanje (SB). Pouzdanost skala, izražena Kronbahovim  $\alpha$ , je bila zadovoljavajuća: za DASS-21 je  $\alpha=.92$  (stres  $\alpha=.84$ , anksioznost  $\alpha=.83$ , depresivnost  $\alpha=.82$ ); za MHC-SF je  $\alpha=.89$  (EB  $\alpha=.77$ , SB  $\alpha=.79$ , PB  $\alpha=.85$ ). Da bi se utvrđile eventualne razlike između obolelih od HSB i zdravih ispitanika, sprovedeno je više univarijantnih analiza kovarijanse, u kojima su kao korelati tretirani uzrast i pol ispitanika. Urađena je Bonferoni korekcija, pa je unapred utvrđen neophodan nivo značajnosti  $p<.007$ . Oboleli od HSB imaju značajno niže SB ( $F(1,426)=15.77$ ,  $p<.007$ ,  $\eta_p^2=.04$ ) i ukupno blagostanje ( $F(1,423)=8.02$ ,  $p<.007$ ,  $\eta_p^2=.02$ ), kao i značajno više nivoa stresa ( $F(1,426)=78.87$ ,  $p<.007$ ,  $\eta_p^2=.16$ ), anksioznosti ( $F(1,426)=64.47$ ,  $p<.007$ ,  $\eta_p^2=.13$ ) i depresivnosti ( $F(1,426)=20.70$ ,  $p<.007$ ,  $\eta_p^2=.05$ ). Kada se otkloni uticaj nezavisne varijable (HSB), pol nije značajno povezan sa zavisnim varijablama; uzrast ispitanika je značajno povezan samo sa EB ( $F(1,425)=8.75$ ,  $p=.003$ ,  $\eta_p^2=.02$ ), ali vidimo da je efekat ovog kovarijata na EB veoma mali. Možemo zaključiti da ispitanici sa HSB imaju lošije mentalno zdravlje, pa da u tretmanu HSB ne treba zanemariti prevenciju mentalnih poremećaja i promociju mentalnog zdravlja.

*Ključne reči:* mentalno zdravlje, blagostanje, hronična somatska bolest

### Mental health of individuals with chronic somatic illnesses

The main objective of this study was to examine the mental health indicators of both patients suffering from chronic somatic diseases (cardio-vascular disease and diabetes) and of the general population. The sample composed of 430 participants divided into two groups, with ( $N=219$ ) and without chronic somatic disease ( $N=211$ ). They were aged 40 to 65 (whole sample  $M=52.37$ ,  $SD=7.25$ ; patients  $M=55.40$ ,  $SD=6.34$ ; control group  $M=49.60$ ,  $SD=5.33$ ). We used DASS-21 (Lovibond & Lovibond, 1995), to measure

depression, anxiety and stress, and MHC-SF (Keyes, 2009), which measures emotional, psychological and social well-being. The research results have shown that chronic somatic patients have lower emotional and social well-being comparing to the control group. They are also identified as having higher level of depression, anxiety and stress. Research shows us that prevention of mental disorders and the promotion of better mental health should not be neglected in the treatment of chronic somatic patients.

**Keywords:** mental health, well-being, chronic somatic disease

## DIFERENCIJALNO DIJAGNOSTIČKI POTENCIJAL BATERIJE TESTOVA SOCIJALIZACIJE U PROCENI MLADIH U SUKOBU SA ZAKONOM

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Baterija testova socijalizacije (BTS) Momirovića i saradnika, zasnovana se na kibernetičkoj teoriji konativnih funkcija, predstavlja skup od četiri upitnika DELTA 1, DELTA 3, SP 5 i SIGMA 1 koji mere disocijativne, agresivne, regresivne, anksiozne i amoralne dispozicije koje mogu ometati uspešnost socijalizacije. Kako ovi upitnici diferenciraju manifestovano agresivno ponašanje različite geneze, a namenjeni su mladima od 15 do 18 godina, cilj istraživanja je bio da se ispita validnost ove baterije testova na osnovu mogućnosti diferenciranja mladih sa problemima u ponašanju u odnosu na mlađe uzrasta iz opšte populacije. Uzorak čine 33 ispitanika muškog pola, uzrasta od 15 do 18 godina ( $M=16.24$ ;  $SD=1.00$ ) koji su u momentu istraživanja bili u krivičnom postupku ili sa izrečenom vaspitnom merom zbog: nasilničkog ponašanja (67,7%), imovinskog delikata (21,2%) i/ili zbog posedovanja psihoaktivnih supstanci (11,1%). Njihovi skorovi na BTS upoređeni su sa delom ispitanika iz normativnog uzorka ( $N=237$ ). Pouzdanost upitnika je visoka ( $\alpha=.86$  do .93). Multivarijatna analiza varijanse pokazuje značajne razlike između dve grupe mladih na BTS (Wilks' Lambda=.84,  $F(4,262)=12.53$ ,  $p<.001$ ). Rezultati univarijatne analize varijanse pokazuju najveću razliku između dve grupe mladih na skali SIGMA1 ( $F(1,265)=20.50$ ,  $p<.001$ ), koja meri psihopatsku agresivnost primarnog tipa, i obuhvata amoral, definisan odbijanjem da se prihvate socijalne norme ponašanja, nedostatak osećaja za dobrobit i potrebe drugih ljudi, kao i težnji ka neposrednom zadovoljavanju sopstvenih potreba. Poređenje prosečnih skorova dve grupe na pojedinačnim skalama pokazuje da mladi u sukobu sa

zakonom imaju značajno više prosečne skorove skorove na skali SIGMA1 ( $M=111.70; SD=22.45$ ) od mladih iz opšte populacije ( $M=92.75; SD=21.49$ ), kao i više skorove na ostalim skalamama: DELTA1 (meri disocijaciju, odnosno slabiju koordinaciju i kontrolu regulativnih funkcija), DELTA3 (meri regresivno ponašanje agresivnog tipa u frustrativnim situacijama) i SP5 (meri agresivno ponašanje sekundarnog, odbrambenog tipa u čijoj je osnovi anksioznost). Diskriminativnom analizom identifikovana je jedna diskriminativna funkcija, koja je u najvećoj meri zasićena skalom SIGMA1. Kako konvergentno delovanje sva četiri faktora očekivano dovodi do ispoljavanja agresivnosti i teškoća u komunikaciji sa okolinom, rezultati potvrđuju da Baterija testova socijalizacije uspešno razlikuje ispitanike sa poremećajem socijalizovanog ponašanja.

*Ključne reči:* testovi socijalizacije, agresivnost, problemi u ponašanju, procena ličnosti

### The Differential Diagnostic Potential of the Socialization Test Battery in the Assessment of Youth in Conflict with the Law

The Socialization Test Battery by Momirovic et al. (STB), based on the cybernetic theory of conative functions, is composed of four scales, DELTA1, DELTA3, SP5 and SIGMA1, measuring dissociative, aggressive, regressive, anxious and amoral dispositions that may interfere with successful socialization. The aim of the study was to explore the validity of the STB in differentiating between the youth in conflict with the law and their peers from the general population. The results obtained on the STB from 33 boys in conflict with the law aged 15-18 were compared to the results of 237 same-aged boys from the general population. The results of MANOVA and discriminant analysis showed that the STB significantly differentiates between the two groups. The most significant differences were shown in SIGMA1, which measures psychopathic tendencies. The results confirmed that the STB successfully differentiates between the youth in conflict with the law and the general population.

*Keywords:* socialization test, aggressive behavior, youth in conflict with the law, personality assessment

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## CONNECTION BETWEEN HEALTHY MODES AND BASIC PERSONALITY DIMENSIONS, AFFECTIVE ATTACHMENT AND EMPATHY

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Jeffrey Young's theory defines schema modes as (mal)adaptive emotional conditions and coping styles a person shows at a certain moment. The subject of this research is the set of 2 Healthy modes (Happy Child and Healthy adult) in the space of basic personality dimensions, affective attachment dimensions and the capacity for empathy simultaneously. The research was conducted on a convenient student sample comprised of 272 examinees (60 male and 212 females), with aim to examine: presence of gender differences in markedness of defined modes, correlation of these two modes with dimensions of affective attachment and capacity for empathy, as well as to examine the linear models capability including nine predictor variables - six basic personality dimensions according to HEXACO model, Empathy Quotient, and two dimensions of affective attachment (affective anxiety and affective avoidance) to predict variance of stipulated modes. The used research instruments are: HEXACO PI-R (Lee & Ashton, 2006), Schema Mode Inventory (Young, 2014), Attachment Style Questionnaire (Feeney, Noller, Hanrahan, 1994) and EQ (Baron-Cohen & Wheelwright, 2004). There is no significant gender difference in markedness of neither Happy Child, nor Healthy Adult Mode. The modes Happy Child and Healthy Adult show significant negative correlations with affective anxiety ( $r(270)=-.555$ ,  $r(270)=-.521$ , respectively, both  $p<.001$ ) and affective avoidance dimensions ( $r(270)=-.507$ ,  $p<.001$   $r(270)=-.176$ ,  $p=.004$  respectively) and significant positive correlations with the capacity for empathy ( $r(270)=.420$ ;  $r(270)=.457$ , respectively, both  $p<.001$ ). The model with 9 mentioned predictors significantly predicts variance of both modes. It explains 57.7% of the variance of the Happy Child Mode with significant independent predictors: Extraversion ( $\beta=.453$ ,  $p<.001$ ), Affective Avoidance ( $\beta=-.203$ ,  $p<.001$ ), Affective Anxiety ( $\beta=-.177$ ,  $p=.002$ ) and Empathy ( $\beta=.152$ ,  $p=.002$ ). The model explains 48.2% of the variance of the Health Adult Mode with significant independent predictors: Empathy ( $\beta=.326$ ,  $p<.001$ ), Conscientiousness ( $\beta=.251$ ,  $p<.001$ ), Affective Anxiety ( $\beta=-.240$ ,  $p<.001$ ), Emotionality ( $\beta=-.171$ ,  $p=.001$ ), Extraversion

( $\beta=.152$ ,  $p=.006$ ). The results largely confirm basic theoretical explanation of these modes and help us to understand what can predict healthy functioning.

**Keywords:** Happy Child Mode, Health Adult Mode, basic personality dimensions, affective attachment, empathy

## KONSTRUKCIJA I INTERPRETACIJA UPITNIKA STAVOVA PREMA TRAŽENJU PROFESIONALNE PSIHOLOŠKE POMOĆI

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Budući da mnogo različitih faktora igra snažnu ulogu u formiranju ljudskih stavova prema traženju profesionalne psihološke pomoći, kao i činjenica postojanja relativno male palete baterije upitnika koji mjere stavove prema traženju profesionalne psihološke pomoći, cilj ovog istraživanja bio je konstruirati novi upitnik koji bi generirao drugačiju faktorsku strukturu od najčešće korištenih upitnika koji mjere navedeno. Odabir varijabli bazirao se na teorijskom konceptu ATSPHS upitnika (Fischer i Turner, 1970), uz uključivanje novih varijabli s ciljem dobivanja bolje faktorske strukture. Za provjeru konvergentne valjanosti korišten je Inventar mjerjenja stavova prema traženju profesionalne pomoći za psihološke problem (IASPPH) (Mackenzie, Knox i Gekoski, 2004), za provjeru divergentne valjanosti Upitnik stavova prema traženju medicinske pomoći (ATSMC) (Fischer, Dornelas i DiLorenzo, 2013) te za kriterijsku valjanost Upitnik kvalitete života (SF-36) (Ware i Sherbourne, 1992). Nakon provedene preliminarne analize, Upitnik stavova prema traženju profesionalne psihološke pomoći (USPTPPP) sastojao se od 52 čestice, a koji se metodom snježne grude online primijenio na 250 studenata preddiplomskih studija na Sveučilištu J.J. Strossmayera u Osijeku. Najbolje faktorsko rješenje rezultiralo je konačnim upitnikom USPTPPP s 28 čestica podijeljenih u tri faktora nazvanim Uvjerjenje u stručnost psihološke pomoći kao mogućnost osobnog psihološkog rasta nasuprot uvjerenju u sposobnost samostalnog rješavanja problema ( $\alpha=.89$ ), Očekivanje o naplati usluge i spremnost na plaćanje iste

( $\alpha=.70$ ), te Stigma i podrška ( $\alpha=.72$ ). Utvrđena je visoka pouzdanost ukupnog rezultata ( $\alpha=.87$ ) kao i zadovoljavajuća konvergentna ( $r=.69$ ,  $p<0.01$ ) i divergentna ( $r=.37$ ,  $p<0.01$ ) valjanost. Suprotno očekivanome, ukupni rezultat kao i subskale USPTPPP nisu pokazali značajnu povezanost s ukupnim rezultatom i subskalama SF-36 zbog čega istraživanju manjka inkrementalna i dijagnostička valjanost. Također, rad nudi objašnjenja dobivenih rezultata i ograničenja za buduća istraživanja. Prema svemu navedenome, zbog postojanja vrlo malo istraživanja na navedenu problematiku kao i nepostojanja originalnih upitnika stavova prema traženju profesionalne psihološke pomoći na području Republike Hrvatske, istraživanje nudi inicijativu za buduća razmatranja.

*Ključne riječi:* stav, psihološka pomoć, konstrukcija, upitnik

### Construction and interpretation of attitudes towards seeking professional psychological help questionnaire (ATSPPHQ)

Attitudes toward seeking professional psychological help are relatively stable organisation of positive or negative emotions, cognitions and reactions about seeking professional help. Snowball sampling method was used to gather  $N=250$  participants, students of bachelor studies at the J.J. Strossmayer University of Osijek. Three questionnaires were used: IASPHPP (Mackenzie, Knox i Gekoski, 2004) for measuring convergent, ATMSC (Fischer, Dornelas i DiLorenzo, 2013) for divergent and SF-36 (Ware i Sherbourne, 1992) for diagnostic and incremental validity. After conducting factor analysis, final ATSPPHQ consisted of 28 questions divided in three factors: Belief in expertise of psychological help as potential for personal psychological growth vs. belief in ability of solving problems independently ( $\alpha=.89$ ), Expectation of and readiness for payment of psychological service ( $\alpha=.70$ ) and Stigma/Support ( $\alpha=.72$ ). Reliability of the final score has shown satisfactory ( $\alpha=.87$ ), as well as the convergent ( $r=.69$ ,  $p<0.01$ ) and divergent ( $r=.37$ ,  $p<0.01$ ) validity.

*Keywords:* Attitude, Professional Psychological Help, Construction, Questionnaire

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## UTICAJ STRESA NA RADU NA SMANJENJE PSIHOLOŠKE DOBROBITI

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Stres i sindrom izgaranja su sve više prisutni u poslovnim okruženjima. Sindrom izgaranja može imati ozbiljne zdravstvene i psihološke posledice po zaposlenog, a razvija se zbog konstantnog stresa koji zaposleni doživljava u radnom okruženju. Kako bi imali ispunjen život, ljudi moraju da rade na unapređenju psihološke dobrobiti na poslu, na kojem provedu značajan deo svoga života. Ovaj rad se bavi istraživanjem odnosa stresa i sindroma izgaranja i dobrobiti na poslu među ljudima zaposlenim na poslovima socijalne i dečje zaštite u Crnoj Gori. Istraživanje je sprovedeno na 100 ispitanika, od toga 85 žena, od 24 do 59 godina, od toga polovina između 26 i 35, zaposlenih u Centrima za socijalni rad i ustanovama socijalne i dečje zaštite. Korišćeni su sledeći instrumenti: upitnik o faktorima stresa (sa 16 potencijalnih stresora odabranih od strane autora rada); upitnik za ispitivanje profesionalnog sagorevanja K. Maslač (Maslach, Jackson, & Leiter, 1996) sa tri subskale: emocionalna iscrpljenost (koeficijent alfa je 0.91), depersonalizacija (0.66) i lično postignuće (0.89); upitnik za ispitivanje psihološke dobrobiti (alfa je 0.92), kao i demografski podaci. Istraživanje je pokazalo da je stres i sindrom izgaranja veoma zastupljen kod ispitanih stručnih saradnika, prosečne samoprocene raznih stresora kreću se od 2,83 do 3,91 na petostepenoj skali. Psihološka dobrobit negativno je povezana sa depersonalizacijom ( $r=-.29$ ,  $p<.01$ ) i emocionalnom iscrpljenošću ( $r=-.23$ ,  $p<.05$ ). Emocionalna iscrpljenost ispitanika najviše je povezana sa „brojem klijenata“, „izloženošću kritikama javnosti“ i „prenosom radnog opterećenja na privatni život“ (korelacije od .57 do .59,  $p<.01$ ). Demografske varijable nisu povezane sa intenzitetom stresa i izgaranja, ali su godine u negativnoj vezi sa psihološkom dobrobiti ( $r=-.36$ ,  $p>.01$ ). Na osnovu rezultata možemo zaključiti da stres postoji ali i zaštitni mehanizmi: uverenje u sopstvenu kompetentnost i ljubav prema poslu. Međutim, postojeći stresori značajno utiču na javljanje profesionalnog sagorevanja i na smanjenje psihološke dobrobiti. Ovo istraživanje treba da pokrene pitanje prevencije i unapređenja zaštite radnika od sindroma izgaranja i poboljša psihološku dobrobit, u cilju poboljšanja kvaliteta života i rada.

*Ključne reči:* stres, sindrom izgaranja, psihološka dobrobit, socijalni rad

## Effect of stress at work on decreasing psychological well-being

Stress and burnout syndrome are increasingly present in today's work environments. The burnout could have serious health and psychological consequences for the employee, and it develops due to influence of multiple or/and prolonged stressors. In order to have a fulfilling life, people have to improve the psychological well-being at work, where they spend a significant part of his life. This paper analyzes the relationship of stress and burnout syndrome and welfare at work among people who work in social and child protection in Montenegro. The study was conducted on 100 subjects. We used the following instruments: a questionnaire on stress factors (with 16 potential stressors); The *Maslach Burnout Inventory* with three subscales: emotional exhaustion, depersonalization and personal accomplishment; questionnaire for psychological well-being, as well as demographic data. Results has shown high level of stress and burnout syndrome among examined professionals. Psychological well-being negatively correlated with depersonalization ( $r=-.29, p<.01$ ) and emotional exhaustion ( $r=-.23, p<.05$ ). The biggest stressors are "number of clients", "exposure to public criticism" and "transfer of workloads to home" (correlation of .57 to .59,  $p<.01$ ). Demographic variables do not affect the intensity of stress and burnout. This research should raise the issue of prevention and improving the protection of professionals from burnout syndrome and improve their psychological well-being, in order to improve their quality of life and work.

**Keywords:** stress, burnout syndrome, psychological well-being, social work

## *PSIHOLOGIJA UMETNOSTI*

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## VACE MODEL ESTETSKOG DOŽIVLJAJA MUZIKE

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Na osnovu VACe (Valence, Arousal and Cognitive evaluation) modela estetski doživljaj vizuelnih stimulusa može da se objasni linearnom kombinacijom valence, pobuđenosti i kognitivne evaluacije, kao bazičnim dimenzijama afektivnog doživljaja (Janković, 2015). Cilj ovog istraživanja je bio da se proveri da li se VACe model estetskog doživljaja može generalizovati tako da obuhvati i domen estetskog doživljaja muzike. U istaživanju je učestvovalo 42 ispitanika koji su procenjivali 60 muzičkih isečaka (prosečnog trajanja 4 sekunde) na sedmostepenoj bipolarnoj skali ružno-lepo i skali Konotativni diferencijal CD-9, koja meri tri afektivne dimenzije: valencu, pobuđenost i kognitivnu evaluaciju (Janković, 2000). Rezultati su pokazali postojanje statistički značajne pozitivne korelacije između sve tri afektivne dimenzije i estetske preferencije muzičkih stimulusa. Rezultati višestruke regresione analize su pokazali da koeficijent multiple korelacije iznosi .981, i da 96,1% varijanse estetske preferencije muzičkih stimulusa može biti objašnjeno linearnom kombinacijom tri afektivne dimenzije ( $F(3,56)=464,9, p<.001$ ). Značajan doprinos u objašnjenju estetske preferencije imaju sve tri afektivne dimenzije, pri čemu najveći parcijalni doprinos objašnjenju estetske preferencije ima valenca, nešto manji kognitivna evaluacija, a najmanji pobuđenost. Drugim rečima, muzičke stimuluse ćemo doživljavati kao lepše ukoliko su nam oni prijatniji, više nas pobuđuju i ukoliko su nam poznatiji i razumljiviji. Rezultati istraživanja pokazuju da se VACe model estetskog doživljaja koji je prвobitno formulisan na osnovu nalaza dobijenih na umetničkim slikama može uspešno generalizovati tako da obuhvati i domen estetskog doživljaja muzike.

*Ključne reči:* VACe model, estetski doživljaj, muzika

VACe model of aesthetic experience of music

According to Valence, arousal and cognitive evaluation model (VACe) aesthetic experience can be explained by a linear combination of valence, arousal and cognitive evaluation, as basic dimensions of affective

experience (Janković, 2015). The aim of this study was to evaluate whether the VACe model of aesthetic experience, originally based on findings obtained in the visual domain, can be generalized to include the domain of aesthetic experience of music. Participants rated 60 musical excerpts (the average duration of 4 seconds) on aesthetic preference scale (bipolar seven-step ugly-beautiful scale) and Connotative differential CD-9, which measures three affective dimensions: valence, arousal and cognitive evaluation (Janković, 2000). The results showed a statistically significant positive correlation between all three affective dimensions and aesthetic preferences of music stimuli. The results of multiple regression analysis showed that the coefficient of multiple correlation is .981, and that 96.1% of the variance of aesthetic preference of music can be explained by a linear combination of the three affective dimensions ( $F(3,56) = 464.9, p < .001$ ). All three affective dimensions showed significant contribution to the explanation of aesthetic preference, with the largest contribution of affective valence, followed by cognitive evaluation and arousal. In other words, the more we experience music as a pleasant, interesting, familiar and understandable, we will have a stronger aesthetic experience. The results of this study suggest that VACe model of aesthetic experience can be successfully generalized to include the domain of aesthetic experience of music.

*Keywords:* VACe model, aesthetic experience, music

## CRITERIA OF AESTHETIC EVALUATION OF MOVIES IN EXPERTS AND NON-EXPERTS

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The present study investigates similarities and differences between professionals and inexperienced individuals in perception and aesthetic evaluation of motion pictures. The study included 42 experts with professional engagement in motion picture arts and 39 non-experts, students without an overt interest in film art. In the first part of the study respondents rated their aesthetic experience of 20 film excerpts (the average duration of 3 minutes) and were asked to write criteria they had in mind when making aesthetic decisions. In the second part of the study respondents were asked to evaluate their affective experience of the criteria they

specified in the first part of the study using scales that measure affective valence, arousal and cognitive evaluation. The results showed that experts and non-experts mostly relied on a different criteria in a process of reaching an aesthetic decision. Non-experts relied significantly more on perceptual criteria (theme, colour and sound) ( $U=375.0, p<.001$ ), while experts relied more on cognitive criteria (formal aspects of the film and cognitive elaboration of the film) ( $U=30.0, p<.001$ ). In both groups three dimensions of affective experience showed statistically significant correlation with aesthetic preference. Multiple regression analysis showed that in group of non-experts 81.6% of variance of aesthetic preference of movies can be explained by affective experience of the specified criteria ( $F=23,647, p<.001$ ). Similarly in the group of experts 77.2% of variance of aesthetic preference can be explained with three affective dimensions as predictors ( $F=18,02, p<.001$ ). The findings are consistent with the VACe model of aesthetic preferences (Janković, 2015) and indicate: 1) that there is a difference in the structure of meaning that are activated in the minds of experts and non-experts at the time of observation of the same stimuli and that this difference follows the same trend observed in the aesthetic development –perception to cognitionsshift in criteria of aesthetic evaluation, and 2) that aesthetic preference can be substantially explained by the affective experience of meanings activated in participants' minds during observation of artwork.

**Keywords:** criteria of aesthetic evaluation, aesthetic experience, film, experts and non-experts

## THE EFFECT OF MERE-EXPOSURE AND AFFECTIVE EXPERIENCE ON THE AESTHETIC PREFERENCE OF MUSIC

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The Processing fluency theory (Reber, Schwarz & Winkielman, 1998) and Fluency amplification model (Albrecht & Carbon, 2014) offer different explanations of the role of stimulus valence in processing fluency and aesthetic evaluation. In the present study we investigated the effect of valence, arousal and familiarity on aesthetic preference of music stimuli using mere-exposure procedure. In the first phase of the experiment 48 music excerpts (the average duration 4 seconds per stimulus) systematically varied in three affective dimensions, were presented to the respondents (0, 2, 5 or 10 exposures per

stimulus) in a randomized sequence. In the second phase of the experiment (5 to 7 days after the first phase) respondents rated their aesthetic experience of the stimuli presented in the first phase on the bipolar seven-step ugly-beautiful scale. Results showed that the main effect of the exposure frequency has not reached statistical significance, i.e. respondents equally preferred stimuli regardless of the frequency of exposure in the phase of familiarization. A significant effect of affective valence was obtained ( $F(2,183)=232,213, p<0.001$ ), showing that respondents preferred the pleasant music stimuli compared to neutral and unpleasant, and also preferred neutral compared to unpleasant stimuli. There was no statistically significant difference in preference for high comparing to low arousing stimuli. Also, there was no significant interaction between valence and exposure, as well between arousal and exposure, suggesting that the frequency of exposure does not affect differently the preference of pleasant and unpleasant stimuli, as well as the preference of high and low arousing music stimuli.

**Keywords:** mere exposure effect, aesthetic preference, valence, arousal, music

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## KONSTRUKCIJA I VALIDACIJA KOEFICIJENTA KREATIVNOSTI

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Cilj ovog rada je da predloži nov način merenja kreativnosti i provere njegovih metrijskih karakteristika. U preliminarnoj studiji konstruisani su koeficijent kreativnosti i koeficijent izuzetnosti koji su zasnovani na statističkoj proceni originalnosti odgovora ispitanika, izvode se na osnovu učestalosti odgovora u uzorku, i testirane su njihova validnost i pouzdanost. Postupak konstrukcije koeficijenata uključuje: kategorizaciju odgovora ispitanika na osnovu sličnosti, po principima obrade otvorenih upitnika, uz proveru njihove intencionalnosti, a zatim izračunavanje koeficijenta kreativnosti (putem količnika dobijenih i mogućih odgovora na nivou varijable), i koeficijenta izuzetnosti kao mere originalnosti pojedinačnih odgovora (putem količnika broja 1 i broja ispitanika koji su dali isti odgovor). Testiranje validnosti i pouzdanosti koeficijenata obavljeno je na uzorku od 40 ispitanika studenata Fakulteta dramskih umetnosti, čiji je zadatak bio da generišu kreativne odgovore na 40 vizuelnih stimulusa. Odgovori ispitanika ocenjeni su koeficijentima kreativnosti i izuzetnosti. Radi utvrđivanja konvergentne validnosti koeficijenata odgovori

ispitanika ocenjivani su i konsenzualnom tehnikom procene (CAT – Consensual Assesment Tehnique) uz učešće eksperata iz oblasti dramskih umetnosti. Deskriptivna statistička analiza pokazuju da su greške ocene prosečne vrednosti koeficijenta kreativnosti u populaciji veoma niska i manja je od 5% od prosečne vrednosti u uzorku ( $M=.42$ ,  $SE=0.1$ ), naspram preko 13% kod CAT ocena ( $M=4.25$ ,  $SE=.59$ ). Vrednosti skjunisa i kurtozisa za koeficijent kreativnosti, bliže su normalnoj raspodeli od CAT ocena ali ni jedna ni druga distribucija ne odstupa značajno od normalne. Rezultati analize pouzdanosti, pokazuju da ukupno gledano i jedan i drugi metod procene kreativnosti ima približno istu pouzdanost ( $\alpha = .50$ ), ali se metod procene preko koeficijenta kreativnosti pokazao znatno postojaniji i pouzdaniji od metoda procene procenjivača kada se u obzir uzme podela testa na dva dela ( $\alpha_1=.55$  i  $\alpha_2=.43$  naspram  $\alpha_1=.17$  i  $\alpha_2=.61$ ). Dobijeni rezultati ukazuju na mogućnost da merenje kreativnosti preko konstruisanih koeficijenata ima veću pouzdanost i validnost od konsenzualne tehnike, što bi moglo biti posledica višeg stepena objektivnosti mera. Ako se tome doda znatno veća ekonomičnost i dostupnost ovakvog načina procene opravdano bi bilo njegovo dalje korišćenje u studijama kreativnosti, nakon temeljne empirijske provere i validacije.

*Ključne reči:* kreativna produkcija, procena kreativnosti, validnost, pouzdanost, merenje

### Construction and validation of creativity coefficient

The aim of this paper is to present a new way of measuring creativity and verification of its metric characteristics. In the preliminary study, the creativity coefficient and the uniqueness coefficient, which are based on a statistical estimation of originality of answers, were constructed, and their validity and reliability were tested. Testing was conducted on a sample of 40 students, whose task was to generate creative responses to 40 visual stimuli. Creativity of answers were evaluated with the creativity coefficient and the uniqueness coefficient, and with Consensual Assessment Tehnique as well. Descriptive analysis, reliability analysis and comparison of the two types of assessment were performed. The results suggest that measurement of creativity through the creativity coefficient and the uniqueness coefficient have higher reliability and validity than consensual techniques, which could be the result of a higher degree of objectivity. Higher efficiency and availability of this type of assessment also justifies its further use in studies of creativity.

*Keywords:* creative production, creativity assessment, validity, reliability, measurement

## ARTIST'S PERSONAL STYLE AND AESTHETIC ESTIMATION

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Research aim was to explore differences between artist's different styles and to find possible correlation with interestingness of it. Previous research identifies style as one of the most important criteria while estimating and understanding artwork. The higher level of artistic education is, the greater part of style in aesthetic estimation is. Sample: 33 subjects, 1<sup>st</sup> year students of psychology. Stimuli: 49 coloured reproductions, created by seven established artists (Pissarro, Renoir, Gauguin, Cezanne, van Gogh, Matisse, Picasso) characterized with specific, recognizable personal style. Procedure: Participants estimated stimulants on both scales. Exposure time and estimation time were not limited. Results: Variance analysis indicates statistically significant style effect on dimensions, ugly–beautifully:  $F(6,31)=32,583, p<.001$ . According to analysis, the most valued in aesthetic sense were paintings created by Renoir, Pissaro, Cezanne and Gauguin; less value got van Gogh, and least Matisse and Picasso. Using same analysis estimating dimension interesting-uninteresting, subjects pointed as most interested style Picasso's, than Renoir's, van Gogh and Gauguin's, and the least interesting is style that belongs to Pissaro and Matisse. The correlation analysis indicates low positive correlation between these two dimensions referring about paintings with different artistic styles:  $r=.15, p<.001$ . Conclusions: The results point that personal style of an artist is relevant and important criteria in paintings assessment. Participants showed more preference for style characterized by large colour surfaces, soft lines, mild gradations than others based on firm, curved lines, clearly divided figures from background, emphasized deviations and form deformities. Results confirm Wolfflin's theses on linearly-pictorial dimension defining style.

*Keywords:* artistic style, aesthetic estimation, interesting, colour, line

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## MOTIF AS CRITERIA FOR AESTHETIC ESTIMATION OF PAINTINGS

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Research aim was to explore if paintings with different motifs are differently estimated in aesthetic sense and to correlate it with attraction of the motif. Subjects on paintings were not investigated enough in literature. Studies based on subject/motif exploration resulted, along with style analysis, that it represents important characteristic for perception of representative art and estimation of artworks in aesthetic sense, especially with non artistic population. Sample: 33 participants, both genders, average age 20 years. Stimuli: 42 coloured reproductions, created by famous artists, classified in 6 categories by motif (still life, flowers, landscape, portrait, nude, everyday life scenes). Categories were equal by stimulant quantity. Instrument: 2 seven-degree bipolar scales measuring dimensions ugly-beautifully and uninteresting - interesting. Procedure: Participants estimated stimulants on both scales. Exposure time and estimation time were not limited. Results: Variance analysis indicates statistically significant motif influence on both dimensions, ugly-beautifully:  $F(5,31)=28.192, p<.001$  and uninteresting-interesting:  $F(5,31)=18.729, p<.001$ . According to analysis, paintings with flower motifs, landscapes and everyday life scenes are estimated as the most beautiful; still life paintings and portraits are estimated as less beautiful, and the least are nudes. Analysis also represented that the most interesting paintings are landscapes and everyday life scenes; less interesting are paintings with flower motifs, even less interesting are nudes, and at least portraits and still life motifs. The correlation analysis indicates low positive correlation between these two dimensions:  $r=.15, p<.001$ . Conclusions: The results point that motif is relevant and important criteria in aesthetic estimation of artistic paintings. Participants differently estimate paintings with different motifs. They also indicate that interestingness of motifs are not relevant for estimation in aesthetic sense. Results confirms previous findings referring that landscapes and everyday life scenes are preferred in regard to other motifs.

**Keywords:** motif, painting, aesthetic estimation, beautiful, interesting

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## AROUSAL POTENTIAL AND PRIMORDIAL CONTENT OF FRACTAL FORMS

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This paper has empirically studied the aesthetic experience of Mandelbrot algebraic fractal forms, details of the Pollock's abstract paintings, and examples of the natural fractal forms in the light of Martindale's evolutionary theory. Students of psychology ( $N=45$ ), with no specific art education, evaluated: a) 3 reproductions of abstract paintings by Pollock, b) 3 geometrical fractal forms, and c) 3 photographs of natural details. These stimuli were presented in a) color and b) black and white form. Stimuli were presented randomly, with no time limit. We used 7-degree semantic differential scales of Arousal potential (AP), and Primordial content (PC). Also students rated attractiveness (like-dislike) and experience of artistic value (artistic valuable – artistic unvaluable) of stimuli. Results show differences in AP scores  $F(2,786)=246.83$ ,  $p<0.001$ . The highest scores of AP were given to the fractal forms, then to details of the Pollock's abstract paintings, and the lowest ones to the details of nature. Colour reproductions had higher arousal potential scores than black and white:  $F(1,786)=6.72$ ,  $p<0.05$ . There were no interaction of kind of stimuli and colour. Differences in PC rates between three kinds of stimuli were also found:  $F(2,786)=1074.6$ ,  $p<0.001$ . Here, the lowest scores of PC were given to the details of nature, then to abstract paintings and Mandelbrot's fractal forms had highest scores of PC. There were no differences between rates of colour and black and white stimuli. In terms of the assessment of liking of individual stimulus we found a statistically significant difference in the assessment of stimulus types:  $F(2,394)=30.238$ . Natural forms are assessed as more attractive than fractals and abstract paintings. Abstract paintings and fractal forms do not differ in terms of assessment of attractiveness. Also, there were differences in scores of artistic value:  $F(2,394)=3.374$ ,  $p<0.05$ . Post hoc analysis show only difference between details of nature (the highest score) and fractal forms (the lowest score). Although the results did not confirm the hypothesis of Martindale's theory, they corresponded to the characteristics of three kinds of stimuli. Students preferred natural stimuli but they give them low rates of arousal potential. Expectedly, geometrical fractal forms have the highest primordial content. In further similar

research, one would need to include the mathematical fractal values of present forms.

*Keywords:* aesthetic experience, Mandelbrot fractals, abstract art, Jackson Pollock, arousal, primordial content

## STRUKTURA SUBJEKTIVNOG DOŽIVLJAJA POEZIJE: EKSPERTI RAZLIKUJU VIŠE FAKTORA PROCENE OD NEEKSPERATA

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Istraživanja u kojima su pesme procenjivane po nizu deskriptora ukazala su na razlike u strukturi subjektivnog doživljaja poezije između eksperata i neeksperala. Faktorskom analizom za eksperte su izdvojene dimenzije neprozirnosti, pozitivne emotivne valence, vrednosti i afektiviteta pesme, a za neeksperte dimenzije prijatnosti i elegičnosti pesme. U datim istraživanjima korišćeni su posebni setovi deskriptora za dve grupe ispitanika – deskriptore za eksperte generisali su studenti književnosti, a deskriptore za neeksperte studenti psihologije. Razlika u izdvojenim faktorskim strukturama donekle je umanjena u naknadnom istraživanju u kom je novi uzorak neeksperala procenjivao iste pesme koristeći ekspertske set deskriptora. Tada su izdvojeni faktori prijatnosti, dirljivosti i neprozirnosti pesme. Cilj ovog istraživanja bio je da proveri stabilnost strukture izdvojene u grupi eksperata. Novi uzorak od 13 eksperata procenjivao je novi set stimulusa koji se sastojao od 20 pesama. Procene su vršene na ekspertskom setu od 34 deskriptora korišćenom u prethodnim istraživanjima. Nad prikupljenim podacima je sprovedena eksplorativna faktorska analiza (metoda minimalnih rangova) sa Promin rotacijom u programu Factor. Usled zakošenosti distribucija, korišćene su polihorične korelacije umesto uobičajenih Pirsonovih korelacija. Optimalna implementacija paralelne analize bila je primarni kriterijum za odabir broja faktora. Dva deskriptora isključena su zbog korelacije preko 0.8 s drugim deskriptorima, a preostala 32 prideva grupisali su se u četiri faktora koji zajedno objašnjavaju 63% ukupne i 70% zajedničke varijanse. Vrednosti karakterističnih korenova se kretale su se od 3,77 do 5,63, a pouzdanost faktora od ,93 do ,95. Ponovo su izdvojeni faktori koji opisuju vrednost (zanimljiva, uzbudljiva), neprozirnost (nerazumljiva, hermetična) i afektivitet pesme (ljubavna, emotivna). Četvrti faktor se ticao emotivne valence, s tim što je

ona sada bila negativna (tužna, negativno optimistična i sl.). Na osnovu rezultata zaključujemo da je struktura subjektivnog doživaljaja poezije kod eksperata jasno diferencirana i stabilna. Naročito je zanimljivo da ekspertri razlikuju faktore koji opisuju karakteristike same pesme (npr. emotivna valenca ili afektivitet) od onih koji opisuju njihovu procenu vrednosti pesme, dok dva aspekta ostaju nediferencirana u slučaju neekspertske procene, čak i kada procenjuju prema deskriptorima koje su generisali (budući) ekspertri.

*Ključne reči:* subjektivni doživljaj, poezija, ekspertiza

Structure of subjective experience of poetry: Experts differentiate more factors of evaluation than non-experts

Previous studies have shown differences in the structure of subjective experience of poetry between experts and non-experts. The goal of this study was to test the stability of the expert factor solution. A new group of 13 experts rated a new set of 20 poems on the same 34 descriptors used in previous studies. Minimum rank factor analysis with Promin rotation and optimal implementation of parallel analysis as the factor retention criterion extracted four factors explaining 63% of total and 70% of common variance. Factor reliability ranged from .93 to .95. The extracted factors closely matched the previous solution. Three factors were replicated: evaluation (interesting, exciting), opacity (incomprehensible, hermetic), affectivity (romantic, emotional). The fourth factor was named sorrow (sad, neg. optimistic) and it represents the polar opposite of the previously extracted factor joy (cheerful, optimistic). We conclude that experts' subjective experience of poetry is more elaborate and stable than non-experts'.

*Keywords:* subjective experience, poetry, expertise

## PERCEPTION OF BEAUTY AND ATTRACTIVENESS OF MEN'S AND WOMEN'S CARICATURED CHARACTERISTICS

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The purpose of the present study was to investigate the effects of caricatural exaggeration on judgment of facial beauty. Twelve participants of both genders

18-35 years of age participated in the study. Stimulus set included the images of original faces and their caricatures made by enlarging and diminishing four face parts: chin, eyes with eyebrows, nose and mouth. Participants rated images on the scales of attractiveness, masculinity, femininity and Amazing, Arousing, Cute, Erotic, Clear and Elegant beauty. The analysis of variance showed a significant interaction Face parts X Degree of caricatural change for the ratings of attractiveness ( $F(3)=5.35, p<0.01$ ), masculinity ( $F(3)=6.18, p<0.01$ ) and femininity of the caricatures ( $F(3)=7.13, p<0.01$ ), as well as on dimensions of Amazing ( $F(3)=4.89, p<0.01$ ), Cute ( $F(3)=7.39, p<0.01$ ), Erotic ( $F(3)=5.07, p<0.01$ ) and Elegant beauty ( $F(3)=8.31, p=0.00$ ). We have also registered three-way interactions gender of the Face X Part of the face X Degree of the caricatural change for attractiveness ( $F(3)=8.37, p<0.001$ ), femininity ( $F(3)=7.54, p<0.01$ ), as well as for Amazing ( $F(3)=4.47, p=0.01$ ), Cute ( $F(3)=7.71, p<0.001$ ), Erotic ( $F(3)=10.22, p<0.001$ ), Clear ( $F(3)=4.72, p<0.01$ ), and Elegant beauty ( $F(3)=11.31, p<0.001$ ). Scheffe's tests show that caricature attractiveness of the male faces increases with the diminution of chin and nose, while female caricatures are more attractive when nose is decreased and eyes enlarged. Masculinity ratings increase when male face has smaller eyes and female faces enlarged nose and decreased eyes size. Male faces are rated as more feminine with reduction of nose, and female faces are more feminine with reduction of noses and enlargement of the eyes. Concerning beauty ratings, female face with diminished nose is perceived as more amazing, gentle, attractive, fresh and elegant while face with enlarged eyes is rated as cute, seductive, elegant and striking. Diminished chin on male faces produce experience of gentleness, seduction, health and elegance while diminished nose produces experience of phenomenal face. Female faces with enlarged mouth are perceived as striking while male faces with diminished mouth are perceived as fresh and healthy. Therefore, attractiveness of male and female faces overlaps with most of the beauty perception dimensions.

*Keywords:* caricatures, beauty perception, attractiveness, masculinity, femininity

## GROUP SINGING: THE DRAMA STUDENTS' AESTHETIC EXPERIENCE OF THEIR SINGING VOICE

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The paper aims at investigating the relationship between aesthetic experience of voice during group singing of different composition and aesthetic experience of voice while listening to performance of those compositions by drama students. Participants were 32 students of drama department of Academy of art who assessed aesthetic experience of their voice after singing in the group and after listening to recording of their performance of three different songs. The assessments were made on 12 seven-point scales measuring three dimensions of aesthetic experience (dynamism, exceptionality and evaluation). The students performed in the group each of three songs live and their performances of the songs were recorded. Later, the students listened to their audio recording of the performed songs and then made their evaluations again. The results of the analysis of variance – repeated measures have shown that Medium (live and recording) have significant main effect on assessments of aesthetic experience of singing voice while participating in group singing ( $F(3,29)=22.666, p<.001$ ). The assessments of aesthetic experience of singing voice in group performance are higher when students listen to the recorded performance. Concerning group singing results have, also, shown that the Song (3 different songs) have significant main effect on assessments of aesthetic experience of singing voice ( $F(6,122)=3.331, p<.005$ ). The assessments of aesthetic experience of singing voice in group performance of three different songs are significantly different in all tested dimensions of aesthetic experience. The different practical and theoretical implications of the results of this research about group and individual singing, as well as the techniques for improvement of singing voice and its influence on aesthetic experience in the field of music are discussed.

*Keywords:* singing voice, group singing, aesthetic experience, drama students

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## THE DIFFERENCES IN THE AESTHETIC EXPERIENCE OF CONTEMPORARY AND HIP-HOP DANCE CHOREOGRAPHIES

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This research aims at investigating the differences in the aesthetic experience of hip-hop and contemporary dance choreographies made by choreographers who were more than three times nominees for *Primetime Emmy Awards for Outstanding Choreography*. In the study participated 38 students from the University of Novi Sad. Stimuli consisted of five contemporary dance choreographies and five hip-hop choreographies. There were 10 choreographies in total. Choreographies were originally performed within American televised dance competition show *So You Think You Can Dance* that aired on Fox between 2008 and 2016. The video recording of choreographies has been taken from internet and adapted for research purposes. Choreographies were presented to the participants via the LCD projector. They were observing choreographies in the group and after they assessed their aesthetic experience on the 12 seven-point scales measuring three dimensions of aesthetic experience of dance: Dynamism (expressive, powerful, strong, exciting), Exceptionality (eternal, unspeakable, unique, exceptional) and Affective Evaluation (delicate, elegant, seductive, emotional). The design was multivariate two factorial. Independent variables were Type of dance (hip-hop and contemporary) and Choreography (five choreographies). Dependent variables were assessments on the dimensions of Dynamism, Exceptionality, Affective Evaluation. The design was repeated by the subjects – all participants watched and assessed all choreographies. The results of the analysis of variance – repeated measures have shown that there is significant main effect of Type of dance ( $F(3,35)=26.332, p<.001$ ). Univariate test shows that dimension of *Affective Evaluation* is assessed with higher values concerning contemporary dance choreographies than the choreographies of hip-hop ( $F(1,37)=59.930, p<.001$ ). Results have also shown that there is significant effect of Choreography on the the assessments of aesthetic experience of dance choreographies in all tested dimensions of aesthetic experience ( $F(27,999)=12.841, p<.001$ ). The results of this study indicate that aesthetic experience of two types of dance – contemporary as a category of stage dance and hip-hop as a category of street dance, differ in elegance, emotionality and delicacy.

**Keywords:** aesthetic experience, choreographies, contemporary dance, hip-hop

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## CONTEMPORARY DANCE: THE INFLUENCE OF THE CHOREOGRAPHER'S STYLE ON THE AESTHETIC EXPERIENCE OF THE CHOREOGRAPHIES

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This research aims at investigating the differences in the aesthetic experience of contemporary dance choreographies made by Travis Wall and Sonya Tayeh, two choreographers who were more than three times nominees for *Primetime Emmy Awards for Outstanding Choreography*. In the study participated 38 students from the University of Novi Sad. Stimuli consisted of eight contemporary dance choreographies that included four choreographies made by Travis Wall and four made by Sonya Tayeh. Choreographies were originally performed within american televised dance competition show *So You Think You Can Dance* that aired on Fox between 2008 and 2016. The recorded choreographies are taken from internet and adapted for research purposes. Choreographies were presented to the participants via the LCD projector. They were observing choreographies in the group and after they assessed their aesthetic experience on the 12 seven-point scales measuring three dimensions of aesthetic experience of dance: Dynamism (expressive, powerful, strong, exciting), Exceptionality (eternal, unspeakable, unique, exceptional) and Affective Evaluation (delicate, elegant, seductive, emotional). The design is was multivariate two factorial. Indipendent variables were Choreographer (two choreographers) and Choreography (four choreographies). Dependent variables were assessments on the dimensions of Dynamism, Exceptionality, Affective Evaluation. The design was repeated by the subjects – all participants watched and assessed all choreographies. The results of the analysis of variance – repeated measures have shown that there is significant main effect of Choreographer on assessments of aesthetic experience of contemporary dance choreographies ( $F(3,35)=3.851, p<.018$ ). Univariate test shows that dimension of *Affective Evaluation* is assessed with higher values concerning the choreographies made by Travis Wall than the choreographies made by Sonya Tayeh ( $F(1,37)=7151, p<.011$ ). Results have also shown that there is significant effect of Choreography on the the assessments of aesthetic experience of dance choreographies in all tested dimensions of aesthetic experience ( $F(3,35)=289.534, p<.00$ ). The results of this study confirm the earlier findings which suggest an important role of choreographer but they reveal as well that elegance, emotionality and delicacy differentiate the specific style of each choreographer.

**Keywords:** aesthetic experience, choreographer, choreography, contemporary dance

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## RELATIONSHIP OF INTERPERSONAL ORIENTATION, OPTIMISM AND PESSIMISM WITH FACIAL BEAUTY PERCEPTION

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People who interact with others tend to evaluate faces of people with whom they speak. The question is how their attitudes toward others as well as their world view influence perception of their own faces? This paper deals with connections between predicative power aspects of interpersonal relation, both of pessimism and optimism, and human facial beauty perception. Several aspects are included in human facial beauty perception: phenomenal, cute, erotic, clean, striking and elegant beauty. This research included 96 students of both sexes whose average age was  $M=19.96$ ,  $SD=1.39$ . They have filled in Interpersonal Orientation Scale, Optimism and Pessimism Scale and Basic Dimension Scale of human facial beauty perception. Interpersonal orientation has been observed through the aspects of philanthropy and misanthropy and their aspects (philanthropy: the need for people and friendship; misanthropy: distrust and social isolation). Correlation analysis showed positive connection between the need for people ( $r=.237$ ,  $p<0.05$ ) and friendship ( $r=.214$ ,  $p<0.05$ ) as aspects of philanthropic orientation with the perception of elegant beauty. Further analysis shows positive connections of optimism with phenomenal and clean facial beauty perception. Aspects of misanthropy and pessimism didn't show any significant statistical connections with aspects of human facial beauty perception. Regression analysis results showed that the need for people ( $\Delta R=.056$ ,  $\beta=.237$ ,  $p<0.05$ ) and friendship ( $\Delta R=.046$ ,  $\beta=.214$ ,  $p<0.05$ ) are significant predators in predicting elegant beauty perception while optimism is significant predictor in predicting clean beauty perception ( $\Delta R=.147$ ,  $\beta=.336$ ,  $p<0.05$ ). Therefore, persons who are positively oriented in interpersonal relationships (philanthropists) experience their faces as elegant and sophisticated. Persons who have showed need for people and friendship will have high results on the scale for perception of their own elegant facial beauty. It may be said that people with optimistic world view on their future, obligations and expectations perceive their own face as fresh and healthy,

but also as phenomenal and fantastic. Persons who perceive themselves as optimists experience their face as fresh and healthy.

*Keywords:* interpersonal orientation, optimism, pessimism, facial beauty perception

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## ON KITSCH AND KIČ: COMPARING KITSCH CONCEPTS FROM BAVARIA, SERBIA AND SLOVENIA

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Out of the manifold expressions for bad taste in different modern languages only the German term “kitsch” has become a truly international term. Today, it is commonly used in many modern languages including Serbian and Slovenian (“kič”)—but does it designate the same aesthetic concept? Thirty-six volunteers from Bavaria, Serbia and Slovenia rated two-hundred images of kitsch objects in terms of liking, familiarity, determinacy, arousal, perceived threat, and kitschiness. Besides, art expertise, ambiguity tolerance, and value orientations were assessed. Multilevel regression analysis with crossed random effects was used to explore cross-cultural differences. In general, kitsch objects were disliked and described as non-threatening, not arousing, and highly determinate. Regarding perceived threat 80% of all ratings were equal to “Not threatening” or “Very low threatening”. Similarly, kitsch objects are rated as determinate, hardly arousing and not liked. Independent from cultural background liking of kitsch objects was increased for emotionally arousing ( $b=0.60$ ,  $t(35.84)=16.89$ ,  $p<.01$ ,  $d=2.82$ ). Effects of familiarity and perceived threat were moderated by gender: A positive effect of familiarity on liking was only discernible for female participants,  $b=0.13$ ,  $t(33.40)=2.90$ ,  $p<.01$ ,  $d=0.50$ , while a negative effect of perceived threat on liking was less pronounced for male participants,  $b=-0.16$ ,  $t(21.81)=2.74$ ,  $p<.05$ ,  $d=0.59$ . Communal values had a positive effect on liking, while intergenerational conflict increased kitschiness. For participants from Serbia and Slovenia threatening content increased kitschiness, while participants

from Bavaria rated determinate items as more kitschy. Independently from cultural background kitsch was used as a derogatory term. Besides, this shared notion seems consistent with some basic assumptions of literature on kitsch: Liking of kitsch results from an immediate emotional response which is aroused by a familiar and non-threatening subject matter. Gender differences appear to be at least as important as differences in cultural background. Last but not least, the role of communal values and intergenerational conflict draws our attention to the social dimension of kitsch. So far our findings are limited to the visual domain and a small homogenous sample (e.g. age; academic background).

**Keywords:** empirical aesthetics, kitsch, kič, aesthetic appreciation, cross-cultural research

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## CHANGE OF MOOD DURING THE CREATIVE PROCESS AND EVALUATION OF PAINTINGS

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It is often believed that the behaviour of creative persons often deviates from normal. In the arts, for instance, a wide range of mood states typical of some bipolar spectrum disorders can motivate or inspire creativity. In contrast, everyday creativity is associated with enriching one's life and increasing personal well-being. This study aimed at exploring the effects of a creative act (creation of a collage) and observing paintings on the mood of the participants. The study included 82 participants, first-year students from the Department of Psychology. Students were randomly assigned to one of two experimental situations. One group of the participants first created collages, and after that evaluated the paintings, while the other group first evaluated the paintings and then created collages. Both groups filled in the Questionnaire for measuring current mood – PANAS three times: before the first activity, between the first and the second activity and upon finishing the second activity. For the group, which first evaluated the paintings, and then created collages, during the evaluation of paintings there was no change in the positive mood, however a reduction in negative mood occurs ( $M=-0.20$ ,  $t(37)=3.63$ ,  $p<.001$ ). During the creation of collages improvement of positive mood occurs ( $M=0.48$ ,  $t(37)=4.11$ ,  $p<.001$ ), while the negative did not change. In the group which first created collages, while doing the creative activity there has been a significant improvement in positive mood ( $M=0.32$ ,  $t(45)=3.37$ ,  $p<.01$ ), and a decrease in negative mood ( $M=-0.19$ ,  $t(45)=2.22$ ,  $p<.05$ ). During the observation and evaluation of paintings there was

a significant decrease in positive affect ( $M=0.40$ ,  $t(45)=4.91$ ,  $p<.001$ ), but there was no change in a negative mood. Aesthetic judgement has the effect of maintaining the positive and negative mood on a basic level, reminiscent of states similar to boredom. The result can be explained by the demanding task of judging a large number of paintings that is not interesting to the participants. Engaging in a creative activity, however, has a clear effect of increasing the positive and reducing the negative mood. It is proposed that creating a work serves as a means to release negative emotions (catharsis) and directs a person towards positive emotions (redirection).

**Keywords:** empirical aesthetics, artistic creativity, everyday creativity, mood, aesthetic appreciation

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## METACOGNITIVE STRATEGIES AND SIGHT-READING IN MUSIC PERFORMANCE

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Sight reading is an “online” activity that asks for a quick insight into the whole and/or parts of a music piece with a task to maintain fluency and accuracy of performing without interrupting the music stream. Sight-reading present complex activity which comprise perceptive, cognitive and psychomotor processes, with substantial referring on previous knowledge and relying on memory. Metacognitive strategies are crucial for expert sight-reading skill in all phases of the process: preparation, setting goals, performance monitoring and outcome evaluation, as well as knowledge of problem solving strategies. Aims of the study: a) identifying metacognitive strategies used by musicians at each phase of sight-reading task and b) to determine their relations with self-efficacy. The sample consisted of 95 music students who had at least ten years of music education experience. Participants filled in the Sight-reading questionnaire (12 questions, 5 points Likert scale). Factors concerning strategies used in sight-reading process were extracted with Principal component analysis using Oblimin rotation method with Kaiser normalization. Results show factors extracted for a Preparation phase: Analysis, Inner hearing and Overview (45.55% explained variance); in a Setting goals stage were identified: Interpretation and Technical accuracy (73.67%); while during Performance: Expertness, Perfectionism, Intuition and Control of continuity (51.37%). In a Problem solving situation students tend to show either constructive Mastery (mainly analytical) or Inefficient behavior (giving up or starting again from the beginning) (69.15%).

Their difficulties in sight-reading come from Harmonic and structural complexity of musical piece and Rhythm and tempo density, as well as from weaker Psychomotor response (56.86%). Correlation with self-efficacy pointed out that those musicians who estimate their skill higher prepare themselves for playing by getting an Overview of a composition ( $r=.26, p<.05$ ), they perceive more easily Melodic and rhythmical chunks ( $r=.33, p<.001$ ) and perform with Expertness and expressively ( $r=.39, p<.001$ ). Those who have lower self-efficacy are not dealing well with more Complex harmony music ( $r=-.24, p<.05$ ), have problems with Perfectionism ( $r=-.30, p<.01$ ), and fast Psychomotor response ( $r=-.38, p<.05$ ). To conclude, efficient sight-reading skills, intertwined with a strong artistic component, are clearly related to metacognitive strategies that are important for task execution in each stage of the process. Next to that, significant role have auditory mental representations of themusical flow and hierarchical musical structure, as well as personal capacities of a performer, such as motor readiness, self-efficacy, music knowledge and performing experience.

**Keywords:** metacognitive strategies, sight reading, music performance, music students

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## LOST IN TRANSLATION – SUBJECTIVE PERCEPTION OF LYRICS IN ORIGINAL AND TRANSLATED VERSION

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The most successful translation is considered to be the one which shows no proofs of division between the languages, when the translator adjusts the original text to the culture of the target language. When translating poetry, together with the meaning of the text, we have to pay attention to the rhyme and rhythm, which is also one of the hardest tasks when translating poetry. The research problem was to investigate if there are differences in subjective perception of the songs' lyrics depending on variations in text's authenticity (if the text is in its original or translated version), as well as the language of the text (native language – Serbian or foreign language – English). The sample was made up of 42 respondents, of both genders, 16 – 30 years of age. The respondents evaluated 6 songs in their original and translated version in different time intervals. The songs were picked from the popular culture domain, under the condition that they were not widely known. We picked songs originally written in these two languages – 3 in each of

them. Semantic differential scale was used as the instrument, which had affective, conative, cognitive, and aesthetic dimension. The obtained data show that there was a significant difference between the original and translated versions of the lyrics, as well as between the texts in Serbian and English. There was also a statistically significant interaction of the authenticity and the language for all 4 dimensions - affective  $F(1,41)=8.32, p<0.05$ , conative  $F(1,41)=6.20, p<0.05$ , cognitive  $F(1,41)=7.24, p<0.05$ , and on the aesthetic dimension  $F(1,41)=4.28, p<0.05$ . When the songs which were originally in English are translated into Serbian, they are rated lower on all 4 dimensions than the remaining three categories – the songs originally written in Serbian, originally in English, and songs translated from Serbian into English. Besides that, there was a statistically significant difference for original versions of lyrics, on cognitive dimension, such that original texts in Serbian were rated higher than the English originals. It is difficult to explain these results by the existing theories of good form, since, according to them those stimuli which carry a smaller amount of information (in our case lyrics in native language) should be perceived as better, while more complex stimuli (lyrics in foreign language) should be perceived as worse. However, in our research this was not the case.

**Keywords:** subjective experience, aesthetic experience, translation, song's lyrics

## UTJECAJ VRSTE GLAZBE NA PERCEPCIJU LIKA U PRIČI

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Prijašnja istraživanja u području glazbe bavila su se utjecajem glazbe u domeni filma, no mali broj istraživanja bio je usmjeren na to kako vrsta glazbe utječe na trenutnu procjenu lika ili priče, kada ne postoji vizualni, nego kada se koristi tekstualni podrazumijevanje. Cilj našeg istraživanja bio je ispitati utječu li različite vrste

glazbe na percepciju lika u priči. S obzirom na postojeću literaturu pretpostavilo se kako će sretna glazba dovesti do pridavanja većih vrijednosti u procjeni lika u priči na skali sa „sretnim“ karakteristikama u usporedbi sa skupinom bez glazbe, da će tužna glazba dovesti do pridavanja većih vrijednosti u procjeni lika u priči na skali s „tužnim“ karakteristikama u usporedbi sa skupinom bez glazbe te kako će jeziva glazba dovesti do pridavanja većih vrijednosti u procjeni lika u priči na skali sa „zastrašujućim“ karakteristikama u usporedbi sa skupinom bez glazbe. U istraživanju sudjelovalo 80 studenata preddiplomskih studija Sveučilišta u Osijeku (40M i 40Ž, 18-23 godine). Analizom varijance utvrđeno je nepostojanje utjecaja vrste glazbe na pridavanje većih vrijednosti u procjeni lika sa sretnim, tužnim i zastrašujućim karakteristikama u usporedbi s kontrolnom skupinom te su, prema tome, sve tri navedene hipoteze odbačene. Čini se da glazba ima izravan utjecaj na kognitivno procesiranje filma usmjeravajući selektivnu pažnju na informacije koje su u skladu s raspoloženjem, a udaljavajući pažnju od ostalih informacija. Ljudi su naučili povezivati vizualne podražaje s glazbom, ali ne i s tekstrom jer gotovo svaki film koristi glazbu kao dodatni izvor informacija o onome što se zbiva, dok se to ne događa tijekom procesa čitanja. Moguće je pretpostaviti da je emocionalna neutralnost priča onemogućila utjecaj slušnog podražaja, odnosno, u ovom slučaju je neutralni sadržaj priče bio dominantniji podražaj. No, treba biti oprezan u generalizaciji rezultata s obzirom da se glazba može različito doživljavati ovisno o dobi, preferencijama, poznatosti i sličnim varijablama te su mogući drugačiji utjecaji s obzirom na vrstu i oblik podražaja (duži tekst, emocionalno obojena priča, realističnost priče, maštovitost i sl).

*Ključne riječi:* glazba, percepcija, lik, priča

### The influence of type of music on perception of a character in a story

This study explored the influence of different types of music on assessment of a character in a neutral story. It was hypothesized that cheerful music will lead to a higher score on positive characteristics on assessment of character, sad music to higher score on sad characteristics and scary music to higher score on scary characteristics when compared to the case without music. Research sample consisted of 80 students (40 male and 40 female, 18-23 years). The hypotheses were tested with ANOVA and contrary to expectations the results indicate that the type of music does not influence the assessment of a character in a neutral story. One of the explanations could be that people have learned to relate visual stimulus with music but not with written text. It seems that in this case the neutral stories suppressed the influence of auditory stimulus. Generalization should be made with caution.

*Keywords:* music, perception, character, story

## *KOGNITIVNA PSIHOLOGIJA*

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## IS NATURAL DEDUCTION NATURAL?

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There are not many investigations in experimental cognitive psychology of deductive reasoning based on what in logic is called natural deduction. Natural deduction differs from axiomatic formal systems by giving prominence to rules of inference and deductions from hypotheses, and not to axioms, which need not exist. Although logicians believe that this formalization of deduction deserves its attribute “natural”, it cannot be said that this has been confirmed empirically. Natural deduction was not central in logic, and still is not, and cognitive psychologists, starting with Jean Piaget, cannot be blamed for not taking account of it in their research of deductive reasoning and human logic. It is only rather recently, by the end of the XX century that in psychological research, like that of Lance Rips, natural deduction made a *début*. Rips explores the idea that natural deduction rules are central to cognition because they underlie many other cognitive abilities. In this work the literature concerning this problem is considered and ideas for new experiments are suggested. The authors are not psychologists but logicians, from mathematics and philosophy, and a kindergarten teacher. They wish to attract the attention of psychologists and obtain their help for designing the experiments in a professional manner. The authors offer their competence in logic for obtaining experiments of a new kind. The accent is on natural deduction as initiated by the logician Gerhard Gentzen, and not as it is exemplified in most elementary textbooks, in particular the American ones. Natural deduction in the style of Gentzen has deductions in the form of a tree, which records in a better way on which premises a conclusion depends, while in the other tradition derivations require additional instructions for building a tree. This other format, presumably influenced by American

textbooks, was favoured by Rips. We favour on the other hand Gentzen's format, and we address the question whether because of its greater simplicity it has psychological advantages too. We envisage experiments primarily designed for discovering the early growth of logic in the child, namely capable of giving an answer what meaning children assign to logical words, and how they base reasoning on this knowledge. These experiments should investigate how logical reasoning is present in children who understand and use language well, and are not meant to measure the percentage of such children in the whole population.

**Keywords:** logic, deduction, natural deduction, reasoning of children, design of experiment

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## PARTS OF SPEECH IN EARLY SERBIAN CHILD LANGUAGE

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Being considered as universal across languages, linguistic distinction between nouns and verbs and their position in the early utterances attracted much of attention in the field of language development. Theoretical implications of noun/verb priority in development were a trigger for an exploration of distribution of parts of speech in Serbian child language and comparisons with the distribution in adults' production. The Serbian Corpus of Early Child Language contains the spontaneous language of eight children longitudinally recorded at their home settings at 16 age levels, 18 to 48 months of age. All the words were automatically lemmatized by means of the Frequency Dictionary of Contemporary Serbian Language. Manual check and correction of lemmas were made for six parts of speech relevant for the construction of clauses: nouns, verbs, adjectives, adverbs, pronouns, prepositions. Other parts of speech (connectives, particles, interjections, and numbers) due to widely spread homography and a high proportion of miss-lemmatization were pulled all to one category (named the rest). The proportion of parts of speech was calculated and comparison of child language across age levels was done, as well as the comparisons with adults. Distribution of grammatical categories in the adults' production is very stable and do not change depending on the age of target children. The most frequent words in adults' language are verbs (29%), then nouns (20%), and pronouns (17%). Distribution of grammatical categories in children's production vary across age and significantly deviate from the distribution of adults: 18 months vs. adults  $\chi^2(6)=374.018$ ,  $p<0.01$ ; 20 months vs. adults  $\chi^2(6)=201.953$ ,  $p<0.01$ ; 22m vs.

adults  $\chi^2(6)=102.809, p<0.01$ ; 24m vs. adults  $\chi^2(6)=49.316, p<0.01$ ; 26m vs. adults  $\chi^2(6)=18.714, p<0.01$ . The incidence of verbs in child language is lower than in adults', also lower than nouns in some children, which reveals individual differences among them. Nouns are a dominant category in children with a relatively low level of grammatical development, while verbs are more prominent in advanced children, likewise adults. Distribution of parts of speech is stable in adult language and independent of the target child's age. In contrast, distribution in children is very variable and depends on age and individual developmental progress. Dominance of verbs in a child's language enounces the progress of grammatical development.

*Keywords:* child language, adults' language, parts of speech, distribution, spontaneous production

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## QUANTIATIVE INDICATIONS OF CHANGE IN EARLY SERBIAN LANGUAGE PRODUCTION

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The findings of previous research revealed that the increased usage of verbs in a Serbian child's spontaneous language is an indication of the progress of grammatical development. The study is an exploration of the quantitative indicators of the growth of children's language. It was focused on the usage of verbs: number of verbs, types, tokens and frequency, as well as the measures related to predicative utterances: the Mean Length of Utterance MLUW, and the Standard Deviation of Length of Utterances SDLUW as an indication of the maximum length of predicative utterance that a child is able to produce. A sample of spontaneous language production was retrieved from The Serbian Corpus of Early Child Language compiled in The CHILDES database. The corpus contains the transcripts of verbal production of eight children longitudinally recorded at 16 age levels, starting from 8 until 48 months of age. Only predicative utterances of children were selected and the number of words and utterances was calculated, as well as the measures of length of utterances based on words (MLUW and SDLUW). The indicators were compared across age levels and developmental changes were monitored. The analysis of variance revealed that the number of verbs (types, lemmas) increased with age ( $F(15)=14.425, p<0.01$ ), as well as the total number of verbs in terms of frequency (tokens) ( $F(15)=8.249, p<0.01$ ). The trajectories of individual children appeared rather unstable across age levels,

although an improvement with age was recorded in all children. Regarding the indicators related to utterances, a significant increase of the Mean Length of Utterance (MLUW) across age levels was registered ( $F(15)=38.397, p<0.01$ ), as well as the increase of the Standard Deviation of Length of Utterance (SDLUw) across age levels ( $F(15)=34.706, p<0.01$ ). Due to the situational and pragmatic variability of the recording sessions, the growth of measures related to utterances (MLUW and SDLUw) revealed more stability across age levels than measures related to words. The increase of all measures was registered across age levels, and individual differences among children were recorded. More stability was found on the measures calculated on utterances than those based on words, which displays a gradual change in syntactic complexity of the children's language.

**Keywords:** child language, verbs, quantitative measures, Mean Length of Utterance (MLU), spontaneous production

## REFERENCE POINT ON COGNITIVE REFLECTION TEST

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According to the Information leakage approach, formally equivalent tasks differ regarding their implicitly given reference point (RP). Different focal information, pinpointed by the changing of the RP, lead to different answers. In our research, we tested this notion by applying it on tasks of Cognitive Reflection Test (CRT), which measures a tendency to override a heuristic response and to engage in further reflection to find a normative, correct answer. Participants ( $N=110$ ) were given 7-item CRT, with every item followed by 7pt self-confidence scale. Two parallel versions of CRT were used: one was the original test (CRT<sub>O</sub>), and the other one was constructed for the purpose of the experiment (CRT<sub>R</sub>). For every item of the CRT<sub>O</sub>, additive changes were made, that is, RP was added, keeping constant formal aspects of the task. For example, at the very beginning of the question "A man buys a pig for \$60, sells it for \$70, ..." a sentence "Man has \$80 dollars." was added. Design was non-repeated; participants were randomly assigned to one of the two groups (CRT<sub>O</sub> or CRT<sub>R</sub>). We proposed that adding of RP would lead to higher score on CRT, and that the self-confidence would differ in way that the heuristic answer would be assessed with higher self-confidence. Average number of correct answers in two groups was different ( $t(108)=4.87, p<.001$ ): CRT<sub>O</sub> ( $M=1.56; SD=1.27$ ) CRT<sub>R</sub> ( $M=2.83, SD=1.45$ ). For the correct

answers, item analysis revealed that on three items (2, 6 and 7), effect of manipulation of RP was significant and helpful, that is, participants gave more correct answers when RT was added. Furthermore, average number of heuristic answers was smaller when RP was added in three tasks (2, 6, 8). There was no significant difference on measure of self-confidence in two groups of participants; it was significantly different only on two items (1 and 2). Results are in accordance with the information leakage approach - by changing the RP in formally equivalent tasks, different answers can be yielded, albeit partially. These findings can also be addressed in the dual process framework - adding of RP can serve as a cue to inhibit heuristic answer and to engage in System 2 processes. Further investigations should be aimed to specify and uniform manipulation of reference point.

**Keywords:** Reference point, information leakage approach, dual processes, cognitive reflection test, selfconfidence

## COGNITIVE VARIABLES AS PREDICTORS OF SUBJECTIVE TASK DIFFICULTY AND PERFORMANCE IN SCIENCE PROBLEM SOLVING

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For successful science problem solving, students have to understand and represent concepts at macroscopic and submicroscopic level. They are less successful at the second level and they perceive tasks related to this level as more difficult. Understanding of specific cognitive abilities that affect students' achievement and perception of problem difficulty can help educators to design learning material in such a way that will support students' problem solving. We

examined how logical thinking, visual processing, working memory, and cognitive flexibility were related to (i) the achievement and (ii) the perception of problem difficulty. A sample of 12–15 year-old students ( $N=57$ ) solved authentic chemistry, physics and biology problems and assessed the difficulty of each problem on a 5-point scale. The PEBL software (Mueller, 2012) was used to assess students' cognitive functions: visual processing was assessed with the Pattern Comparison Task, cognitive flexibility with the Trail-Making Task, and working memory with the Digit Span Task. Test of Logical Thinking (Tobin & Capie, 1981) was used to assess formal reasoning ability, and Set I of Advanced Progressive Matrices (Raven, Court, & Raven, 1996) was used to measure fluid intelligence. Task achievement score (possible range 0–10,  $M=5.6$ ,  $SD=1.2$ , Min=2.8, Max=7.7, Kolmogorov-Smirnov D=0.11,  $p=.091$ ) and average perceived task difficulty ( $M=2.8$ ,  $SD=0.7$ , Min=1.2, Max=4.3, D=0.07,  $p>.200$ ) showed low correlation ( $r=-.18$ ,  $p=.190$ ). Both variables were used as outcomes in separate hierarchical multiple regression analyses with 10000 BCa bootstrap replicates of the regression coefficients. To control for the effect of age and intelligence, these two predictors were entered in the model in the first step; TOLT scores were entered in the second step, and backward memory span, pattern processing speed and switching cost were entered in the third step. The only statistically significant predictor of the achievements was the logical thinking ability,  $\beta=0.61$  (the bootstrapped 95% CI for the regression coefficient  $b$  was 0.16–0.48). The average subjective difficulty of the tasks was positively related to switching cost,  $\beta=0.28$ , 95% CI for  $b[0.11, 2.64]$ . Subjective experience of task difficulty and objective performance in science problem solving thus relate to distinct cognitive processes—achievement is predicted by cognitive maturity, whereas perceived task difficulty is predicted by cognitive flexibility. Cognitive flexibility seems to play a role in perceived mental effort; implications for educators are discussed.

**Keywords:** problem solving, science concepts, cognitive control, primary school students

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## SIMULTANEOUS EFFECTS OF INFLECTIONAL PARADIGMS AND CLASSES IN PROCESSING OF SERBIAN VERBS

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Previous research demonstrated that processing of inflected words is simultaneously influenced by the properties of the two distributions that the word belongs to: its inflectional paradigm and it's inflectional class. Crucial predictor of processing latencies was the divergence of the distribution of surface frequencies of all inflected forms of the given lemma (inflectional paradigm) from the distribution of suffix frequencies that build the inflectional forms (inflectional class), operationalized as relative entropy. This effect was previously observed on Serbian nouns and English prepositional phrases. Here we aimed to demonstrate that these findings can be generalized to Serbian verbs. Additionally, we wanted to show that the effect of relative entropy could be simulated as a consequence of simple learning principles, namely the principles of naive discriminant learning. We presented verbs in four inflected forms, in four separate lexical decision tasks, to four separate groups of participants. Mixed-effect generalized additive model revealed significant effects of word length on processing latencies ( $B=.022$ ;  $SE=.004$ ,  $t=5.271$ ,  $p=.000$ ), as well as by-participant factor smooths for the order of trial presentation ( $edf=233.106$ ,  $ref.df=611.000$ ,  $F=8.913$ ,  $p=.000$ ), and by-item random intercept ( $edf=162.589$ ,  $ref.df=243.000$ ,  $F=2.021$ ,  $p=.000$ ). Crucially, the joint effect of lemma frequency and relative entropy (tensor product smooth:  $edf=3.001$ ,  $ref.df=3.001$ ,  $F=22.470$ ,  $p=.000$ ) revealed that processing was prolonged for words of lower frequency and higher relative entropy, as expected. In the next step, processing latencies were simulated in Naive Discriminant Reader, using bigrams contained in the surface word form as cues, and lemmas as outcomes. Pearson correlation coefficient between empirically observed and simulated processing latencies was moderate, but significant ( $r=0.13$ ,  $t(512)=3.035$ ,  $p=.003$ ). Additionally, in accordance with results of empirical data, linear model fitted to simulated reaction times revealed significant effects of word length ( $B=.073$ ;  $SE=.033$ ,  $t=2.216$ ,  $p=.027$ ), lemma frequency ( $B=-.283$ ;  $SE=.036$ ,  $t=-7.772$ ,  $p=.000$ ), relative entropy ( $B=.115$ ;  $SE=.041$ ,  $t=2.790$ ,  $p=.005$ ) and (log) lemma frequency by relative entropy interaction ( $B=.077$ ;  $SE=.030$ ,  $t=2.606$ ,  $p=.009$ ). Taken together, our results suggest that complex morphological phenomena can arise as a consequence of basic principles of discrimination learning.

**Keywords:** morphology, inflection, verbs, paradigms, classes, relative entropy, discriminant learning, naive discriminant reader

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## PROVERA UTICAJA REDOSLEDA IZLAGANJA NA EFEKAT VIŠEZNAČNOSTI REČI

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Naše prethodno istraživanje pokazalo je da standardni efekat sporije obrade homonima (reči sa više nepovezanih značenja) i brže obrade polisemičnih reči (koje nose više povezanih značenja) može da bude narušen manipulacijom eksperimentalnog konteksta u zadatku leksičke odluke. U tom istraživanju, ukrštanjem faktora pozicije izlaganja jednoznačnih reči (J; na početku/na kraju) i redosleda izlaganja homonima (H) i polisemičnih reči (P; H pa P/P pa H), dobijene su četiri situacije: JPH, JHP, PHJ, HPJ. Pozicija izlaganja jednoznačnih reči u eksperimentu nije uticala na brzinu obrade, ali pronađena je interakcija redosleda izlaganja homonima i polisemičnih reči sa vrstom višeznačnosti. U situaciji u kojoj je redosled izlaganja bio HP, zabeležena je sporija obrada homonima, ali ne i razlika između jednoznačnih i polisemičnih reči, dok je u redosledu PH zabeležena brža obrada polisemičnih, ali ne i razlika između homonima i jednoznačnih reči. Ovakvi nalazi nikada ranije nisu zabeleženi i ne predviđa ih nijedan od postojećih modela, te je prvi cilj tekuće studije bio da ponovi ovakvu interakciju. Dodatni cilj bio je testiranje postojanosti efekta u situaciji u kojoj dve grupe višeznačnih reči ne slede jedna drugu neposredno, već su vremenski odvojene izlaganjem bloka jednoznačnih reči. Isti stimulusi prikazani su novoj grupi ispitanika, u istoj eksperimentalnoj proceduri, ali sa nacrtom koji je proširen s obzirom na poziciju bloka jednoznačnih reči, tako da je pored početka i kraja, postojala i situacija kada su jednoznačne reči prikazivane između dva bloka višeznačnih (redosledi HJP, PJH). Analiza linearnih mešovitih efekata potvrdila je prethodni nalaz da pozicija jednoznačnih reči ne utiče na vreme obrade, kao i da postoji interakcija između redosleda izlaganja blokova višeznačnih reči i vrste višeznačnosti. Za razliku od prethodnog istraživanja, u

ovom nije zabeležena sporija obrada homonima, što nije po sebi neobično, jer su u literaturi navođeni brojni slučajevi nedoslednosti u beleženju efekta homonimije. Međutim, kao u prethodnom istraživanju, brža obrada polisemičnih reči zabeležena je isključivo u situaciji u kojoj su polisemične reči izložene pre homonima ( $B=-14.643$ ,  $t(4.91)=-2.982$ ,  $p=0.003$ ). Ovim je ponovo zabeležena interakcija između redosleda izlaganja različitih vrsta višeznačnosti i njihovog efekta na obradu, što predstavlja ozbiljan izazov svim postojećim modelima obrade višeznačnih reči.

*Ključne reči:* višeznačnost, homonimija, polisemija, leksička odluka, eksperimentalni kontekst, replikacija

### Replicating the effects of presentation order of ambiguity type

Our previous research revealed that homonymy disadvantage and polysemy advantage are influenced by presentation order in lexical decision task. Position of unambiguous words (U) and order of homonymy (H) and polysemy (P) were manipulated in four experimental lists (UPH/UHP/PHU/HPU). Whereas position of unambiguous words had no effect, presentation order by ambiguity type interaction revealed homonymy disadvantage in HP order and polysemy advantage in PH order. Considering the novelty of these findings, the first aim of the present study was to replicate previously observed interaction. Additionally, the robustness of these effects was tested by introducing PUH and HUP lists. The analyses confirmed the absence of ambiguous words' position effect and the interaction of ambiguous words presentation order by ambiguity type. However, whereas polysemy advantage in PH order was replicated, homonymy advantage in HP order was not. Regardless, this experiment confirmed the critical interaction, thus challenging all existing models of ambiguity processing.

*Keywords:* ambiguity, homonymy, polysemy, experimental context, lexical decision, replication

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## ODNOS MEDITACIJE I KOGNITIVNO-EMOCIONALNE FLEKSIBILNOSTI

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Evidentirane su mnogobrojne dobrobiti na čovjekovo funkcioniranje koje proizlaze iz prakticiranja meditacije, među kojima su regulacija pažnje, poboljšanje kognitivnih funkcija, uspješna emocionalna regulacija i promjene u doživljavanju sebe. Zapaženo je kako uslijed meditacije kognitivni, emocionalni i bihevioralni odgovori na okolinu postaju sve fleksibilniji i manje automatizirani. Cilj ovog istraživanja bio je ispitati utjecaj koji kratkoročni trening meditacije u dnevnom trajanju od 30minuta tokom 10 uzastopnih radnih dana ima na regulaciju pažnje, kognitivnu i emocionalnu fleksibilnost te na sveukupni osjećaj dobrobiti. Pritom je trening progresivne mišićne relaksacije služio kao kontrola fizičkog opuštanja. U istraživanje je bilo uključeno 63 ispitanika (53Ž, 10M) u dobi od 18 do 36 godina, većinom studenata psihologije Filozofskog fakulteta u Rijeci, nasumično raspoređenih u dvije skupine. Rezultati su pokazali kako su obje skupine uključene u istraživanje pokazale poboljšanje na nizu mjera uzetih nakon u odnosu na prije provedenih treninga: viša razina usredotočene svjesnosti ( $F(1,60)=40.28, p<.01$ ), povećana efikasnost podsustava uključivanja opreza ( $F(1,61)=4.89, p<.05$ ) i izvršne kontrole pažnje ( $F(1,61)=56.67, p<.01$ ), ugodniji verbalni podražaji ( $F(1,61)=3.76, p<.06$ ), poglavito negativni ( $F(1,61)=17.58, p<.01$ ), niži intenzitet uzbudjenja verbalnim podražajima ( $F(1,61)=8.89, p<.01$ ), poglavito pozitivnim ( $F(1,61)=6.00, p<.05$ ) i negativnim ( $F(1,61)=11.21, p<.01$ ) te porast pozitivnog ( $F(1,48)=16.90, p<.01$ ) i smanjenje negativnog ( $F(1,48)=13.57, p<.01$ ) raspoloženja u tjednu nakon treninga u odnosu na tjedan prije. U mjeranjima nakon treninga promjene nisu zapažene u podsustavu orientiranja pažnje, mjeri konvergentnog mišljenja, procjenama valencije neutralnih i pozitivnih verbalnih podražaja, intenziteta uzbudjenja neutralnim verbalnim podražajima te procjenama psihološke dobrobiti. Razlike među ispitanicima koji su pohađali trening meditacije i progresivne mišićne relaksacije nisu pronađene. S obzirom na niz metodoloških nedostataka i nekontroliranih varijabli, rezultate nije moguće generalizirati. Dobiveni rezultati upućuju na moguće djelovanje drugih faktora koji su uzrokovali promjene kod ispitanika, ne nužno treninga meditacije, ističući potrebu za dalnjim istraživanjem mehanizama u podlozi meditacije.

*Ključne riječi:* kratkoročni trening meditacije, regulacija pažnje, kognitivna i emocionalna fleksibilnost

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### Relationship between meditation and cognitive-emotional flexibility

Empirical findings show that the practice of meditation has many benefits on human functioning, resulting with more flexible cognitive, emotional and behavioral responses to the environment. The aim of the current study was to investigate the impacts which a short-term two-week meditation practice has on attention regulation, cognitive and emotional flexibility as well as subjective well-being, with a training of progressive muscle relaxation standing as a control of physical relaxation. The study included 63 participants ( $F=53$ ,  $M=10$ ), in the age from 18 to 36, randomized into two groups. The results have shown that both groups showed better performance on a series of collected measures after the trainings compared to before. However, no changes were observed between the participants included in the training of meditation compared to the progressive muscle relaxation training. Considering the series of methodological errors and uncontrolled variables, the results cannot be generalized.

*Keywords:* short-term meditation training, attention regulation, cognitive and emotional flexibility

## INSTRUMENTAL PSYCHOPHYSICAL ASSESSMENT OF PAIN

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Pain, understood as a physiological and mental process, is a multidimensional phenomenon with strong cognitive component. The physiological part of sensory information (nociception) is detectable with neurophysiological instruments. Pain as a more comprehensive phenomenon with very important psychological components could be expressed as symptoms and signs. Their conscious recognising is possible with psychophysical assessment, also instrumentally, e.g. with a thermotest. Consequently, extensive multidimensional management could

be mechanism based and effective. The purpose of this study has been the identification of instrumentally determined alterations of thermal specific and thermal pain sensations. We will present cognitive technical terms for perception of sensations. Perception characteristics have been analysed in 3342 persons, of which 303 were neurologically free volunteers and 3039 were patients. Disease history with a special attention to somatosensory symptoms and signs has been documented. Research has been performed using psychophysical instruments, the TSA-II - NeuroSensory Analyzer (Medoc Ltd., Ramat Yishai, Israel) and Thermotest (Somedic AB, Stockholm, Sweden). Thresholds of naturally produced stimuli have been determined and participants reports have been registered. The analyses on the entire dataset showed four groups of technical terms for alterations which determine unpleasant subjective experience. The same 38 descriptors have been identified in all studies involved in the study of pain. Four are “normal”, 17 were quantitative, 11 qualitative, 3 temporal and 3 spatial. Here we present one of the first analyses of quantitative data, obtained from participants which report qualitative, temporal and spatial sensations. With altered or expanded psychophysical tests other types of statistical analyses will be carried out. The recognition of unpleasant sensations, one of included psychical processes, demand active participation of mindful subjects and involvement of cognitive processes (thinking, understanding, learning, and remembering). Additionally, pain recognition demands well-educated and trained professionals. For now, clinical examinations and psychophysical methods are the best way to gain reliable recognition. Understanding and interpretation of psychical processes is mandatory, therefore psychologists are the cornerstone of the transdisciplinary team.

**Keywords:** cognition, instrumental psychophysical pain assessment, pain, psychophysics

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## AN IMAGE IS WORTH A THOUSAND WORDS, BUT WHAT OF NUMBERS? THE IMPACT OF MULTI-MODAL PROCESSING ON RESPONSE TIMES AND JUDGEMENTS OF CONFIDENCE IN BASE-RATE TASKS

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This study continues a string of research into the relationship between conflict detection and metacognitive judgments. For high conflict tasks we observed longer response times and lower levels of confidence. Our current research introduces images into the base-rate task. We used a simple base-rate task, e.g.: “Person A is tall”, followed by group information “The group consists of 850 basketball players, and 150 physicians”. Participants have to choose the subgroup from which the person was most likely randomly chosen. The base rate can be consistent or inconsistent with the intuitive answer. In one set of situations the image represented a base rate consistent or inconsistent with the intuitive answer, and in the second set, the image was accompanied by the usual base rate number (multi-modal situation). In the second set of situations the image was an equivalent representation of the ratio, or it was designed to mitigate the base rate by representing a 60% decrease in the ratio. In both of these situations base rates and images were in conflict with intuitive responses. Consequently, four distinct levels of conflict were induced before participants ( $N=35$ ) made their decisions. After each decision participants made a judgment of confidence ranging from 50% (guessing) to 100% (complete confidence). As expected, one-way ANOVA showed a significant effect of conflict level on response times ( $F(3,102)=6.71$ ,  $p<.01$ ) with higher conflict prolonging response times. The same effect was not found for confidence ratings, probably due to extremely high judgments overall. Higher conflict levels lead to lower rates of intuitive responses ( $\chi^2(3)=19.15$ ,  $p<.01$ ). We also compared induced levels of conflict by images compared to numeric base rates using data from our recent study. Calculating a  $2(\text{image-base rate}) \times 2(\text{consistency})$  ANOVA we found a strong overall effect of consistency ( $F(1,63)=30.79$ ,  $p<.01$ ) with slower responses for conflict items. At the same time, the group by consistency interaction was also significant ( $F(1,63)=7.19$ ,  $p<.01$ ). Conflict items with images increased response times to a lesser degree than the usual numeric base-rate items. The same effects (consistency  $F(1,63)=9.67$ ,  $p<.01$ ; group by consistency  $F(1,63)=4.09$ ,  $p<.05$ ) were found for

confidence ratings. Conflict items reduced confidence ratings significantly more for classic numeric base-rate items than for image based items.

**Keywords:** base rate, metacognition, confidence judgment, dual processing, multi-modal processing

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## BRIGHTNESS PERCEPTION AFFECTS MENTAL ARITHMETIC

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According to a theory of magnitude, all quantitative dimensions (space, time, number, brightness, etc.) share common magnitude representation in the parietal cortex. Consistent with this theory, previous studies revealed interaction between number magnitude and brightness. We hypothesized that similar interaction should exist between brightness and mental arithmetic if mental arithmetic is performed by movements along the common magnitude representation. Participants were asked to verify whether the left-hand side of simple arithmetic statements such as  $2 + 5 = 7$  or  $9 - 6 = 5$ , equals the right-hand side result. Arithmetic problems appeared either in black or white on a gray background. Each problem involved two operands in the range 2 to 9 and yielded results in the ranges 4 to 18 for addition and from 0 to 7 for subtraction problems. 18 addition and 18 subtraction equations appeared twice as a true problem (once in black and once in white color) and twice as a false problem (once in black and once in white color) resulting in a total of 144 trials. Thirty-one undergraduate psychology students participated in an exchange for course credits. The order of the presentation of problems within each block was randomized across the participants. Analysis of verification times revealed statistically significant three-way interaction between brightness, arithmetic operation and response,  $F(1,30) = 16.90$ ,  $p < .001$ , partial eta<sup>2</sup> = .36. Addition problems were verified faster in white color relative to black when the correct response was Yes, but they were verified slower in white when the correct response was No. On the other hand, subtraction problems were verified faster in black color relative to white when the correct response is Yes but slower in black when the correct response is No. In Experiment 2, we employed the same method with another group of thirty psychology students to show that the same result held for word problems (e.g., SEVEN + SIX = THIRTEEN), that is, we found the same three-way interaction between brightness, arithmetic operation and response,  $F(1,29) = 59.59$ ,  $p < .001$ ,

$\eta^2=.67$ . Furthermore, Experiment 3 showed that when participants performed multiplication and division, there was no evidence for a three-way interaction between brightness, arithmetic operation and response,  $F(1,23)=2.15$ ,  $p=.156$ , partial  $\eta^2=.09$ . Results showed that the speed of mental calculation is modulated by brightness, providing further support for the theory of magnitude.

*Keywords:* brightness perception, grounded cognition, magnitude representation, mental arithmetic, mental number line

## ADAPTIVE RESONANCE THEORY EXPLAINS HOW EXPECTATIONS INFLUENCE PERCEPTION

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Recently, several fMRI studies showed that conceptual processing creates expectations that modulate activity in the visual cortex. Based on these findings, it is concluded that expectations directly alter perception. However, if there is a strong overlap between bottom-up sensory information and top-down expectations, cognitive system would not be able to distinguish between perception and hallucination. In the current work, we offer an alternative explanation of the observed findings based on the adaptive resonance theory (ART). The ART was designed to solve the problem of stability of learning and memory in non-stationary environment. The problem is how to protect previously learned information from erosion when faced with new information that should be learned. The ART network consists of three layers labelled as F0, F1 and F2. The F0 layer represents purely sensory response that is not affected by expectations. The F1 layer serves as a matching point between bottom-up and top-down signals arriving from the F2 layer. Finally, the F2 layer represents category or knowledge level. Important property of the ART design is that it does not have feedback projections from the F2 to F0 layer or from the F1 to F0 layer. Therefore, the F0 layer could not be perturbed by the top-down signals. In other words, the F0 layer provides veridical or reference signal that is supplied to F1 layer for detecting match or mismatch with the top-down signals from the F2 layer. Computer simulations showed that it is possible to observe increased neural signal that arise from the read-out of top-down expectations in the F1 layer without noticeable effect on the perception when the whole network enter into the resonant state. Furthermore, our explanation is consistent with

electrophysiological studies revealing that some but not all neurons in the visual cortex are subject to top-down modulations. We conclude that the observed cortical modulations arise from the subthreshold stimulation of the F1 layer that do not necessarily influence suprathreshold perception.

**Keywords:** brightness perception, grounded cognition, magnitude representation, mental arithmetic, mental number line

## SERBIAN PSYCHOLOGY IN SCOPUS: THE LAST DECADE

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During the last decade, research activities of Serbian psychologists became more internationally visible due to the increased number of articles published in international journals. The purpose of this research was to explore prevailing research topics and the scope of international collaboration of Serbian authors in the field of psychology, as represented in Scopus during 2007-2016. A total of 571 psychology journal articles with Serbian affiliation were extracted from the Scopus database. In order to explore temporal changes, we divided the sample of articles into two five-year periods, which were separately analyzed. We used co-occurrence of descriptors and co-citation of journals in order to explore relationships among research topics, while co-authorship analysis was used to examine the dynamics of international cooperation of Serbian psychologists. Results were visualized using the VOSviewer - visualization software for bibliographic data (<http://www.vosviewer.com/>). Results reveal that research in psycho-physiology and regionally specific subject of war consequences are present to the same extent in both observed periods. On the other hand, diversification of research subjects in personality, psychopathology and cognitive psychology is more evident in the later period. Several more specific areas of research have emerged, particularly those concerning various comparative studies, replication studies, psychometric validation of questionnaires, and, to a lesser extent, issues related to the influence of new information and computer technologies on human behavior. Compared to the first analyzed period, Serbian psychologists have intensified international collaboration during 2012-2016, although a significant number of authors still co-author papers with researchers from ex-Yugoslav countries. Co-citation maps reveal that the only national psychological journal referred in Scopus plays the key role in scientific

communication of Serbian psychologists and has the central position on journal maps in both observed periods. Results suggest that Serbian psychology made a significant step towards the international recognition. However, collaboration networks of Serbian authors are still largely based on national and regional proximities, while the comparison of prevailing research topics identified in this research with the similar results at the global level, suggests the underrepresentation of topics in neurocognitive sciences in Serbian psychology.

**Keywords:** psychology in Serbia, scopus database, bibliographic mapping, research topics, research collaborations

## VISUO-SPATIAL WORKING MEMORY IN CHILDREN WITH LEARNING DIFFICULTIES IN MATHEMATICS

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Working memory (WM) is a system of limited capacity who allows keeping the information and temporarily manipulating them, and it is considered as a predictor of academic success. Visuo-spatial WM, one of the components WM is responsible for the storage of visuo-spatial information. Difficulties in mathematics, as well as other disorders in learning, can represent a problem for children achievements. Early identification of difficulties in mathematics is the first step to help child overcome them. The aim of the study was to determine the capacity of active and passive visuo-spatial WM in children with difficulties in learning mathematics. The sample consisted of 432 pupils from one Belgrade elementary school, aged 9 to 10 years. With the help of Neuropsychological Test Battery for Number Processing and Calculation in Children, we identified children with learning difficulties in mathematics ( $N=48$ ) and formed a group with no difficulties ( $N=55$ ). Visuo-spatial WM was estimated with the help of two tests: Jigsaw Puzzle task, which measures the active visuo-spatial processes and The Houses Recognition test, which measures the passive WM functions. The results showed that there was a statistically significant difference between children with difficulties in learning mathematics and children without difficulty

in the active ( $F(1,101) = 41.85, p=.000$ ) and passive ( $F(1,101)=32.48, p=.000$ ) visuo-spatial WM. Children who have not difficulties in learning mathematics have higher score on visuo-spatial WM. In this research it has been shown that children who have difficulties in learning mathematics, have a lower capacity of active and passive visuo-spatial WM, which affects their ability in different areas, thus the achievement in school.

*Keywords:* visuo-spatial working memory, children with difficulties in learning mathematics, school achievement

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## THE EFFECT OF RED COLOR ON ANAGRAM PERFORMANCE – REPLICATION OF EXPERIMENT

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In this experiment, the inhibitory effects of red color on the anagram performance were examined. The research represents a replication of Elliot and colleagues' experiment in which they hypothesized that the red color exerts an inhibitory effect in the achievement context, by affecting the tendency of respondents to avoid failure. Taking participants' general ability scores and their performance on the pre-test as covariates, Elliot and colleagues confirmed this hypothesis. Sample comprised 143 students of the second year of undergraduate psychology studies. The participants performed all tests individually. Prior to assigning the experimental anagram tests, respondents performed a test-exercise (pre-test), designed in the same form as the experimental anagram test that followed immediately after. Experimental stimulus consisted of a three-digit code, inscribed in three different colors (red, green, and black) in the upper right corner of the experimental test. Codes were of the same size, at the same position. The participants were instructed to check whether the code was written on all pages, to ensure that they were exposed to the stimulus. Following the experimental tests, respondents took a verbal general ability test. The obtained data were examined using the analysis of covariance. Results showed no statistically significant inhibitory effects of the red color on anagram test solving ( $F(1,137) = 0.32, p>.72$ ). Considering contradicting conclusions from the different studies that investigated effects of colors on cognition, our findings underline importance of precise defining of every factor used in research and experiment design; also, cultural differences and previous experience should be included.

*Keywords:* anagram, color, red, inhibitory effect, avoidance motivation

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## DOES MUSICAL PERFORMANCE IMPROVE EXECUTIVE FUNCTIONING?

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A lifelong musical training requires combining skills in auditory and visual perception, visuomotor control and parallel processing, making cognitive demands quite high from an early age. According to previous studies, musical training has been associated with better performance on cognitive tasks relating to musical abilities, auditory perception, auditory attention control, auditory working memory, and verbal memory. Although these findings highlight brain plasticity influenced by a specific training program, we still don't know whether musicians' advantage on cognitively demanding auditory tasks is a reflection of enhanced higher cognitive abilities overall. In this study we investigated whether continuous musical training generalizes to executive functions unrelated to music abilities in students attending Music Academy. Three groups of participants took part in the study: 72 musical academy students enrolled in a performing major, 47 musical academy students enrolled in a non-performing major and 91 social sciences and humanities students. Participants completed a battery of six executive function (EF) tasks, two per each function – working memory, inhibition and shifting, as well as Raven's progressive matrices test and a musical background questionnaire. All tasks were computerized and administered in a single 75 minute session lasting approximately. In order to compare groups in EF task performance, we used a series of ANCOVAs. The independent variable was group membership, dependents were EF task scores while intelligence was used as a covariate. The covariate was significant for both WM tasks,  $F(1,204)=8.04$ ,  $p<.01$  for the letter memory task and  $F(1,203)=18.37$ ,  $p<.01$  for the N-back task, but not for any of the shifting or inhibition tasks. Group differences emerged for the WM task letter memory ( $F(2,201)=8.22$ ,  $p<.01$ ) and the shifting task global-local ( $F(2,199)=10.52$ ,  $p<.01$ ), however the pattern of results was unexpected. The control group outperformed both the performing and non-performing group

of musicians on both tasks, while these two groups did not differ among themselves. Our results seem to indicate that years of musical training do not lead to specific executive function advantages. It would appear that professional musicians exhibit improved performance only on tasks directly related to musical performance, such as auditory perception or auditory working memory, but not in more general cognitive domains.

*Keywords:* performing musicians, non-performing musicians, executive functions, working memory, intelligence

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## OBJECT-LOCATION MEMORY ENHANCEMENT FOLLOWING TRANSCRANIAL DIRECT CURRENT STIMULATION OVER PARIETAL CORTEX

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Associative memory enhancement is one of the most challenging issues in aging research and neurorehabilitation. Recent data suggest that it may be possible to improve memory performance by physiological modulation of the activity within a neural loop which plays crucial role in formation and maintenance of memory units, the main parts of which are the hippocampus and the lateral parietal cortex. The aim of this study was to examine whether non-invasive brain stimulation can enhance memory performance. Specifically, the effect of anodal transcranial direct current stimulation (tDCS) over right parietal cortex on associative memory between objects and locations, and duration of these effects was examined. Seventeen healthy right-handed participants (8 male, age 20–28) were enrolled in a cross-over placebo-controlled study. We applied 20-minute anodal or sham tDCS of 1.5mA over the right lateral parietal cortex (P4 site of 10-20 EEG system). Immediately after the treatment participants completed an object-location test in which they were asked to memorize position of 15 sequentially presented objects in a 4x4 grid, and afterwards recall the position of each object when cued by the object picture. Additionally, participant's ability to recall object

locations was tested 24 hours and 7 days after the stimulation. Repeated measures ANOVA showed significant main effect of stimulation condition ( $F(1,16)=5.293$ ,  $p=.035$ ,  $\eta^2=.249$ ), main effect of time ( $F(2,32)=7.482$ ,  $p=.002$   $\eta^2=.319$ ), while no interaction effect was observed. Post-hoc comparison revealed significant differences between anodal and sham condition after 24 hours ( $p < .05$ ) as well as after 7 days ( $p<.05$ ). The results indicate that single tDCS session over parietal cortex has a potential to improve delayed recall of object-location associations, and that effects neuromodulation last at least 7 days.

**Keywords:** associative memory, tDCS, right lateral parietal cortex

## UTICAJ VIŠEZNAČNOSTI DERIVACIONIH SUFIKSA NA OBRADU IMENICA SRPSKOG JEZIKA: STUDIJA OČNIH POKRETA

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Prethodne studije na finskom i holandskom su višezačnost sufiksa definisale kao odliku sufiksa da u istom jeziku bude i flektivni i derivacioni (engleski sufiks – er). Rezultati ovih studija su sugerisali da se imenice sa ovako definisanim višezačnim sufiksima obrađuju sporije od onih koje nemaju višezačne sufikse. Drugaćiju definiciju višezačnosti ponudila je studija sprovedena na srpskom, koja se bavila višezačnošću isključivo derivacionih sufiksa, ne zalazeći u specifične semantičke odnose između značenja nekog sufiksa. Rezultati ove studije su sugerisali da se imenice sa višezačnim derivacionim sufiksima obrađuju brže od onih sa jednoznačnim. Imajući u vidu da su stimulusi u toj studiji ispitanicima bili prikazivani izolovano u zadatku vizuelne leksičke odluke, cilj ovog rada bio je da ispita kognitivnu obradu imenica srpskog jezika sa višezačnim derivacionim sufiksima, kada se nalaze u rečeničnom kontekstu. Za potrebe eksperimenta korišćen je aparat za praćenje očnih pokreta. Stimulusi su bili parovi rečenica: u jednoj rečenici iz para se nalazila imenica sa višezačnim derivacionim sufiksom, a u drugoj imenica sa identičnom tvorbenom osnovom, ali sa jednoznačnim derivacionim sufiksom (Na jelci je anđelak/anđelče sa zlatnim krilima). Parovi imenica (anđelak/anđelče) preuzeti su iz prethodne studije na srpskom, dok su stimulus rečenice bile ujednačene po sintaksičkoj strukturi. Tri zavisne varijable su analizirane uz pomoć regresionih analiza linearnih mešovitih efekata: trajanje prve fiksacije na reči (LMER1), suma svih fiksacija prilikom prvog prelaženja preko reči (LMER2), i suma svih postojećih

fiksacija na reči (LMER3). Nakon kontrole slučajnih efekata ispitanika i stimulusa, ali i fiksnih efekata kovarijabli (redosled izlaganja stimulusa, dužina reči, frekvencija sufiksa, i frekvencija leme) sve analize su sugerisale da ne postoji statistička značajnost samog glavnog efekta višezačnosti derivacionih sufiksa. Međutim, prva ( $\beta=-.04, t(75.19)=-2.90, p=.00$ ) i treća ( $\beta=-.12, t(80.90)=-3.42, p=.00$ ) analiza su sugerisale da postoji statistički značajna interakcija između višezačnosti i frekvencije derivacionih sufiksa. Facilitatorni efekat frekvencije sufiksa bio je značajan na nivou jednoznačnih sufiksa, dok na nivou višezačnih ovaj efekat nije dostigao statističku značajnost. Nalazi ove studije sugerisu da neke odlike derivacionih sufiksa utiču na leksičku obradu, čak i kada se reči prezentuju u rečeničnom kontekstu.

*Ključne reči:* leksička obrada, višezačnost derivacionih sufiksa, studija očnih pokreta

### Effects of ambiguity of derivational suffixes on processing of Serbian language nouns: Eye movements study

The aim of this study was to examine processing of nouns with ambiguous derivational suffixes in the eye-movement study. The stimuli were pairs of identical sentences that differed only in the form of critical noun. The critical noun was one of the two derivational variants of the same stem: one containing ambiguous and another one containing unambiguous derivational suffix. Linear Mixed-Effects Regressions were fitted separately to duration of the first fixation on word, gaze duration and dwell time. After controlling for random effects of stimuli and participants, as well as for fixed effects of several covariates, the main effect of suffix ambiguity did not reach statistical significance. However, in two of the three analyses significant interaction between suffix ambiguity and suffix frequency was observed. Suffix frequency facilitated processing only in case of unambiguous suffixes, thus suggesting that suffix ambiguity indirectly affected duration of the first fixation and dwell time.

*Keywords:* lexical processing, the ambiguity of derivation suffixes, the study of eye movements

## *PSIHOLOGIJA OBRAZOVANJA*

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## INKLUZIVNO OBRAZOVANJE – ZA NJIH ILI ZA NAS?

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Cilj istraživanja bio je ispitivanje razlike u postignuću na završnom ispit u između odeljenja u kojima bar jedan učenik pohađa nastavu prema individualnom obrazovnom planu (IOP) i odeljenja u kojima svi učenici nastavu pohađaju prema redovnom nastavnom planu i programu. Uzorak su činile osnovne škole ( $n=123$ ) koje među odeljenjima imaju osmih razreda ( $n=462$ ) imaju bar jedno odeljenje sa bar jednim učenikom koji pohađa nastavu prema IOP-u i najmanje jedno odeljenje u okviru kog svi učenici pohađaju nastavu prema redovnom nastavnom planu i programu. Visoke intraklasne korelacije između postignuća u okviru škola ( $r=.76$ ) i umerene na nivou opština ( $r=.45$ ) su ukazale da su podaci hijerarhijski organizovani, odnosno da je potrebno uzeti u obzir da odeljenja funkcionišu u okviru škola, a škole u okviru opština. Primenom hijerarhijskog linearног modelovanja, gde su na prvi nivo analize uvedena odeljenja, na drugi nivo škole i na treći opštine, dobijeno je da udeo učenika koji nastavu pohađaju prema IOP-u u odeljenju nije statistički značajno povezan sa prosečnim postignućem ostalih učenika u odeljenju ( $\beta=.144$ ,  $t(337)=.504$ ,  $p=.614$ ), pri čemu je kontrolisan broj učenika u odeljenju uz varijabilan nagib i intercept na nivou škole i varijabilan intercept na nivou opštine. Na poduzorku škola ( $n=61$ ) u kojima postoji odeljenje u kojima bar jedan učenik pohađa nastavu prema individualnom obrazovnom planu sa izmenjenim programom (IOP2) i bar jedno odeljenje u kom se nastava odvija isključivo prema redovnom nastavnom programu, dobijeno je da ni odeljenja sa IOP2 učenicima ne postižu značajno različite rezultate od ostalih odeljenja ( $\beta=.771$ ,  $t(159)=1.812$ ,  $p=.071$ ). Takođe, praćen je i broj učenika u odeljenju, pri čemu se kao stabilno pokazalo rešenje sa varijabilnim nagibom i interceptom na nivou škole i varijabilnim nagibom na nivou opštine. Dobijeni rezultati ukazuju da uključivanje učenika kojima je potrebna dodatna podrška u redovna odeljenja ne utiče značajno na postignuće njihovih vršnjaka.

*Ključne reči:* individualni obrazovni plan, inkluzivno obrazovanje, završni ispit, hijerarhijsko linearno modelovanje

Rad je nastao u okviru projekta „Kreiranje obrazovnih politika na osnovu podataka i rezultata istraživanja“ koji su inicirali i podržali Ministarstvo prosvete, nauke i tehnološkog razvoja Republike Srbije i Tim za socijalno uključivanje i smanjenje siromaštva Vlade Republike Srbije.

### Inclusive education - for them or for us?

In recent years, extensive research has been done on the quality of inclusive education in Serbia. However, none of the studies have incorporated variables from all three levels of the nested structure of classrooms in schools in municipalities. Therefore, this study employed hierarchical linear modeling (HLM) to investigate the difference between classes attended by students educated according to individual education plans (IEP) and classes attended by students educated according to the regular curriculum. The sample included primary schools ( $n=123$ ) which in eighth grade ( $n=462$ ) have at least one class attended by students educated according to IEPs and at least one class attended by students educated according to the regular curriculum. The data used are from the database of national exam at the end of the primary education and the Ministry of Education open data portal. High intra-class correlations between classes' achievements within schools ( $r=.76$ ) and moderate intra-class correlations at the municipality level ( $r=.45$ ) suggested that it is appropriate to use three level analysis, having in mind nested data design. The findings suggested that correlation between percentage of IEP students in class and average achievement of other students in class on national exam is not statistically significant ( $\beta=.144$ ,  $t(337)=.504$ ,  $p=.614$ ), when we control for class size with random slope and intercept on school level and random intercept at municipality level. In the next step, we have created subsample of schools ( $n=61$ ) which in eighth grade have at least one class attended by students educated according to IEPs2 (with modified standards) and at least one class attended by students educated according to the regular curriculum. In the subsample, results indicate that there is no statistically significant difference in achievement on national exam between classes attended by IEP2 students and classes educated according to the regular curriculum ( $\beta=.771$ ,  $t(159)=1.812$ ,  $p=.071$ ), when controlled for class size with random slope and intercept on school level and random intercept at municipality level. The evidence presented here strongly support the view that inclusion of students who need additional support in regular classes has not a negative impact on achievements of their peers.

*Keywords:* individual education plan, inclusive education, final exam, hierarchical linear modeling

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## DO EDUCATED PEOPLE TEND TO HAVE LESS CHILDREN? FERTILITY AND FERTILITY INTENTIONS ACROSS AGE AND GENDER IN SERBIA

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A number of studies conducted across various countries had explored the relationship between fertility (the number of children a person has) and fertility intentions (the number of children a person plans to have) on one side and level of education on the other. Findings indicated a complex relationship generally pointing to a negative correlation between education and fertility, but positive between education and fertility intentions in female respondents. The goal of the current study was to examine the relationship between education and fertility and fertility intentions in Serbia. These relationships were explored on a geographical cluster sample of 2023 residents of Serbia of working age participating in the Study of diversity of family and job relations in Serbia. Of the total sample, 42,8% were male and 57,2% were female. 71,4% declared themselves as being employed either officially or unofficially, and 28,6% declared themselves as being unemployed and/or earning their sustenance through means other than employment. The participants were asked to complete the PORPOS battery, a compilation of short scales and marker questions that was created for this study. The data used in the current study included the number of children a person has (fertility), the number of children a person plans to have (fertility intentions), education level, gender and age. The results showed that in the female subsample education was negatively correlated with the number of children a person has ( $r_s=-.172, p<0,001$ ), and positively with the number of children a person plans to have ( $r_s=.085, p<0,001$ ). When these same two relations are examined across four age cohorts – up to 25 years of age, 26-35, 36-45 and over 45, the results show that correlations are almost zero on the subsample of women over 45, while ranging between -.231 and -.272 for fertility on the three younger groups. Correlation between fertility intentions and education gradually rises with age, being -.054 on the group of women up to 25 years of age and climbing up to .144 in the group of women 36-45 years of age. Correlations between these variables on the male subsamples were practically zero and statistically insignificant in spite of the sample size both on the whole male subsample and each of the four age cohorts. The results obtained on the examined Serbian sample mirror the trend obtained in previous studies abroad with more educated women having less children but planning a larger family.

**Keywords:** fertility, fertility intentions, education, gender, age, Serbia

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## POVEZANOST ŠKOLSKЕ ANGAŽOVANOSTI SREDNJOŠKOLACA I PODRŠKE NASTAVNIKA I VRŠNJAKA IZ ODELJENJA

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U istraživanima u obrazovanju izražena je potreba da se utvrdi na koje sve načine se školska angažovanost, kao važna determinanta postignuća učenika, može povećati, ne bi li se došlo do preporuka za promenu obrazovnih politika i praksi. Istraživanja su pokazala da podrška nastavnika i vršnjaka doprinosi motivaciji za školsko učenje, dobrobiti, školskoj angažovanosti i postignuću učenika. U ovom istraživanju bavili smo se povezanošću školske angažovanosti, definisane kroz tri dimenzije: bihevioralnu, kognitivnu i emocionalnu angažovanost i opažene socijalne podrške, tačnije podrške od strane nastavnika i vršnjaka iz odeljenja. U istraživanju je učestvovalo 195 učenika (57% devojčica) prvog razreda dve gimnazije iz Beograda. Školska angažovanost procenjivana je Skalom školske angažovanosti, petostepenom skalom Likertovog tipa (School Engagement Measurement, SEM; Fredricks et al., 2005), dok je percepcija podrške nastavnika i vršnjaka iz odeljenja procenjivana Skalom podrške nastavnika i drugova iz odeljenja (Teacher and Classmate Support Scale, TCMS; Torsheim, Wold & Samdal, 2000). Statistička analiza pokazala je da postoji statistički značajna korelacija između školske angažovanosti i podrške nastavnika ( $r=.45$ ,  $p<.001$ ), kao i između školske angažovanosti i podrške vršnjaka iz škole ( $r=.34$ ,  $p<.001$ ), što je u skladu sa nalazima stranih studija. Ovi nalazi ukazuju na značaj osnaživanja nastavnika za pružanje različitih oblika podrške učenicima i podsticanja vršnjačke kooperacije.

*Ključne reči:* školska angažovanost, socijalna podrška, nastavnici, vršnjaci, srednjoškolci

Rad je nastao kao rezultat projekata „Obrazovanje u fokusu“ („Education in Focus“), podržanog od strane Instituta za psihologiju Filozofskog fakulteta u Beogradu, UNICEF kancelarije u Beogradu i Ministarstva prosvete, nauke i tehnološkog razvoja Republike Srbije i projekta broj 179018, podržanog od strane Ministarstva prosvete, nauke i tehnološkog razvoja Republike Srbije.

## Relationship between high school students' school engagement and teacher and classmates support

The aim of this study was to determine the relationship between the school engagement, defined through dimensions of behavioral, emotional and cognitive engagement, and perceived support received by teachers and classmates. Participants were 195 first-year high school students (57% females). School Engagement Measurement (SEM; Fredricks et al., 2005) and Teacher and Classmate Support Scale (TCMS; Torsheim, Wold & Samdal, 2000) were applied. It was established that correlations between school engagement and both teacher and classmates support are statistically significant ( $r=.45$ ,  $p<.001$  and  $r=.34$ ,  $p<.001$  respectively), which is in line with previous research.

**Keywords:** School engagement, teachers, classmates, support, high school students

## ŠKOLSKA ANGAŽOVANOST, DOBROBIT, ZADOVOLJSTVO I RAZOČARANOST ZBOG UPISA (NE)ŽELJENE SREDNJE ŠKOLE – PRELIMINARNI REZULTATI

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Upis (ne)željene srednje škole može imati negativne posledice po školsku angažovanost, postignuće i dobrobit učenika. Ovo istraživanje je deo obimne studije koja ispituje psihološke posledice upisa (ne)željene škole. Cilj istraživanja bio je da se utvrди da li postoje razlike u angažovanju, dobrobiti, zadovoljstvu i razočaranosti zbog upisa (ne)željene srednje škole između učenika kojima je

upisana srednja škola bila prvi, drugi, treći i četvrti (i dalji) izbor na listi želja koju oni prave na kraju osnovne škole. Uzorak je činilo ukupno 195 učenika (57% devojčica) prvog razreda dve gimnazije iz Beograda, od toga 42,5% učenika kojima je škola bila prva želja, 16,6% kojima je bila druga, 15% kojima je bila treća i 26% kojima je škola bila četvrta (ili dalja) želja. Istraživanje je sprovedeno na polovini prvog polugodišta. U istraživanju su korišćene sledeće skale: Upitnik školske angažovanosti (School Engagement Measurement, SEM; Fredricks et al., 2005) i Indeks lične dobrobiti (The Personal Wellbeing Index—School Children, PWI-SC; Cummins & Lau, 2004). Za potrebe istraživanja konstruisana je petostepena skala Likertovog tipa od tri ajtema, kojom se utvrđivao stepen razočaranosti zbog upisane škole, a jednim ajtemom (petostepena skala Likertovog tipa) proveravan je stepen zadovoljstva zbog upisa u datu školu. Jednofaktorskom analizom varijanse nije utvrđeno da postoje razlike u angažovanosti i dobrobiti između učenika kojima je trenutna škola bila na različitom mestu na listi želja. Utvrđeno je da se učenici kojima je trenutna škola druga, treća i četvrta (ili dalja) želja, razlikuju od onih kojima je bila prva želja po tome što su izrazito nezadovoljni i razočarani činjenicom da su upisali baš tu školu. Konkretno, doživeli su to kao lični neuspeh ( $F(3,186)=6.32, p<.001$ ), drugi važni ljudi bili su razočarani njihovim neuspehom ( $F(3,186)=7.86, p<.001$ ), žele da se prebace u drugu školu ( $F(3,186)=7.28, p<.001$ ) i generalno gledano, veoma su nezadovoljni zbog upisa u tu školu ( $F(3,186)=6.08, p<.001$ ). Razlozi zbog kojih ne postoje razlike u ponašanju i opštoj dobrobiti učenika, ali postoje razlike u zadovoljstvu, odnosno doživljaju ličnog (ne)uspeha biće dalje dodatno istraživani.

*Ključne reči:* školska angažovanost, dobrobit, zadovoljstvo, upis srednje škole, srednjoškolci

Rad je nastao kao rezultat projekata „Obrazovanje u fokusu“ (Education in Focus), podržanog od strane Instituta za psihologiju Filozofskog fakulteta u Beogradu, UNICEF kancelarije u Beogradu i Ministarstva prosvete, nauke i tehnološkog razvoja Republike Srbije i projekta broj 179018, podržanog od strane Ministarstva prosvete, nauke i tehnološkog razvoja Republike Srbije

### School engagement, wellbeing, school satisfaction and disappointment with the enrollment of the (un)desired secondary school – Preliminary results

The goal of this study was to determine if there were differences in school engagement, wellbeing, school satisfaction and disappointment with the enrollment of the secondary school between the students to whom the desire to attend that specific school was on the first, second, third and fourth place on the list students make at the end of primary education. The sample

consisted of 195 first-year students from two high schools. The School Engagement Measurement and Personal Wellbeing Index—School Children were applied. The three item 5-point Likert scale measuring the level of disappointment with the enrollment of the school was constructed and one item measured the level of school satisfaction. There were no statistically significant differences in school engagement and wellbeing, whereas the students to whom the school they enrolled was on the second or further place showed statistically significantly higher levels of school dissatisfaction and disappointment with the enrollment of that school from the students to whom it was the first choice.

*Keywords:* school engagement, wellbeing, satisfaction, secondary school enrollment, high school students

## EVERYDAY ACTIVITIES AND PROBLEMS OF HIGH SCHOOL STUDENTS: DIFFERENCES BY THE TYPE OF SCHOOL

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From the perspective of positive development, different categories of young people's everyday activities provide distinctive experiential contexts, that are connected with many positive and negative developmental outcomes. Since the type of school shows to be an important aspect of youth developmental niche, our aim is to explore whether there are differences among students from gymnasiums, 3-year vocational schools and 4-year vocational schools, with respect to the amount of time they spent in different daily activities, as well as self-reported everyday problems regarding school and relationship with peers and parents. The 24-hour time diary method was applied to gather the time use data – students chronologically described their activities in one weekday and one weekend day, while on a 4-degree scale they estimated the extent of everyday problems they are dealing with. The study was conducted on a sample of 922 high school students, structured by the region, age (I-IV grade) and the type of school. A one-way MANOVA revealed some significant differences both in time use (Wilks'  $\lambda=0.96$ ,  $F(5,907)=4.52$ ,  $p<0.01$ ) and in self-reported extent of problems (Wilks'  $\lambda=0.92$ ,  $F(2,862)=3.49$ ,  $p<0.01$ ), based on the type of school. The univariate and posthoc analyses of the main effects confirmed that gymnasium students spend more time in mentally challenging activities (mainly learning for school and

extracurricular activities) when compared to students from vocational schools ( $F(5, 907)=8.44, p<0.01$ ). They also more engage in computer activities than those from 3-year vocational schools ( $F(5,907) =5.88, p<0.01$ ). On the other hand, 3-year vocational school students spend significantly more time in physical activities than other students ( $F(5,907) =3.83, p<0.01$ ). They also complain less than others about disagreements and conflicts with parents ( $F(2,859)=3.84, p<0.05$ ), romantic problems ( $F(2,859)=5.23, p<0.01$ ) and lack of free time ( $F(2,859)=7.19, p<0.01$ ). The results confirm that attendance of gymnasium, compared to vocational schools, provides more resources for positive youth development, especially with respect to further academic achievements. It is also suggested that students from 3-year vocational schools are experiencing less social control than others, both in school and family, thus having more time for unstructured leisure, with little developmental relevance for their future well-being.

**Keywords:** time use, positive development, youth, gymnasium, vocational schools

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## PERSONALITY, APPROACHES TO LEARNING AND HIGH SCHOOL ACHIEVEMENT AS PREDICTORS OF ACADEMIC PERFORMANCE

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Big Five personality traits and approaches to learning are, though interrelated, all shown to predict academic performance (AP), over and above each other. Specifically, all approaches to learning as well as Conscientiousness, Openness and Agreeableness consistently appear as significant predictors. However, there are only a handful of studies using 6 factor HEXACO personality model. In this research we aimed to investigate (1) the relationship between HEXACO personality traits to approaches to learning, (2) the predictive value of HEXACO traits and approaches to learning to AP above previous academic performance as traditional predictor. The sample of 68 (female: 19) second year students of

Faculty of Sport and Physical Education completed HEXACO-PI-R personality questionnaire and R-SPQ-2 approaches to learning questionnaire (deep and surface approach). Additionally, data about high school GPA was collected. Academic performance was assessed through GPA. Personality traits explain 27.4% of the variance in deep approach,  $F(6,61) = 5.221, p<.01$ , with Honesty,  $\beta=.305, t=2.605, p<.05$ . and Openness,  $\beta=.395, t=3.626, p<.01$ , as significant predictors, and 36.7% of the variance in surface approach  $F(6,61)=7.460, p<.01$ , with Emotionality,  $\beta=.243, t=2.408, p<.05$ , Agreeableness,  $\beta=.233, t=2.211, p<.05$ , Conscientiousness,  $\beta=-.337, t=-3.144, p<.01$ , and Openness,  $\beta=-.420, t=4.126, p<.01$ . Together, previous achievement, personality and approaches to learning explain 47.9% of the variance of academic performance,  $F(9,56) = 7.653, p<.01$ , with previous achievement,  $\beta=.476, t=5.046, p<.01$ , Emotionality,  $\beta=.299, t=2.903, p<.01$  and surface approach,  $\beta=-.339, t=2.732, p<.01$ , as significant predictors. Also, both personality and learning approaches have incremental value over and above previous achievement. Our results go in line with the findings that personality and approaches to learning are related, and that both have incremental value in predicting AP. Furthermore, HEXACO traits were as good in predicting learning approaches and AP as Big five traits, with significant contribution of Honesty, Agreeableness and Emotionality – which are defined somewhat differently in HEXACO model. However, due to specific character and small size of our sample, further research is needed to disentangle the relationship between them.

*Keywords:* academic performance, personality, learning approaches, previous achievement

## FACTOR VALIDITY OF THE MERIDEN SCHOOL CLIMATE SURVEY-STUDENT VERSION (MSCS-SV)

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In this research, we present a factor validation of the BCS translation of the Meriden School Climate Survey–Student Version (MSCS-SV), which is one of the most recent school climate instruments. It was developed as a multidimensional measure of the quality and character of school life as

experienced by students. It consists of 38 Likert items, organized into 7 subscales: Adult Support at School, School Safety, Respect for Differences, Adult Support at Home, Academic Support at Home, Aggression Towards Others, and Peer Support. The sample comprised 1036 students (63.1% females) from the 4 Republic of Srpska high schools. An initial confirmatory factor analysis (CFA) revealed that a correlated 7-factor model had poor fit:  $\chi^2(644)=3020.86, p<.001$ ; CFI=.819, TLI=.802, RMSEA=.060, 90% CI [.058, .062]. Two items had to be removed due to low factor loadings, while many others showed very pronounced local dependency issues. This was the most obvious for the School Safety subscale, which had generally poor psychometric properties and had to be removed entirely. The final outcome was a reduced 23-item, 6-factor model, which had decent fit:  $\chi^2(215)=627.32, p<.001$ ; CFI=.941, TLI=.931, RMSEA=.043, 90% CI [.039, .047]. These values were actually better than the original fit reported by the MSCS-SV's authors. However, internal consistencies were mostly poor, with 5 out of 6  $\omega$ s being below .70, with the lowest being .60 and the highest being .77. Furthermore, 4 out of 6 average variances extracted (AVE) were below the desired .50 cutoff. The model had the same factor structure, equivalent loadings and thresholds for boys and girls, with only slight differences in factor means on 3 factors. This means that the questionnaire is largely gender invariant and there is likely no need for the separate gender norms. In conclusion, we obtained a better fitting, but less internally consistent shorter version of the original MSCS-SV questionnaire. The removal of the School Safety subscale is a notable limitation, given that feeling safe at school is thought of as being an important protective factor for student wellbeing. Thus, we can only give a reserved recommendation for the use of MSCS-SV in the BCS speaking area. The questionnaire should be improved, namely by expanding the existing item base with newly written items, including the whole new set of the School Safety items.

**Keywords:** school climate, the Meriden school climate survey–student version (MSCS-SV), questionnaire validation, factor validity, confirmatory factor analysis (CFA)

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## OSOBINE LIČNOSTI IZ MODELA VELIKIH PET PLUS DVA I OBRAZOVNI STATUS RODITELJA KAO PREDIKTORI ŠKOLSKOG USPEHA KOD DECE

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Problem ovog istraživanja može se svesti na pitanje da li je visoko obrazovanje roditelja u vezi sa školskim uspehom dece, tačnije zbog izraženih rodnih uloga u našoj kulturi prepostavlja se da će obrazovni status majke biti značajan prediktor školskog uspeha. PISA istraživanje sprovedeno na uzorku srednjoškolaca pokazalo je da se u Srbiji efekat socio-ekonomskog statusa na obrazovna postignuća učenika pokazao kao jedan od najznačajnih prediktora školskog uspeha (Baucal, 2012). Verovatnije je da će više obrazovani roditelji imati bolji posao, a samim tim i veća primanja. Dobrostojeće porodice imaju veće kapacitete za doprinos akademskom razvoju dece. Rad se takođe bavi pitanjem da li se školski uspeh dece može predvideti na osnovu inventara ličnosti Velikih pet plus dva? Očekuje se da dimenzije Otvorenost ka iskustvu, Ekstraverzija i Savesnost pozitivno koreliraju sa školskim uspehom, dok se za Neuroticizam i Agresivnost očekuje značajna, ali negativna korelacija. Uzorak je činilo 417 učenika viših razreda osnovnih škola - 245 devojčica (58.8%). Istraživanje je sprovedeno u osnovnim školama na teritoriji Srbije. Primenjena je skraćena verzija upitnika Velikih pet plus dva-junior, kao i kratak Upitnik osnovnih podataka. Hiperarhijskom regresionom analizom ispitana je predikcija školskog uspeha dece na osnovu obrazovnog statusa majke i oca i osobina ličnosti. Rezultati pokazuju da su značajna prva dva, od tri bloka prediktora ( $R=.38$ ,  $F(2,381)=32.04$ ,  $p<.001$ ). U prvom bloku prediktora rezultati pokazuju da je obrazovni status majke značajan prediktor školskog uspeha dece ( $\beta=.36$ ,  $p<.001$ ) i objašnjava 14.4% varijanse. Iz drugog bloka prediktora ( $\Delta F(7,376)=14.62$ ,  $p<.001$ ) kao značajni prediktori su se pokazale dimenzije Otvorenost ka iskustvu ( $\beta=.13$ ,  $p<.01$ ), Ekstraverzija ( $\beta=.11$ ,  $p<.05$ ), Savesnost ( $\beta=.13$ ,  $p<.01$ ) i Agresivnost ( $\beta=.15$ ,  $p<.01$ ) koji objašnjavaju 7% varijanse. Rezultati ukazuju na to da obrazovni status roditelja objašnjava dvostruko veći procenat varijanse školskog uspeha od osobina ličnosti. Takođe bi mogli da ukažu na značajan kontekstualni doprinos sredinskih činilaca školskom uspehu, kao i da posluže u formulisanju smernica za unapređenje obrazovanja u vidu podsticanja očeva i roditelja nižeg obrazovnog statusa da se više uključe u obrazovanje dece. To bi se moglo ostvariti kroz neke školske aktivnosti u koje bi morali biti uključeni svi roditelji sa svojom decom i od kojih bi svi članovi porodice profitirali na akademskom planu.

*Ključne reči:* školski uspeh, obrazovanje roditelja, osobine ličnosti, Velikih pet plus dva

### Personality traits of the big five plus two model and parental educational status as predictors of children's success in school

The main goal of this research was to examine the relations between parents' educational status, personality traits and children's school achievement. The sample consisted of 417 higher grade elementary school students (58.8% girls). A short version of The Big Five Plus Two questionnaire was applied, as well as a short measure of general information. Hierarchical regression analysis was used to predict children's school achievement, with parents' educational status and personality traits as predictors. Results of the first block of predictors ( $R^2=.14$ ) point to mother's educational status as a significant predictor ( $\beta=.36, p<.001$ ). The second block ( $\Delta R^2=.07$ ) highlights Openness ( $\beta=.13, p<.01$ ), Extraversion ( $\beta=.11, p<.05$ ), Conscientiousness ( $\beta=.13, p<.01$ ) and Aggression ( $\beta=.15, p<.01$ ) as significant predictors. Contribution of the third block (Positive and Negative Valence) was insignificant. The results point to a significant contextual contribution of environmental factors in school achievement.

*Keywords:* school achievement, parents' education, personality, Big Five Plus Two

## A PRELIMINARY EXAMINATION OF THE ICAR PROGRESSIVE MATRICES TEST OF INTELLIGENCE

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International Cognitive Ability Resource ("ICAR") is a collaborative effort which aims to encourage an assessment of cognitive abilities in research and practice. ICAR compiles several public domain tests, including the progressive matrices intelligence test (PM) "clone". ICAR PM currently consists of 30 "select the missing piece" items with 8 answer choices each. The goal of this research was

to conduct a preliminary psychometric validation of the ICAR PM test in a high school setting of the Republic of Srpska. The sample comprised 762 students (65.1% females, 2.9% non-disclosed) from three large high schools (grades II and III): gymnasium, economy school, and civil engineering school. ICAR PM was administered during regular school classes. General school achievement (GSA) from a previous school year was also measured ( $M=3.96$ ,  $SD=0.66$ ). Using a confirmatory factor analysis (CFA) it was determined that a single-factor model had good fit:  $\chi^2(405)=688.40$ ,  $p<.001$ ; CFI=.951; TLI=.947; RMSEA=.030, 90% CI [.026, .034]. Internal consistency was also good ( $\alpha=.89$ ,  $\omega=.84$ ). However, 7 items had low loadings, thus they were removed. One item was also removed due to local dependency violations with two other items. After the item deletion, remaining item loadings ( $\Lambda$ ) were in a .34 to .77 range, and both fit ( $\chi^2(209)=403.97$ ,  $p<.001$ ; CFI=.965; TLI=.962; RMSEA=.035, 90% CI [.030, .040]) and internal consistency ( $\alpha=.92$ ,  $\omega=.86$ ) slightly improved. Following this, item response theory (IRT) analysis was conducted. 2PL had better fit than 1PL, but in both cases over half of the items showed indications of misfit with the IRT models. Item difficulties were in -2.75 to 2.02 range and most discriminations were moderate or high. The majority of the test information (i.e., 91.75%) was located in the -3 to 3 logit range, and the information was mostly evenly distributed, with slightly higher concentrations just below the mean. Reduced 22-item ICAR PM score correlated only slightly higher with the GSA ( $r=.396$ ,  $p<.001$ ) than the non-reduced 30-item score ( $r=.372$ ,  $p<.001$ ), with both values being in line with typical correlations reported in the literature. There were no differences in the average ICAR PM scores between male and female students. In conclusion, the ICAR PM test appears to be a promising intelligence test, but several items are problematic in a high school student sample and a pronounced non-conformity to IRT models can be viewed as a potential shortcoming.

*Keywords:* international cognitive ability resource (“ICAR”), progressive matrices, general school achievement, confirmatory factor analysis (CFA), item response theory (IRT)

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## THE APPROACH FOR TARGETING AND ADJUSTING THE EDUCATIONAL INTERVENTIONISM ACCORDANCE WITH MUNICIPALITY CHARACTERISTICS

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The effect of the various educational projects and interventions depends on, besides other important factors, such are the quality and content of pedagogical and psychological support itself, also on the adjustment of the interventions to the various schools' needs and main schools' challenges. It is possible as well as needed to model the various schools' need for the different interventions *by the public data of the municipalities*, having in mind that: a) schools are part of the wider ecosystem, b) there are much more between school variance explained by the socio-economic status in countries in development and low GDP country, such as Republic of Serbia, c) a lot of school financing basically comes from the municipality level, d) there are no public data available on the school level regarding socio-economic status of the schools and school achievements in Serbia. Not all municipalities are able to meet their legal obligation – e.g. only 64% of municipalities provide financing of transportation for students, 28% municipalities provide free meals and around 19% of municipalities provide free textbooks for the poorest students (RZS, 2016). This means that some municipalities need more additional support from external resources or project interventions. In this paper we propose to use various variables as independent criteria in order to create composite index as multiple criteria for selection of the municipalities. Having in mind that municipality data we take into consideration are from entire population of municipalities and not the sample, and that b) data are not distributed normally, since there are the economically highly developed outliers and c) because of its further use it is needed to normalise all criteria to [0, 1] range. Once all of the criteria are normalised, we use the simple linear equation in order to construct the composite index, i.e.,  $CI = b_1 \cdot a_1 + b_2 \cdot a_2 + \dots + b_n \cdot a_n$  ( $CI = \sum b_i \cdot a_i$ ) (1) where  $CI$  is the desired compost index,  $a_i$  represents the various criteria normalized to the range of [0, 1] (i.e. public municipality data represented as a variables) and  $b_i$  are the theoretically defined weights (percentages) that define the importance and the influence of the each criteria onto the resulted composite index ( $CI$ ). In order to intuitively represent the weights  $b_i$  as a percentage influence onto composite index ( $CI$ ), we ensure that  $\sum b_i$  is equal to 1 (1 represents 100% influence). In essence, the equation (1) represents the weighted average of all input criteria  $a_i$  based on the specified weights  $b_i$  (percentages). This ensures that resulting compost index will be in a

same range of [0, 1] which make composite index (*CI*) easy to comprehend and master.

**Keywords:** purposely biased sampling, targeting of the educational interventions, composite index, normalisation

## FIZIČKO VASPITANJE I RAZVOJ ZDRAVIH STILOVA ŽIVOTA U OSNOVNOJ ŠKOLI

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Ovo istraživanje je deo većeg projekta koji se bavi unapređivanjem kvaliteta Fizičkog vaspitanja i njegove uloge u školi. Istraživanja pokazuju da Fizičko vaspitanje može doprineti ne samo aktuelnoj fizičkoj sposobnosti i dobrom zdravlju učenika nego i razvoju njihovih transferalnih kompetencija važnih za dalje obrazovanje i život nakon školovanja (npr. Bailey, 2006; Bailey et al., 2009; Cavill, Kahlmeier and Racioppi, 2006; Centers for Disease Control, 2013; European Commission, 2004; Kinget al., 2000; Tassitano et al., 2010; Hardman, 2011). Posebno je važna podrška razvoju zdravih stilova života (ZSŽ) u današnje vreme zbog brojnih rizika koje nose savremeni uslovi života. Osnovna škola je period kada je moguće intenzivno uticati na razvoj učeničkih kompetencija, vrednosti i navika koje su im potrebne za život u odrasлом dobu, pa je zato cilj ovoga rada da vidimo kako je koncipiran predmet Fizičko vaspitanje kod nas, da li je program orijentisan na razvoj zdravog i aktivnog stila življenja učenika. Predmet rada bio je da se utvrdi da li je prepoznata uloga Fizičkog vaspitanja u razvoju ZSŽ kod učenika u osnovnoj školi u Srbiji, da li je razvoj ZSŽ zastupljen u kurikulumima Fizičkog vaspitanja u osnovnoj školi. Metodom analize dokumenata (Bowen, 2009) analizirani su ciljevi i ishodi u svim programima Fizičkog vaspitanja od 1-8. razreda osnovne škole i ciljevi vaspitanja i obrazovanja u Zakonu o osnovama sistema obrazovanja i vaspitanja. Analiza je uključivala frekvenciju pojavljivanja ZSŽ u analiziranim dokumentima. Rezultati analize ukazuju na neadekvatnost kurikuluma Fizičkog vaspitanja. Ni u jednom od programa ne pominju se eksplicitno zdravlje i ZSŽ; fokus programa nije na unapređivanju zdravlja, dobrobiti učenika, određene kulture življenja i pratećih vrednosti već mnogo više na „sportifikaciji“, savladavanju sportskih tehnika i postizanju određenih normi, koncept predmeta je dosta daleko od razvoja fizičke pismenosti kod mladih (Hardman, 2011). Naši nalazi su u saglasnosti sa nalazima

drugih istraživanja kvaliteta nastave Fizičkog vaspitanja (npr. Hardman, 2008a,b; 2011; Vlieghe, 2013). Na kraju rada date su preporuke za unapređivanje kurikuluma Fizičkog vaspitanja.

*Ključne reči:* fizičko vaspitanje, zdravi stilovi života, nastavni programi, osnovna škola

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### Physical education and development of healthy lifestyles in primary school

Physical education (PE) at school can have numerous benefits and contributes not only to students' immediate fitness and good health, but it also may contribute to development of transferable knowledge and skills (teamwork, mutual respect and solidarity, communication skills, etc) useful both in further education and adult life. Among all these benefits development of healthy lifestyles are of special importance in nowadays bearing in mind the risks such as long sitting at the computer and TV, different kind of addictions, nutrition challenges, and so on. Elementary school is a period when is possible to intensely affect the development of child's competencies, values and habits important for adult life and this acknowledges the importance of a good start down the road to active lifestyles. This work is the part of the bigger research on improvement of PE role in education. The main research question was do the relevant documents on PE in elementary school in Serbia recognize the role of PE in development of healthy lifestyles. The method of document analysis has been used. The sample was consisted of the primary schools' PE curriculum. The results show that there is the paradox that the name of PE subject in Serbian is Physical Upbringing but in the subject curriculum this element is rare and not sufficiently presented. In the program there are no explicit mentioning of health and healthy lifestyles; the focus is not on well-being and quality of life and improvement of public health over the life span. PE in elementary school is more oriented toward the 'sportification' process than the development of a certain culture of life, and accompanied values. PE should be adjusted in the direction of the development of different types of positive health behavior and healthy lifestyles.

*Keywords:* physical education, healthy lifestyles, curricula, primary school

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## USING THE SELECTION TASK AS AN INSTRUMENT FOR TEACHER EDUCATION: A PRELIMINARY EXPERIMENTAL RESEARCH

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The selection task (Wason, 1966) has been regularly used to study deductive reasoning, while it is possible to discover different epistemological perspectives (Boisonnade, Tartas & Guidetti, 2014). Nowadays, few research (e.g., Leighton, 2006) has been undertaken about its possibilities as a teaching tool. At the crossroad of cognitive and educational psychology, the current study stands in the teacher education field. In this context, we used the classical selection task as a tool in order to introduce courses about research methods. Our hypothesis is that giving some quick analogical examples about teachers' usual problems should support a teacher students' positive attitude toward research and clarify the importance of reasoning processes involved in any teaching activity. A pilot experiment was designed through a sequence involving 15 teacher students ( $M_{age}=25$ ) asked to solve an abstract and a thematic versions of the selection task, before watching a training video. In the control group ( $N=9$ ), a video explains the expected solution following classical logic, while in the experimental condition ( $N=6$ ) it also adds a brief illustration of potential consequences in school context (the Pygmalion effect). After training, participants of both conditions were confronted to similar selection tasks. A final questionnaire has been addressed in order to detect their expectations about the sequence and the perception of research courses in their curriculum. The findings suggest that most participants in both conditions develop correct solutions in the post-test session when confronted to selection tasks. The questionnaire shows that participants of the experimental condition judge more positively the sequence and express a strong interest for the research courses in their curriculum, with respect to the control condition. Although this was a pilot study (limited sample, no generalization), the findings have relevant implications for our concern about the future teachers' attitudes toward research. For this reason, a semi-structured interview with a participant enabled us to get a better comprehension of possible questions and expectations that participants could develop after this activity, and helped us to improve sequence conditions in order to strengthen positive learning effects. In conclusion, this pilot study can offer an original contribution about the uses of typical reasoning tasks to create teaching sequences. Implementing a similar study on a large scale should contribute to understand the value of this type of

research and to illustrate important debates about the interpretation of past results about the selection task. This study enables methodological and epistemological considerations, notably the distinction between nomothetic and pragmatic perspectives in empirical research.

**Keywords:** learning contexts, meanings, teacher education, selection task, logical reasoning, action research

## ASSESSMENT OF SOCIAL BEHAVIOUR USING THE SSBS-2: RELIABILITY AND VALIDITY EVIDENCE GATHERED IN SERBIAN STUDENT SAMPLES

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Lifelong negative effects of social competence (SC) deficits and pronounced antisocial behaviour (AB) in children and youth are well documented. Interventions promoting positive social development heavily rely on adequate tools for assessment and screening of social behaviour. The School Social Behaviour Scale (SSBS-2; Merrell, 2003) has been among the best validated and widely used measures of the kind. The current study seeks to test the SSBS-2's psychometric properties in the Serbian educational setting. Data were collected for elementary and high school students ( $N=516$ , 221 males) from Belgrade. Teachers ( $N=22$ ) rated their social behaviour using the 64-item SSBS-2, a behaviour rating scale assessing social behaviour of K12 students. The SSBS-2 comprises SC and AB scales, with Peer Relations, Self-management, and Academic behaviour as subscales of the former, and Hostile/Irritable, Antisocial/Aggressive, and Defiant/Disruptive as subscales of the latter. The peer status score was available for  $N=222$  and equal to the mean rating of social attractiveness received by classmates on a five-point Likert scale. To begin, results confirmed high internal consistency at scale ( $\alpha=.96-.97$ ) and subscale level ( $\alpha=.89-.94$ ). Further, the SSBS-2 factor structure was verified via the CFA: original models had good-to-excellent fit to analyzed data, with  $\chi^2$  (29,  $N=516$ )=220.57, TLI=.94, CFI=.96, RMSEA=.11, and SRMR=.04 for the SB scale, and  $\chi^2$  (28,  $N=516$ )=272.25, TLI=.92, CFI=.95, RMSEA=.13, and SRMR=.03 for the AB scale. The regression model with SSBS-2 subscale scores

as independents turned statistically significant ( $F(1,215)=11.10$ ,  $p<.001$ ), explaining 21% of the peer status variance; Peer relations was the most significant predictor ( $\beta=.68$ ,  $t=6.16$ ,  $p<.001$ ) of selected criteria, with independent contribution also attributed to Self-management, Academic behaviour, and Antisocial/Aggressive ( $\beta=-.24-.36$ ,  $t=-|2.02-2.66|$ ,  $p=.000-.021$ ). Finally, ANOVAs revealed significant gender differences in teacher ratings: girls were rated higher for SC ( $d=-|.68-.74|$ ) and lower for AB ( $d=.51-.53$ ). Study results reveal the Serbian SSBS-2 as a psychometrically sound measure with: a) high internal consistency, b) stable structural properties, c) predictive power over relevant criteria, and d) expected differences in ratings for male and female students. While additional SSBS-2 validation studies are surely required, the current findings undoubtedly spur its use in educational settings.

**Keywords:** school social behavior, SSBS-2 (Serbian form), psychometric properties, peer status

## RAZVOJ I EMPIRIJSKA PROVERA INSTRUMENTA ZA RANO PREPOZNAVANJE UČENIKA U RIZIKU OD OSIPANJA IZ OBRAZOVNOG SISTEMA

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Predmet ovog istraživanja jeste empirijska provera Baterije za rano prepoznavanje rizika od osipanja iz škole (BRPRO) koja operacionalizuje šest signala osipanja odabranih na osnovu pregleda teorijskih i empirijskih radova. To su: niska motivacija za učenje, nasilje, izostajanje sa nastave, pad školskog postignuća, ponavljanje razreda i drastične promene u ponašanju. Baterija je uključila upitnike za učenike i odeljenjske saterštine koji su pokazali zadovoljavajuću internu konzistentnost. Motivacija za učenje operacionalizovana je kao skala samoprocene od 25 stavki, koju su popunjavali učenici ( $\alpha=0.849$ ). Učenici su popunjavali i skale koje ispituju učestalost vršenja ( $\alpha=0.875$ ) i trpljenja vršnjačkog nasilja ( $\alpha=0.921$ ), a svaka se sastoji od po 18 stavki. Procena

promena u ponašanju učenika ( $\alpha=0.960$ ), izvod iz školske evidencije o školskom postignuću, ponavljanju razreda i izostajanju učenika sastavni su deo upitnika za odeljenjske starešine. Pored navedenog, kroz upitnike za učenike i odeljenjske starešine prikupljeni su podaci o socio-demografskim karakteristikama učenika. Za svaki od signala i bateriju u celini definisana su a priori tri stepena rizika od osipanja: nulti nivo ukazuje da učenik nije u riziku; prvi nivo ukazuje na umereni rizik; a drugi na visok nivo rizika od osipanja. Primenom Baterije prikupljeni su podaci o 485 učenika prvog razreda pet srednjih poljoprivrednih škola u Srbiji. Prema indeksu opštег rizika 25,8% učenika iz uzorka je pod visokim, a 6,8% učenika pod umerenim rizikom od napuštanja škole. Ovaj indeks je u najvećoj meri određen prisustvom vršnjačkog nasilja. Naime, 13,4% učenika je navelo da svakodnevno trpi ili vrši neki oblik vršnjačkog nasilja, dok je 12,4% izvestilo da se to dešava nedeljno. Stepen rizika od napuštanja školovanja za svakog pojedinačnog učenika procenjivali su i Školski timovi za sprečavanje osipanja u navedenim školama. U prilog validnosti instrumenta govori saglasnost između rezultata instrumenta i procene timova u 75% slučajeva. U 23% slučajeva uočena je i preosetljivost predefinisanog praga rizika na nekim od skala u poređenju sa nastavničkim procenama. Kvalitativna analiza izveštaja školskih timova za sprečavanje osipanja ukazala je na teškoće u primeni BRPRO koje proističu iz nemotivisanosti odeljenjskih starešina i učenika za popunjavanje upitnika, nedostatka informacija o učenicima na početku prvog razreda, kada postoji visok rizik od napuštanja škole, i nepostojanja školskih procedura i infrastrukture koja će omogućiti kontinuirano beleženje promena u signalima osipanja tokom školske godine. Dobrobiti upotrebe instrumenta jesu: veća usmerenost odeljenjskih starešina na učenike, veća osetljivost za signale rizika od osipanja i jačanje kompetencija nastavnika za primenu i razvoj određene obrazovne politike na nivou škole.

*Ključne reči:* osipanje učenika, signali osipanja, rana identifikacija učenika u riziku od napuštanja škole, Baterija za rano prepoznavanje rizika od osipanja iz škole

## Development and empirical testing of the Tool for early detection of school dropout

The subject of this research is the school drop-out signals operationalization and empirical testing of the Tool for early detection of school dropout (TEDSD). Based on literature review, we selected six dropout signals: absenteeism, decreasing in school achievements, school year repetition, low motivation for learning, drastic behavioral changes and bullying. For each signal short scales were developed. Results indicate level of risk of dropping out, where zero level indicates that the student is not at risk; the first level indicates a moderate risk; and the second level indicates a high level of risk.

The tool was applied to the sample of 485 first grade students of the five secondary agricultural schools in Serbia. According to the index of general risk, 25.8% of students were under high, and 6.8% of students were under moderate risk of leaving school. Agreement in 75% of cases between the results of the risk assessment by instrument and by school teams for dropout prevention indicates validity of the instrument. We observed hypersensitivity of predefined threshold of risk for some scales according to teacher assessments in 23% of cases.

*Keywords:* the dropout rate of students, signals attrition, early identification of students at risk of dropping out of school, battery for early detection of the risk of dropping out of school

## *RAZVOJNA PSIHOLOGIJA*

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## ODNOS KLASIČNE I MUZIČKE KONZERVACIJE U KONTEKSTU PIJAŽEOVE TEORIJE INTELEKTUALNOG RAZVOJA

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Muzička konzervacija predstavlja sposobnost da se uprkos promenama jednog atributa muzike (odnos tonova, ritam, metar), atributi koji su ostali isti percipiraju kao isti. Cilj ovog pilot istraživanja je ispitivanje muzičke konzervacije i utvrđivanje relacija muzičke i konzervacije količine materije, merene Pijažeovim zadacima. Dosadašnji zadaci za ispitivanje muzičke konzervacije Zimermanove i saradnika (1964; 1970) poprilično su kritikovani, što je bio povod za konstrukciju i proveru novih zadataka. Od Pijažeovih zadataka korišćeno je šest (konzervacija količine materije i težine), a za potrebe ovog istraživanja konstruisano je i šest zadataka konzervacije metra, ritma i odnosa tonova. Uzorak su činila deca uzrasta od pet i sedam godina (11 devojčica i 9 dečaka). Od 20 dece, 10 je imalo konzervaciju količine materije po Pijažeu, 9 nije, a jedna ispitanica na prelaznom periodu isključena je iz istraživanja. Za Pijažeove zadatke, koji su zadavani prvi, praćen je zvanični protokol zadavanja, a za muzičke zadatke autorke su, po ugledu na Pijažeove, osmislice nova pitanja, pojmovno prilagođena uzrastu. Hi-kvadrat test je pokazao značajne razlike između grupa dece koja imaju/nemaju konzervaciju količine, u odnosu na posedovanje muzičke konzervacije (ima/nema/prelazni period):  $\chi^2(2)=14.989$ ,  $p<.01$ ;  $V=.888$ ,  $p<.01$ . Osmoro od desetoro dece koja imaju Pijažeovu, imaju i muzičku konzervaciju. Preostala dva deteta rešila su po tri muzička zadatka, te se smatra da su na muzičkom prelaznom stadijumu. U ovoj grupi, deci su najproblematičniji za rešeavanje bili zadaci konzervacije metra. Deca koja nemaju konzervaciju po Pijažeu, nemaju ni muzičku konzervaciju. Od njih, dvoje dece uspelo je tačno da reši po dva muzička zadatka, te su autorke odlučile da ih smeste u kategoriju muzičkog prelaznog stadijuma. Nasuprot prvoj grupi, u ovoj je zadatak koji uspevaju da reše upravo zadatak konzervacije metra. Autorke zaključuju da postoji jaka povezanost dveju konzervacija, što ukazuje na postojanje zajedničke strukture u njihovoј osnovi, ali i na mogućnost da se muzička konzervacija javlja pre Pijažeove, u prilog čemu ide činjenica da deca koja nisu rešila nijedan Pijažeov zadatak uspevaju da reše bar jedan zadatak muzičke konzervacije, dok obrnutih slučajeva nema. Ovo istraživanje predstavlja dodatni doprinos malobrojnim istraživanjima u okviru psihologije muzičkog

razvoja, i dovodi u pitanje postavljanje uzrasne granice prilikom upisa u muzičke škole.

*Ključne reči:* muzička konzervacija, Pijaže, odnos tonova, ritam, metar

### The conservation of classical and musical conservation in the context of Piaget's theory of musical development

Musical conservation represents the ability to preserve the perception of aspects of music (rhythm, meter, relation of tones) which remain the same, despite the change in one of them. The topic of this research is the development of musical conservation. One of the purposes is comparing the existence of classical and musical conservation, musical being measured by tasks constructed by authors. The sample consists of twenty children (ages: five and seven). Eight showed the existence of Piaget's conservation, while seven of them did not. One was on the transient level. Results have shown significant differences between the groups possessing/not possessing classical conservation in the context of solving musical conservation tasks:  $\chi^2(2)=14.989$  ( $p<.01$ );  $V=.888$  ( $p<.01$ ). The authors conclude it is possible that musical conservation develops earlier than Piaget's, since children who solved none of Piaget's tasks solved at least one musical conservation task (no opposite cases).

*Keywords:* musical conservation, Piaget, rhythm, meter, relation of tones

## KONCEPTUALNI RAZVOJ: PREFERENCIJA TEMATSKOG VIDA REZONOVANJA (SEDMOGODIŠNJIĆI)

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Znanje o objektima može biti organizovano taksonomski, na osnovu zajedničkih karakteristika (lav-sisar) ili tematski, obuhvatajući objekte koji su u interakciji unutar iste scene ili događaja (lav-savana). Prva istraživanja konceptualnog

razvoja ukazala su na postojanje smene sa tematske na taksonomske strukture na predškolskom uzrastu. Međutim, kasniji eksperimenti sugerišu da smena ne predstavlja fundamentalnu promenu u načinu organizacije znanja, već promenu u preferenciji. U datom istraživanju, korišćen je zadatak slobodnih asocijacija u cilju ispitivanja koceptualne organizacije semogodišnjaka, odnosno da li se javlja preferencija za tematski ili taksonomski vid rezonovanja. Ovaj uzrast je odabran jer je u literaturi označen kao ključan za prelazak sa tematske na taksonomsku organizaciju pojmove. Ispitanici ( $N=52$ ) su popunjavali upitnik sa 120 stimulusa, reči-meta, pored kojih su zapisivali svoju asocijaciju na zadatu reč. Asocijati su klasifikovani u pet kategorija: tematski, taksonomski, atributivni, idiosinkratični i introspektivni, pri čemu je jedan odgovor mogao biti svrstan u više kategorija. Atributivni asocijati se odnose na perceptivne karakteristike zadatog entiteta, radnje koje taj entitet ispoljava ili na njegovu građu (sastav). U kategoriju idiosinkratični, svrstani su asocijati čija je veza sa stimulusom nejasna. Kategorija introspektivni obuhvata asocijacije koje ukazuju na lični ili emotivni odnos datog ispitanika sa zadatim stimulusom. Dobijeni rezultati pokazuju da su deca na uzrastu od 7 godina sposobna za obe vrste rezonovanja, pri čemu dominira tematski vid rezonovanja: 80% svih asocijacija pripada tematskim kategorijama. Ovi nalazi idu u prilog shvatanju prema kome je konceptualna preferencija kulturno ili kontekstualno uslovljena, te se tematske strukture ne mogu smatrati primitivnijim u odnosu na taksonomske. Samim tim, činioce koje utiču na oblikovanje razvojnog trenda treba tražiti pre svega u kulturi, obrazovnom sistemu i jezičkim strukturama.

*Ključne reči:* konceptualni razvoj, sedmogodišnjaci, taksonomska struktura, tematsko rezonovanje

### Conceptual development: Preference of thematic reasoning (seven-year old children)

Knowledge about objects can be organized taxonomically on the basis of shared features (lion-mammals), or thematically on the basis of participation in events or scenarios (lion-savanna). Findings about developmental trends in conceptual organization and the age when the shift from thematic to taxonomic reasoning occurs are mixed and inconsistent. The main goal of our study was to examine what is the preferred type of conceptual organization at the age of seven: taxonomic or thematic? Sample of 52 first grade students, wrote one association on 120 stimuli-words. The results show that seven years old children are capable for both taxonomic and thematic categories, but thematic type of relations are dominant: 80% percent of all associations are thematic. This finding support the idea that conceptual preference is culturally and contextually determined, and that

developmental determinants of conceptual organization should be found in culture, educational system and linguistic structures.

**Keywords:** conceptual development, seven-year olds, taxonomic reasoning

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## THE RELATIONSHIP BETWEEN PARENTAL BONDING AND PSYCHOLOGICAL WELL-BEING

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Bonding refers to a relationship that involves security and trust, and most often in the context of the link between mother and child. There are numerous studies that show relationship between attachment and mental health, in aspects such as self-respect to mechanisms for coping with stress. The aim of this study was to examine the relationship between quality of attachment to parents and the psychological well-being. For this purpose we used Parental Bonding Scale (PBI), and Scale of psychological well-being (SPW). The sample consisted out of 337 respondents, students from Bosnia and Herzegovina, from universities of Sarajevo and Mostar. Results of the study show that the scales that measure the well-being of subjects, as well as self-esteem, our respondents have above-average results, indicating positive relationships with others, self-acceptance and personal development and mastering environment. Also, low scores on scales of autonomy and purpose to your life. Due to the negatively skewed distribution, we used nonparametric statistics. The results indicate that there is a statistically significant positive correlation between caring of mothers and positive relations with others ( $r_s=.242^{**}$ ), self-acceptance ( $r_s=.30^{**}$ ), autonomy ( $r_s=.157^{**}$ ) and personal growth ( $r_s=.263^{**}$ ). Caring of father is associated with positive relations with others ( $r_s=.228^{**}$ ), self-acceptance ( $r_s=.350^{**}$ ), autonomy ( $r_s=.161^{**}$ ), personal development ( $r_s=.275^{**}$ ), as and mastery over their environment ( $r_s=.158^{**}$ ), while other variables showed no statistically significant correlations. The results also show that there is a statistically significant negative correlation between the protectiveness of mother and positive relations with others ( $r_s=-.207^{**}$ ), self-acceptance ( $r_s=-.239^{**}$ ) and mastery of the environment ( $r_s=-.228^{**}$ ) and statistically significant negative correlation between the protectiveness of father and positive relations with others ( $r_s=-.168^{**}$ ), self-acceptance ( $r_s=-.272^{**}$ ), personal development ( $r_s=-.155^*$ ), and mastering environment ( $r_s=-.213^{**}$ ) while

other variables were not statistically significant correlated. In conclusion, the quality of bonding to parents can be considered an important factor in mental health of students, in terms that caring of mother and father has positive correlation with positive aspects of mental health, while protectiveness of mother and father has negative correlation with mental health subscales.

**Keywords:** parental bonding, psychological well-being, relations with others, self-acceptance

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## RELATIONSHIPS BETWEEN ATTACHMENT TO FATHER AND TRAIT EMOTIONAL INTELLIGENCE IN THE MIDDLE CHILDHOOD

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The fathers' role in children's emotional development is usually under-represented in the studies, although many (psychodynamic) theories emphasize fathers' importance in acquiring an awareness of third other, forming symbolic function and experiencing safety during negative affect expression. Thus the research goal was to examine the relation between attachment to father and emotional intelligence in the middle childhood. The sample of 285 children aged 8 to 13 ( $M_{age}=10.5$ ; 149 girls) was administered questionnaires that measured attachment style (Child version of Experience in Close Relationship) and trait emotional intelligence (Trait Emotional Intelligence Questionnaire Child Form). Attachment dimensions explained 22% of global trait EI variance ( $F(4,282)=20.99$ ,  $p<.001$ ) and avoidance in relation to father was the most relevant negative predictor ( $\beta_{AF}=-.43$ ,  $t=-5.85$ ,  $p<.001$ ), while avoidance in relation to mother ( $\beta_{AM}=-.16$ ,  $t=-2.03$ ,  $p<.05$ ), although significant, contributed less. Attachment dimensions predicted all trait EI facets, except adaptability. Avoidance in relation to father was a significant negative predictor for affective disposition, emotion expression, emotion perception, emotion regulation, impulse control, peer relations, self-esteem and self-motivation. It predicted self-motivation strongest ( $\beta_A=-.46$ ,  $t=-7.2$ ,  $p<.001$ ) and peer relations weakest ( $\beta_A=-.22$ ,  $t=-3.19$ ,  $p<.01$ ). Anxiety in relation to father was positive predictor of emotion perception ( $\beta_{An}=.18$ ,  $t=2.66$ ,  $p<.01$ ) and self-motivation ( $\beta_{An}=.14$ ,  $t=2.21$ ,  $p<.05$ ) and negative of affective disposition ( $\beta_{An}=-.13$ ,  $t=-2.06$ ,  $p<.05$ ). The results indicate that fathers' role in the emotional development shouldn't be overseen. Children perceiving their fathers as unreliable, unpredictable and

insensitive to their needs reported more problems in perceiving, understanding, regulating and communicating emotions. Those seeing themselves as less worthy of their fathers' love and care, show more effort to understand others and focus on achievements. Following the theories, father has the role of the "other", bringing challenges and novelties regarding a world outside of the mother-child dyad. These results may also emphasize fathers' function as a secure base from which children can explore their own and the minds of others. Finally, besides being important for building self-perceptions and perception of others, relationship with fathers is also significant for acquiring emotional awareness and regulation.

*Keywords:* attachment, trait emotional intelligence, middle childhood, fathers

## KOJI FAKTORI OTEŽAVAJU BORBU RUKOMETASA ADOLESCENTA SA PRITISKOM U KLJUČNIM MOMENTIMA UTAKMICE?

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Tokom perioda adolescencije, individua se suočava sa različitim promenama i pritiscima okoline. Stepen rezilijentnosti na te pritiske u velikoj meri oblikuje psihološko blagostanje adolescenta. Neretko, upravo na utakmici adolescent oseća pritisak da ispolji visok stepen kompetencije kako bi bio uspešan i prihvaćen. U adolescenciji je od posebnog značaja fizička slika o sebi, predstava sopstvene snage i tela koje utiču na adolescentov doživljaj kompetencije na terenu. Kao jedan od otežavajućih faktora na utakmici, anksioznost može da deluje na misli – kognitivna anksioznost ili na telo – somatska anksioznost. Ovo istraživanje ispituje koji faktori doprinose da se adolescent ne oseća prijatno u ključnim momentima utakmice kada je ishod utakmice na njemu. Specifičnije, s obzirom na značaj fizičke slike i anksioznosti za postignuće na terenu i osećaj kompetencije u adolescenciji, ovo istraživanje ispituje efekte morfoloških mera i vrste anksioznosti na spremnost adolescenta da preuzme odgovornost u ključnom trenutku na utakmici. Uzorak se sastojao od 135 rukometasa (75) i rukometasica (60) prosečnog uzrasta od 13 godina. Podaci su prikupljeni iz različitih rukometnih klubova sa teritorije Vojvodine. Za procenu vrste anksioznosti pred

utakmicu korišćene su modifikovane subskale Kognitivna anksioznost i Somatska anksioznost iz Upitnika za procenu anksioznosti kod sportista (CSAI-2, Martens, Vealy, & Burton, 1990). Za morfološke mere uzeti su: visina, telesna težina, raspon ruku i dužina šake. Za procenu osećaja neprijatnosti kada je ishod utakmice na adolescentu korišćena je jednoajtemska petostepena stavka. Rezultati regresione analize pokazuju da morfološke mere i vrsta anksioznosti čine značajni prediktorski set ( $F(6)=6.48, p<.001$ ) koji objašnjava 25% varijanse. Visina ( $\beta=-.79, p<.001$ ) i kognitivna anksioznost ( $\beta=.22, p=.02$ ) su se izdvojili kao značajni prediktori osećaja neprijatnosti kada je ishod utakmice na adolescentu. Adolescenti koji su niži i koji imaju viši stepen kognitivne anksioznosti teže podnose pritisak kada je ishod utakmice na njima. U radu su razmatrane teorijske i praktične implikacije rezultata.

*Ključne reči:* mladi sportisti, adolescencija, anksioznost, ishod utakmice, morfološke mere

### Which factors make the fight of adolescent handball players with pressure in key game moments harder?

Given the effects of the physical self-image and anxiety before the game on the achievement of young athlete, this study examines the effects of morphological measures and anxiety on the adolescent's readiness to take responsibility at a crucial moment at the game. The sample consisted of 75 male and 60 female handball players, average age of 13 years. Modified subscales Cognitive anxiety and Somatic anxiety from the The Competitive State Anxiety Inventory-2 (CSAI-2, Martens, Vealy, & Burton, 1990) were applied. For morphological measures: height, body weight, arm span and the length of the hand were taken. Results of regression analysis show that this model is statistically significant ( $F(6)=6.48, p<.001$ ), and explains 25% of variance. Height ( $\beta=-.79, p<.001$ ) and cognitive anxiety ( $\beta=.22, p=.02$ ) were singled out as significant predictors of feelings of discomfort when the outcome of the game is on the adolescent.

*Keywords:* young athletes, adolescence, anxiety, the outcome of the match, morphological measures

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## EARLY FAMILY EXPERIENCES, NARCISSISTIC TRAITS AND ADULT ADJUSTMENT

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Exposure to risky family environment during childhood (e.g. harsh or chaotic parenting, unaffectionate interaction style or neglect) affects diverse mental health outcomes in adulthood. Recent studies have found associations between narcissistic personality traits and retrospective accounts of early experiences. However, it is important to distinguish between two forms of narcissism: the grandiose (characterized by grandiosity, aggression, and dominance) and the vulnerable narcissism (characterized by a defensive and insecure grandiosity that obscures feelings of inadequacy, incompetence and negative affect) because some aspects of narcissism are more strongly related to psychological well-being than others. Therefore, our goal was to examine the relationship between early risky family experiences, individual's narcissistic traits and adjustment in the adulthood. Moreover, we wanted to examine narcissistic vulnerability and grandiosity as possible mediators between early risky family experiences and adult adjustment (wellbeing and distress). A total of 348 university students (54 male, 294 female,  $M_{age}=21.57$ ,  $SD=2.91$ ) completed an online questionnaire which included The Risky Families Questionnaire (Taylor et al., 2004), the Pathological Narcissism Inventory (Pincus et al., 2009), The Depression, Anxiety and Stress Scales (Lovibond&Lovibond, 1995) and the Personal Wellbeing Index (International Wellbeing Group, 2013). The hypothesized mediation model was tested using path analysis. After removing insignificant paths, the model showed good fit to the data ( $\chi^2(2)=2.07$ ,  $p=.36$ , RMSEA=0.01, CFI=1.00, TLI=1.00, SRMR=0.02). Early risky family experiences positively predicted both grandiose and vulnerable narcissism, and also directly negatively predicted one's personal wellbeing and positively one's distress. Furthermore, vulnerable narcissism positively predicted distress and negatively predicted one's wellbeing, while grandiose narcissism did not predict any indicator of adjustment. Therefore, the hypothesis regarding the mediating role of narcissistic traits was only partly confirmed. In sum, the results of this study show theoretically meaningful connections between psychological adjustment, narcissistic traits and early experiences, reiterating the importance of distinguishing between two forms of narcissism.

**Keywords:** early risky family experiences, vulnerable narcissism, grandiose narcissism, wellbeing, distress

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## HOBBIES: BETWEEN WORRIES AND RISKY BEHAVIORS

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In providing opportunities for the positive development it is important to stimulate various creative activities in adolescents. The aim of the work is to determine the connection between the frequency of practicing hobbies within adolescents, and their worries and risky behaviors in which they engage. The work is part of a larger study, conducted by a questionnaire about leisure time of adolescents, on a sample of 1403 adolescents (419 seventh grade, primary schools; 420 second grade, secondary vocational schools; 564 second year; high school) in five cities in Serbia. Adolescents estimated how often they engage in 9 hobbies: blog writing; creative writing; drawing/painting; graphic design; composing and playing music; making jewelry and decorative objects; computer programming; collecting postcards, stickers, stamps etc; photography. They also estimated how often they worry and engage in risky behaviors (given options at the multiple choice scale). Adolescents who are more engaged in hobbies have more worries, the correlations are statistically significant ( $p<.001$ ) for following worries: sadness, depression, dissatisfaction with themselves ( $r=.121$ ); lack of free time ( $r=.113$ ); pressures by peers ( $r=.102$ ); physical appearance ( $r=.099$ ); love problems ( $r=.099$ ); quarrels with parents ( $r=.095$ ). Qualitative analysis of open questions has led to the formation of new categories of worries related to health, employment and sport. The results of correlation between risky behaviors and frequency of practicing hobbies confirm previous findings that adolescents who practice hobbies more also engage less in risky behaviors. Statistically significant values of those correlations ( $p<.000$ ) are: going to the bookies ( $r=-.179$ ); withdrawal ( $r=.146$ ); drinking ( $r=-.123$ ); gambling ( $r=-.108$ ); driving without a license ( $r=-.106$ ); participation in fights ( $r=-.100$ ); the tendency to self-injury ( $r=.099$ ). The results, therefore, suggest that adolescents who practice individual creative activities, have more everyday worries, but are less engaged in risky behaviors (mostly with peers). To explore mentioned connections it is

important to understand mechanisms in their base, namely to understand what provides prevention for adolescents who practice hobbies from risky behavior, but makes them more susceptible to everyday worries. All the aforementioned should be considered in context of developmental needs for peer acceptance in adolescence.

*Keywords:* adolescents, hobby, risky behavior, worries

## AESTHETIC ART – REALIZATION AS PSYCHO-EDUCATIONAL APPROACH AND STIMULATOR TO REDUCE OF AGGRESSIVE REACTIONS AMONG ADOLESCENTS

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The aim of the research is to prove that applied art therapy technique of drawing and painting pictures as psychological support, will initiate changes in the personality of the adolescent,in order to reduce aggressive reactions and increase the level of aesthetic development. Art as a creative process, is a deep psychological process, which integrates itself or in contact with visual perception, consciousness, mind, aesthetics and environment.The sample consists of 40 subjects:20 male and 20 female secondary school students from Bitola, who differ in terms of age (17 and 18years old) and type of education: gymnasium and vocational. Measuring instruments: 1. Cornell Index CI a tool for detection of anxiety states, hypochondria, phobia, hypersensitivity, depression, cardiovascular weakness, gastrointestinal and inhibitory conversions, impulsiveness, aggressiveness and paranoia. 2. Self-assessment questionnaire for adolescents, which measures attitudes towards change and the effects of applied art technique.In the questionnaire, statements are given in two subscales. A)Realations with ourselves (self-control,self-respect, tolerance, and satisfaction sense ; a B) Effects of applied art self expression, (reduction of tension, anger, impulsiveness, increased adaptability, confidence and interest in art).According to the statistics and results of Cornell index scale for impulsiveness and aggressiveness, the group is tested twice-before and after applying the art technique.The method of repeated measures within one sample is used and estimation of significance of differences between the correlated arithmetic mean. The difference is statistically significant  $z = 2,06 > .05$  A) While assessing the changes made to oneself, most of the participants, show the greatest percentage

of changes present in the following elements: increased self-control and self-respect, improved tolerance, and the sense of satisfaction.B)While assessing the effects of the applied art self expression,the most frequent is the effect in terms of tension reduction, increased adaptability and confidence and interest in art. The effects of art self expression among male and female students in both types of education are regularly present and equally represented.Art self-expression as psycho-educational approach and stimulant leads to reduction of the aggressive reactions, stimulating deeper thinking and self-reveal in a creative way, developing aesthetic feelings for art, initiating positive changes in the personality among adolescents.

**Keywords:** aggressive reactions, art self-expression technique, adolescents, personal development

## ODNOS JE VAŽNIJI OD OCENE

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Istraživanja o slobodnom vremenu mladih pokazala su da se među problemima koje mladi vide izdvajaju oni koji se tiču škole i učenja. Cilj ovog istraživanja bio je utvrditi koja značenja mladi ovom konceptu pridaju, ali i pronaći jasnije veze između tih problema i odnosa sa nastavnicima i roditeljima. Podaci su najpre prikupljeni upitnikom o slobodnom vremenu mladih čiji su se pojedini aspekti odnosili na percepciju problema sa školom i učenjem, kao i na zadovoljstvo odnosom sa nastavnicima i roditeljima. Kvantitativna analiza je pokazala da se kombinacijom prediktora  $F(5,983)=69.789, p<0.01$  objašnjava 26% varijanse kriterijuma, tj. problema sa školom i učenjem (skalirana samoprocena ozbiljnosti problema). Najveći doprinos predikciji imaju uspeh u školi ( $\beta=-.22, p<.001$ ), zadovoljstvo odnosom sa nastavnicima ( $\beta=-.20, p<.001$ ) i nesuglasice sa roditeljima ( $\beta=-.23, p<.001$ ). Veza između zadovoljstva odnosom sa nastavnicima i problema sa školom većeg je intenziteta u poređenju sa vezom zadovoljstva odnosom sa roditeljima i iste variabile (još je viša na poduzorku učenika srednjih stručnih škola ( $r(418)=-.335, p<.01$ ) nego gimnazijalaca ( $r(562)=-.262, p<.01$ )). Dobijeni rezultati su upotpunjeni kvalitativnim podacima koji su prikupljeni kroz 2 fokus grupne diskusije (15 mladih iz gimnazije i 17 iz srednje stručne škole). Odgovori su svrstani u 3 kategorije: sadržaj problema, odnosi sa nastavnicima i odnosi sa roditeljima, a jedinica analize bio je

pojedinačni komentar. Po važnosti visoko pozicionirani problemi su ocenjivanje i neadekvatni odnosi sa nastavnicima. Upitani o potpornim sistemima, mladi ne pokazuju tendenciju ka traženju pomoći pri rešavanju problema sa učenjem i školom. Pored ove, identifikovana je i visoka saglasnost oko percepcije prioriteta: mladi smatraju da je to kod roditelja ocena, a ne kvalitet odnosa na relaciji učenik-nastavnik, dok je kod njih samih upravo obrnuto. Saglasni su i da je prisutan pritisak roditelja, njihovo smanjeno učešća tokom aktuelnog školovanja, a i da su to faktori koji utiču na kvalitet odnosa. U vezi sa atributima poželjnog nastavnika takođe dele mišljenje. Mladi iz gimnazije u vezi sa učenjem znatno više problematizuju pitanja kurikuluma i nastavnih metoda u odnosu na mlade iz srednje stručne škole koji u vezi sa učenjem navode probleme motivacije i koncentracije, što predstavlja bitnu kvalitativnu razliku. Ovi nalazi daju detaljniji uvid u percepciju odnosa unutar škole i problema sa kojima se mladi u njoj suočavaju.

*Ključne reči:* problemi sa školom i učenjem, srednjoškolci, fokus grupna diskusija

### Relationship is more important than the grade

The aim of this study was to find out how secondary school students understand the concept of problems with school and learning and to recognize connections between these issues and students' relationships with teachers and parents. Firstly, the data were collected by a questionnaire. Quantitative analysis has shown that the combination of predictors  $F(5,983)=69,789, p<0.01$ ) explains 26% of variance of issues with school and learning (scaled self-assessment of the seriousness of certain issues). The given results were complemented by the qualitative data collected through two focus group discussions ( $N=32$ ). Highly evaluated problems were school assessment and inadequate relationship with teachers. High school students emphasized the questions about curriculum and teaching methods much more than secondary vocational school students who have underlined the problems with motivation and concentration. These findings provide a detailed insight into the perception of relationships and problems in schools and into the problems that young people encounter.

*Keywords:* problems with school and learning, high school students, focus group discussion

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## ADOLESCENTS' LEISURE TIME: WHAT'S CHANGED OVER DECADE?

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Young people's leisure time became a frequently researched topic regarding its importance in the transition process to adulthood and the effects on socio-emotional and cognitive development, usually related to the quality of time spent (degree of leisure activities structure). A decade ago five leisure patterns were identified (orientation towards sport, intellectual content, going out, entertainment in media and on computers). The study deals with adolescents' activities and behavioral patterns in their spare time. The sample includes 1404 primary and secondary school students (aged 13 and 16) from 5 towns in Serbia. Adolescents' leisure habits were investigated by a questionnaire covering themes regarding their interests and activities: listening to music; reading habits and preferred topics; watching TV; going out; attending cultural, sport and entertainment events; spending time in front of the computer; extracurricular activities and sports. Factor analysis was applied so as to identify typical patterns of adolescents' leisure activities. Principal component analysis (Varimax rotation) reveals five factors accounting for 30% of variance ( $KMO > 0.6$ ; Bartlett's Test of Sphericity=21033,  $df=1891$ ,  $p<0.01$ ). They have been interpreted as: academic orientation (developed reading habits, using the Internet to find educational content, reading about popular science topics, visiting museums and theaters), following entertainment topics in media (teen topics, celebrities, show business and horoscope), spending time going out (going to the pubs, cafés, clubs), using the Internet to follow interests and hobbies (follow the content about computers, sports, movies) and using the Internet for entertainment and social networking (YouTube, listening to music, watching movies, Facebook, Instagram, Twitter). Girls have significantly higher scores than boys on the first ( $t(1380)=-8.24$ ,  $p<0.01$ ), the second ( $t(1380)=-27.07$ ,  $p<0.01$ ) and the fifth ( $t(1380)=-3.30$ ,  $p<0.01$ ) factors. On the contrary, boys' scores are higher on the third ( $t(1380)=4.94$ ,  $p<0.01$ ) and the fourth factors ( $t(1380)=20.00$ ;  $p<0.01$ ). The obtained findings confirmed some behavioral patterns identified in the previous study, but also detected some new ones. The finding will be discussed from that perspective, but also in the context of Stebbins's serious leisure perspective.

*Keywords:* adolescents, leisure time, behavioral patterns

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## IS THERE A RELATIONSHIP BETWEEN ADOLESCENTS' HOBBIES AND IDOL PREFERENCES?

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This work investigates relationship between adolescents' idols preferences and hobby practicing. Although carrier choices were frequently associated with role models influences, hobbies are rarely investigated in that context. The sample included 1404 adolescents from primary and secondary schools in 5 Serbian towns. Idols are classified according to a previously used classification: show business, sport, science and art, politics, fiction. Students estimated how often they are engaged (never, occasionally, often) in 9 hobbies: blog writing; creative writing; drawing/painting; graphic design; composing and playing music; making jewelry and decorative objects; computer programming; collecting postcards, stickers, stamps etc; photography. The relationship between idol types and hobbies was tested by crosstabs and one way ANOVA. Students practicing hobbies differ from those who do not regarding idol preferences ( $\chi^2(5)=26.998$ ,  $p<0.001$ , Cramer's V=0.22). Adolescents who take up hobbies prefer idols from science/art and show business. Those who do not have hobbies admire mostly sportsmen. Besides, students admiring different idols types can be distinguished regarding number of hobbies they are practicing ( $F(550, 5)=58.615$ ,  $p<0.001$ ). Post-hoc test revealed that students preferring show business celebrities are engaged in more hobbies than those who love sportsmen. Also, adolescents appreciating scientists and artists are engaged in more hobbies than those who love sportsmen. Crosstabs analysis was used to compare students who often practice various hobbies and those who never do that. The differences are statistically significant for following hobbies: writing, drawing, playing music, programming and photography. Adolescents who frequently take up these hobbies do not admire sportsmen. All of them, except those practicing programming, admire show business celebrities while students who have programming hobby appreciate entrepreneurs. Students who love painting admire scientists and artists beside show business idols. Presented differences in idol preferences between adolescents who do not have hobby and those who practice hobby in their leisure time point to the importance of adolescents' interests particularly in sport and show business.

*Keywords:* adolescents, idols, hobbies, leisure time

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## PUBLIC FIGURES AS ADOLESCENT'S ROLE MODELS: PREFERENCES AND REASONS

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There is no absolute agreement on public figures' effects on youth development. However, authors warn that youth's growing interest in media, where idols frequently appear, must have some impact on their identity formation and value system. Our goal is to discover which role model types are preferred and to identify potential new ones. We also investigated adolescents' reasons and connected them with specific idol preferences. The sample included 1404 adolescents from primary and secondary schools in 5 Serbian towns. Idols are classified according to a previously used classification: show business, sport, science and art, politics, fiction. The reasons were codified as well: intelligence, strong personality, humanity, good communication skills, desirable profession, fame, physical appearance, social power, wealth, professional success. The relationship between idol types and various reasons was tested by GLM MANOVA and Logistic regression for each role model type with reasons as predictors. Entrepreneurs are new public figures that adolescents admire, while youtubers and bloggers are new subcategories within show business. The effect of the role model type is statistically significant (Wilks' Lambda=0.556,  $p<0.001$ ) and group differences are found in intelligence ( $F=10.585$ ,  $p<0.001$ ), physical appearance ( $F=8.368$ ,  $p<0.001$ ), professional success ( $F=16.79$ ,  $p<0.001$ ) and social power ( $F=23.831$ ,  $p<0.001$ ). Intelligence is dominantly attributed to scientists and artists. Adolescents admire show business celebrities and occasionally fictional characters for their physical appearance. Professional success is associated with sports and social power with politics. Logistic regression ( $\chi^2(10)=85.259$ ,  $p<0.001$ ) shows that actors and singers are perceived as attractive but not professionally successful (negative beta coefficient). Sportsmen are admired because of professional results and humanity while beauty and intelligence are not their traits ( $\chi^2(10)=111.781$ ,  $p<0.001$ ). Intelligence

is the only reason predicting the choice of scientists and artists ( $\chi^2(10)=27.026$ ,  $p<0.01$ ), while politicians and rulers are seen as powerful but not successful ( $\chi^2(10)=41.42$ ,  $p<0.001$ ). New role model categories obviously accompany new media trends. Relations between idol preferences and associated reasons reveal that adolescents attribute and value different characteristics in various role model types.

*Keywords:* adolescents, public figures, role models, reasons

This research was supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia, Grants No. 179018.

## PERCEPCIJA SOCIO-EMOCIONALNE RESPONZIVNOSTI I UTICAJA DETETA SA TEŠKOĆAMA IZ AUTISTIČNOG SPEKTRA NA PORODICU KAO ČINIOCI RODITELJSKOG STRESA

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Roditeljski stres podrazumeva stanje iscrpljenosti koje proističe iz zahteva povezanih sa ulogom roditeljstva. Istraživanja ukazuju da je nivo roditeljskog stresa viši u porodicama dece sa teškoćama u razvoju, usled usložnjavanja zahteva koji se pred njih postavljaju. U ovom istraživanju smo se usmerili na ispitivanje nivoa i korelata roditeljskog stresa u porodicama dece sa autizmom. Kao jedan od korelata odabrana je opažena socio-emocionalna responzivnost deteta s obzirom da su ispoljavanje emocija i socijalna komunikacija oblasti funkcionisanja u kojima najčešće dolazi do teškoća kod osoba sa autizmom. Opažena socio-emocionalna responzivnost je merena skalom konstuisanom u svrhe ovog istraživanja ( $\alpha=0.90$ ). Kako izazovi koji dolaze posle saznanja o dijagnozi mogu uzdrmati ne samo roditelje, već i porodicu kao celinu, ispitana je i povezanost roditeljskog stresa i uticaja deteta sa autizmom na porodicu, opaženog od strane roditelja. Ispitan je uticaj deteta na različite aspekte porodice: pozitivna i negativna osećanja u vezi sa roditeljstvom, socijalni život roditelja, brak, finansije i uticaj na braću/sestre. Prepostavka je da će roditeljska percepcija niže socio-emocionalne responzivnosti deteta i snažnijeg uticaja deteta na porodicu biti povezana sa višim nivoima stresa. U istraživanju su učestvovali 44 majki dece sa autizmom, članice Saveza udruženja Srbije za pomoć osobama sa autizmom, kojima su poslata četiri upitnika u elektronskoj formi: Upitnik o socio-demografskim varijablama, Indeks roditeljskog stresa – skraćena verzija ( $\alpha=0.95$ ), konstruisani Upitnik o socio-emocionalnoj responzivnosti dece sa

autizmom ( $\alpha=0.90$ ) i Upitnik o uticaju na porodicu ( $\alpha=0.83-0.92$ ). Rezultati istraživanja govore u prilog postavljenoj hipotezi. Naime, što roditelji opažaju nižu socio-emocionalnu responzivnost svog deteta ( $r=-0.59$ ,  $p<0.001$ ) i što opažaju snažniji uticaj deteta na porodicu ( $r=0.63$ ,  $p<0.001$ ), njihov roditeljski stres je izraženiji. Nije nađena statistički značajna povezanost nivoa stresa sa socio-demografskim varijablama. Navedeno ukazuje da način na koji majke opažaju svoju decu stoji u vezi sa njihovim doživljajem roditeljskog stresa. Rezultati ovog istraživanja mogu pružiti pomoć u rekonstrukciji sopstvenih očekivanja u ulozi roditelja, a potom i u pružanju psiho-socijalne podrške majkama dece sa autizmom.

*Ključne reči:* problemi sa školom i učenjem, srednjoškolci, fokus grupna diskusija

### Perception of socio-emotional responsiveness and the influence of a child with problems from the autistic spectre on the family as factors of parental stress

Literature reports that families of children with autism spectrum disorder (ASD) experience more parental stress than other families. This research examines the relation between parental stress and parental perception of socio-emotional responsiveness of their child with ASD. Also, it studies the relation between parental stress and the impact of child with ASD on family. The sample consisted of 44 mothers of children with ASD, members of Serbian Society of Autism, who filled out 4 questionnaires: *Socio-demographic Variables Questionnaire*, *Parental Stress Index – short version*, *Socio-emotional Responsiveness Questionnaire*, constructed for this research, and *Family Impact Questionnaire*. The results show that there is a statistically significant correlation of parental stress with perceived socio-emotional responsiveness of child with ASD ( $r=-0.59$ ,  $p<0.001$ ), and with perceived impact of child with ASD on family ( $r=0.63$ ,  $p<0.001$ ), but there is no statistically significant correlation with socio-demographic variables.

*Keywords:* problems with school and learning, high school students, focus group discussion

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## DA LI UČEŠĆE U SPORTU ZADOVOLJAVA RAZLIČITE PSIHOLOŠKE POTREBE DEČAKA I DEVOJČICA U ADOLESCENCIJI?

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Teorija osnovnih potreba, kao mikroteorija Teorije samoodređenja (SDT), polazi od toga da postoje urođene i univerzalne, osnovne psihološke potrebe: potreba za autonomijom, za kompetentnošću i povezanošću. Sve tri psihološke potrebe dolaze do izražaja upravo u periodu adolescencije, kada adolescent ima potrebu da pripada, ali da u isto vreme samostalno donosi odluke i ima percepciju ličnog izbora, ali i potrebu da bude uspešan u aktivnostima kojima se bavi jer time formira sliku o sebi na osnovu koje dalje modifikuje svoje ponašanje. Zadovoljenje ovih potreba dovodi do boljeg mentalnog i fizičkog zdravlja. U okviru SDT-a aspekti individualnog funkcionisanja poput urođenih osnovnih psiholoških potreba se nalaze u međuzavisnom odnosu sa socijalnim kontekstom. Tako u kontekstu sporta, novom socijalnom okruženju u adolescenciji koje dobija na značaju, osnovne potrebe imaju relevantnu ulogu u psihičkom funkcionisanju sportiste i u njegovom performansu. S obzirom na razliku u socijalizaciji sportistkinja i sportista, ovo istraživanje se bavi pitanjem da li postoji razlika u stepenu u kom sport ispunjava osnovne psihološke potrebe dečaka i devojčica? Uzorak se sastojao od 66 rukometara i 57 rukometarica sa teritorije Vojvodine, prosečnog uzrasta od 13,5 godina, koji su u proseku trenirali rukomet 50 meseci. Za procenu stepena zadovoljenja osnovnih psiholoških potreba u sportu koristili smo Skalu zadovoljenja osnovnih potreba u sportu (BNSSS, Ng, Losdale, & Hodge, 2011). Skala se sastoji od pet subskala: Kompetencija, Povezanost i tri subskale Izbor, IPLOC (percepcija unutrašnjeg lokusa kauzalnosti) i Volja koje zajedno čine subskalu Autonomija. Rezultati ANOVE pokazuju da se dečaci i devojčice razlikuju u stepenu zadovoljenja potrebe za kompetentnošću ( $F(2,121)=1.58, p<.01$ ), potrebe za povezanošću ( $F(2,121)=1.55, p<.01$ ) i potrebe za autonomiju koja se odnosi na aspekt volje ( $F(2,121)=7.75, p<.01$ ). Sport u većoj meri zadovoljava potrebu za povezanošću, kompetencijom i autonomijom koja se odnosi na volju kod devojčica nego kod dečaka. Razlog za ove polne razlike se pronalazi u različitim oblicima socijalizacije devojčica i dečaka u sportu, polno uslovljenoj brzini maturacije i drugačije organizovanim trenažnim procesima za dečake i devojčice. U radu su razmatrane praktične i teorijske implikacije rezultata.

*Ključne reči:* osnovne psihološke potrebe, adolescencija, mladi sportisti, polne razlike u sportu

## Does participation in sport satisfies different psychological needs of boys and girls in adolescence?

Due to the difference in socialization of male and female athletes, this study addresses the question of whether the sports satisfy different basic psychological needs of boys and girls. The sample consisted of 66 male and 57 female handball players, the average age of 13.5 years. To assess the degree of satisfaction of basic psychological needs in sport Basic Need Satisfaction in Sport Scale - BNSSS (Ng, Losdale, & Hodge, 2011). Results of ANOVA show that boys and girls differ in the degree of satisfaction of the need for competence ( $F(2,121)=1.58, p<.01$ ), relatedness ( $F(2,121)=1.55, p<.01$ ) and the need for autonomy that refers Volition ( $F(2,121)=7.75, p<.01$ ). Sport to a greater extent meets the need for relatedness, competence and autonomy, in girls than in boys. The paper discusses the practical and theoretical implications of the results.

*Keywords:* basic psychological needs, adolescence, young athletes, gender differences in sports

## DA LI SRPSKI PROFESIONALNI SPORTISTI PLANIRAJU PENZIJU

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Penzija je proces koji obuhvata dugotrajan period počevši od planiranja penzije, koje predstavlja prvu fazu, pa zatim sledi odluka o penzionisanju i sam događaj odlaska u penziju i nakon toga sledi poslednja treća faza prilagođavanja na penziju. Kako će izgledati druga i treća faza, u velikoj meri zavisi od toga kako je protekla prethodna. Planiranje penzije je ključna odrednica uspešnog prilagođavanja na penzionisanje. U kontekstu sporta, povlačenje iz sporta nije jednostavno događaj, već proces koji započinje već nakon što sportista profesionalno počne da se bavi sportom. Cilj ovog istraživanja je kako sportisti

procenjuju proces povlačenja iz sporta, kada i pod kakvim uslovima će se povući iz profesionalnog sporta, da li imaju plan čime će se baviti nakon profesionalne sportske karijere? Kreiran je upitnik čije stavke su se odnosile na razmišljanja o povlačenju, proces penzionisanja, tok i ishod povlačenja. Ispitanici su odgovorali na pitanja sa DA ili NE ili koristeći Likertovu skalu. Uzorak u ovom istraživanju je činilo 63 profesionalnih sportista (žene=16, muškarci=47), prosečnoguzrasta 29,9 godina, kojima je sport glavni izvor prihoda. Rezultati pokazuju da 25,4% sportista nikad nije razmišljalo o penzionisanju, dok njih 19% izveštava o osećaju neprijatnosti kada pomisli na povlačenje iz sporta. Kada je u pitanju proces povlačenja iz sporta, sportisti procenjuju početak ( $M=2.92$ ) i kraj procesa ( $M=2.90$ ) kao stresnije. Većina ispitanih sportista nakon povlačenja namerava da se bavi poslom trenera ili menadžera ( $M=3.70$ ), posveti porodici kako bi partner mogao da se posveti karijeri ( $M=3.30$ ) i završi fakultet ( $M=2.86$ ). Kada je u pitanju podrška tokom procesa povlačenja, sportisti u velikoj meri očekuju podršku od porocie ( $M=3.82$ ). Kao najpoželjnije vreme za povlačenje iz sporta ispitanici navode trenutak kada ostvare najveći uspeh u sportu ( $M=3.86$ ). Dobijeni kvalitativni rezultati ukazuju na potrebu daljeg ispitivanja procesa povlačenja iz sporta i daju osnovu za kreiranje programa podrške sportistima tokom penzionisanja kako bi im se mogla pružiti konzistentna, adekvatna i sistematična podrška u domenima u kojim smatraju da je potrebno osnažiti njihove resurse.

*Ključne reči:* profesionalni sport, povlačenje iz sporta, planiranje penzije

Do Serbian profesional athletes plan their withdrawal from sports?

The aim of this research is to determine if professional athletes plan their withdrawal from sports and what are their feelings and action towards it. The sample consisted of 63 Serbian professional athletes. The results show that athletes expect certain problems during the process of withdrawal and support from the environment during withdrawal. One quarter of participants never thought about the withdrawal from sports, and 19% of them find that thinking about withdrawal is unpleasant. Most of the surveyed athletes had a plan for life after withdrawal, and expect to withdraw when they achieve the highest success in sports. Overall, the results provide evidence for the need to design support programs for athletes during withdrawal in order to provide a consistent, adequate and systematic support in the domains in which they find it necessary to strengthen their resources.

*Keywords:* professional sports, retirement from the sport, planning for retirement

## *SOCIJALNA PSIHOLOGIJA*

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## TO BI OR NOT TO BI – ARE BISEXUALS TWOFOLD DISCRIMINATED GROUP?

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Bisexuality (BS) denotes romantic or sexual attraction toward both men and women. Previous research of attitudes toward bisexuals suggests that they are sometimes discriminated by heterosexual majority, as well as within the LGB community. This could be due to social identity interplay: if BS is perceived as a hybrid identity, both heterosexuals and homosexuals could perceive them as outgroups. Alternatively, homosexuals could perceive BS as an ingroup, being a part of the same discriminated LGBT population. Following this argumentation, we explored whether more salient heterosexual or homosexual identity leads to more negative attitudes toward BS, or more identification with own group leads to more negative attitudes in heterosexuals, but more positive attitudes in homosexuals. To measure attitudes toward BS we constructed a scale (Cronbach's  $\alpha=.94$ ); we adapted *Affirmation and belonging* and *Outgroup orientation* from Phinney's Multigroup Ethnic Identity Measure, to measure salience of social identity based on sexual orientation. In addition, subjects assessed the discrimination faced by hetero/homo/bisexual groups. A total of 396 participants (females: 66%, males 34%; heterosexuals: 64%, homosexuals 36%) took part in the research. The questionnaire was created in an online platform and distributed via social media, using the snowballing technique. Attitude toward BS was more positive in homosexual group than in the heterosexual group ( $t(394)=4.123$ ,  $p<.001$ ), and its predictors differed in heterosexual and homosexual subsamples. Linear regression showed that, in heterosexuals, two most important predictors were two measures of heterosexual identity: outgroup orientation ( $\beta=.412$ ,  $p<.001$ ), affirmation and belonging ( $\beta=-.240$ ,  $p<.001$ ), followed by perceived discrimination of BS women ( $\beta=.167$ ,  $p=.011$ ) and perceived discrimination of BS men ( $\beta=.147$ ,  $p=.026$ ). The model explained 45.2% of the variance. In homosexuals, however, different model emerged: perceived discrimination of BS men was the only significant predictor ( $\beta=.41$ ;  $p<.001$ ), while two measures of homosexual identity were not significant predictors. The model explained 17% of the variance. Our results do not support the idea of twofold discrimination of BS group – it seems that in heterosexual

majority, more identification with the ingroup lead to less acceptance of the BS; however, in homosexual minority, this relation was not replicated, and most important predictor of attitude was perceived discrimination of BS men.

*Keywords:* bisexuality, social identity, hybrid identities, LGB

## PREDICTION OF POLITICAL BEHAVIOR: COMPARISON OF SERBIAN AND AMERICAN MODELS OF LEXICAL SOCIAL ATTITUDES

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Recently, there are few attempts to apply lexical approach in research of structure of ideology and social attitudes. Research conducted in USA and Serbia resulted in five common basic attitudinal dimensions: Traditional and religious authorities (TRA), Unmitigated Self-interests (USI), Humanism (HUM), Subjective spirituality (SS) and Egalitarianism (EGA). One additional factor – Nationalism (NAT), was also extracted from Serbian language. But, these two models were not, until now, compared by their predictive capacities. The aim of this study is to investigate the capacities of American and Serbian models of lexical social attitudes to predict political behavior, operationalized as parties' evaluations and voting behavior. LSS-60 as measure of Serbian and SDI-46 as measure of American model of lexical social attitudes, together with measures of political parties' evaluation and voting for political parties in Serbia on election in 2014, were administered online to the convenience sample of 540 Serbian citizens. Two independent analyses were realized. First, two hierarchical regression analyses were conducted to predict preferences of National-conservative (NCP) and Socio-Liberal political parties (SLP). In both of them, as predictors, American lexical social attitudes on the first step and Serbian ones on the second step of the analysis were included. Results showed that Serbian lexical social attitudes explain about 3% of variance of both of criterion variables above and beyond the ones from the American models. Positive evaluation of the SLP's was explained by HUM from both models of lexical social attitudes. In the case of NCP's, TRA from American model and Nationalism from the Serbian one had the most significant effects. Second, discriminant analysis was conducted to determine which lexical models of social attitudes will better discriminate four groups: voters of NCP's and SLP's, voters who decide to spoil their votes and abstinent. Three discriminant functions were isolated; two of them were statistically significant. Characteristics of the discriminant functions were slightly better in the case of Serbian model. First of them, which discriminate the voters of NCP's and SLP's, was saturated

by TRA and USI positively (as well as Nationalism in the Serbian model) and HUM negatively. Second one discriminate the active voters from spoilt voters and abstinent. This function was saturated by high HUM and low EGA. The results showed that lexical social attitudes have good predictive validity and that the ones derived from Serbian language have better predictive qualities than english-language derived ones. Lexical social attitudes are relevant framework for understanding different aspects of political behavior.

*Keywords:* lexical approach, social attitudes, predictive validity, political parties, voting behavior

## SOCIAL ATTITUDES AND INTERGROUP CONTACT AS DETERMINANTS OF READINESS FOR RECONCILIATION

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After almost 20 years from the end of the armed conflicts in former Yugoslavia, we are witnessing situation in which the main causes of the conflicts are not overcome. In this study, we are focused on socio-psychological ones – social attitudes and intergroup contact. This study had two aims. First, to explore potential differences in readiness for reconciliation of Serbs from Northern Kosovo, Republic of Srpska and central Serbia; in central Serbia, readiness for reconciliation with Croats was examined, in Kosovo and Republic of Srpska – with Kosovo Albanians and Bosniaks, respectively. The second aim was to explore effects of social attitudes and contact with out-group members on readiness for reconciliation. The Readiness for reconciliation scale and Ethos of Conflict scale (EOC) were used as indicators of readiness for reconciliation. Saucier's SDI-25 measured five social attitudes: Traditional-oriented religiosity (TRA), Unmitigated Self-interests (USI), Communal Rationalism (CR), Subjective Spirituality (SS) and Inequality-Aversion (IA). Intensity of contact with the out-groups was measured by two questions, about having friends from out-groups and frequency of contact with them. The study was realized on three samples: in central Serbia ( $N=306$ ), Kosovo ( $N=139$ ) and Republic of Srpska ( $N=181$ ). All participants were Serbian nationality. As expected, results of

ANOVA showed that there are significant differences regarding readiness for reconciliation between groups of respondents from central Serbia, Northern Kosovo and Republic of Srpska, both in case of positive attitudes toward reconciliation ( $F(623,2)=36.212, p<.05, \eta^2=.10$ ) and lower level of EOC ( $F(623,2)=76.514, p<.05, \eta^2=.20$ ). Besides, the lowest level of readiness for reconciliation was found within Northern Kosovo respondents. Results of regression analyses, with readiness for reconciliation and EOC as criteria and intergroup contact and social attitudes as predictors, showed that TRA have negative effects on readiness for reconciliation and positive one on EOC consistently through all three subsamples. Additionally, in Republic of Srpska, contact with out-group and IA positively, and USI negatively contributed to understanding of readiness for reconciliation with Bosniaks. The participants with higher CR and SS were more willing to reconcile with Kosovo Albanians. Readiness for reconciliation of respondents from central Serbia was determined, besides TRA, by higher CR. In Serbia and Northern Kosovo intergroup contact had no effect on both readiness for reconciliation and EOC. This study suggests that traditional religiosity represents a most important factor that could prevent reconciliation between groups and facilitate a possibility for new conflicts to emerge.

**Keywords:** readiness for reconciliation, Ethos of conflict, lexical social attitudes, intergroup contact

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## UNBEARABLE LIGHTNESS OF ARGUMENTS: SUPPORT FOR MANDATORY VACCINATION CAN BE ERODED EVEN WITH WEAK EVIDENCE

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Researches on attitudes towards mandatory childhood vaccination (AMCV) usually target so called “anti vaxers” or “vaccine-hesitant” parents, investigating their motives for rejecting/questioning MCV and stability of this decision. In this

study, however, we targeted vaccination supporters and investigated whether their attitudes can be changed, and whether the quality of anti-vaccination arguments determines the change. Design of the present study was one factorial repeated measure design; argument quality was a between-subject factor, and AMCV was a within-subject factor (tested and retested for all participants). Participants ( $N=104$ ) were psychology students who strongly supported MCV (7 or higher on a nine-point Likert scale). They were randomly assigned to one of the groups and in both groups participants task was to read presented arguments and then to re-assess their AMCV. Arguments were represented to the participants in the article form which was directed against MCV. One text was based on low quality arguments - LQA (e.g. lay source, biased sample), and the other was based on high quality arguments – HQA (e.g. expert source, representative sample). Both texts were of similar length ( $375\pm6$  words) and with the same title. After the testing, participants were individually debriefed and told the article was fictitious. Average initial positive attitude of all respondents ( $M_{before}=7.62$ ,  $SD=.74$ ) decreased significantly after reading the articles ( $M_{after}=5.78$ ,  $SD = 1.82$ ;  $F(1,103)=118.7$ ,  $p<.01$ ),  $\eta^2=.56$ . Registered sensitivity to manipulation was different between two groups. High quality arguments substantially decreased support to MCV (from  $M=7.63$ ,  $SD=.72$  to  $M=5.31$ ,  $SD=1.83$ ), ( $F(1,51) = 91.204$ ,  $p<.01$ ),  $\eta^2=.64$ ; however, also did the low quality arguments, albeit with smaller effect (from  $M=7.62$ ,  $SD=.77$  to  $M=6.25$ ,  $SD=1.69$ ), ( $F(1,51)=39.221$ ,  $p<.01$ ),  $\eta^2=.44$ . These findings go to show that even strong support for MCV can be relatively easily eroded with even low quality evidence. Further research should investigate the stability of this change and the strategies to prevent it (e.g. by familiarizing the public with typical anti-vaccination arguments and counterarguments to those).

*Keywords:* attitude change, mandatory childhood vaccination, antivaccination, argument quality

## POVEZANOST POLA SA AFEKTIVNOM I KOGNITIVNOM KOMPONENTOM SUBJEKTIVNOG BLAGOSTANJA U SRBIJI

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U radu se istražuje povezanost pola i subjektivnog blagostanja u slučaju Srbije. Subjektivno blagostanje shvata se kao suma doživljavanja pozitivnog i negativnog afekta (afektivne komponente), sa jedne strane, i opšteg zadovoljstva životom (kognitivne komponente), sa druge strane. Nacionalno-reprezentativan uzorak stanovništva Srbije korišćen za potrebe istraživanja čini 17.187 ispitanika

anketiranih u okviru istraživačkog projekta *Survey on Income and Living Conditions* 2013. godine, starosti od 15 do 96 godina ( $M = 48,88$ ,  $SD = 18,77$ ), sa 51,2% žena i 48,8% muškaraca. U radu se konkretno ispituje povezanost učestalosti doživljavanja (tokom prethodne četiri nedelje) po dva pozitivna (mir i staloženost, i sreća) i tri negativna afekta (nervoza, neraspoloženost, i potištenost i depresivnost), kao i ukupnog zadovoljstva životom, sa polom ispitanika. Analiza podataka, pomoću t-testova za nezavisne uzorke, ukazala je na to da, prvo, nema značajnih razlika prema polu u odnosu na učestalost doživljavanja nervoze ( $t(12240)=1.44$ ,  $p>0.05$ ), i mira i staloženosti ( $t(12250)=-1.54$ ,  $p>0.05$ ), ali i to da žene značajno učestalije doživljavaju potištenost i depresivnost ( $t(11931)=4.18$ ,  $p<0.001$ ), neraspoloženost ( $t(11923)=2.33$ ,  $p<0.05$ ), i sreću ( $t(12194)=3.45$ ,  $p<0.01$ ). Drugo, između muškaraca i žena ne postoje značajne razlike u ukupnom zadovoljstvu životom ( $t(12275)=-0.48$ ,  $p>0.05$ ). Ovakvi rezultati, koji ukazuju na učestalije doživljavanje afekata kod žena, kako negativnih, tako i pozitivnih, i na približno jednako zadovoljstvo životom žena i muškaraca, u skladu su sa velikim brojem dosadašnjih nalaza dobijenih pomoću uzoraka iz drugih zemalja. U Srbiji je, međutim, ovaj domen istraživanja relativno zanemaren, a naročito na velikim, nacionalno-reprezentativnim uzorcima. U narednim istraživanjima bi bilo korisno prvenstveno ispitati uticaj drugih varijabli na pomenutu povezanost.

*Ključne reči:* pol, subjektivno blagostanje, Srbija

Ovaj rad je potpomognut sredstvima sa projekta br. 179039 Ministarstva prosvete, nauke i tehnološkog razvoja Srbije.

### The relationship between gender, and affective and cognitive component of subjective well-being in Serbia

This paper examines the relationship between gender, and affective and cognitive component of subjective well-being, on a nationally-representative sample of Serbian population. The sample consists of 17.187 respondents surveyed within *Survey on Income and Living Conditions* in 2013, between 15 and 96 years old ( $M=48.88$ ,  $SD=18.77$ ), with 51,2% of women and 48,8% of men. Independent sample t-test revealed that there was no significant gender differences in terms of feeling nervous ( $t(12240)=1.44$ ,  $p>0.05$ ), and calm and peaceful ( $t(12250)=-1.54$ ,  $p>0.05$ ), but women significantly more often felt downhearted or depressed ( $t(11931)=4.18$ ,  $p<0.001$ ), down in the dumps ( $t(11923)=2.33$ ,  $p<0.05$ ), and happy ( $t(12194)=3.45$ ,  $p<0.01$ ). Also, there was no significant gender differences in overall life satisfaction ( $t(12275)=-0.48$ ,  $p>0.05$ ). These results are consistent with previous findings.

*Keywords:* gender, subjective well-being, Serbia

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## SOCIJALNE IDENTIFIKACIJE KOD PRIPADNIKA ETNIČKE MANJINE I VEĆINE U BOSNI I HERCEGOVINI

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Grupna pripadnost ima psihološko značenje i važnost za osobu, ali i za širi društveni kontekst. Problem ovog istraživanja predstavljaju obrasci identifikovanja većinskih i manjinskih grupa sa socijalnim i političkim kategorijama, koji nam omogućavaju razumijevanja konstruisanja socijalnih identiteta u društvu. Na osnovu ranijih istraživanja očekivali smo da se pripadnici etničke većine više identifikuju sa državom, a pripadnici manjine sa etničkom grupom. Dalje, na osnovu teorije međugrupnog kontakta, očekivali smo da pripadnici lokalne manjine, zbog svoje veće izloženosti pripadnicima druge grupe, pokazuju inkluzivnije oblike identifikacija u poređenju sa većinom. Socijalne identifikacije su mjerene procjenom važnosti različitih grupnih identifikacija. Ponuđene su identifikacije sa etničkom, religijskom, nacionalnom zajednicom, te Balkanom i Evropom. Pored toga, koristili smo mjeru inkluzivnosti socijalnog identiteta. Kao nezavisne varijable korišten je manjinski ili većinski status u okviru države (Srbi i Bošnjaci), te manjinski ili većinski status u gradu gdje žive (Banja Luka i Sarajevo). Istraživanje je rađeno na uzorku od 203 ispitanika koji su popunjavali online upitnik. Uzorak je prigodan, sačinjavaju ga mladi 20-30 godina, a ujednačen je po uzrastu, polu i etničkoj pripadnosti. Analize razlika između grupa pokazuju da većinski/manjinski status ispitanika na lokalnom nivou imaju neznatan efekat na identifikacije ispitanika, dok status na nacionalnom nivou pokazuje efekte umjerenog intenziteta. Pripadnici nacionalne većine se značajno više identifikuju sa državom ( $F(1,199)=17.58, p<.001$ ), a pripadnici manjine sa svojom etničkom grupom ( $F(1,199)=5.03, p<.05$ ). Što se tiče razlika u izraženosti religijskih identifikacija, identifikacija sa Balkanom i Evropom, veličine efekta nisu dostigle nivo statističke značajnosti. Na inkluzivnosti socijalnog identiteta u oba grada pripadnici lokalne manjine pokazuju veću inkluzivnost ( $F(1,199)=11.52, p<.001$ ), dok razlika na nacionalnom nivou nema. Strategije kombinovanja etničkog, religijskog i državnog identiteta su takve da pripadnici nacionalne većine preferiraju dominaciju nacionalne identifikacije nad ostala dva, dok pripadnici državne manjine preferiraju presjek etničkog i religijskog identiteta. Pored toga što smo

ustanovili da se radi o prilično stabilnim identifikacijskim obrascima, sa praktične strane rezultati sugeriju da moderna društva moraju imati na umu ove identifikacione mehanizme ukoliko žele da usklade funkcionisanje multietničkih zajednica.

*Ključne riječi:* socijalne identifikacije, etnički i nacionalni identitet, manjinske i većinske grupe

### Social identification among the ethnic minority and the majority in Bosnia and Herzegovina

This study aims to identify patterns of majority and minority social and political identifications in B&H. The importance of identifications with ethnic, religious, national group, the Balkans and Europe, and social identity inclusiveness were DV's. The IV's were national and local city minority/majority status. The online survey was conducted on a convenient sample of 203 respondents 20-30 yrs. The results reveal the national majority show greater national identification and the minority identify more with their ethnic group. The local minority demonstrate greater social inclusiveness. Strategies of combining social identities show the national majority favored national identification dominance, while the national minority prefer cross-section of ethnic and religious identity. We conclude the patterns of identifications have stable forms, no matter the contextual specificities. From the practical point of view, results suggest that modern societies must keep in mind these mechanisms if they want to harmonize the functioning of the multi-ethnic communities.

*Keywords:* social identifications, ethnic and national identity, minority and majority groups

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## SOCIJALNE IDENTIFIKACIJE MLADIH U RELACIJI SA PORODIČNOM AFEKTIVNOM VEZANOŠĆU I RODITELJSKIM PONAŠANJIMA

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Socijalni identitet se određuje kao dio pojedinčevog samopoimanja sa uporištem u njegovoj pripadnosti različitim grupama. Procjena važnosti socijalnog identiteta se označava i kao jačina socijalnih identifikacija. U obilju istraživanja o identifikacijama malo je onih u kojim se povezuju sa porodičnim varijablama poput afektivne vezanosti i roditeljskih ponašanja. Veze između ovih pojava mogu da budu raznovrsne. Osobe koje su anksiozne (negativni model sebe), mogu biti okupirane potrebom da budu prihvaćene, te se konformiraju grupi zbog potrebe za sigurnošću. Oni sa izraženim izbjegavanjem (negativan model drugih) doživljavaju i bliskost sa grupom kao nepoželjnju. Mali broj istraživanja o ovome te raznovrsne relacije su nas motivisali da ispitamo u kojoj mjeri su socijalne identifikacije povezane sa porodičnom afektivnom vezanošću i doživljajem roditeljskih ponašanja? Istraživanje je sprovedeno na teritoriji Republike Srpske, na uzorku od 325 mladih (58% djevojaka i 42% mladića) srpske etničke pripadnosti. Ispitanici su bili uzrasta 16-25 godina, prosječnog uzrasta od 19 godina. Socijalne identifikacije su mjerene pitanjem: *”U kojoj mjeri je za vas značajna navedena grupa...?”* Ponuđene opcije su bile: porodica, prijatelji, etnička grupa, religija, grad, Republika Srpska, BiH, Balkan, Evropa, svijet. Korištene su i skale etnocentrizma od Neuliep i McCroskey, porodične afektivne vezanosti sa podskalama izbjegavanja i anksioznosti od Brennan, Clark i Shaver, te od Keresteš i saradnika upitnik roditeljskog ponašanja oca i majke sa dimenzijama roditeljska podrška, kontrola, popustljivost. Faktorizacijom socijalnih identifikacija smo dobili tri faktora koji objašnjavaju 71% varijanse: etno-religijska identifikacija (ERI), nacionalno-globalna identifikacija (NGI), identifikacija sa užim socijalnim krugom (ISK). Sva tri vida identifikacija negativno koreliraju sa dimenzijom afektivne vezanosti-izbjegavanje. ERI korelira i sa popustljivošću majke, a NGI sa anksioznošću te podrškom majke i oca. ISK korelira sa podrškom majke i oca, a etnocentrizam sa anksioznošću, kontrolom majke i oca, popustljivošću oca. Sve korelacije koje su značajne su niske ( $\max r(325)=.29, p<.01$ ). Zaključujemo da porodične varijable nisu snažan korelat socijalnih identifikacija ali da postoje indicije da je izbjegavanje porodice

praćeno slabijim socijalnim identifikacijama. Rezultati su prodiskutovani u svjetlu ranijih istraživanja i hipoteza, od kojih su neke i potvrđene.

*Ključne riječi:* socijalne identifikacije, roditeljska ponašanja, afektivna vezanost

### Social identifications of youth in relation with family attachment and parental behaviour

In numerous researches on social identifications there are only few that link these phenomena with family sphere variables. Small number of such researches motivated us to explore correlation of social identifications with family attachment and sense of parental behaviour? The research has been implemented in territory of Republika Srpska, on a sample of 325 youngsters (58% females and 42% males) of Serb ethnicity. Respondents were secondary school students and university students, age 16 to 25. Factorisation of social identifications resulted with three factors that explain 71% variance: ethno-religious identification, national-global identification, identification with narrower social group. Conclusion is that family variables are not in strong correlation with social identifications, but there are certain indications that avoidance of family is followed by weak social identifications. Results have been discussed in light of previous researches and hypotheses, and some are confirmed.

*Keywords:* social identifications, parental behaviours, family attachment

## SOCIJALNI STAVOVI I MILITANTNO-EKSTREMISTIČKI MENTALNI SKLOP KAO PREDIKTORI STAVA PREMA „PARADI PONOSA“

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Diskurs o „Paradi ponosa” u Srbiji gotovo uvek sadrži pitanje bezbednosti. Upravo je bezbednost, odnosno nebezbednost bila glavni razlog zabrane skupa „Parada ponosa”. Iako je sama zabrana bila protivustavna, odluka je bila prihvaćena od stane većine stanovništva i političkih aktera. Osim ovih ekstremnih

tradicionalnih stavova, u javnosti su bili pristuni i ekstremni stavovi koji su se zalagali za drugi vid mera – progresivne mere. Te mere su, takođe, bile protivustavne i odnosile su se, pre svega, na prevetnivno hapšenje aktera koji su pozivali na nasilje nad učesnicima „Parade ponosa”. Zbog svega navedenog, hteli smo da proverimo odnose između (1) zalaganja za tradicionalne i progresivne protivustavne mere i (2) socijalnih stavova i militantno-ekstremističkog mentalnog sklopa. Istraživanje smo sproveli na 179 studenata fakulteta Političkih nauka i Fakulteta bezbednosti Univerziteta u Beogradu, čija je prosečna starost 20.7 godina ( $SD=1.04$ ), zbog toga što su oni budući ključni akteri narativa o „Paradi ponosa”. Od instrumenata su korišćeni: 1) MEMS (Militant extremist mindset – militantno-ekstremistički mentalni sklop); 2) SDI-46 skala za procenu socijalnih stavova; 3) modifikovana Bogardusova skala za procenu distance prema osobama LGBTIQ populacije i 4) pitanja koja se odnose na konzervativnu i progresivnu ekstremnu mjeru („Država treba da zabrani skup [...]”; „Država treba da preventivno uhapsi ekstremiste [...]“). Korelacija između odgovora na ova dva pitanja iznosila je  $-.67$ , što govori da su ova dva vida ekstremizma suprotstavljenja. Hijerarhijskom linearnom regresijom je proveravana mogućnost predviđanja prihvatanja ovih ekstremnih mera – gde su u prvom bloku bili socijalni stavovi (izmi), u drugom faktori MEMS, a u trećem socijalna distanca. Kao značajni prediktori progresivnih mera izdvojili su se: zli svet ( $b=-.43, p<.01$ ), tradicionalni i religiozni izvori autoriteta ( $b=-.41, p<.05$ ) i socijalna distanca ( $b=-.05, p<.05$ ) – koji objašnjavaju 14.2% varijanse. Kao značajni prediktori konzervativnih mera izdvojili su se: tradicionalni i religiozni izvori autoriteta ( $b=.68, p<.01$ ) i socijalna distanca ( $b=.06, p<.05$ ) – koji zajedno objašnjavaju 13% varijanse. Dobijeni nalazi govore u prilog tome da prihvatanje ekstremističkih uverenja možemo objasniti socijalnim stavovima. Nalazi sugerisu i da su za sklonost ka tradicionalnom ili progresivnom ekstremizmu odgovorni neki različiti činioci, ali i neki zajednički koji deluju u suprotnom smeru.

*Ključne reči:* parada ponosa, socijalni stavovi, militantni ekstremizam

### Social attitudes and Militant Extremist Mind-set as predictors of attitudes towards Gay Prid

The Gays Pride in Serbia has been banned several times due to the security reasons. It's ban, unconstitutional created two voices in the public discourse 1) the traditional one, pro-ban and 2) the progressive one, suggesting unconstitutional measures towards the right wing extremists. The aim of this study was to explore the explore relations between 1) the two voices and 2) personality constructs - social attitudes and militant extremist mind-set. There were 179 participants, mean age 20.7 ( $SD=1.04$ ). Predictors of the progressive beliefs attitudes were vile world ( $b=-.43, p<.01$ ), alpha scale ( $b=-.41, p<.05$ ) and social distance ( $b=-.05, p<.05$ ). Predictors of the pro-ban

beliefs were alpha scale ( $b=.68, p<.01$ ) and social distance ( $b=.06, p<.05$ ). The results suggest that the two beliefs have some unique personality correlates and some common, that are associated in opposite directions.

*Keywords:* pride, social attitudes, militant extremism

## POSTWAR SOCIETIES OF THE FORMER YUGOSLAVIA AND ATTACHMENT

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The goal of the current study was to examine the differences in attachment dimension levels across the countries of the former Yugoslavia and explore if the pattern of these differences can be related to the experiences of the Yugoslav wars which were suffered by the previous generation, generation of parents of participants in the study. For this purpose, an ex post facto study was conducted in which a total of 1187 students of helping professions (psychology, education, social work, teacher education) from five countries of the former Yugoslavia were asked to complete the ECR-R (Slovenia – 196 participants, Croatia – 260, B&H Federation – 211, B&H Srpska – 110, Serbia – 173, Macedonia (FYR) – 237). Following the example of the famous IBM study conducted by Hofstede (1980), it was decided that all the samples from the countries/entities included in the study be as similar as possible. A number of ordinal country level variables were derived including the level of war exposure, outcome of the war, national wealth and EU membership status, which were then correlated with attachment dimensions. For these variables, participants from each country were assigned the value for their respective country. For war exposure, countries were ranked according to the level of actual fighting in cities (B&H Federation highest; Croatia, B&H Srpska and Serbia middle; Slovenia and Macedonia lowest). For the war outcome they were ranked according to whether country won the war (Slovenia and Croatia), lost (Serbia), or end up in stalemates (B&H and Macedonia). Dominant religion was codified based on the statistical data that was available online. Spearman correlations between attachment dimensions and the level of country war exposure was  $-.051$  ( $p>.05$ ) for Avoidance and  $.056$  for Anxiety ( $p>.05$ ). Correlations with the national wealth was  $-.139$  ( $p<.001$ ) with

Avoidance and .150 ( $p<.001$ ) with Anxiety. Country level correlations for war outcome were .101 ( $p=.001$ ) for Avoidance and -.176 ( $p<.001$ ) for Anxiety. For dominant religion correlations (Eta) were .131 for Avoidance ( $p<.001$ ) and .192 for Anxiety ( $p<.001$ ). The results show that the pattern of differences is more related to economic and religious differences between the countries participants were from than to the country level indicators of exposure to war used in the study.

**Keywords:** former Yugoslavia, attachment, Anxiety, Avoidance, war experiences, social trauma, cultural trauma

## ATTITUDES TOWARDS OBESITY IN THE SERBIA MEASURED BY FAT PHOBIA SCALE

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The persons who suffer from obesity are often stigmatized from the general public which can cause psychological stress and lead to development of depression. The aim of this study was to explore attitudes towards overweight and obesity. The students of FASPER were trained to administrate instrument assessing random sample from several cities in Serbia. The sample consisted of 184 participants (34.6% male), age ranging from 15 to 83 years ( $M=31.41$ ). In the first part of the study vignette with description of the women who suffers from obesity and vignette with description of the women with an average weight were presented. Vignettes were adopted from the study conducted by Pantenburg et al. Participants attitudes towards obesity were assessed via short version of Fat Phobia Scale (FPS). FPS is a semantic differential scale (ranging from 1 to 5) consists of 14 pairs of adjectives, where higher scores represent more negative attitudes. The cut off score of FBS was 2.5; scores bellow 2.49 were marked as neutral or positive attitudes and scores greater than 2.5 were marked as negative attitudes. The paired sample  $t$ -test showed significant statistical difference between scores on FPS in both vignettes ( $t=16.107$ ,  $p<.000$ ). The participants displayed more negative attitudes for the overweight vignette ( $M=3.6$ ,  $SD=.61$ ) than for the normal weight vignette ( $M=2.48$ ,  $SD=.61$ ). Total of 5% of participants expressed neutral or positive attitudes for the overweight vignette and 95% showed negative attitudes. On the other hand, in the condition of normal weight vignette 50% of participants expressed negative attitudes and 50% of

sample showed neutral or positive attitudes. Univariate analysis of variance showed significant difference regarding participant's body mass index for overweight vignette ( $F(3)=4.458, p<.01$ ). Post-hoc Scheffe analysis revealed difference between participants who were underweight ( $M=3.13, SD=.67$ ) and participants of normal body weight ( $M=3.68, SD=.56$ ). Further, the independent sample  $t$ -test showed difference in the attitudes between males and females participants ( $t=2.157, p<.05$ ). The male participants ( $M=3.74, SD=.08$ ) expressed more negative attitudes for the overweight vignette than female participants ( $M=3.53, SD=.05$ ). The results indicate that overall and male participants held negative attitudes towards obesity. These findings indicate urge for developing anti-stigma programs which can help in decreasing stigmatization.

**Keywords:** obesity, attitudes, Fat Phobia Scale, overweight, BMI

## ODNOS STIGME I ZADOVOLJSTVA ŽIVOTOM KOD OSOBA KOJE ŽIVE SA HIV-OM: MEDIJATORNA ULOGA VERE U PRAVEDAN SVET

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Prethodna istraživanja ukazuju da je učestala stigmatizacija kojoj su osobe koje žive sa HIV-om izložene, često praćena povišenim nivoom depresivnosti i anksioznosti, sniženim samopoštovanjem, neredovnim uzimanjem terapije i sniženim kvalitetom života. Međutim, tek nekolicina ovih istraživanja posvećena je rasvetljavanju mehanizma kojim stigma ostvaruje prethodno pomenute negativne efekte. Imajući u vidu da je vera u pravedan svet vrsta pozitivne iluzije, postavlja se pitanje da li je ona ugrožena kod žrtava negativnih životnih ishoda poput učestale izloženosti stigmatizaciji, i kako se to odražava na zadovoljstvo životom? Cilj istraživanja bio je ispitati odnos između određenih vrsti stigme i zadovoljstva životom osoba koje žive sa HIV-om. Takođe, cilj je bio ispitati i da li će vera u pravedan svet imati ulogu medijatora kada je u pitanju odnos između prethodno pomenutih varijabli. U istraživanju je učestvovalo 72 ispitanika koji žive sa HIV-om, većinom sa juga Srbije, s obzirom na to da je uzorak prikupljen na Klinici za infektivne bolesti u Nišu. Od instrumenata, primenjene su HIV stigma scale kojom smo ispitivali doživljenu i internalizovanu stigmu ( $\alpha=.79, .95$ ), Skala vere u pravedan svet ( $\alpha=.76$ ) i Skala zadovoljstva životom ( $\alpha=.87$ ). Na osnovu rezultata uočava se veza između ispitanih vrsti stigme i zadovoljstva životom koja nije direktna, već posredovana verom u pravedan svet. Indirektni efekat doživljene stigme na zadovoljstvo životom iznosi  $b=-.42, 95\% \text{ CI } [-.73, -.19]$ , dok indirektni efekat internalizovane stigme na zadovoljstvo životom iznosi

$b = -.46$ , 95% CI [-.75, -.23]. Rezultati ukazuju da izloženost stigmi može voditi opadanju vere u pravedan svet i razvoju osećaja odsustva kontrole nad svojim životom, predvidljivosti, uređenosti, što za krajnji ishod ima nezadovoljstvo životom.

Ključne reči: stigma, vera u pravedan svet, zadovoljstvo životom, HIV

### Relationship between stigma and life satisfaction in people living with HIV: The mediating role of the belief in a just world

Previous research indicates that the stigmatization of people living with HIV is often correlated with reduced well-being. Having in mind that the belief in a just world is a kind of positive illusion, the question then arises whether this belief will be threatened by the negative life outcomes such as exposure to stigma, and will it affect life satisfaction? Primary aim of this study was to explore whether the belief in a just world mediates association between different types of stigma and life satisfaction. Our research included 72 patients living with HIV, mostly from South Serbia. There was a significant correlation between types of stigma and life satisfaction that is not direct, but mediated by the belief in a just world. The results indicate that exposure to stigma can lead to a decline of the belief in a just world which as a final outcome lowers life satisfaction.

*Keywords:* stigma, belief in a just world, life satisfaction, HIV

## (IM)MORAL FOUNDATIONS OF INTERGROUP CONFLICT

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Moral Foundations Theory (MFT) suggests that there are five basic moral foundations which influence moral decisions and behavior: Harm, Fairness, Ingroup, Authority and Purity. The Former two are also labeled as Individual, while the latter three are called the Binding foundations. Theory is criticized from a viewpoint that Ingroup and Authority are not dispositions towards moral

behavior, and that they in fact represent characteristics of authoritarian personality. We tested the validity of MFT by exploring the relations between the foundations and the beliefs regarding the conflict and reconciliation in three samples: Serbs in Kosovo, Republic of Srpska and central Serbia, (N total=643). We administered the inventory which measures moral foundations (MFQ), the Ethos of Conflict questionnaire (EOC), and the inventory which explores the attitudes toward reconciliation. We adapted the two last measures for each sample: the attitudes toward Kosovo Albanians were explored in Kosovo, the attitudes toward Bosnian Muslims in the Republic of Srpska, while the attitudes toward Croatians were measured in Serbia. Two hypotheses were set: Individual foundations should be positively related to reconciliation and negatively with EOC, while the opposite should apply to Binding foundations (especially to Ingroup and Authority). This would indicate that binding foundations are more related to authoritarian, antagonistic and conflict-provoking tendencies. We conducted the analyses in each sample separately, in order to examine the replicability of the findings across the samples. The results showed that Binding foundations were positively associated with EOC, in contrast to Individual foundations, whose best predictor was Authority ( $\beta_1=.32, p<.01$ ;  $\beta_2=.24, p<.01$ ;  $\beta_3=.23, p<.01$ ). The opposite was found for readiness to reconciliation: Authority had negative contributions to the predictions ( $\beta_1=-.18, p<.05$ ;  $\beta_2=-.25, p<.01$ ;  $\beta_3$  not significant). Other predictors were less replicated across the samples, but the results were largely congruent with the hypotheses. The study findings revealed crucial differences in moral foundations in regards to intergroup conflict. Individual foundations have the potential to reduce conflictive sentiments; while Binding foundations tend to facilitate the conflict (this is especially true for Authority). Study results contribute to the critique of Moral Foundations Theory and provide practical suggestions for facilitating reconciliation.

*Keywords:* moral foundations, ethos of conflict, readiness to reconciliation

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## SOCIAL DOMINANCE ORIENTATION AND OUTGROUP ACCEPTANCE AMONG MACEDONIAN AND ALBANIAN YOUTH: THE MEDIATING ROLE OF SOCIAL IDENTITY INCLUSIVENESS

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This article aims to explore mediating role of social identity inclusiveness (i.e. identification with others on the base of different criteria, SII) in the relation between dominance orientation (that is, tendency to approve group-based social hierarchies, SDO) and outgroup acceptance (the extent to which Macedonian youth accept Muslims and the extent to which Albanian youth accept Orthodox Christians and Macedonians). It was hypothesized that higher social dominance orientation would be associated with lower outgroup members' acceptance and that inclusive social identity would mediate this relationship. Further, it was proposed that these associations would be stronger in ethnic Macedonians' subsample due to their majority status in the country than among ethnic Albanians as minority group. The sample consisted of 120 ethnic Macedonian and 131 ethnic Albanian young adults in Macedonia with different educational status. Mediation analyses were performed following Baron and Kelly's (1986) model. It was found that SDO was significant predictor of SII ( $\beta=-.37$ ,  $t=4.68$ ,  $p<.001$ ) explaining 13.7% in its variance ( $F(1,117)=18.63$ ,  $p<.001$ ) among Macedonian study participants. Social dominance orientation statistically significantly predicted level of outgroup (Muslims) acceptance ( $\beta=-.38$ ,  $t=-4.53$ ,  $p<.001$ ) accounting for 14.9% in its variance ( $F(1,117)=20.48$ ,  $p<.001$ ). It was revealed that stronger SDO was related to higher level of acceptance of Muslims. Results showed that 14.9% in the variance of distance toward Albanians was explained by SDO ( $F(1,117)=20.48$ ,  $p<.001$ ). Macedonian youth who tended to approve group-based social hierarchies reported lower level of acceptance of Albanians ( $\beta=.344$ ,  $t=3.96$ ,  $p<.001$ ). Analyses demonstrated that inclusive social identity partially mediated these relationships. Precisely, when SII was introduced as mediator, the strength of the relation of SDO to the level of acceptance of Muslims and Albanians decreased, but remained statistically significant. Explored associations between SDO, i.e. SII and outgroup acceptance among

Albanian participants were not statistically significant; only relationship of SDO to SII was statistically significant ( $\beta=-.191$ ,  $t=-2.21$ ,  $p<.05$ ). Accordingly, mediation analysis in this subsample was not conducted. Findings indicated that assumed associations among study variables should be seen through the majority/minority status of both groups on the national level.

**Keywords:** social dominance orientation, social identity inclusiveness, outgroup acceptance, mediation analysis

This research is part of the project “From inclusive Identities to Inclusive Societies: Exploring Complex Social Identity in Western Balkans”, funded by RRPP and the Swiss Agency for Development and Cooperation.

## THE RELATION OF DISGUST AND MORALITY WHILE CONTROLLING FOR OTHER EMOTIONS

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The debate on the role of the emotion of disgust in moral reasoning is a prevalent topic. While some see disgust only as avoidance mechanism toward pathogen infection, others believe it evolved in the domain of moral reasoning. On the assumptions that anti-social violations lead to avoidance of violators through disgust activation, Tybur et al. (2009) created a moral subscale of The Three Domains of Disgust Scale (*TDDS*). According to authors people report disgust when social norms are violated and relate it to morality violations. Our aim was to check if the relation between disgust and immorality present for this subscale and does it hold when the influence of other affective states is regressed out. It is known that negative-valence states (anger, sadness, fear, repulsion, contempt) influence estimates of immorality and it has also been shown that disgust ratings on this subscale can be affected by anger and general unpleasantness, questioning its construct validity. We hypothesized that controlling for negative-valence states, disgust will not be a predictor of immorality. Alternatively, if moral disgust is a valid construct it should be a predictor of immorality. Paper-pencil research was carried out on 84 female students of psychology. Two blocks of six statements were used. One block consisted of moral subscale items, while the other block consisted of counterpart statements (e.g. “*Deceiving your friend*” vs “*Helping your friend*”). This was made to check if moral statements indeed

measure immoral acts. The order of blocks was counterbalanced. For each statement participants had to rate disgust as well as other emotional reactions (repulsion, contempt, fear, sadness, anger, happiness) and immorality from the perspective of the agent. Half of the participants rated emotional reactions first, while the other half rated immorality first. The results showed immorality was related to disgust, anger, repulsion, and fear ( $r(82)=.24-.27, p<.05$ ), while the correlation of immorality and happiness was negative ( $r(82)=-.37, p<.01$ ). Disgust was highly related with anger, sadness, repulsion, and contempt ( $r(82)=.59-.83, p<.01$ ). Regression analysis shows that the relation between disgust and immorality does not remain after controlling for the other emotions ( $\beta=.17, p>.05$ ). Because of collinearity issues multiple regression estimates for immorality predictions were unreliable. We conclude that for this scale the construct of disgust could be an artefact of overlapping with other negative-valence states and not a valid predictor of immorality.

**Keywords:** the three domains of disgust scale, moral disgust, morality judgments

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## PSYCHOLOGICAL MOTIVES FOR ART FESTIVAL ATTENDANCE

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Art festivals attract large numbers of people, even those who usually do not attend similar art events (e.g. some people go to cinema almost exclusively during film festivals). Why is that? Past studies about the motives for festival attendance mostly followed escape (the desire to leave the everyday environment) – seeking (the desire to obtain psychological rewards through visiting contrasting environment) model. Results (obtained from various contexts, e.g. different types of festivals, tourists vs. local audience, etc.) are inconsistent, but most often several motives are revealed (e.g. cultural exploration, novelty, socializing, escaping the daily routine). This study aims to explore: 1. the motivational structure for attending art festivals, which attract mainly urban local audience and take place in the same town during the same season, 2. whether the perceived relevance of motives varies depending on the type of festival (music, theater, visual arts, film). The instrument (5-point scale; 1 strongly disagree to 5 strongly agree) included 28 items (e.g. *I want to experience customs and cultures different from those in my own environment; I come here to relieve boredom*) most often used in the escape–seeking paradigm. Random sample included 2319 visitors of Belgrade festivals: BEMUS (music), BITEF (theater), October Salon (OS, visual

arts), and Auteur film festival (AFF, film). *Factor analysis, method of principal components, Varimax rotation* extracted 4 components (explained 53.07% of the variance): learning (34.53%), equilibrium recovery (8.23%), excitement (5.71%), socializing (4.6%). All items had factor loadings  $>.40$  (23 had  $>.50$ ). Mean scores for four subscales ( $.79 \leq \alpha \leq .85$ ) were calculated. ANOVA (*Post hoc Tukey*) shows significant differences between festivals in all domains: learning  $F(3,2175) = 22.25, p < .001$ , (BEMUS with lowest  $M$  differs from all others); equilibrium recovery  $F(3,2081) = 2.99, p < .05$  (AAF with highest  $M$  differs from OS); excitement  $F(3,2155) = 4.03, p < .05$  (BITEF with highest  $M$  differs from BEMUS and OS); socializing  $F(3,2150) = 15.64, p < .001$  (OS with lowest  $M$  differs from all others). In line with previous research this study shows that one major component dominates, while perceived relevance of motives varies depending on the type of festivals. However, escape-seeking model does not provide a satisfying framework for understanding why people attend festivals (i.e. results do not support the escape-seeking dichotomy).

**Keywords:** festival visitors, motivation, escape – seeking, leisure

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## UNITED WE STAND: FEAR OF DEATH DRIVES COLLECTIVE, BUT NOT INDIVIDUAL SELF-ENHANCEMENT

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A host of social psychological research reveals diverse strategies people use to protect and enhance their self-image. According to Terror management theory, this striving for positive self-image has as a core motivation protection from basic existential fears, i.e. fear of death. Individuals need to believe that they are a valued part of a meaningful universe so that they can achieve a symbolic transcendence of their inherently mortal nature. Therefore, people are motivated to protect their cherished worldviews as well as their self-esteem. We set out to investigate whether reminders of death would lead to strengthened self-enhancement, aimed at either individual or collective self-image in two experimental studies ( $N=167$ ). After subtly reminding participants of personal mortality, we measured their perceptions of and identification with the ethnic group (Experiment I), and their tendency to remember positive events from the personal past and expect them in the future, as well as perceive themselves as better than the average peer on a list of favourable traits (Experiment II). To

provide a more stringent test of the basic tenets of the theory, we compared the effects of mortality reminders to reminders of other existential concerns (i.e. life uncertainty), as well as more everyday concerns of the participants (i.e. exam anxiety). The findings revealed that reminders of personal mortality lead to enhancement of the collective self ( $t(78)=2.31, p=.012, r=.25$ ), expressed through more unified and positive perceptions of the ethnic group as well as strengthened identification with this group. These effects were shown not to be a result of heightened affect and were exclusive to activation of concerns about mortality (compared to other concerns). We did not observe any significant effects of mortality reminders on the tendency to enhance the individual self-image ( $t(81)=-.86, ns$ ). The findings thus offer a mixed support for the fundamental tenets of Terror management theory. In the local socio-cultural context, ethnic identity, dominantly perceived as a primordial (inherited) identity, appears to play a crucial role in alleviating fundamental existential concerns. The implications of the findings for the study of inter-group relations are discussed.

**Keywords:** fear of death, terror management theory, individual self-enhancement, collective self-enhancement, ethnic identity

## BELIEF IN CONSPIRACY THEORIES AND ITS STRUCTURE

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Conspiracy theories (CTs) are unsubstantiated statements about the secret plots of highly competent and vicious actors aiming to impact important political, medical or economical issues. Belief in CTs can lead an individual to, for example, avoid the traditional medicine, not get vaccinated, refuse to vote or volunteer. On a societal level, widespread belief in CTs may lead to decrease in political engagement, environmental protection, etc. On the other hand, CTs can be seen as a product of critical thinking and questioning of official accounts of events, ultimately even helpful in exposing various political manipulations. Belief in CTs is not pathological or rare, on the contrary: nationally representative surveys indicate that, for example, a half of U.S. population endorses at least one CT. However, the question is whether belief in one CT is an isolated phenomenon or does believing in one makes it more likely to believe in others, regardless of their actual content (e.g., if you believe that the landing of U.S. astronauts on the Moon in 1969. was a hoax, you will also believe that the HAARP is harmful).

Consistent findings of previous research are that beliefs in CTs are not independent, but they connect and form a system of belief that is labeled “monological belief system”. In this research, we investigated presence and interconnection of conspiracy beliefs in a sample of 152 (65 men, mean age 22.7) Serbian high-school and university students. They assessed their agreement with 12 known conspiracy theories, such as those about the harmfulness of vaccines or HAARP, 9/11 attack, the origin of HIV, the global influence of Freemasonry, etc., using a four-point Likert scale. A total of 97.4% of participants endorsed, to a certain degree, at least one of the given CTs; 92.7% two or more, 57.6% six or more CTs. The average endorsement was  $M=2.49$  (.241). The reliability of the scale was  $\alpha=.844$ . The average inter-item correlation was  $r=.310$ . The first factor extracted in principal component analysis explained 37.2% variance. Taken together, the results show that belief in CTs can be seen as system of intertwined beliefs in unofficial explanations of seemingly unrelated phenomena. It further supports the idea that the CTs satisfy certain psychological needs, typically that they help in reducing uncertainty, powerlessness and help in gaining sense of control of the world.

**Keywords:** conspiracy theories, monological belief system

## DA LI STE ČLAN POLITIČKE STRANKE I KOJE? SOCIO-DEMOGRAFSKE KARAKTERISTIKE I POLITIČKI STAVOVI KAO ODREDNICE ČLANSTVA U POLITIČKIM STRANKAMA

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Socio-demografske varijable i politička uverenja i stavovi predstavljaju najbitnije odrednice involviranosti u političke teme i davanja podrške određenim političkim strankama, ali to ne podrazumeva nužno i učlanjenje u političku stranku. Ranije studije su pokazale da su stariji muškarci, osobe višeg socio-ekonomskog statusa i nivoa obrazovanja češće članovi političkih partija. Osim toga, očekivano je da su politička efikasnost i percepcija nepravde u društvu bazične motivacione odrednice političkog angažmana, a da ideološke i vrednosne odrednice determinišu afinitete prema konkretnim političkim strankama. Cilj ove studije bio je da se ispita da li je moguće razlikovati građane Srbije koji su članovi političkih

stranaka i one koji to nisu, kao i članove različitih političkih opcija međusobno, u pogledu određenih socio-demografskih karakteristika i političkih stavova. Uzorak se sastojao od 540 ispitanika iz generalne populacije uzrasta između 16 i 68 godina ( $M=32$  godine; 36,6% muškaraca). Diskriminacionom kanoničkom analizom je izdvojena statistički značajna diskriminativna funkcija koja omogućava razlikovanje osoba koji jesu ( $n=106$ ) i nisu ( $n=434$ ) članovi političkih stranaka ( $\lambda=.899$ ,  $R=.318$ ,  $\chi^2(9)=56.84$ ,  $p<.001$ ). Strukturu ove funkcije čine izraženija borba protiv društvene nejednakosti, niži socio-ekonomski status, manji broj godina školovanja, veća starost, izraženija percepcija nelegitimnosti statusnih razlika među grupama i politička efikasnost, koje u većoj meri odlikuju članove političkih stranaka u odnosu na one koji to nisu. S obzirom na relativno mali broj članova pojedinačnih političkih stranaka, oni su klasifikovani u dve opšte političke orijentacije: pripadnike konzervativnih ( $n=16$ ) nasuprot socijaldemokratskim strankama ( $n=72$ ). Rezultati ( $\lambda=.685$ ,  $R=.561$ ,  $\chi^2(9)=30.82$ ,  $p<.001$ ) pokazuju da članove konzervativnih stranaka odlikuju izraženije poverenje u institucije, opravdavanje postojećeg političkog sistema, želja za napredovanjem na društvenoj lestvici, manja starost, veći broj godina školovanja i manje izražena borba protiv nejednakosti u društvu. Rezultati delimično potvrđuju očekivanja, dok određena nepodudaranja sa prethodnim istraživanjima ukazuju na specifičnost političkog konteksta u Srbiji. Iako je generalizabilnost rezultata ograničena zbog malog i prigodnog uzorka stranačkih aktivista, nalazi ukazuju na neke interesantne elemente razlikovanja stranačkih aktivista i ljudi koji nisu pripadnici nijedne političke partije, ali i daju određen uvid u izvore podela unutar političkog kontinuma kod stranaka u Srbiji.

Ključne reči: članstvo u političkoj stranci, politički konzervativizam, socijaldemokratija, političke stranke, politička psihologija

### What are the differences between members and non-members of political parties? An influence of socio-demographic characteristics and political attitudes on decision to join political party

The aim of this study was to examine the differences between members and non-members of political parties, as well as to examine socio-demographic characteristics and political attitudes which differentiate conservative party members from members of social democratic parties. Sample consisted of 540 participants from general population, aged between 16 and 68. Discriminative canonical function that differentiates between members and non-members of political parties was extracted ( $\lambda=.899$ ,  $R=.318$ ,  $p<.001$ ). As opposed to non-members, political party members are older, fight against social inequality, their SES and education is lower, they consider the differences between status groups are illegitimate, and believe in political efficacy. Members of conservative as opposed to social democratic parties

can be discriminated ( $\lambda=.685$ ,  $R=.561$ ,  $p<.001$ ) based on greater trust in institutions, justification of current political system, desire to move up on a social ladder, lower age, higher education, and less readiness to fight against inequality.

*Keywords:* political party membership, political conservatism, social-democracy, political party, political psychology

## SOCIJALNI STAVOVI NAVIJAČA: SLOŽENI SKLOP KONZERVATIVNE I LIBERALNE IDEOLOGIJE

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Cilj našeg istraživanja je ispitati stavovski profil navijača kako bi se bolje mogli razumeti motivi i ponašanja ove specifične socijalne grupe. Korišćen je upitnik SDI 24, koji meri bazične socijalne stavove ekstrahovane leksičkim pristupom, i sastoji se iz 5 subskala: tradicionalna religioznost, subjektivna spiritualnost, averzija prema nejednakostima, sebični interesi, društveni racionalizam. Takođe, ispitanicima je dat upitnik sa političkim partijama kao stavkama, gde su oni na skali Likertovog tipa procenjivali generalni utisak koji imaju o njihovom radu, kao i 5 ajtema koji mere sklonost ka navijanju. U analizi političke partije su podeljene u dva bloka, konzervativne i liberalne. Prepostavka je da će u navijačkoj grupi dominirati stavovi koji indikuju konzervativnu ideološku orijentaciju. Pod sindromom konzervativnih stavova podrazumeva se visoka tradicionalna religioznost i sebični interesi, niska averzija prema nejednakosti i društveni racionalizam. Uzorak ( $N=249$ ) je prigodan i sakupljan je u dve grupe. Ispitanike kriterijumske grupe ( $N=129$ ) činili su navijači, čiji podaci su sakupljeni na stadionima beogradskih fudbalskih klubova. Kontrolnu grupu činilo je 120 ispitanika prikupljenih iz opšte populacije, ujednačenih sa navijačkim delom uzorka prema polu, obrazovanju i uzrastu ( $M=29.14$ ,  $SD=6.84$ ). Obrada podataka je izvršena primenom multivarijatne analize kovarijanse, gde je faktor bila grupa, dok su zavisne varijable bile subskale socijalnih stavova i stava prema političkim partijama, a kovarijati uzrast i obrazovanje. Statistički značajne razlike se uočavaju na skalama tradicionalna religioznost ( $F(241)=38.75$ ,  $p<.001$ ,  $\eta^2=.14$ ), averzija prema nejednakostima ( $F(241)=14.69$ ,  $p<.001$ ,  $\eta^2=.06$ ), sebični interesi

( $F(241)=6.79$ ,  $p<.01$ ,  $\eta^2=.03$ ) kod kojih aritmetičke sredine pokazuju veću izraženost ovih stavova u grupi navijača; kao i stavu prema liberalnim partijama ( $F(241)=14.86$ ,  $p<.001$ ,  $\eta^2=.06$ ) gde aritmetička sredina pokazuje da navijači imaju nižu preferenciju prema istim. Ovakvi rezultati delimično podvrđuju našu hipotezu, navijači pored konzervativnih pokazuju i stavove koji su odlika liberalne ideologije. Dobijene razlike su u skladu sa rezultatima i zaključkom hrvatskih sociologa, koji tvrdi da navijači ne mogu da se okarakterišu samo kao ekstremna desnica pošto zastupaju stavove vezane za naciju, veru i pol karakteristične za desnicu dok su stavovi o kapitalizmu, korporacijama i političkoj eliti okarakterisani kao levičarski.

*Ključne reči:* navijači, socijalni stavovi, političke partije, konzervativizam

### Football supporters social attitudes: Complex set of conservative and liberal ideology

The purpose of the present study is to examine the attitudinal profile of football supporters. We measured basic lexically - derived social attitudes with the SDI 24 scale, than evaluations of Serbian political parties, as well as football supporter inclination. Participants ( $N=249$ ) were divided in two groups, supporters group and control group collected from the general population. Our hypothesis was that football supporters would have predominantly conservative ideology. Results confirms our hypothesis to a certain extent, since participants in the supporters group mostly show a conservative attitude with the exception of high egalitarianism which is a feature of liberal ideology. Furthermore there were no differences between the groups in attitude towards the conservative political parties; however, football supporters had lower evaluation of liberal parties. These findings provide a deeper understanding of the supporters' social motives and allow prediction of socially-relevant behavior.

*Keywords:* football supporters, social attitudes, political parties, conservatism

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## STAVOVI PREMA IZBJEGLICAMA U REPUBLICI HRVATSKOJ

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Potaknuti nedavnom izbjegličkom krizom, u kojoj je kroz Republiku Hrvatsku i okolne zemlje u posljednjoj godini prošlo više od 600 000 izbjeglica iz Sirije i okolnih područja pogodenih ratom, i činjenicom da ne postoje sveobuhvatni upitnici za ispitivanje stavova prema izbjeglicama istraživači su kreirali upitnik i njime ispitali stav državljana Istočne Hrvatske prema izbjeglicama. Uzorak je stratificiran na više varijabli kako bi odgovarao Popisu stanovništva iz 2011. godine, a upitnik je online ispunilo svih 290 planiranih sudionika. Rezultati istraživanja, statistički obrađeni u SPSS softveru, pokazali u da između sudionika postoji statistički značajna razlika u stavovima prema izbjeglicama s obzirom na dob, spol i obrazovanje. Suprotno očekivanjima istraživača, rezultati su pokazali da žene imaju negativnije i emocionalno više nabijene stavove prema izbjeglicama ( $M_m=10.91 > M_z=12.37$ ;  $t(288)=2.71$ ,  $p<.05$ ). Nadalje, istraživači su očekivali da će sudionici u kasnoj odrasloj dobi imati najnegativniji, a sudionici u ranoj odrasloj dobi najpozitivniji stav prema izbjeglicama dok su rezultati pokazali da sudionici u kasnoj odrasloj dobi (stariji od 45 godina) imaju najpozitivniji, a sudionici u srednjoj odrasloj dobi (od 25 do 45 godina) imaju najnegativniji stav prema izbjeglicama ( $M_{sod}=32.12 > M_{kod}=29.35$ ;  $F(2,287)=3.34$ ,  $p<.05$ ). Konačno, rezultati su pokazali da sudionici sa srednjom stručnom spremom imaju negativniji stav prema izbjeglicama od sudionika s višom ili visokom stručnom spremom ( $M_{ss}=61.24 > M_{vs}=55.22$ ;  $t(288)=2.86$ ,  $p<.05$ ), što je bilo očekivano. Dobiveni rezultati mogli bi pomoći u planiranju radionica za borbu protiv predrasuda o izbjeglicama i njihovo lakše integriranje u društvo što ovo istraživanje čini značajnim za područje socijalne psihologije.

*Ključne riječi:* stavovi, izbjeglice, kognicije, ponašanje, emocije

## Attitudes toward refugees in the Republic of Croatia

Migration as a constant process of moving one person or a group of people inside the country or across the borders represents a global phenomenon that affects almost every country in the world. A group of psychology students created the questionnaire and used it to examine attitudes of citizens of Eastern Croatia toward refugees. As planned, 290 participants completed the questionnaire online. Women had more negative and emotional attitudes toward refugees. Furthermore, participants in their late adulthood (older than 45) had the most positive attitudes, while participants in middle adulthood (from 25 to 45) had the most negative attitudes toward refugees. Finally, results showed that participants with secondary education had more negative attitudes toward refugees than participants with higher education. In conclusion, research findings could help plan workshops to fight prejudice against refugees which makes this research important for the field of social psychology.

*Keywords:* attitudes, refugees, cognitions, behavior, emotions

## KONOTATIVNO ZNAČENJE DRUŠTVENO RELEVANTNIH REČI: INDIKATORI DVADESETOGODIŠNJIH PROMENA U DRUŠTVU

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U četiri maha, 1997, 2004, 2011. i 2015. utvrđivali smo konotativno značenje nekih relevantnih političkih pojmove, kao što su: demokratija, nacija, sloboda, nacionalizam, itd. Ovi pojmovi često se upotrebljavaju u snažnim emocionalnim kontekstima, pa se, najčešće procesom emocionalnog uslovljavanja, pojačava njihov afektivni nivo značenja. Preko ovog značenja možemo utvrditi i stavove prema ispitivanim pojmovima, odnosno dominantne aspekte društvenog okruženja u kome ova značenja nastaju. Praćenjem tokom godina, mogu se dobiti indicije o promenama u društvu. U svakoj od četiri faze, učestvovalo je po oko 200 ispitanika, uvek iz iste tri grupe srednjih škola (završni razred): gimnazija, srednjih stručnih škola, i škola za radnička zanimanja. Konotativno značenje je ispitivano semantičkim diferencijalom, preko 12 parova prideva sa evaluativne dimenzije. Rađene su deskriptivne analize i poređenja razlika AS analizom varijanse. Pokazalo se da za neke reči dobijene krive ostaju gotovo identične: npr

sadašnjost koja se vidi kao vredna i važna ( $M=5.4$ ), ali ne kao pravedna ( $M=2.98$ ); potom nacionalizam koji je konstantno nešto iznad linije neutralnosti, a desnica je konstanta neutralna linija. Međutim ispitanici su 2015. mnogo skeptičniji prema tako različitim pojmovima kao što su budućnost ( $M$  2015 između 3.8 i 4.7, za razliku od ranijih godina kada je  $M$  bila između 4.5 i 6, a kao "važna dostizala i 6.4 – što ukazuje na izraženiju anomiju; sve pomenute razlike su značajne,  $p<0.01$ ), vođa (takođe pad sa  $M$  između 4.5 i 5.5 na  $M$  između 4.1 i 5.0) i demokratija (kod koje su procene konotativnog značenja opadale linearno od  $M$  između 5 i 6, 1997. do  $M$  između 3.5 i 4.4 – 2015). Levica se 2015 vidi u umerenim nijansama ( $M$  su oko 4), za razliku od ranijeg perioda kada bila je viđena veoma negativno (1997.  $M$  su bile tek oko 2 – najverovatnije zbog jedne veoma nevoljene partije sa tom reči u nazivu), kao i socijalizam koji je 2011 i 2015 značajno pozitivniji nego u ranijem periodu. Mnoštvo mogućih poređenja daje dosta materijala za analizu uzroka dobijenih sličnosti i razlika, a time i za suptilne analize promena percepcije stanja u društvu, kroz godine, ali i izvore nehomogenosti unutar pojedinih vremenskih tačaka.

*Ključne reči:* konotativno značenje, semantički diferencijal, društveni faktori, mladi

Ovaj rad je potpomognut sredstvima sa projekta br. 179018 Ministarstva prosvete, nauke i tehnološkog razvoja Srbije.

### Connotative meaning of socially relevant words: indicators of twenty years of social changes

On four occasions, 1997, 2004, 2011 and 2015, we have examined connotative meaning of some relevant political concepts. These terms meanings can be indications of changes in society. In each of the four phases, participated by about 200 participants, who always were from the same three groups of secondary school (final grade). Connotative meaning has been examined by semantic differential, by 12 pairs of adjectives from the evaluative dimensions. The results shown that for some words obtained curves were almost identical through the years: Nationalism is constantly slightly above the line of neutrality, the Right has a constant neutral line. However, respondents in 2015 were much more skeptical towards concept like Future (indicating higher level of anomia), Leader and Democracy. Left is seen in 2015 in moderate tones, in contrast to the earlier period when it was seen very negatively, and Socialism is seen more positive in 2011 and 2015.

*Keywords:* connotative meaning, semantic differential, social factors, young

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## STAVOVI PREMA RAZLIČITIM ENERGETSKIM IZVORIMA U SRBIJI

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Borba protiv globalnih ekoloških problema jedan je od prioriteta društva na početku novog milenijuma. Neophodne promene energetskog sistema podrazumevaju više dugoročnih ciljeva nacionalne politike, uključujući i prelazak na "čistiju" energiju, ali uz energetsку sigurnost i pristupačnost. Psihološki aspekti: stavovi i prihvatanje javnosti od ključnog su značaja za ove transformacije jer mogu poboljšati donošenje dobrih odluka, pomoći razbijanju predrasuda, poboljšati dijalog i identifikovati tačke potencijalnih sukoba između kompanija, vlade i građana-korisnika. U istraživanju, sprovedenom 2016. godine, ispitivali smo stavove studenata beogradskih fakulteta: 65 studenata koji se obrazuju za zanimanja u oblasti energetike, 61 studenta koji se obrazuju za zaštitu životne sredine i 65 studenata fakulteta društvenih usmerenja prema sledećim energetskim izvorima: uglju i nafti (kao primerima fosilnih, konvencionalnih goriva), nuklearnoj energiji, hidroenergiji tj., hidroelektrana, biomasi, i Suncu, vetu, talasima (kao primerima "čistih", obnovljivih energetskih izvora). Svaki od energetskih izvora opisan je nizom tvrdnji, a ispitanici su na petostepenoj skali izražavali stepen svog slaganja sa svakom od njih. Nakon faktorske analize (analize glavnih komponenti) datih skala, dobijena su dva faktora koji su dalje razmatrani: ekološko – bezbednosni i ekonomski aspekt za svaki ispitivani energetski izvor. U pogledu ekonomskog aspekta, a na osnovu dobijenih rezultata, najbolje se kao način za proizvodnju električne energije kotiraju hidroelektrane ( $M=3.7$ ). Ispitanici se, u priličnoj meri slažu da je ekonomski aspekt korišćenja Sunca, veta i talasa ( $M=3.6$ ), a potom i biomase ( $M=3.4$ ) – povoljan. Ova tri izvora su najbolje ocenjena i kada se govori o njihovoj "čistoći", tj., najmanjem štetnom delovanju na životnu sredinu, zdravlje i bezbednost. Najnegativniji stav po svim aspektima (2.7, odnosno 2.05), i najmanje prihvatljivo je korišćenje nuklearne energije. Utvrđeno je da su i ekonomski aspekti korišćenja biomase (i onih još povoljnije ocenjenih izvora) statistički pozitivnije ocenjeni nego ekonomski aspekti nuklearne energije ( $t=8.265, p<0.01$ , upareni uzorci), a razlika je dobijena i po ekološko-bezbednosnim aspektima ( $t=17.491, p<0.01$ ). Zanimljivo je da se pokazalo da studenti energetike imaju manje negativne stavove prema korišćenju fosilnih goriva od studenata ekologije ( $M$  su 3.11 i 2.77,  $t=3.425, p<0.01$ ). Rezultati će biti diskutovani u vezi sa edukacijom ispitanika za buduću struku, jer se pokazalo da sadržaj studija

značajno određuje i elemente koji će biti uzeti u fokus (ekonomski aspekt proizvodnje i potrošnje, nasuprot ekološkoj brizi). Biće razmotren i istaknut i značaj psiholoških faktora – stavova ljudi prema energetskim izvorima u rešavanju šireg problema održivog razvoja.

*Ključne reči:* ekologija, energetika, stavovi, ekološka svest, održivi razvoj

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### Attitudes of students from different faculties toward different energetic resources

Necessary changes in the energy system, in the fight against global environmental problems, have several policy objectives, among other things, switch to the "cleaner" energy. Attitudes and acceptance of the public have very important role in this endeavor, because they can improve process of making good decisions and dialogue, and, help to identify points of potential conflict between companies, governments and citizens-users. Therefore, the main goal of this presentation is to examine attitudes toward different energy resources. The sample consisted of students of the Belgrade faculties: for mining & geology, for geography – department for environment and for social sciences. We examined attitudes toward five types of energy sources: coal and oil, nuclear power, hydropower, biomass and the sun, wind and waves. Each energy source is examined separately, in two aspects: economic and ecological - security. The results showed that the "clean" renewable energy rated highly in terms of both aspects. The lowest acceptance on both aspects is the use of nuclear energy.

*Keywords:* ecology, energy, attitudes, environmental awareness, sustainable development

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## CAN SALAFIS BE LISTED AS CATEGORIES IN VIEW OF CERTAIN ATTITUDE VARIABLES: DOGMATISM, MACHIAVELLIANISM AND LOCUS OF CONTROL, AND PERSONALITY VARIABLES MEASURED BY THE HEXACO PERSONALITY INVENTORY?

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The aim of this research is to allocate Salafis into categories based on certain attitude variables: dogmatism, Machiavellianism, locus of control and personality variables (HEXACO personality inventory): extraversion, honesty-humility, conscientiousness, agreeableness, and openness to experience. The Salafis are Muslims who say that they practice Islam as it was when it was first revealed, untarnished by any innovations. One of the principal features of religious fundamentalism is pronounced dogmatism; it was thus interesting to see how present it is among the Salafis. Investigation into the locus of control and religiousness delivers contradictory results: in some, religiousness is linked with the internal locus of control, and in some with the external one. In BiH, the Salafis are perceived as those who promote a different kind of Islam and it was interesting to see how much Machiavellianism was present among its potential preachers. Three key variables were mapped: locus of control, Machiavellianism and dogmatism, since they are often ascribed to the Salafis; with these attitude variables, we then conducted a cluster analysis. The clusters thus obtained were then validated using the HEXACO personality traits. Three clusters were thus obtained: one where the Salafis scored low in almost all the variables (and which was the smallest, with just 10% of the subjects), then the largest cluster, 75%, of dogmatic fatalists (high on dogmatism and locus of control, but not on manipulativeness), and the third, also relative small, 15% of the subjects, the manipulative dogmatic factor (high score on Machiavellianism, dogmatism and locus of control). These three groups do not differ when it comes to personality traits of the six-factor model, except for a certain, relatively weak, though significant difference in the honesty-humility aspect ( $F=3.631, p=.029, \eta^2=.056$ ), where the manipulative dogmatic were significantly lower than the remaining two groups, which did not differ in terms of statistical significance. These results were somewhat expected, since high dogmatism is quite expected, but the tendency towards an external locus of control indicates a belief that their life is governed by God's will. It is interesting that the Salafis who have a pronounced Machiavellianism are also the least honest, as expected, but they comprise a mere 15% of the total sample of the Salafis.

**Keywords:** cluster analysis, Salafis, dogmatic fatalists, manipulative dogmatists, Bosnia and Herzegovina

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## SATISFACTION WITH DIFFERENT ASPECTS OF LIFE AMONG THE SALAFIS AND CITIZENS OF BIH

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The primary aim of this research is to determine whether there is any difference in the satisfaction with different aspects of life among the Salafis and citizens of BiH. The Salafis are Muslims who say that they practice Islam as it was when it was first revealed, untarnished by any innovations, deviations or additions, “unpolluted” by external influences. Some international research indicates that in states where most people are religious, and BiH citizens say they are, or where religiousness is an important societal norm, and it is certainly important in BiH, religiousness is linked to greater satisfaction in life. On the other hand, the high level of religiousness at the individual level is no guarantee of greater satisfaction with life. It is therefore interesting to examine whether there are any differences in different aspects of life of the Salafis and BiH citizens. The Personal Wellbeing Index was used to assess life satisfaction, as it is normally used to assess general satisfaction with life in the following seen domains: standard of living, health, achievement in life, safety, relationships, community connectedness and future security. Research among the citizens was conducted in the June 2015, with a sample of 1100 individuals of legal age, BiH citizens, through a face-to-face survey, and with 126 Salafis from March to April 2016. The results (Mann-Whitney U test) show that there is a statistically significant difference between BiH citizens and Salafis in relation to their overall satisfaction with life ( $p<.001$ ), with satisfaction more pronounced among the Salafis than the BiH citizens. The Salafis are more satisfied with their living standards than the BiH citizens ( $p<.001$ ), and more satisfied with their health ( $p<.001$ ), whiht what they have achieved in life ( $p<.001$ ), their sense of safety ( $p<.001$ ), their sense of community belonging ( $p<.001$ ) and their sense of future security ( $p<.001$ ). No statistically significant difference between the citizens and the Salafis was foundy only in terms of their satisfaction with relationships ( $p=.258$ ). These results clearly show that compared with BiH citizens, the Salafis are generally more satisfied with their lives, but also with almost all aspects of life measured in the study. It is hard to say why the Salafis in BiH are more satisfied with their lives when compared with BiH citizens, since the media describe and identify them as terrorists, BiH

citizens either fear or despise them, and the society pushes them to the margin; perhaps it is their devotion to Islam that is the reason for their greater satisfaction with life than the citizens of BiH.

*Keywords:* satisfaction with life, Salafis, citizens, Bosnia and Herzegovina

## *PSIHOLOGIJA RADA*

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## WORKPLACE MOBBING AMONG TEACHERS

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Mobbing means a specific negative act at the workplace, which includes systematically psychological harassment or humiliation of a person to endanger his reputation, dignity and integrity. Mobbing is one of the most common forms of stress at work. The aim of the research is to determine the exposure to mobbing at workplace of the teachers, which forms of mobbing are the most prevalent and to determine the differences in exposure to mobbing among the respondents of different gender, age and length of service. The survey was conducted on 120 employees, 50% men and 50% women, teachers from public high schools in Bitola. The average age of respondents are 42.2 years. For the examination of exposure to mobbing we used The Leymann Inventory for Psychological Terror -LIPT60. The questionnaire consists of 60 items and 6 subscales: discrediting at the workplace, obstructing the progress, blocking of communication, covert harassment, overt mobbing and personal discrediting. Cronbach's alpha coefficient of internal consistency of the Scale is  $\alpha=.989$ . The results of the study have shown that the most apparent form of mobbing among teachers is discrediting at the workplace ( $M=25.05$ ;  $SD=11.47$ ), which is expressed through criticism of teachers, incorrect assessment of the performance, gossip, spreading rumors, pressures, exaggerating the mistakes, questioning the decisions of person, silence the successes and achievements of the individual. Blocking of communication is at the second place ( $M=10.35$ ;  $SD=3.23$ ) expressed by interfering the information to reach the individual, disrupting the employee to express himself, ignoring his presence, prevent others to communicate with him, opening or withdrawal of the correspondence, spreading false information etc. Manifested mobbing is at the third place ( $M=10.15$ ;  $SD=6.87$ ) which is expressed by verbal threats, not allowing the individual to express the opinion, interruption of the employee while speaking, referring to a high pitch, ridiculing. There were no significant differences among the respondents of different gender, while in terms of the age differences, analyses of variance have shown that there were ( $F(4)=12.970, p<.01$ ), the older respondents reported that they were more exposed to mobbing than younger, while the Post-Hoc analyses i.e. Scheffe test has shown that the respondents of the age group of 51-60 years were mostly exposed. In terms of length of service we found significant differences ( $F(5)=8.264, p<.01$ ), the respondents who have a length of service of 21-25 years were mostly exposed to mobbing.

*Keywords:* mobbing, psychological harassment, workplace, teachers

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## NEKI SOCIO-DEMOGRAFSKI ČINIOCI MENTALNOG ZDRAVLJA LEKARA I PSIHOLOGA

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Problem mentalnog zdravlja zaposlenih i njegov uticaj na produktivnost, stepen invaliditeta i medicinske troškove su glavna tema kojom se bavi Svetska zdravstvena organizacija i Međunarodna organizacija rada poslednjih decenija. Lekari i psiholozi označeni su kao populacija visokog rizika za loše mentalno zdravlje. Zato je cilj našeg istraživanja bio da ispitamo nivoe kako pozitivnih aspeka mentalnog zdravlja (zadovoljstvo životom i poslom), tako i negativne aspekte (anksioznost i depresivnost) kao i njihovu povezanost sa nekim sociodemografskim karakteristikama u grupi zaposlenih lekara i psihologa. Uzorak su činili 200 zaposlenih lekara i psihologa. Za merenje depresivnosti korišćen je Bekov upitnik za samoprocenu depresivnosti (BDI-IA), za merenje anksioznosti Zungova skala za procenu anksioznosti, zadovoljstvo životom je ispitivano skalom za procenu zadovoljstva životom (SWLS) Dienera i saradnika i zadovoljstvo poslom ispitivano upitnikom (JSS) Pol-a Spectora. Dobijena aritmetička sredina za zadovoljstvo životom je u nivou visokog proseka ( $M=26.42$ ), aritmetička sredina za zadovoljstvo poslom je u nivou proseka ( $M=113.36$ ). Što se tiče negativnih karakteristika mentalnog zdravlja većina dobijenih skorova se kreće u domenu niskih vrednosti. Vrednosti aritmetičke sredine za depresivnost ( $M=4.88$ ) se mogu svrstati u kategoriju „bez simptoma“, dok se aritmetička sredina za anksioznost ( $M=32.23$ ) može svrstati u kategoriju „minimalnog do umerenog opsega anksioznosti“. Muškarci i žene su se u našem uzorku značajno razlikovali samo u nivou depresivnosti ( $t(199)=-2.505, p<.05$ ). Status veze je dao značajne rezultate kod zadovoljstva životom ( $t(199)=-2.293, p<.05$ ), a psiholozi su se pokazali depresivniji od lekara ( $t(199)=2.039, p<.05$ ). Zadovoljstvo životom je značajno i pozitivno povezano sa brojem dece ( $r=.246, p<0.01$ ) i godinama obrazovanja ( $r=.138, p<0.05$ ). Zadovoljstvo poslom je značajno i negativno povezano sa godinama radnog staža ( $r=-.159, p<0.05$ ). Depresivnost i anksioznost su značajno povezani sa godinama života ( $r=.159, p<0.05; r=.160, p<0.05$ ), godinama staža ( $r=.193, p<0.01; r=.193, p<0.01$ ) i godinama staža na tom radnom mestu ( $r=.207, p<0.01; r=.159, p<0.05$ ). Dobijeni rezultati ukazuju da se kod lekara i psihologa mogu izdvojiti neki socio-

demografski činioci mentalnog zdravlja i da su neki od tih činioča specifični (kao što je broj dece i zadovoljstvo životom) što se može opravdati samim statusom profesije i kulturološkim činiocima.

*Ključne reči:* mentalno zdravlje, socio-demografski činioci, lekari i psiholozi

### Some socio-demographic factors of mental health of doctors and psychologists

Doctors and psychologists and other professionals from the group of helping professions, are marked as a population of a high risk for bad mental health. The main objective of our research is to examine the levels of positive aspects of mental health (life satisfaction and job) and negative aspects (anxiety and depression) as well, and their relationship with some socio-demographic characteristics in the group of employed doctors and psychologists. The sample consisted of 200 employed doctors and psychologists. The obtained arithmetic average of life satisfaction is in the level of higher average, and satisfaction with job is in the average level. The values of arithmetic average for depression can be classified in the category "without symptoms", while for the anxiety it can be categorized as "minimal to moderate range of anxiety." In our sample men and women are significantly differed only in the level of depression, the link of status is a significant factor at the life satisfaction, and psychologists are more depressed than doctors. Life satisfaction is significantly and positively associated with the number of children and years of education, and job satisfaction is significantly and negatively associated with years of work experience. Depression and anxiety are significantly associated with age, years of work experience and years of work experience at that workplace.

*Keywords:* mental health, socio-demographic factors, doctors and psychologists

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**REVIEW OF WORK PSYCHOLOGY STUDIES PRESENTED AT THE  
CONFERENCE “EMPIRICAL STUDIES IN PSYCHOLOGY” (1995 -2016):  
TRENDS AND CHALLENGES**

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This work deals with thematic, theoretical and methodological trends in researches in the field of work psychology which were presented at the scientific conference *Empirical Studies in Psychology - ESP* (1995-2016). Having in mind that the aforementioned period is characterized by radical global and local socio-economic and political changes reflecting themselves in the sphere of work, the aim of this meta-analysis was to investigate social relevance of researches in the field of work psychology presented at a representative academic conference of national significance. The following questions were put: (a) Do global and local socio-economic and political changes, and to which extent, influence the choice of research topics; (b) Can dominant topics be identified; (c) Are new psychological constructs appearing; (d) Can changes in research methods and techniques be identified. The sample were abstracts of studies in the field of work psychology presented at ESP conferences so far ( $N=119$ ). Quantitative and qualitative analysis methods were used while synchron and diachrone time perspectives were included in the interpretative framework. Frequency and content analysis were used based on a constructed code system, which defined the criteria for data collection: 1) title/sub-field/topic of the abstract; 2) type of research; 3) sample; 4) instrument; 5) types of results. Results show that (a) over time, the presence of certain work psychology areas have changed as well as topics in these areas in parallel with the certain global and local socio-economic and political changes; (b) some dominant topics have identified; (c) new areas, constructs and topics have appeared; (c) there are incremental changes in the methodology used. General conclusion drawn from frequency analysis and content analysis of the abstracts suggests that there has been a correspondence between research activities in the field of work psychology and significant socio-economic and political changes. On the basis of longitudinal content analysis of the announcements presented, some elements of new paradigm of positive practice of human resource development have been marked. In the last part, both theoretical and practical result implications are discussed from the perspective of strengthening cooperation between university and industry.

**Keywords:** work psychology studies, frequency analysis, content analysis, cooperation between university and industry

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## PSYCHOMETRIC CHARACTERISTICS OF THE SERBIAN ADAPTATION OF INDIVIDUAL ENTREPRENEURIAL ORIENTATION SCALE (IEO)

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The aim of this study was to adjust the American Individual Entrepreneurial Orientation scale, from Bolton and Lane, to a population of Serbian students ( $N = 242$ , 32.2% male). IEO includes 10 items in three dimensions: innovativeness, risk-taking and proactiveness. Thus, psychometric characteristics and construct validity of the Serbian translation of this scale were examined. Confirmatory factor analysis of the three-factor model showed satisfactory fit ( $CFI=.91$ ,  $NFI=.85$ ,  $NNFI=.87$ ,  $RMSEA=.07$ ). However, item 9 showed low loadings on proactiveness factor and it was removed, and item 4 showed higher loadings on risk-taking, instead of the theoretically predicted innovativeness factor and it was added to the former, which resulted in a better fit ( $CFI=.95$ ,  $NFI=.90$ ,  $NNFI=.92$ ,  $RMSEA = .06$ ). Correlations between factors were moderate to high ( $r_{r-i}=.59$ ,  $r_{r-p}=.79$ ,  $r_{p-i}=.75$ ). However, the unidimensional model did not show good fit ( $CFI = .75$ ,  $NFI=.71$ ,  $NNFI=.68$ ,  $RMSEA=.11$ ). Correlation between the risk-taking measure from the Reinforcement Sensitivity Questionnaire (high BAS and Fight) and the risk-taking factor of IEO was moderate ( $r=.42$ ) and higher than correlations with the other two factors of IEO. This is especially evident in correlation between BAS and the risk-taking factor ( $r=.62$ ). However, correlations between proactive personality and IEO factors are unexpected, since the relation with the risk-taking factor was somewhat higher ( $r=.59$ ) than with the proactiveness factor ( $r=.43$ ). This implies that the risk-taking factor includes showing initiative through approach behaviors, as well as a certain sensitivity to

rewards. The values of correlations between the extracurricular activities and all IEO factors were low ( $r_i=.16$ ,  $r_r=.17$ ,  $r_p = .13$ ). This implies that other constructs might be more relevant for predicting entrepreneurial orientation and ventures than participation in extracurricular activities. All relations between the IEO subscales and total IEO on one hand, and close constructs on the other hand, were low to moderate, but positive and significant. This implies that these variables are close, but not redundant. In conclusion, the IEO scale showed good psychometric characteristics, but since this was the first study of the Serbian version it requires further validation.

**Keywords:** individual entrepreneurial orientation, serbian adaptation, validity, psychometric characteristics

## TYPE OF WORK ENVIRONMENT, FERTILITY AND FERTILITY INTENTIONS

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Many studies conducted across the globe have demonstrated that the job a person does and hence the environment a person works in can have profound effects and strong relations to many other aspects of that persons life. The goal of the current study was to explore if and how are the properties of a person's work environment related to the number of children a person has and the number of children a person plans to have i.e. fertility and fertility intentions. These relations were explored on a sample of 1398 residents of Serbia, who declared themselves as being either legally employed or working full time, but without regulated legal status. These participants were a subsample of the geographical cluster sample of 2023 participants of the Study of diversity of family and job relations in Serbia. Of all the participants 621 were male and 777 were female. The participants were asked to complete the PORPOS battery, a compilation of short scales and marker questions created for the purpose of this study. Work environment was assessed using the HOL-H, a six-item scale administered as part of the PORPOS battery that asks the participant to evaluate the extent to which the job he/she is performing involves the activities typical of each of the six Holland RIASEC types. Other data used includes the answers about fertility (number of children) and fertility intentions (planned number of children). The results show that on the male subsample, the extent to which a persons job corresponds to I environment

type correlates negatively with fertility ( $r_s=-.093, p=.036$ ), while the extent to which a persons job includes properties of S and A environment types correlates positively with fertility intentions ( $r_s=.144$  and  $.117$  respectively,  $p=.002$  and  $p=.014$ ). On the female subsample all work environments have negative correlations with the number of children, but the statistical significance threshold is only reached by correlations with E and I environment types ( $r_s=-.098$  and  $r_s=-.085$  respectively,  $p=.013$  and  $p=.037$ ). Relative to fertility intentions on the female subsample positive correlations are obtained with A and E environments ( $r_s=.103$  and  $r_s=.126$  respectively,  $p=.017$  and  $p=.003$ ), but interestingly not with the S environment type. We can conclude that both fertility and planned fertility were found to be correlated with certain job environment types, and the job environment types correlating with these two variables were not the same for males and females.

**Keywords:** job environment type, Holland, fertility, fertility intentions, gender

The study was supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia, through the national science project 179002.

## WORKPLACE CYBERBULLYING AND EMPLOYEE EMOTIONAL WELL-BEING: THE MODERATING EFFECT OF PERCEIVED ORGANISATIONAL SUPPORT

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Digital technologies are a necessity in today's workplace, yet few studies have been done worldwide on its potential misuse and consequential drawbacks. Previous studies conducted in the fields of workplace bullying and cyberbullying in school context have shown the various detrimental effects that (cyber)bullying has on mental health and well-being of its victims. On the other hand, it was found that organizational support compensates the negative effects of workplace bullying and stress at work in general. The aim of this study was to investigate the moderating role of perceived organizational support (POS) in the relationship

between cyberbullying and employees' emotional well-being. The instruments used in this study were: 1. The Workplace Cyberbullying Measure (WCM; Farley and colleagues), 17 items depicting negative acts, frequency scale from 1-never to 5-daily; 2. The Survey of Perceived Organizational Support, short version (SPOS, Eisenberger and colleagues), 8 items, 7-point Likert scale from 0-strongly disagree to 7-strongly agree and 3. The Job-related Affective Well-Being Scale, short version (JAWS, Van Katwyk and colleagues), 20 items depicting emotions, frequency scale from 1-never to 5-extremely often. The sample consisted of 183 respondents, aged 18-65, employed in various industries in Serbia. The results revealed that 20% of respondents could be classified as workplace cyberbullying victims (applying Leymann's criteria of at least one negative act per week). The most frequent negative cyberbullying acts were receiving unclear and inconsistent information, getting unreasonable workload, and being bypassed in work-relevant group communication. Negative correlations between cyberbullying and emotional well-being ( $r=-.546, p<.01$ ) as well as cyberbullying and perceived organizational support ( $r=-.496, p<.01$ ) were found, whereas a positive correlation was found between organizational support and well-being ( $r=.620, p< .01$ ). It was demonstrated that POS moderates the effect of workplace cyberbullying on employees' emotional well-being by acting as a buffer and diminishing its negative effect on employees,  $b=0.11, t=2.14, p=0.05$ . These results emphasize the important role organization has in regulating cyberbullying in the workplace. The findings suggest that organizations should focus on developing interventions based on creating a work atmosphere of respect, support, and care for employees' well-being.

**Keywords:** workplace cyberbullying, emotional well-being, perceived organisational support (POS), the workplace cyberbullying measure (WCM)

# *PSIHOLOGIJA LIČNOSTI*

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## FAKING ON HEXACO PI-R INVENTORY: DIFFERENT PROFILES FOR SPECIFIC OCCUPATIONS OR GENERAL SOCIALLY DESIRABLE RESPONDING?

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The aim of this study was to determine whether there are differences in faked personality profiles when different positions are assumed. The sample consisted of 108 students from The faculty of special rehabilitation and education (56 logopedy course, 52 prevention and treatment of behavioural disorders). The respondents filled in HEXACO PI-R inventory with two different instructions: the first was to present themselves honestly, and the second instruction was to fake good in order to maximize chances of winning an imagined scholarship for students of their respective courses. Job descriptions for two occupations are rather different (first putting emphasis on Agreeableness, and second emphasising Emotional Stability as desirable trait) so the differences in faked profiles should be expected provided that faking process takes into account specific job characteristics in addition to general tendency to present oneself in favourable fashion. Mixed model MANOVA was used to analyse the data, with course as between subjects factor and type of instruction as a within subjects factor, while dependant measures were scores on HEXACO PI-R (Honesty /Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness and Openness). The interaction course x type of instruction was not statistically significant ( $F(6,101)=0.873$ ,  $p=.517$ ), while both main effects were ( $F(6,101)=2.252$ ,  $p=.044$  – for the factor course and  $F(6,101)=6.1$ ,  $p<.001$  – for the factor type of instruction). As regards different personality dimensions, the situation is quite similar: the course x type of instruction interaction did not reach statistical significance for any of the traits, while there was significant main effects of type of instruction for each dimension ( $H - t(106)=7.320$ ,  $p=.008$ ;  $E - t(106)=11.890$ ,  $p=.001$ ;  $X - t(106)=15.834$ ,  $p<.001$ ;  $A - t(106)=29.175$ ,  $p<.001$ ;  $C - t(106) = 26.574$ ,  $p<.001$ ;  $O - t(106)=10.343$ ,  $p=.002$ ). Nevertheless, the effect of course was significant only for Honesty/Humility and Emotionality ( $H - t(106)=4.398$ ,  $p=.038$ ;  $E - t(106)=5.408$ ,  $p=.022$ ), and logopedy students had higher scores on both dimensions. From the obtained results it may be concluded that the respondents have the ability to successfully fake good on HEXACO PI-

R and that general socially desirable scheme is what guides them mostly during the process, while specific job requirement are not taken into account to any considerable extent.

**Keywords:** deliberate response distortion, HEXACO PI-R, “fake good” instruction

## POVEZANOST OSOBINA OSOBINA LIČNOSTI SA SKLONOŠĆU I IZLOŽENOŠĆU NASILJU KOD DECE

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Konstrukt vršnjačkog nasilja veoma je kompleksan. Dosadašnja istraživanja govore o tome da osobine ličnosti i porodica mogu biti faktori rizika za pojavu nasilnog ponašanja dece, ali takođe mogu predstavljati i protektivne faktore koji sprečavaju razvijanje i ispoljavanje ovih oblika ponašanja. Zbog malog broja istraživanja koja se bave relacijama Vršnjačkog nasilja i osobina ličnosti merenim upitnikom VP+2 na srpskom govornom području i zbog jansijeg uvida u to kako neki faktori igraju ulogu u vršnjačkom nasilju, cilj ovog istraživanja bio je da se odredi povezanost osobina ličnosti sa izloženošću i sklonošću nasilju kod dece. Istraživanjem je obuhvaćeno 405 ispitanika, oba pola, uzrasta od 11 do 14 godina. Sklonost i Izloženost vršnjačkom nasilju merena je metodom samoprocene, pomoću skraćene i revidirane verzije upitnika za procenu vršnjačkog nasilja (PRONA). Za eksploraciju crta ličnosti korišćena je skraćena verzija upitnika Velikih pet plus dva (VP+2-70) koji meri šest širokih domena: Neuroticizam, Otvorenost, Savesnost, Agresivnost, Ekstraverziju, Pozitivnu valencu i Negativnu valencu. Za obradu podataka korišćena je Višestruka regresiona analiza koja je ispitivala najbolji izbor prediktora za dve kriterijumske varijable. U ovom regresionom modelu skup prediktorskih varijabli su bili faktorski skorovi na prvim glavnim komponentama supskala upitnika VP+2 (Ekstraverzija, Agresivnost, Savesnost, Neuroticizam, Otvorenost ka iskustvu, Negativna valanca i Pozitivna valanca), dok su dve kriterijumske varijable bile faktorski skorovi na prvim glavnim komponentama supskala upitnika PRONA (Izloženost vršnjačkom nasilju i Sklonost vršnjačkom nasilju). Dobijeni rezultati su pokazali da postoji povezanost osobina ličnosti iz modela Velikih pet plus dva sa izloženošću nasilju kod dece ( $R=.40$ ,  $F(7)=10.86$ ,  $p<.01$ ) tako da su najbolji prediktori Izloženosti vršnjačkom nasilju: Neuroticizam ( $\beta=.32$ ,  $p<.01$ ) i Ekstraverzija ( $\beta=-.13$ ,  $p<.05$ ). Takođe je dobijeno da postoji povezanost osobina ličnosti iz modela Velikih pet plus dva sa sklonošću nasilju kod dece ( $R = .56$ ,  $F$

( $\beta=.25.03$ ,  $p<.01$ ), tako da su najbolji prediktori : Agresivnost ( $\beta=.17$ ,  $p<.01$ ), Negativna valenca ( $\beta=.32$ ,  $p<.01$ ), i Pozitivna valenca ( $\beta=-.16$ ,  $p<.01$ ). Ovakvi rezultati su u skladu sa pretpostavkama i dosadašnjim istraživajima.

Ključne reči: velikih pet plus dva, crte ličnosti, izraženost vršnjačkom nasilju, sklonost vršnjačkom nasilju, PRONA

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## METRIJSKE KARAKTERISTIKE UPITNIKA PID-5 NA NEKLINIČKOM UZORKU

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Predložen je novi model maladaptivne ličnosti u okviru novog izdanja Dijagnostičkog i statističkog priručnika za mentalne poremećaje (DSM-V). Ideja za ovakav model potekla je od petofaktorskog modela ličnosti. Glavna razlika ogleda se u proceni poremećaja ličnosti preko maladaptivnih/patoloških crta. Dakle, kategorički model zamenjen je dimenzionalnim. Za potrebe procene poremećaja ličnosti preko ovog modela, konstruisan je upitnik PID-5 (Personality Inventory for DSM-V). Upitnik se sastoji od 220 ajtema, na koja se odgovara 4-stepenom skalom. Ajtemi su raspodeljeni na 25 faceta i pet skala: 1) negativan afekat, 2) otuđenost, 3) antagonizam, 4) dezinhicija i 5) psihoticizam. Cilj ovog rada jeste provera metrijskih karakteristika upitnika na nekliničkoj populaciji. Nakon prevoda na srpski jezik dvostrukim slepim postupkom, upitnik je zadat uzorku od 402 ispitanika (48.5% muškog pola), prosečne starosti 41.5 godina ( $SD=11.9$ ). Rezultati faktorske analize podržavaju petofaktorsku soluciju, pri čemu zadržani faktori objašnjavaju 67.6% varijanse. Reprezentativnost, beta pouzdanost i homogenost računate su programom RTT9G. Reprezentativnost skala kreće se od .99 za antagonizam do .97 za negativan afekat, beta pouzdanost od .95 za psihoticizam i otuđenje do .91 za dezinhiciju, homogenost h1 od .34 za psihoticizam do .15 za dezinhiciju, a homogenost h2 od .67 za psihoticizam do .36 za dezinhiciju. Pouzdanost skala testirana je po modelu IRT. Rezultati analize pokazali su visoku pouzdanost skala, a koeficijenti pouzdanosti kreću se u opsegu od .86 za skalu dezinhicija do .92 za skalu psihoticizam. Replikabilnost faktora proverena je korelacijom faktora sa skalamama upitnika, pri čemu su sve korelacije skala sa odgovarajućim faktorima značajne, veoma visoke

i govore u prilog replikabilnosti: .98 za psihotizicam, .97 za antagonizam, .93 za negativan afekat, .92 za otuđenje i .81 za dezinhibiciju. S obzirom na sve navedeno, skale pokazuju odlične metrijske karakteristike, osim skale dezinhibicija, čije su karakteristike i replikabilnost slabiji, ali zadovoljavajući (prihvatljivi). Srpska verzija upitnika PID-5 može se koristiti jer omogućava pouzdanu i validnu procenu ličnosti prema modelu DSM V (na nekliničkom uzorku).

*Ključne reči:* PID-5, patološke crte ličnosti, DSM V, metrijske karakteristike

### The Psychometric properties of the PID-5 questionnaire in a nonclinical sample

As part of the latest revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM V), the new model of maladaptive personality has been proposed. For personality disorders assessment Personality Inventory for DSM-V - PID-5 has been developed. It consists of 220 items, measuring 25 traits and 5 domains: 1) Negative affectivity, 2) Detachment, 3) Antagonism, 4) Disinhibition, and 5) Psychoticism. Aim of this study was the assessment of the psychometric properties of the Serbian version of PID-5 in a nonclinical sample. Sample consisted of 402 participants (48.5% male), mean age 41.5 ( $SD=11.9$ ). The five-factor solution explained 67.7% of the variance, and replicability of the factors ranged from .81 (Disinhibition) to .98 (Psychoticism). Reliability coefficients (IRT model) ranged from .86 (Disinhibition) to .92 (Psychoticism). Results indicate that the Serbian version of PID-5 is reliable and valid and can be used in nonclinical sample for assessment of maladaptive personality.

*Keywords:* PID-5, pathological personality traits, DSM V, psychometric properties

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## IS Q-SORTING AN EFFECTIVE METHOD FOR CONTROLLING FAKING ON PERSONALITY MEASURES? A REPLICATION STUDY

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Socially desirable responding on personality measures still represents a major concern for researchers and practitioners, in spite of the fact that many techniques have been employed with the aim to prevent it. Q-sorting, once a common assessment method whose popularity has been declining throughout time, has recently returned to the spotlight within this context. With the present study, we wanted to replicate the findings by Fluckinger (2014) that Q-sorting could simultaneously curb faking tendencies and retain the criterion validity of personality measures. To this end, we administered a set of 15 Big Five adjectives to the participants ( $n=165$ , 78% female, age range 19-29 years), where each participant rated him/herself on the same set of adjectives under four different conditions (2 x 2 within-subjects design). The conditions were presented in a counterbalanced order, with participants being instructed to either give a positive impression of themselves or to respond honestly (instruction factor), both using Likert-scale items and a Q-sorting task (response scale factor). As expected, the difference between ratings in faking and honest condition were by far larger when the Likert scales were used (across-scales-averaged mean difference:  $d=0.77$ , 95% CI [0.62, 0.92], random-effects model). At the same time, the average correlations between relevant trait sum scores and 15 self-assessed Big Five-related criteria (e.g. a correlation between emotional stability and practicing extreme sports) did not differ noticeably between Likert and Q-sort forms, neither in the faking, nor in the honest condition. Thus, we have confirmed Fluckinger's findings. With that in mind we discuss the advantages and limitations of using Q-sorting in personality research and testing.

**Keywords:** Q-sort, faking, socially desirable responding, personality traits, self-assessment

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## STEPEN NEUROTICIZMA I IZBEGAVANJA NEGATIVNIH ISKUSTAVA PRE, TOKOM I NAKON PSIHOTERAPIJSKE OBUKE

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Glavna tema ovog rada je ispitivanje efekata ličnog rada tokom psihoterapijske obuke na crte ličnosti edukanata. Motivacija za ovim radom je nastala usled toga što u dostupnoj literaturi postoji broj istraživanja koja se bave ovim problemom. Ličnost psihoterapeuta predstavlja bitan faktor za formiranje optimalnog terapijskog odnosa koji je stožer psihoterapijskog procesa. S obzirom na to, jedan od najznačajnijih ciljeva psihoterapijske obuke jeste promena edukanata u pravcu smanjenja disfunkcionalnih emocionalnih stanja i većeg prihvatanja neprijatnih unutrašnjih iskustava. Cilj ovog istraživanja bilo je utvrđivanje razlika u neuroticizmu i doživljajnom izbegavanju između studenata psihologije izrazito zainteresovanih za bavljenje psihoterapijom, psihoterapijskih edukanata, terapeuta i visokoobrazovanih pripadnika iz opšte populacije. U istraživanju je učestvovalo 459 ispitanika: 123 studenta psihologije izrazito zainteresovanih za bavljenje psihoterapijom, 154 edukanta, 77 terapeuta i 105 visokoobrazovanih pripadnika iz opšte populacije koji su bili ujednačeni sa psihoterapeutima po uzrastu i stepenu obrazovanja. Terapeuti i edukanti su pripadnici svih terapijskih škola priznatih Savezom društava psihoterapeuta Srbije. Korišćeni su sledeći instrumenti: NEO-PI-R, Multidimenzionalni upitnik doživljajnog izbegavanja i upitnik o sociodemografskim karakteristikama. Glavna statistička metoda za ispitivanje međugrupnih razlika bila multivarijatna analiza varijanse gde su nezavisne varijable bile grupna pripadnost i pol, dok su zavisne varijable bile crte ličnosti i skor na doživljajnom izbegavanju. Glavni nalaz istraživanja je da postoje značajne razlike na Neuroticizmu u smeru smanjivanja idući od studenata i opšte populacije preko edukanata do terapeuta. Doživljajno izbegavanje je značajno manje kod terapeuta u odnosu na sve ostale grupe, kao i kod studenata u odnosu na pripadnike opšte populacije. Pokazalo se da postoje razlike i na Ekstraverziji, Otvorenosti, Saradljivosti i Savesnosti između terapeuta i edukanata u odnosu na studente koji imaju značajno manje skorove na ovim skalama, dok edukanti imaju značajno manje skorove na Saradljivosti i Savesnosti od terapeuta. Terapeuti imaju značajno manje skorove na Neuroticizmu i Doživljajnom izbegavanju i veće na Otvorenosti i Saradljivosti

od pripadnika opšte populacije. Sklop navedenih podataka ukazuje da lični rad tokom obuke ima značajan efekat na ličnost edukanata prevenstveno na karakteristike emocionalnog i interpersonalnog reagovanja. Ipak, rezultate bi bilo potrebno proveriti istraživanjem sa longitudinalnim dizajnom.

*Ključne reči:* psihoterapijska obuka, lični rad, bazične crte ličnosti, NEO PI-R, doživljajno izbegavanje, MEAQ

### Levels of Neuroticism and Avoiding negative experiences before, during and after psychotherapeutic training

The main subject of this paper is examination of effect that personal therapy has on personality traits and experiential avoidance of trainees. Goal of this research was to assess said differences between psychology students that are very interested in psychotherapy, psychotherapy trainees, psychotherapists and members of general population with a university degree. This research had 459 participants: 123 students, 154 trainees, 77 psychotherapists and 105 members of general population. Two instruments were used: NEO PI-R and Multidimensional Experiential Avoidance Questionnaire. Main finding of this research is existence of statistically significant differences between groups on every personality trait, most notably on Neuroticism. Similar differences were observed in Experiential avoidance making a conglomerate of "desirable" scores within groups included in education in psychotherapy. Congregation of listed data implies that personal therapy during education in psychotherapy has a significant effect on trainees' personality, mostly in emotional and interpersonal domain.

*Keywords:* psychotherapeutic training, personal work, basic personality traits, NEO PI-R, experiential avoidance, MEAQ

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## DARK TRIAD AND THE ATTITUDE TOWARDS CONSPICUOUS CONSUMPTION

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Conspicuous consumption (CC) is usually defined as public display of lavish spending and accumulation of luxurious goods for a purpose of visible demonstration of affluence and privileged social status. Our ongoing research has indicated that certain disagreeable personality traits (conformity, sensation seeking, authoritarianism, materialism, ruthless self-promotion) predispose for positive attitude towards CC. The Dark Triad of personality denotes the cluster of overlapping immoral personality traits (Machiavellianism, subclinical Psychopathy, and Narcissism). The objective of this research was to explore the connection between The Dark Triad personality profile and the inclination towards CC. This was accomplished by asking 204 high school students (ages 16-19) of both sexes to complete the 55-item Attitude towards conspicuous consumption (ATCC) and the 27-item Short Dark Triad (SD3) psychometric scales. Our data confirmed satisfactory internal consistency for the ATCC ( $\alpha=0.94$ ) and the SD3 ( $\alpha=0.91$ ) and their original factor structure. Personality traits constituting The Dark Triad predicted the attitude towards CC as evidenced by statistically significant multiple regression model ( $R=0.75$ ,  $F(3,200)=259.081$ ,  $p<0.001$ ). Each dimension of The Dark Triad demonstrated its incremental validity in predicting the total score on the ATCC psychometric scale – Narcissism ( $\beta=0.67$ ,  $p<0.001$ ), Machiavellianism ( $\beta=0.48$ ,  $p<0.001$ ) and Psychopathy ( $\beta=0.4$ ,  $p<0.001$ ). Therefore, the present study extends our findings on psychological basis of CC. It also directs our future research towards study of other forms of socially aversive personality traits as predictors of inclination towards CC.

*Keywords:* conspicuous consumption, machiavellianism, psychopathy, narcissism, short dark triad

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## THE RELATIONSHIP BETWEEN INTELLIGENCE AND VERBAL PRODUCTION IN THE SELECTION PROCESS

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There is a large body of evidence that the way we speak provides valuable information on our different characteristics such as personality traits, emotions and mood. On the other hand, far fewer studies focused on the way language reflects our cognitive abilities. Moreover, these few studies analyzed the manifestations of intelligence in the spontaneous language in natural context. The aim of this study is to explore the relationship between intelligence of the job candidates and different properties of the language they use in the personnel selection process. A sample of 304 candidates (40.5% female; age  $M=27.05$ ,  $SD=4.82$ ) completed nonverbal Multiple solutions test assessing fluid abilities ( $\alpha=.85$ ), that comprises of 40 figure matrices questions. Among multiple choices, the respondents were asked to find the one that represents 1) the correct answer, 2) the second best answer and 3) the least accurate answer for each matrix problem. Based on their answers a single measure of intelligence was calculated. Afterwards, candidates responded in writing to four questions regarding job relevant competencies, namely ability to work under time pressure, team work, problem solving skills and conflict resolution skills. Texts were analyzed using LIWCser, computer software for automatic text analysis that gives an output of more than 60 variables tapping linguistic, psychological and thematic properties of the text. The results showed that more intelligent candidates tend to use less words per sentence ( $r=-.13$ ,  $p<.05$ ), as well as more words related to time ( $r=.13$ ,  $p<.05$ ) and work ( $r=.12$ ,  $p<.05$ ). The results indicate that in the selection process, more intelligent candidates tend to use concise language in order to emphasize their work related duties and responsibilities, time awareness and planning. The study suggests that intelligence manifests in a language production in the context dependent manner, even though relationship between language and cognitive abilities is not very prominent.

*Keywords:* verbal production, LIWCser, intelligence, personnel selection, Multiple solutions test

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## SKLONOST IMPULSIVNOJ KUPOVINI I TRAŽENJE UZBUĐENJA

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Impulzivno kupovanje uključuje kupovinu bez prethodnog razmišljanja i namjere, zbog koje se kasnije često požali. Crta impulzivnosti, okarakterisana kao nepromišljeno djelovanje, značajno korelira s traženjem uzbudjenja i psihološkom potrebom da se održi relativno visok nivo stimulacije. Stoga ovo istraživanje nastoji istražiti odnos između sklonosti impulsivnoj kupovini i osobine traženja uzbudjenja. Cilj ovog istraživanja bio je ispitati povezanost sklonosti impulsivnoj kupovini i osobine traženje uzbudjenja. Uzorak su činile 364 osobe (77.5% žene), starosti od 18 do 68 godina ( $M=29.08$ ,  $SD=11.92$ ) iz pet gradova iz Republike Srpske. Primjenjena je Skala sklonosti impulsivnoj kupovini (Verplanken & Herabadi, 2001) i Skala traženja uzbudjenja (Zuckerman, Eysenck & Eysenck, 1978) koja sadrži četiri subskale: Traženje uzbudjenja i pustolovina, Traženje iskustva, Sloboda u ponašanju ili "otkočenost" i Osjetljivost na dosadu. Za ocjenu mogućnosti osobine traženja uzbudjenja da predviđa sklonost impulsivnoj kupovini, nakon što je uklonjen uticaj demografskih varijabli pol, starost i nivo obrazovanja, upotrebljena je hijerarhijska regresiona analiza. U prvom koraku u model su unijete promjenjive pol, starost i nivo obrazovanja, što je objasnilo 4.9% varijanse sklonosti impulsivnoj kupovini ( $R^2=.049$ ,  $F(3,349)=6.012$ ,  $p<0.01$ ). Nakon unošenja skale Traženje uzbudjenja u drugom koraku, modelom kao cjelinom objašnjeno je 14.8% ukupne varijanse sklonosti impulsivnoj kupovini ( $R^2=.148$ ,  $F(7,345)=8.545$ ,  $p<0.01$ ). Traženje uzbudjenja objasnilo je dodatnih 9.9% varijanse u sklonosti impulsivnoj kupovini ( $\Delta R^2=.099$ ,  $\Delta F=9.980$ ,  $p<.001$ ), nakon što je uklonjen uticaj demografskih varijabli pol, starost i nivo obrazovanja. U konačnom modelu, kao značajni prediktori sklonosti impulsivnoj kupovini izdvojile su se varijable pol ( $\beta=.204$ ,  $t=3.911$ ,  $p<.001$ ) i sloboda u ponašanju ili "otkočenost" ( $\beta=.291$ ,  $t=4.526$ ,  $p<.01$ ). Rezultati ukazuju da su osobe ženskog pola i osobe izraženije slobode u ponašanju ili "otkočenosti" sklonije impulsivnoj kupovini.

*Ključne riječi:* sklonost impulsivnoj kupovini, traženje uzbudjenja, potrošači

**Impulse Buying Tendency and Sensation Seeking**

The aim of this paper was to investigate the relation between the impulse buying tendency and the trait of sensation seeking. The research included

354 respondents. We used the Impulse Buying Tendency Scale and the Sensation Seeking Scale which contains four subscales: Thrill and Adventure Seeking, Experience Seeking, Disinhibition and Boredom Susceptibility. The results of hierarchical regression analysis showed that the demographic characteristics gender, age and level of education, included in the first step, explained 4.9% of the variance of impulsive buying tendency. After entering the Sensation Seeking Scale in the following phase, the model as a whole explained the 14.8% of the total variance of impulsive buying tendency. In the final model, significant partial contribution to the explanation of impulsive buying tendency was given by gender and disinhibition. The results showed that women and the persons high on disinhibition are most prone to impulsive buying.

*Keywords:* impulse buying tendency, sensation seeking, consumers

## CAN PSYCHOPATHIC TRAITS BE ADAPTIVE? GENDER DIFFERENCES IN RELATIONS BETWEEN PSYCHOPATHY AND EMOTIONAL DISTRESS

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Psychopathy is a multidimensional construct, characterized by manipulativeness, affective callousness, and unstable and antisocial lifestyle. While some of these features are maladaptive (i.e. antisocial lifestyle), others might be adaptive, at least in some contexts (i.e. low anxiety and stress immunity). Moreover, previous research demonstrated the importance of distinguishing between different types of psychopathy: primary (more related to lack of affect and interpersonal manipulation) and secondary (more related to unstable and antisocial lifestyle). Therefore, the aim of this study was to investigate the relations between psychopathic traits and indicators of emotional distress (depression, anxiety and stress), and whether these relations differ between men and women. Data was collected on 650 students (388 female and 260 male) from various faculties of the University of Zagreb, Croatia ( $M_{age}=21.73$  years;  $SD=1.94$  years), using the Self-Report Psychopathy Scale (SRP-III – R13; Paulhus, Neuman, & Hare, in press) and The Depression Anxiety Stress Scales – 21 (DASS-21; Lovibond &

Lovibond 1995). The results of Canonical Correlation Analysis with psychopathic traits in the first set of canonical variables (predictors) and DASS scales in the second set (criterions) revealed three pairs of canonical variables: the first ( $R_c=.19$ ;  $\lambda=.93$ ;  $\chi^2(12)=48.36$ ,  $p<.01$ ) highlights the positive relation between Antisocial tendencies and anxiety, the second ( $R_c=.17$ ;  $\lambda=.96$ ;  $\chi^2(6)=25.53$ ,  $p<.01$ ) emphasizes the negative relation between Affective psychopathic traits from the first set with stress and anxiety from the second set of the variables, and the third pair ( $R_c=.11$ ;  $\lambda=.99$ ;  $\chi^2(2)=7.18$ ,  $p<.05$ ) underlies the positive relation between psychopathic Lifestyle and depression, while Antisocial behavior is negatively related to depressive experiences. Moreover, moderation analyses indicated that relations between psychopathy and emotional distress differ in males and females; the more pronounced affective and interpersonal traits are associated with low emotional distress in males, while the opposite stands for females. Taken together, results of this study indicate that Affective psychopathic traits have adaptive potential and represent a protective factor for experiencing emotional distress, while Lifestyle and Antisocial behavior represent risk factors for emotional distress. Finally, psychopathic traits seem to be adaptive in males, but maladaptive in females.

**Keywords:** psychopathic traits, emotional distress, gender differences

## DARK TRIAD AND AMORALITY: WHAT DO THEY HAVE AND WHAT DO THEY DO NOT HAVE IN COMMON?

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The Dark Triad of personality defines the amoral side of human nature as a combination of three personality traits (Narcissism, Machiavellianism and subclinical Psychopathy). A different theoretical approach unravels Amorality as a combination of Lascivia (poor impulse control, capriciousness, carelessness); Frustration (frustration-induced amorality, stubbornness, ruthless resentment); and Crudelia (brutal hedonism, sadism, destructive behavior). While both theoretical approaches address measures of socially aversive personalities, so far there have been no empirical studies directly comparing the two. For this purpose 197 respondents of both sexes ( $M_{age}=17.85$ ) were administered the 27-item Short

Dark Triad (SDT) and the 54-item Amorality Scale (AMS). Our data confirmed the original factor structure of both psychometric scales. Satisfactory internal consistency was demonstrated by Cronbach's alpha for the total score on SDT ( $\alpha=0.84$ ) and its 3 dimensions Narcissism ( $\alpha=0.66$ ), Machiavellianism ( $\alpha=0.72$ ), Psychopathy ( $\alpha=0.74$ ); and for the total score on AMS ( $\alpha=0.92$ ) and its 3 dimensions Lascivia ( $\alpha=0.87$ ), Frustralia ( $\alpha=0.80$ ) and Crudelia ( $\alpha=0.82$ ). Canonical correlation analysis yielded two statistically significant canonical functions: Function 1 ( $R_c=0.77$ ,  $\chi^2_{(4)}=250.37$ ,  $p<.001$ ) and Function 2 ( $R_c=0.31$ ,  $\chi^2_{(1)}=24.81$ ,  $p<.001$ ). Given the size of  $R_c^2$  effect for each function only the Function 1 was considered as important in the context of the present study. Squared canonical loadings indicated that Frustralia ( $r^2 = 0.85$ ), Psychopathy ( $r^2=0.76$ ), Machiavellianism ( $r^2=0.69$ ), Crudelia ( $r^2=0.64$ ), and Lascivia ( $r^2=0.47$ ) - but not Narcissism ( $r^2=0.12$ ) - were primary contributors to Function 1. Likewise, principal component analysis extracted only one factor with a characteristic root greater than 1. However, a low communality index of Narcissism ( $h^2=0.27$ ) relative to Frustralia ( $h^2=0.69$ ), Psychopathy ( $h^2=0.68$ ), Machiavellianism ( $h^2=0.58$ ), Crudelia ( $h^2=0.56$ ), and Lascivia ( $h^2=0.47$ ) additionally indicated that Narcissism is somewhat distinct from the Dark Triad/Amorality space. Thus, the strong empirical overlap between the two psychometric scales with different theoretical origins supports the notion that comprehensive clarification of socially aversive personality must also include amorality. Additionally, our data suggest that ego-promotion makings of amorality should deserve further study.

*Keywords:* dark triad, socially aversive personality, lascivia, crudelia, frustralia

## HOW IMPULSIVITY RELATES TO THE DARK TRIAD AND AMORALITY?

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Multidimensional natures of poor self-control and immorality call for additional scrutiny of their connection since involvement of impulsivity may differentiate among aversive personality traits posited by competing theoretical accounts. In

the present study we assessed relationship between Impulsivity, Amorality, The Dark Triad and their constituting dimensions. This was achieved by administering the 45-item UPPS, the 54-item Amorality (AMS), and the 27-item Short Dark Triad (SD3) psychometric scales to 197 participants ( $M_{age}=17.85$ ). Canonical correlation analysis (CCA) assessed the strength of the relationships between different aversive personality traits (as operationalized by AMS and SD3) and dimensions of Impulsivity (as operationalized by UPPS). CCA yielded two statistically significant canonical functions: Function 1 ( $R_c=0.73$ ,  $\chi^2(24)=263.9$ ,  $p<0.001$ ) and Function 2 ( $R_c=0.47$ ,  $\chi^2(15)=75.744$ ,  $p<0.01$ ). Squared canonical loadings indicated that all four dimensions of Impulsivity [Urgency ( $r^2=0.54$ ); Lack of Perseveration ( $r^2=0.39$ ); Lack of Premeditation ( $r^2=0.38$ ); Sensation seeking, ( $r^2=0.24$ )] but only two dimensions of Amorality [Lascivia ( $r^2=0.90$ ); Frustration ( $r^2=0.35$ )] and only one dimension of The Dark Triad [Psychopathy ( $r^2=0.48$ )] considerably attributed to Function 1. Amorality's dimension Crudelia ( $r^2=0.11$ ) and The Dark Triad's dimensions of Narcissism ( $r^2=0.11$ ) and Machiavellianism ( $r^2=0.07$ ) shared little common variance with Function 1. On the other hand, squared canonical loadings indicated that only three dimensions of Impulsivity [Lack of Premeditation ( $r^2=0.45$ ); Lack of Perseveration ( $r^2=0.34$ ); Sensation seeking ( $r^2=0.19$ )] and two dimensions of The Dark Triad [Narcissism ( $r^2=0.33$ ); Machiavellianism ( $r^2=0.18$ )] considerably attributed to Function 2. Amorality dimensions [Frustration ( $r^2=0.09$ ); Crudelia ( $r^2=0.06$ ); Lascivia ( $r^2=0.04$ )], Psychopathy ( $r^2=0.08$ ) and Urgency ( $r^2=0.06$ ) shared little common variance with Function 2. Thus, Function 1 relates to tendency for urgency-driven psychopathic amoral behavior while Function 2 relates to narcissistic Machiavellian pattern that is devoid of urgency, amorality and psychopathy. Our data indicate that theoretically and empirically separable traits amalgamated in 3 superconstructs (Amorality, The Dark Triad and Impulsivity) overlap in an intricate fashion to form distinctive profiles of socially malignant personalities.

*Keywords:* impulsivity, dark triad, amorality

## KONFORMIRANJE I NEGATIVNI AFEKAT

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Konformiranje, ili spremnost da se izrazi saglasnost sa obrascima vrednosti I ponašanja većine, posebno je prisutna kod osoba koje su emocionalno nestabilne,

jer smanjuje rizik od konflikta i doprinosi ličnom osećanju prihvaćenosti. Ove osobe imaju negativni afektivni doživljaj, te svaku socijalnu disonancu markiraju kao potencijalni psihološki distres, što ih čini defanzivnim u interpersonalnim odnosima. Negativni afekat podrazumeva simptome depresivnog raspoloženja, pojačanu fiziološku pobuđenost koja se subjektivno doživljava kao anksioznost, kao i bihevioralnu disinhibiciju u stresu. Naš cilj je bio utvrditi da li se osobine negativnog afekta mogu dovesti u vezu sa sklonosću ka davanju socijalno poželjnih odgovora kao načinom konformiranja, kao i da li postoje značajne polne razlike prema merenim varijablama. Testirano je 147 ispitanika iz Novog Sada, 74 devojke i 73 mladića, prosečno starih 21 godinu. Primjenjene su skale DASS (*Depression Anxiety Stress Scales,  $\alpha=0.94$* ), za procenu negativnog afekta, kroz izraženost simptoma depresije, anksioznosti i stresa, kao i MC-SDS (*Marlowe-Crowne Social Desirability Scale,  $\alpha=0.76$* ) koja meri sklonost ka davanju socijalno poželjnih odgovora, kroz faktore atribucije poželjnih i negacije nepoželjnih osobina. Utvrđeno je da poricanje, kao način konformiranja, statistički značajno pozitivno korelira kako sa ukupnim skorom negativnog afekta ( $r(145)=0.54, p<0.01$ ), tako i sa depresijom ( $r(145)=0.42, p<0.01$ ), anksioznosću ( $r(145)=0.45, p<0.01$ ) i stresom ( $r(145)=0.55, p<0.01$ ). Atribucija takođe statistički značajno, ali negativno, korelira sa svim osobinama negativnog afekta (ukupni skor DASS  $r(145)=-0.40, p<0.01$ ; depresija  $r(145)=-0.30, p<0.01$ ; anksioznost  $r(145)=-0.31, p<0.01$ ; stres  $r(145)=-0.43, p<0.01$ ). Nisu utvrđene statistički značajne polne razlike prema merenim varijablama, što je neočekivano i različito od većine prethodnih istraživanja. Naši rezultati su saglasni sa rezultatima ranijih istraživanja koja su takođe potvrdila pretpostavku da je negativni afekat značajan prediktor sklonosti ka konformizmu. Konformiranje putem poricanja uz odsustvo atribucije, govori u prilog paradigmi o neurotskom (inhibitorno - defanzivnom) stilu interpersonalnog funkcionisanja, što bi trebalo dalje istražiti.

*Ključne reči:* negativni afekat, poricanje, atribucija, DASS, MC-SDS

### Conformity and negative affect

Since conformity reduces risk of interpersonal conflicts and enhances the feeling of social acceptance it is quite common among persons tormented by depressive mood, anxiety and stress. Current study on 74 young men and 73 young women ( $M_{age}=21$ ) examined correlations between negative affect (assessed by Depression Anxiety Stress Scale, DASS,  $\alpha=0.94$ ), and tendency toward socially desirable responding, an index of conformity (assessed by Marlowe-Crowne Social Desirability Scale,  $\alpha=0.76$ ). Denial, a form of conformity, was positively correlated with the total DASS score ( $r(145)=0.54, p<0.01$ ), depression ( $r(145)=0.42, p<0.01$ ), anxiety ( $r(145)=0.45, p<0.01$ ) and stress ( $r(145)=0.55, p<0.01$ ). Attribution, another

form of conformity, was negatively correlated with the total DASS score ( $r(145)=-0.40, p<0.01$ ); depression ( $r(145)=-30, p<0.01$ ); anxiety ( $r(145)=-0.31, p<0.01$ ), and stress ( $r(145)=-0.43, p<0.01$ ). No gender-related differences were found. We conclude that conformity by denial accompanied by absence of attribution depicts neurotic (inhibitory-defensive) style of interpersonal functioning, which should be further investigated.

*Keywords:* negative affect, denial, attribution, DASS, MC-SDS

## EFEKTI DIMENZIJA AGRESIVNOSTI I POLA NA GRANDIOZNI I VULNERABILNI NARCIZAM

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Veliki broj prethodnih istraživanja pokazuju da je agresivnost povezana s narcizmom. S obzirom na multidimenzionalnost agresivnosti, kao i narcizma, postavlja se pitanje koji se aspekti agresivnosti povezuju s određenim dimenzijama narcizma – grandioznim i vulnerabilnim. Dok prethodna istraživanja pokazuju da se grandiozni narcizam više povezuje s agresivnošću i različitim oblicima agresivnog ponašanja, za vulnerabilni narcizam rezultati nisu tako dosledni. S obzirom na postojanje polnih razlika kako u agresivnosti, tako i u narcizmu, pol je takođe uveden kao potencijalna moderatorska varijabla. Prema tome, cilj ovog istraživanja je ispitivanje efekata dimenzija agresivnosti i pola na vulnerabilni i grandiozni narcizam. Uzorak je činilo 423 ispitanika (49.2% muškog pola), starosti od 18 do 85 godina ( $M=31.59, SD=14.24$ ), različitog nivoa obrazovanja i obrazovnog profila. Primenjeni su Upitnik agresivnosti BODH (Dinić i sar., 2014) kojim se mere četiri dimenzije agresivnosti: bes, osvetoljubivost, dominacija i hostilnost, i Petofaktoski inventar narcizma (FFNI: Glover et al., 2012) kojim se mere vulnerabilni i grandiozni narcizam. Rezultati multivarijatne analize kovarijansi pokazuju da bes ( $F(2,409)=10.02, p<.01, \eta_p^2=.05$ ) i hostilnost ( $F(2,409)=21.00, p<.01, \eta_p^2=.09$ ) ostvaruju značajne glavne efekte na narcizam, dok dominacija ostvaruje i značajnu interakciju sa polom ( $F(2,409)=3.51, p<.05, \eta_p^2=.02$ ). Uvidom u univarijatne efekte, dobijeno je da bes i hostilnost ostvaruju značajne efekte na obe dimenzije narcizma, pri čemu bes

ostvaruje veći efekat na grandiozni ( $F(1,410)=11.25, p<.01, \eta_p^2=.03$ ), a hostilnost na vuilnerabilni narcizam ( $F(1,410)=38.42, p<.01, \eta_p^2=.09$ ). Rezultati pokazuju da se afektivna komponenta agresivnosti, koja uključuje i slabu kontrolu impulsa, više povezuje s grandioznim narcizmom, a kognitivna komponenta, koja uključuje neprijateljski stav prema drugima, više se povezuje s vuilnerabilnim narcizmom. Interakcija pola i dominacije je dobijena samo u slučaju vuilnerabilnog narcizma, pri čemu je ova veza jača kod muškaraca ( $r = .36$ ), nego kod žena ( $r = .23$ ). Dakle, potreba za dominacijom kod muškaraca je više povezana sa krhkim samopoštovanjem. Moguće je da muškarci, taktikama ostvarivanja kontrole i socijalne dominacije nad drugima nadomešćuju negativnu sliku o sebi, kako bi ispunili očekivanja od svoje rodne uloge koja podrazumeva čvrstog i samopouzdanog muškarca.

*Ključne reči:* agresivnost, vuilnerabilni narcizam, grandiozni narcizam, polne razlike

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### Effects of aggressiveness dimensions and gender on grandiose and vulnerable narcissism

Previous studies showed that aggressiveness is related to grandiose narcissism, while relations with vulnerable narcissism are not consistent. The aim of this research was to explore effects of different aspects of aggressiveness and gender on two dimensions of narcissism - grandiose and vulnerable. On a sample of 423 participants (49.2% males) from general population Aggressiveness Questionnaire AVDH (Anger, Vengefulness, Dominance and Hostility) and Five Factor Narcissism Inventory (FFNI) were administrated. Results of multivariate analysis of covariance showed significant main effects of Anger and Hostility on both narcissism dimensions, whereby Anger had larger effect on grandiose and Hostility on vulnerable narcissism. There was also significant interaction effect between Dominance and gender on vulnerable narcissism. Although Dominance was positively related to vulnerable narcissism in both genders, the relationship was stronger among man. Results revealed that affective aspect of aggressiveness is more related to grandiose, and cognitive aspect is more related to vulnerable narcissism.

*Keywords:* Aggressiveness, vulnerable narcissism, grandiose narcissism, gender differences

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## OSOBINE LIČNOSTI, SLIKA O SEBI I ZADOVOLJSTVO ŽIVOTOM U KONTEKSTU UPOTREBE FEJSBUKA

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Efekti kompenzatorne i preterane upotrebe društvene mreže Fejsbuk često se dovode u vezu sa nezadovoljstvom sopstvenim životom i nepovoljnim aspektima slike o sebi, dok se crte ličnosti pominju kao faktor rizika za razvoj ovakvog ponašanja. Cilj ovog rada jeste ispitati vezu između aspekata upotrebe Fejsbuka sa jedne strane, i zadovoljstva životom i slike o sebi sa druge strane, kao i ulogu crta ličnosti u tom odnosu. Uzorak čine 372 ispitanika (88,4% ženskih), prosečne starosti 24,38 godina. Instrumenti korišćeni u istraživanju su Skala zadovoljstva životom (Diener et al., 1985), skale self koncepta (Bezinović, 1988), Skala psihosocijalnih apsekata upotrebe Fejsbuka (Bodroža i Jovanović, 2016) i upitnik šestofaktorskog modela ličnosti (Lee & Ashton, 2009). Rezultati pokazuju da kompenzatorna upotreba Fejsbuka i zavisnost od te društvene mreže pozitivno koreliraju sa percepcijom lične nekompetentnosti, usamljenošću, strahom od negativne socijalne evaluacije i eksternalnošću, a negativno sa samopoštovanjem, opštim zadovoljstvom i zadovoljstvom životom. Kada govorimo o crtama ličnosti, postoji pozitivna korelacija između zavisnosti od Fejsbuka i njegove kompenzatorne upotrebe sa emocionalnošću, a negativna sa ostalim dimenzijama, tačnije sa dimenzijama poštenje-skromnost, ekstraverzija, saradljivost, savesnost i otvorenost za iskustva. Značajni prediktori dimenzije zavisnosti jesu percepcija lične nekompetentnosti ( $\beta=0,225$ ,  $p<0,009$ ) i eksternalnost ( $\beta=0,144$ ,  $p<0,006$ ), kao i negativna dimenzija poštenje-skromnost ( $\beta=-0,102$ ,  $p<0,046$ ), pozitivna emocionalnost ( $\beta=0,253$ ,  $p<0,001$ ), negativna saradljivost ( $\beta=-0,142$ ,  $p<0,005$ ) i savesnost ( $\beta=-0,175$ ,  $p<0,001$ ). Kod kompenzatorne upotrebe to su percepcija lične nekompetentnosti ( $\beta=0,172$ ,  $p<0,024$ ), usamljenost ( $\beta=0,208$ ,  $p<0,002$ ), strah od negativne socijalne evaluacije ( $\beta=0,143$ ,  $p<0,013$ ) i eksternalnost ( $\beta=0,227$ ,  $p<0,000$ ), uz negativne dimenzije poštenje-skromnost ( $\beta=-0,274$ ,  $p<0,001$ ), ekstraverzija ( $\beta=-0,218$ ,  $p<0,000$ ), savesnost ( $\beta=-0,120$ ,  $p<0,019$ ) i otvorenost za iskustva ( $\beta=-0,098$ ,  $p<0,040$ ). Zadovoljstvo životom takođe je negativan prediktor kompenzatorne upotrebe ( $\beta=-0,230$ ,  $p<0,001$ ) i zavisnosti od Fejsbuka ( $\beta=-0,132$ ,  $p<0,011$ ). Rezultati pokazuju da preterana i kompenzatorna upotreba Fejsbuka zaista jesu povezane sa nezadovoljstvom sopstvenim životom i slikom o sebi, kao i određenim crtama ličnosti. Dobijeni nalazi mogu poslužiti kao osnov za buduća istraživanja u domenu drugih društvenih mreža.

*Ključne reči:* fejsbuk, zavisnost, kompenzatorna upotreba, zadovoljstvo životom, slika o sebi

## Personality Traits, Self-Concept and Life Satisfaction in the Context of Facebook Use

The main goal of this study was to examine the relations between compensatory Facebook use and Facebook addiction on the one hand, and life satisfaction, personality traits and self concept on the other. The study had 372 participants (88.4% female;  $M_{(age)}=24.38$ ). The study used the Life Satisfaction Scale (Šarčević and Vasić, 2010), the Self-Concept Scale (Bezinović, 1988), the Psycho-Social Aspects of Facebook Use Scale (Bodroža and Jovanović, 2016) and the Six Major Dimensions of Personality Scale (Lee and Ashton, 2009). The results show that the compensatory use of Facebook and Facebook addiction correlate with all self-concept dimensions, life satisfaction and personality traits such as emotionality (positively) and honest-humility, extroversion, agreeableness, conscientiousness and openness to experience (negatively). Some of the above were also found to be good predictors of the compensatory use of Facebook and Facebook addiction. The expected correlations have been confirmed. However, further research is necessary.

*Keywords:* Facebook, addiction, compensatory use, life satisfaction, self-concept

## BAZIČNE DIMENZIJE LIČNOSTI MODELA VELIKIH PET PLUS DVA KAO PREDIKTORI KONZUMACIJE ALKOHOLA I CIGARETA

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Cilj ovog istraživanja je ispitivanje povezanosti dimenzija ličnosti sa učestalošću konzumacije alkohola i stepenom konzumacije cigareta, odnosno mogućnost predikcije ovih ponašanja na osnovu dimenzija ličnosti. Uzorak je činilo 1170 ispitanika, raspona starosti od 17 do 82 godine ( $M=34.6$ ;  $SD=13.49$ ), od čega je ženskih bilo 644 (55%). U uzorku je bilo 686 (58.6%) ispitanika koji su se izjasnili da konzumiraju alkohol, a njih 415 (35.5%) se izjasnilo da konzumira cigarete. Za procenu ličnosti primenjena je skraćena verzija upitnika Velikih pet plus dva (VP+2-70), i odgovori na pitanja iz Upitnika osnovnih podataka koji se odnose na učestalost konzumacije alkohola i stepen konzumacije cigareta. S

obzirom na rezultate prethodnih istraživanja možemo pretpostaviti da je konzumacija alkohola povezana sa niskom Savesnošću, visokom Negativnom valencom, visokim Neuroticizmom i visokom Otvorenošću, a konzumacija cigareta sa niskom Savesnošću i visokim Neuroticizmom, ali da nije povezana sa Ekstraverzijom. Za utvrđivanje povezanosti između prediktora koji su bili dimenzije ličnosti upitnika VP+2-70, operacionalizovane preko z-skorova i učestalosti konzumacije alkohola i stepena konzumacije cigareta kao kriterijumske varijabli sprovedene su dve multiple regresione analize. Prvi regresioni model je statistički značajan ( $F(7,1169)=19.08, p<0,001$ ). Koeficijent determinacije ( $R^2=.10$ ) ukazuje da se na osnovu skupa prediktora može objasniti oko 10% varijanse konzumacije alkohola. Kao značajni prediktori pokazale su se dimenzije: Savesnost ( $\beta=-.23, p<.001$ ), Neuroticizam ( $\beta=-.07, p<.05$ ), Otvorenost ( $\beta=.17, p<.001$ ) i Negativna valenca ( $\beta=.14, p<.001$ ). Savesnost ostvaruje najveći doprinos objašnjenju varijanse ovog ponašanja. Drugi regresioni model je takođe statistički značajan ( $F(7,1169)=5.37, p<0,001$ ). Na osnovu skupa prediktora se može objasniti oko 3% varijanse kriterijuma ( $R^2=.03$ ). Utvrđeno je da su značajni prediktori konzumacije cigareta: Neuroticizam ( $\beta=.10, p<.01$ ), Savesnost ( $\beta=-.12, p<.001$ ) i Ekstraverzija ( $\beta=.08, p<.05$ ). Rezultati sugerisu da sniženi skorovi na Savesnosti dosledno korespondiraju sa učestalijom konzumacijom alkohola i cigareta, dok se smer doprinosa Neuroticizma razlikuje. Ovakvi rezultati upućuju na zaključak da su oba vida zdravstveno rizičnih ponašanja povezana sa slabijom kontrolom impulsa. Pri tome, konzumacija alkohola u većoj meri je povezana sa pristupajućim tendencijama u ponašanju i sklonosću ka traženju novih iskustava.

*Ključne reči:* konzumacija alkohola, konzumacija cigareta, dimenzije ličnosti

### Basic Personality Dimensions from the Big Five Plus Two Model as Predictors of Alcohol and Cigarette Consumption

The purpose of this study is to examine the connection between personality dimensions and the frequency of consuming alcohol and cigarettes. The sample was comprised of 1170 participants (55% female), aged 17 - 82, 686 of whom consumed alcohol and 415 who smoked cigarettes. Personality traits were assessed using the 70-item VP+2-70 Questionnaire. Two multiple-regression analyses have been conducted to examine the relations between sets of predictor variables and criterion variables. The first regression model shows that significant predictors of alcohol consumption were Conscientiousness ( $\beta=-.23, p<.001$ ), Neuroticism ( $\beta=-.07, p<.05$ ), Openness ( $\beta=.17, p<.001$ ), and Negative Valence ( $\beta=.14, p<.001$ ), accounting for 10% variance, while significant predictors of cigarette smoking were Neuroticism ( $\beta=.10, p<.01$ ), Conscientiousness ( $\beta=-.12, p<.001$ ), and Extraversion ( $\beta=.08, p<.05$ ), accounting for about 3% variance.

The results are in line with the results of previous studies on alcohol and cigarette consumption.

*Key words:* alcohol consumption, cigarette smoking, personality dimensions

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## ANKSIOZNOST KAO CRTA I OSETLJIVOST NA POTKREPLJENJE KOD ADOLESCENATA

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Teorijsku osnovu rada čine Grejova teorija osetljivosti na potkrepljenje, koja obuhvata tri bazična sistema: sistem bihevioralne inhibicije (BIS), sistem bihevioralne aktivacije (BAS) i sistem Borba/Bežanje/Blokiranje (BBBS), koga čine tri osnovna obrasca reagovanja na stvarnu ili procenjenu opasnost i Spielbergerov model anksioznosti kao crte ličnosti. Cilj istraživanja je ispitivanje povezanosti anksioznosti kao crte i osetljivosti na potkrepljenje (kroz sisteme: BBBS; BIS i BAS). Uzorak istraživanja su činili adolescenti ( $N=138$  ispitanika; 67 muških i 71 ženskih ispitanika), prosečne starosti  $M=22.67$ ;  $SD=2.23$ . Korišćeni su sledeći instrumenti: Upitnik za procenu osetljivosti na potkrepljenje - UOP upitnik i Skala za procenu anksioznosti kao crte - AT29 skala. Rezultati istraživanja su pokazali da anksioznost kao crta ličnosti ostvaruje pozitivnu korelaciju sa blokiranjem ( $r=.54$ ,  $p<0.01$ ), bežanjem ( $r=.47$ ,  $p<0.01$ ) i BIS-om ( $r=.61$ ,  $p<0.01$ ), a negativnu sa BAS-om ( $r=-.20$ ,  $p<0.05$ ). Dobijeni rezultati ukazuju da je anksioznost kao crta izraženija kod onih adolescenata kod kojih su blokiranje i bežanje izraženiji, kao i sistem bihevioralne inhibicije. Takođe, anksioznost kao crta izraženija je kod onih adolescenata kod kojih je sistem bihevioralne aktivacije niži. Nije dobijena statsistički značajna povezanost anksioznosti kao crte i borbe. Regresionom analizom je utvrđeno da je anksioznost značajan prediktor u predviđanju blokiranja ( $\beta=.54$ ,  $p<0.05$ ), BAS-a ( $\beta=-.20$ ,  $p<.05$ ), BIS-a ( $\beta=.61$ ,  $p<0.05$ ) i bežanja ( $\beta=.47$ ,  $p<0.05$ ) kod ispitanih adolescenata. Adolescenti sa izraženijom anksioznošću ispoljavaju nesposobnost da odreaguju na ugrožavajuće situacije, povlače se i izbegavaju nove situacije, a okruženje percipiraju kao izvor potencijalne opasnosti.

*Ključne reči:* anksiozonost, osetljivost na potkrepljenje, adolescenti

## FOND „KATARINA MARIĆ“

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## POSPEŠIVANJE SARADLJIVOSTI U SOCIJALNIM DILEMAMA

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Socijalna dilema je situacija u kojoj postoji sukob između interesa pojedinca i interesa kolektiva i u kojoj je pojedinac često primoran da bira između ličnog i zajedničkog dobitka. Istraživanja pokazuju da doprinos zajedničkom dobru može da se pospeši izmenom sistema raspodele dobitaka od tog dobra među članovima kolektiva, a pogotovo kažnjavanjem tzv. grebatora (*eng. free-riders*). Grebatori teže da maksimizuju sopstveni dobitak na uštrb ostalih članova. Pored njih, postoje i kooperatori, koji u različitoj meri odlučuju da doprinesu dobru. U ovom istraživanju ispitivali smo da li postoje individualne razlike u reakcijama na pretnju kaznom u igri koja simulira socijalnu dilemu. Pošli smo od pretpostavke da će neki igrači biti saradljivi na strateško-kalkulišući način, tj. da će oni nepošteniji, makijavelističniji, narcisoidniji, psihopatičniji i ekstravertniji biti saradljiviji kada im se zapreti kaznom, nego kada im se ne zapreti. Pored toga, pretpostavili smo da će neki igrači biti saradljivi (oni pošteniji, prijazniji, introvertniji i manje emocionalni, makijavelistični, narcisoidni i psihopatični), odnosno nesaradljivi (oni sadističniji) bez obzira na pretnju kaznom. U istraživanju je učestvovalo 105 ispitanika (prosečnog uzrasta 21 godina, 86 žena). Polovina njih je prvo igrala runde igre javnog dobra bez pretnje, pa odmah zatim sa pretnjom ( $n=52$ ), a polovina obrnutim redosledom ( $n=53$ ). Korelacije crta ličnosti sa preusmeravanjem ka saradljivosti, odnosno sa većim doprinosima javnom dobru pod pretnjom kaznom nisu se javile na nivou celog uzorka. Mada su korelacije registrovane na poduzorcima kojima je pretnja kaznom uvedena u različitom trenutku, one su mahom bile nedosledne i umerenog intenziteta, te su potrebne studije prihvataljivije snage na nivou poduzoraka radi izvođenja sigurnijih zaključaka. Pretnja kaznom je pospešila saradljivost na celom uzorku ( $t(104)=2.48$ ,  $p=.015$ ), ali je efikasnost, neočekivano, zavisila od redosleda njenog uvođenja. Igrači su bili saradljiviji kada im je bilo zaprećeno kaznom ako su prvo igrali pod pretnjom, pa zatim bez nje ( $t(52)=7.15$ ,  $p=.000$ ), ali ne i u obrnutom slučaju. Rezultati su diskutovani posebno u svetlu fenomena tzv. uslovne saradljivosti i razmatrane su njihove implikacije za intervencije u socijalnom okruženju. Pored toga, predloženo je da se u budućim istraživanjima uključe i makroekonomski i makrosocijalni činioci, koji bi mogli da snažnije utiču na doprinos javnom dobru u situacijama socijalne dileme, i to povrh ili uprkos ličnosti pojedinca.

*Ključne reči:* socijalna dilema, igra javnog dobra, pretnja kaznom, HEXACO, crna tetrada

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## KOGNITIVNA OBRADA IMENICA SA VIŠEZNAČNIM DERIVACIONIM SUFIKSIMA: STUDIJA OČNIH POKRETA

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Psiholingvističke studije sprovedene na finskom i holandskom jeziku fenomen višeznačnosti sufiksa definisale su kao odliku sufiksa da u istom jeziku bude i flektivni i derivacioni. Iako je višeznačnost čisto flektivnih sufiksa bila ispitivana kao zaseban fenomen u nekoliko psiholingvističkih studija, to nije bio slučaj sa fenomenom višeznačnosti čisto derivacionih sufiksa. Prema trenutnim saznanjima, postoji samo jedna takva studija sprovedena na srpskom jeziku, u kojoj je fenomen višeznačnosti čisto derivacionih sufiksa ispitivan u zadatku vizuelne leksičke odluke. Imajući u vidu to da je rečenični kontekst važan za izučavanje procesiranja morfološki složenih reči, cilj ove studije bio je da ispita kognitivnu obradu imenica srpskog jezika sa višeznačnim derivacionim sufiksima u studiji očnih pokreta. Stimuli u ovom eksperimentu bili su parovi rečenica sa imenicama koje imaju identičnu tvorbenu osnovu, ali višezačan ili jednoznačan derivacioni sufiks (primer: imenice *andelak/andelče* u rečenicama *Na jelci je andelak/andelče sa zlatnim krilima*). Sprovedene su tri regresione analize linearnih mešovitih efekata, za svaku od tri zavisne varijable: trajanje prve fiksacije na reči, suma svih fiksacija prilikom prvog prelaženja preko reči i suma svih postojećih fiksacija na reči. Glavni efekat višeznačnosti derivacionih sufiksa nije dostigao statističku značajnost ni u jednoj od tri analize. Međutim, interakcija između višeznačnosti i frekvencija derivacionih sufiksa pokazala se kao statistički značajna u prvoj i trećoj analizi. Imajući u vidu to da je identična interakcija zabeležena i u zadatku vizuelne leksičke odluke, izведен je zaključak da određeni derivaciono-morfološki činiovi utiču na kognitivnu obradu imenica, bez obzira na to da li se one ispitanicima prezentuju izolovano, ili u rečeničnom kontekstu. Nadalje, izведен je i zaključak da bi i semantičke odlike samih imenica mogle biti ključne za dobijanje ovakvih rezultata. Takođe, sprovedena je i računarska simulacija uz pomoć modela *Naivno diskriminativno učenje*. Kako se pokazalo da simulirana vremena reagovanja, dobijena preko originalne jednačine iz modela, nisu korelirala sa zabeleženim, pristupilo se dodatnom korigovanju originalne jednačine iz modela. Međutim, ni ova korekcija nije značajno unapredila proces simulacije efekta višeznačnosti derivacionih sufiksa,

te je izведен zaključak da je potrebna kompleksnija modifikacija originalne jednačine.

*Ključne reči:* derivaciona morfologija, višeznačnost sufiksa, kognitivna obrada, studija očnih pokreta, naivno diskriminativno učenje

## EVALUATIVNA FUNKCIJA VIZUELNE PERSPEKTIVE U AUTOBIOGRAFSKIM SEĆANJIMA: ZAŠTO SE NEKIH DOGAĐAJA PRISEĆAMO U PRVOM, A NEKIH U TREĆEM LICU?

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Autobiografska sećanja mogu biti prizvana iz perspektive aktera, kada osoba vidi događaj iz sopstvene vizuelne perspektive, ali i iz perspektive posmatrača, kada osoba vidi sebe kao deo događaja, odnosno posmatra iskustvo kao treće lice. S obzirom da se iskustvo doživljava iz prvog lica, prizivanje događaja iz perspektive posmatrača nužno podrazumeva njegovu modifikaciju. U ovom radu bavili smo se ulogom ovakve promene perspektive. Testirali smo model (Sutin & Robins, 2009) u kojem se pretpostavlja da vizuelna perspektiva iz koje prizivamo događaj zavisi od karakteristika sećanja koje su relevantne za sliku o sebi: pretnje po sliku o sebi i kongruentnosti sa slikom o sebi. U vezi s tim testirali smo dve konkurentske hipoteze: (a) hipoteza o nezainteresovanom posmatraču govori da se perspektiva posmatrača koristi kao strategija distanciranja od nepoželjnih događaja, pa se tako iskustava koja ne idu u prilog slici o sebi i iskustava koja su nekongruentna sa slikom o sebi češće prisećamo iz trećeg lica; (b) hipoteza o salijentnom selfu govori suprotno: perspektiva posmatrača zapravo povećava fokus na sopstveno ponašanje i odlike, pa se stoga iskustava koja su poželjna i kongruentna sa slikom o sebi češće prisećamo iz trećeg lica. Stoga smo od ispitanika tražili da se prisećaju događaja koji u najvećoj meri angažuju samoevaluativne procese: onih u kojima su postupali u skladu ili u neskladu sa svojim glavnim osobinama, kao i onih za koje vezuju osećanja ponosa ili stida. U prvom ogledu ispitanici ( $N=76$ ) su se prisećali svoje najpozitivnije i najnegativnije osobine, a zatim navodili po dve situacije vezane za te osobine: kada su se poneli u skladu i u neskladu sa istom. Na taj način sećanja smo varirali prema pretnji po sliku o sebi (preteća naspram nepretećih) i kongruentnosti sa slikom o sebi (kongruentna naspram nekongruentnih). Ispitanici su većinu sećanja prizivali u većoj meri iz perspektive aktera nego iz perspektive posmatrača; razlika je bila izraženija kod sećanja

vezanih za negativnu osobinu, bez obzira na kongruentnost i pretnju po sliku o sebi. U drugom ogledu ( $N = 59$ ), ispitanici su se prisećali događaja koji su u njima pobudili ponos odnosno stid (neprećeći odnosno preteći po sliku o sebi), a uz to su izveštavali o tome koliko su skloni da doživljavaju ponos odnosno stid (da bi se utvrdila kongruentnost sa slikom o sebi). Na osnovu sklonosti osećanjima ponosa i stida, ispitanici su svrstani u četiri grupe: nesklone nijednoj, sklone osećanjima stida, sklone osećanjima ponosa, sklone obema vrstama emocija. Kada se sve četiri grupe analiziraju zajedno, nema razlike u vizuelnoj perspektivi sećanja na iskustva ponosa i stida, niti se grupe međusobno razlikuju. Kako se samo kod ispitanika sklonim samo jednoj od samosvesnih emocija (ili ponosu ili stidu) sećanja na ponos i stid mogu u užem smislu smatrati kongruentnim ili nekongruentnim, analizirali smo vizuelnu perspektivu na tom poduzorku ispitanika. Pokazalo se da (1) su sećanja na iskustva stida (preteća sećanja) u većoj meri prizivana iz perspektive posmatrača u odnosu na sećanja na iskustva ponosa (neprećeća sećanja), ali i da su (2) ispitanici skloni osećanjima stida u većoj meri prizivali obe vrste sećanja iz perspektive aktera u odnosu na ispitanike sklone osećanjima ponosa. Uzeti zajedno, rezultati oba ogleda ne idu u prilog nijednoj od dve polazne hipoteze o ulozi trećeg lica u prisećanju – ni hipotezi o nezainteresovanom posmatraču, ni hipotezi o salijentnom selfu. Naše je mišljenje da bi se u budućim istraživanjima pre svega trebalo usredsrediti na poboljšanje procedure merenja vizuelne perspektive, a onda i na eventualne individualne razlike u sklonosti ka prisećanju iz prvog odnosno trećeg lica koje mogu da stvaraju šum u eksperimentalnom dizajnu.

*Ključne reči:* autobiografska sećanja, vizuelna perspektiva, perspektiva aktera, perspektiva, posmatrača, samosvesne emocije

## UTICAJ INTELIGENCIJE I KOGNITIVNOG OPTEREĆENJA NA UVERLJIVOST PRI LAGANJU

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Sposobnost laganja predstavlja sposobnost da se druga osoba uspešno verbalno obmane, da se uveri da je lažna informacija istinita. Istraživanja potvrđuju da uspešno laganje zahteva ulaganje većeg kognitivnog napora u poređenju sa govorenjem istine i ovaj nalaz našao je primenu u taktikama forenzičkog ispitivanja. Slično, intelligentniji ljudi trebalo bi da budu uspešniji u laganju – iako se i istraživači i laici u tome slažu, iznenađujuće je malo istraživanja koja se ovim bave. U našem istraživanju se u istom dizajnu porede efekti inteligencije i

kognitivnog opterećenja na sposobnost laganja, čime je omogućeno da se ispita i njihova eventualna interakcija. Pedeset studenata sociologije, kojima je prethodno izmerena verbalna i neverbalna inteligencija, imali su zadatak da osmisle i uverljivo eksperimentatoru izlože unapred definisane autobiografske događaje; kognitivno opterećenje uvedeno je tako što su polovinu priča izlagali hronološki, a drugu polovinu unatrag. Od svakog naratora na taj način prikupljene su četiri priče. Zatim je 22 nezavisna procenjivača procenjivalo uverljivost izlaganja, pri čemu je prikupljeno ukupno 22 000 procena. Rezultati ukazuju da je, uz kontrolu socijalne anksioznosti, sposobnost laganja povezana i sa verbalnom i sa neverbalnom inteligencijom, bez inkrementalnog doprinosa jedne na drugu. Uvođenje dodatnog kognitivnog zadatka podjednako je smanjilo uverljivost pri laganju nezavisno od inteligencije, ali je kod inteligenčnijih osoba registrovan manji broj znakova napetosti i nervoze (izraženost samododirivanja, učestalost pokreta šaka i nogu, oklevanje i greške u govoru). Ovaj nalaz upućuje na oprez pri korišćenju dodatnog kognitivnog zadatka kao tehnike za detekciju laži – inteligenčniji ljudi mogu biti ”otporniji” na to i pokazivati manje znakova nervoze. Dodatni kognitivni zadatak doveo je do većeg pada uverljivosti kod anksioznijih u poređenju sa manje anksioznim. Razmotrena je ekološka validnost procedure za merenje sposobnosti laganja, priroda merenog konstrukta kao i predlozi za buduća istraživanja. Jasno su naznačene situacije laganja na kojima se dobijeni nalazi ne mogu generalizovati, ali i potencijal za njihovu primenu u forenzičkoj praksi.

*Ključne reči:* laganje, sposobnost laganja, inteligencija, kognitivno opterećenje

## RAZLIKE IZMEĐU SPORTISTA INDIVIDUALNOG I TIMSKOG SPORTA U POGLEDU PERFEKCIJONIZMA, ANKSIOZNOSTI I SAMOEFIKASNOSTI

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U ovom radu je prikazano istraživanje sprovedeno s ciljem da se utvrde razlike u stepenu izraženosti perfekcionizma, anksioznosti i samoefikasnosti između sportista koji se bave individualnim sportom, kao što je atletika, kao i sportista koji se bave timskim sportom, kao što je košarka. Takođe, cilj je i da se ispita povezanost između navedenih koncepata u obe grupe ispitanika. Proverene su i razlike u stepenu izraženosti osnovnih varijabli s obzirom na sociodemografske karakteristike ispitanika (pol, starost i dužinu treniranja sporta).

Uzorak je činilo 200 sportista podeljenih u dve jednake grupe: sportisti koji se bave atletikom i sportisti koji se bave košarkom. Ispitivane grupe su bile ujednačene po polu (po 50 sportista muškog i 50 sportista ženskog pola u obe grupe). Od instrumenata su primjenjeni Višedimenzionalna skala perfekcionizma u sportu- MIPS, Skala takmičarske anksioznosti CSAI-2, Skala opšte samoefikasnosti, kao i Upitnik konstruisan za potrebe istraživanja. Rezultati pokazuju da je kod atletičara izraženija anksioznost, kako kognitivna tako i somatska, dok im je samopouzdanje sniženo u odnosu na sportiste koji se bave košarkom. Na dimenziji perfekcionizam i samoefikasnost nisu utvrđene razlike. Proučavajući međusobni odnos zavisnih varijabli rezultati su ukazali na postojanje povezanosti između perfekcionizma i anksioznosti. Subdimenzija perfekcionizma težnja ka savršenstvu je negativno povezana sa kognitivno anksioznošću, dok je pozitivno povezana sa samopouzdanjem, na poduzorku atletičara. Osim toga, rezultati pokazuju da je na poduzorku atletičara subdimenzija perfekcionizma negativne reakcije na nesavršenstvo u pozitivnoj korelaciji sa kognitivnom i somatskom anksioznošću. Kao i da je dimenzija samoefikasnost u pozitivnoj korelaciji sa perfekcionizmom i to sa subdimenzijom težnja ka savršenstvu. Takođe, utvrđena je i pozitivna korelacija između samoefikasnosti i kognitivne anksioznosti, kao i između samoefikasnosti i samopouzdanja, na poduzorku atletičara. Kada je u pitanju poduzorak košarkaša rezultati pokazuju da postoji pozitivna korelacija između dimenzija perfekcionizma i anksioznosti. Tako, subdimenzija težnja ka savršenstvu je u pozitivnoj korelaciji sa subdimenzijama somatska anksioznost i samopouzdanje. Osim toga, na poduzorku košarkaša je subdimenzija negativna reakcija na nesavršenstvo u pozitivnoj korelaciji sa subdimenzijama kognitivna anksioznost i somatska anksioznost. Kada je o samoefikasnosti reč, ova dimenzija je u pozitivnoj korelaciji sa subdimenzijom težnja ka savršenstvu i sa subdimenzijom samopouzdanje. Takođe, samoefikasnost je u negativnoj korelaciji sa subdimenzijom kognitivna anksioznost. Rezultati su pokazali i da postoje značajne razlike u pogledu kontrolnih varijabli. Na poduzorku atletičara nađene su polne razlike koje ukazuju da je kod žena atletičara izraženija kognitivna anksioznost i samopouzdanje u odnosu na muške atletičare. Polne razlike su se pokazale i na dimenziji perfekcionizam i samoefikasnost, gde su kod muških atletičari u većoj meri izražene ove dimenzije u odnosu na ženske atletičare iz ovog uzorka. Što se tiče godina starosti atletičara, razlike s obzirom na ovu kontrolnu varijablu su utvrđene na dimenziji samopouzdanje, perfekcionizam i samoefikasnost, ove dimenzije su izraženije kod sportista koji imaju više godina, koji su stariji i iskusniji, u odnosu na mlađe atletičare. Kada je reč o dužini treniranja kao kontrolnoj varijabli, na poduzorku atletičara se pokazalo da postoje statistički značajne razlike na dimenziji perfekcionizam i samoefikasnost kao i na subdimenziji samopouzdanje i težnja ka savršenstvu. Samopouzdanje je izraženije kod atletičara koji se duže bave ovim sportom. Isto tako, samoefikasnost je izraženija kod atletičara koji treniraju duže u odnosu na

one koji treniraju manji broj godina. Kada je reč o dimenziji perfekcionizam i njegovojoj subdimenziji težnja ka savršenstvu rezultati su malo drugačiji, naime kod atletičara, koji su u nekoj srednjoj kategoriji po dužini treniranja ovog sporta, perfekcionizam je izraženiji nego kod onih koji su početnici ili koji su već dugi niz godina u ovom sportu. Kada su u pitanju polne razlike u stepenu izraženosti osnovnih varijabli istraživanja kod sportista koji se bave košarkom s obzirom na kontrolne variable, dobijeni rezultati pokazuju da muški ispitanici imaju veće samopouzdanje u odnosu na ženske. Razlike u stepenu izraženosti perfekcionizma, anksioznosti i samoefikasnosti s obzirom na godine starosti i dužinu treniranja u grupi sportista koji se bave košarkom nisu utvrđene. Dobijeni rezultati mogu doprineti unapređenju saznanja u oblasti psihologije sporta, a takođe mogu biti korišćeni u radu sa spotistima, unapređivanju tehnika i koncepta treninga, kao i u razvoju ličnosti sportista kako bi unapredili svoj sportski učinak.

*Ključne reči:* perfekcionizam, takmičarska anksioznost, samoefikasnosti, sport, atletika košarka

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## NAPORAN RAD SE ISPLATI – PUT, VREME I NAPOR NA PUTU DO CILJA U LAVIRINTU

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Prilikom tumačenja učenja lavirinta izdvojile su se dve teorije. S-R teorija naglašava da se u lavirintu uči pokret, dok kognitivna teorija naglašava da se u lavirintu uči mesto (položaj cilja). Veći broj istraživanja govori u prilog kognitivne teorije učenja. U tim istraživanjima, kao važan zaključak, navodi se stanovište da u situaciji kada se gladan pacov spusti u lavirint, koji je predhodno naučio, on bira najkraći (najbrži) put dolaska do hrane. Međutim, postavlja se pitanje da li životinja bira najkraći put zbog dužine samog puta, zbog kraćeg vremena dolaska do cilja ili pak zbog količine napora koju bi trebalo uložiti kako bi se postigao cilj. Cilj ovog eksperimenta bio je da se ispita da li ponašanje miša u lavirintu zavisi od jednog od sledećih faktora: put (duži i kraći), vreme (duže i kraće) i napor (više ili manje naporan put). U istraživanju je učestvovalo 40 miševa, podeljenih u 4 grupe. Svaka grupa je prolazila kroz samo jednu od četiri eksperimentalne situacije: Situacija 1 - oba putevi su podjednako naporna, ali je put na levoj strani kraći i na tom putu očekujemo da je miševima potrebno manje vremena da stignu do cilja; Situacija 2 - oba putevi su jednakе dužine, na putu na levoj strani se nalaze dve prepreke (visina 8 cm) i na tom putu očekujemo da je miševima potrebno više vremena da stignu do cilj; Situacija 3 – vreme dolaska

do cilja je ujednačeno, put na levoj strani je kraći i na tom putu se nalaze dve prepreke (visina 8 cm). Situacija 4 - kontrola situacija u kojoj su sve tri dimenzije ujednačene (putevi su iste dužine i na oba puta se nalaze po dve prepreke visine 8 cm). U sve četiri situacije registrovali smo koji je put miš odabrao (levi ili desni) i vreme koje mu je bilo potrebno da na tom putu stigne do cilja. Rezultati eksperimenta pokazuju da postoji statistički značajna razlika među grupama u pogledu preferencije puta u labyrintru ( $F(3)=19.95, p<0.001$ ). Rezultati ukazuju na to da miševi biraju manje naporan put, odnosno put gde nisu postavljene prepreke. Međutim, u pogledu prosečno potrebnog vremena da se stigne do cilja, rezultati ukazuju da neke situacije nisu dobro postavljene (na primer: u situaciji u okviru koje smo predvideli ujednačeno vreme dolaska do cilja rezultati pokazuju da je miševima na jednom putu potrebno više vremena nego na drugom). Stoga, ne možemo izvesti jasne zaključke u pogledu bitnosti napora pri izboru puta kojim miš dolazi do cilja u labyrintru.

*Ključne reči:* učenje labyrintha, dužina staze, napor, kognitivne mape

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## PROCENA KOGNITIVNE I SOCIJALNE FUNKCIONALNOSTI I BAZIČNIH ŽIVOTNIH VEŠTINA OSOBA SA BIPOLARNIM AFEKTIVNIM POREMEĆAJEM U REMISIJI

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Istraživanjima i tretmanu svakodnevnog funkcionisanja kod osoba sa bipolarnim afektivnim poremećajem, naročito u periodima remisije, u našoj zemlji posvećeno je nedovoljno pažnje. Cilj ovog istraživanja je utvrđivanje kognitivnog funkcionisanja, socijalnog funkcionisanja i bazičnih životnih veština kod osoba sa bipolarnim afektivnim poremećajem u remisiji. Sekundarni ciljevi jesu poređenje učinka na ovim merama osoba sa bipolarnim afektivnim poremećajem u remisiji i osoba sa rekurentnim depresivnim poremećajem u remisiji, utvrđivanje povezanosti ove tri mere funkcionisanja kod osoba sa bipolarnim afektivnim poremećajem u remisiji, kao i uticaj socio-demografskih i kliničkih varijabli na ove tri mere kod osoba sa bipolarnim afektivnim poremećajem u remisiji. U istraživanju je učestvovalo 48 pacijenata sa bipolarnim afektivnim poremećajem u remisiji i 50 pacijenata sa rekurentnim depresivnim poremećajem u remisiji psihijatrijskog odeljenja Kliničkog centra Srbije. Korišćeni su sledeći instrumenti: Kratka procena kognicije u afektivnim poremećajima (Keefe i sar., 2014)- za ispitivanje kognitivnog funkcionisanja, Šijanov upitnik za određivanje

onesposobljenosti (Sheehan, 1983)- za ispitivanje socijalnog funkcionisanja, Kratka procena veština zasnovanih na učinku (Patterson, 2001)- za ispitivanje bazičnih životnih veština. Na uzorku pacijenata bipolarnog afektivnog poremećaja u remisiji ( $N=48$ ) utvrđeni su slabije kognitivno i socijalno funkcionisanje i bazične životne veštine u odnosu na normalnu populaciju. Na istom uzorku utvrđena je povezanost kognitivnog i socijalnog funkcionisanja i bazičnih životnih veština. Osobe sa bipolarnim afektivnim poremećajem u remisiji koje imaju oštećeno kognitivno funkcionisanje, takođe imaju i oštećeno socijalno funkcionisanje i bazične životne veštine. Takođe je na istom uzorku utvrđena povezanost kognitivnog i socijalnog funkcionisanja i bazičnih životnih veština sa određenim socio-demografskim i kliničkim karakteristikama. Na celokupnom uzorku pacijenata sa bipolarnim afektivnim poremećajem u remisiji i rekurentnim depresivnim poremećajem u remisiji ( $N=98$ ) nije utvrđena razlika na merama kognitivnog i socijalnog funkcionisanja i bazičnih životnih veština.

*Ključne reči:* bipolarni afektivni poremećaj u remisiji, kognitivno funkcionisanje, socijalno funkcionisanje, bazične životne veštine, rekurentni depresivni poremećaj u remisiji

## INHIBICIJA I BAZIČNE CRTE LIČNOSTI KAO PREDIKTORI PRISTRASNOSTI ISHODA

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Pristrasnost ishoda podrazumeva tendenciju ljudi da sude o kvalitetu odluka i donosiocima odluka na osnovu posledica, odnosno ishoda koji su sledili te odluke. Primarni cilj prikazane studije je ispitivanje pristrasnosti ishoda sa stanovišta individualnih razlika u tri izdvojena aspekta: kvalitet odluke, odgovornost donosioca odluke i ponavljanje odluke u budućnosti. Sekundarni ciljevi rada podrazumevaju ispitivanje prediktivnog doprinosa bazičnih crta ličnosti i inhibicije u objašnjenju pristrasnosti ishoda. Dizajniran je nov upitnik za procenu pristrasnosti ishoda, na koji je, pored HEXACO inventara ličnosti i zadataka inhibicije, odgovaralo 69 studenata psihologije. Dobijen je efekat pristrasnosti ishoda u svim aspektima, a značajan efekat aspekta pokazuje da su ih ispitanici različito procenjivali. Interakcija ovih faktora je značajna jer je dobijeni efekat ishoda najveći za ponavljanje odluke u budućnosti, zatim za kvalitet odluke, a najmanji za odgovornost aktera. Viša saradljivost i niža ekstraverzija imale su mali značajan doprinos u objašnjenju pristrasnosti ishoda u kvalitetu odluke, a viša saradljivost je pokazala i marginalan doprinos

objašnjenju individualnih razlika u pristrasnosti ishoda u situaciji ponavljanja odluke. Nije registrovano da inhibicija predviđa pristrasnost ishoda ni u jednom aspektu. Dobijeni nalazi ukazuju da je potrebno sistematski ispitivati različite aspekte pristrasnosti ishoda kao nezavisne konstrukte.

*Ključne reči:* pristrasnost ishoda, kvalitet odluke, odgovornost donosioca odluke, ponavljanje odluke, inhibicija, crte ličnosti

# OKRUGLI STO

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**POKRET „OTVORENE NAUKE“ – POMODARSTVO ILI STVARNA  
POTREBA ZA POBOLJŠANJEM REPLIKABILNOSTI I  
TRANSPARENTNOSTI U NAUČNIM ISTRAŽIVANJIMA**

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U proteklih par godina u psihologiji, ali i drugim oblastima, na primer biomedicinskim istraživanjima, otvorena je Pandorina kutija – javno je obznanjeno da mnogi ključni nalazi ne mogu da se nezavisno repliciraju. Ovo je pokrenulo lavinu predloga usmerenih na unapređivanje istraživačkih praksi, a pre svega načina na koji se naučna istraživanja prezentuju stručnoj i laičkoj javnosti, kao i strukture podsticaja koji oblikuju šta će se i kako saopštiti. Učesnici okruglog stola razgovaraće o tome koliko su problemi ozbiljni i koliko su predloženi „lekovii“ efikasni iz uglova različitih naučnih disciplina i uzimajući u obzir specifičnost lokalnog konteksta.

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Jedno od veoma važnih pitanja koja se postavlja u psihologiji, ali i drugim naučnim oblastima (na primer, medicinskoj biologiji i farmakologiji), je replikabilnost istraživačkih nalaza koji su objavljeni u recenziranim akademskim časopisima. Koordinisani napor velikog broja laboratorijskih grupa da repliciraju čak i neke seminalne studije često daju obeshrabrujuće rezultate. Sve je više dokaza da teškoće sa replikabilnošću potiču od neadekvatnih istraživačkih praksi: orijentacije na statističku značajnost rezultata (publikovanje samo pozitivnih nalaza, selekcija rezultata koji su u skladu sa hipotezama, izvođenje serija ogleda male statističke snage), kao i orijentacije ka novim, kontraintuitivnim rezultatima nasuprot akumuliranju pouzdanih i robustnih rezultata. Uporedo sa otkrivanjem ovih slabosti, predlažu se i unapređuju alternativne prakse koje bi ih ublažile ili otklonile (preregistrovanje nacrta istraživanja, podsticanje objavljivanja replikacija i negativnih rezultata, insistiranje na uzorcima veće statističke snage, deljenje instrumenata i baza podataka). Da li su ovakve promene potrebne i/ili dovoljne, ostaje još uvek neodgovoren pitanje.

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Kakve posledice predložene mere za poboljšanje kvaliteta psiholoških istraživanja imaju po istraživanja koja se oslanjaju na alternativnu metodološku paradigmu – kvalitativnu metodologiju? Kvalitativna istraživanja stiču sve veću

popularnost u različitim oblastima psihologiju, a znatno duže su prisutna u drugim društvenim naukama, posebno u antropologiji i sociologiji. Ipak, zbog metodoloških specifičnosti, većina uobičajenih kriterijuma kojima se procenjuje kvalitet istraživanja, kao i mnoga od predloženih rešenja za poboljašnje tog kvaliteta, ne mogu da se primene bez značajnih izmena. Na primer, kako replicirati istraživanja koja su rađena u specifičnim lokalnim kontekstima izvan laboratorija, kako učiniti podatke (npr. transkripte intervjeta) javnim bez ugrožavanja anonimnosti učesnika ili kakva je korist od preregistracije nacrta istraživanja eksplorativnog tipa i sl. Biće razmatrano koja alternativna rešenja za poboljšanje kvaliteta istraživanja je moguće ponuditi i to rešenja koja bi bila osetljiva za metodološke specifičnosti kvalitativnih istraživanja u psihologiji i drugim društvenim naukama.

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Fizika je od samih početaka naučne revolucije često tretirana kao fundamentalna nauka čije su eksperimentalne metode prototip primenljiv u svim ostalim naukama. Da li bi, međutim, razumevanje eksperimentalnih metoda u psihologiji, naročito razumevanje standarda replikacije rezultata, trebalo da se vodi, i u kojoj meri, načelnim standardima eksperimentisanja u fizici? Šta su tačno ti standardi i variraju li u različitim oblastima fizike? Razmatranje suštinskih sličnosti i razlika između eksperimentalnog procesa u fizici i psihologiji tiče se pre svega uniformnosti i veličine uzorka, i tome shodnih standarda statističke analize rezultata. Od zaključaka takvog razmatranja zavisiće da li je adekvatno očekivanje sličnog nivoa replikabilnosti eksperimentalnih rezultata u obema naukama.

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Budući da dualna priroda čoveka podrazumeva jedinstven spoj bioloških i društvenih svojstava, razumevanje različitih aspekata naše vrste jeste poseban istraživački izazov u kom se prepliću pitanja biološke nauke i psihologije sa brojnim oblastima humanističkih nauka. Nije nepoznato da su biološke koncepcije bile zloupotrebljavane sa ciljem verifikacije određenih društvenih ideologija, najčešće u okvirima ksenofobnih, rasističkih, mizognih i sličnih pravaca. Pored ideooloških komponenti, uticaj genetičkog determinizma, tj. ideje da je svaka osoba u potpunosti određena svojim genima, uočava se i u savremenom odnosu prema pitanju zdravlja i percepciji individualne različitosti. Zanemarivanje bioloških znanja o interakcijama između gena i između genotipa i životne sredine, vodi brojnim pogrešnim zaključcima sa tendencijama ugrožavanja ljudskih prava i sloboda. Posebno ćemo govoriti o praksama

formiranja forenzičkih i medicinskih genetičkih baza stanovništva, kakve su mogućnosti upotrebe i zloupotrebe takvih baza podataka i kakva su dosadašnja iskustva u državama u kojima one postoje nekoliko decenija.

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