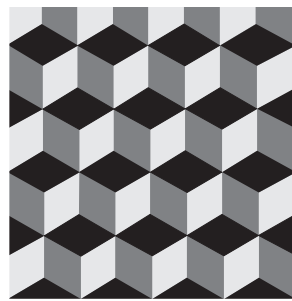


# PRIMENJENA PSIHOLOGIJA



## EMOCIONALNI KONTEKST I EFEKTIVNOST TELEVIZIJSKOG REKLAMIRANJA

Slavko Alčaković, Ana Orlić i Veljko Đurić

## KARIJERNA ADAPTABILNOST KAO MEDIJATOR ODNOSA IZMEĐU MRAČNE TRIJADE I STAVOVA PREMA ORGANIZACIONIM PROMENAMA

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Anja Mitić, Ivana Petrović i Veljko Đurić

## VALIDACIJA KOEFICIJENTA IZUZETNOSTI U PROCENI LIKOVNIH PRODUKATA

Irena Ristić i Miloš Milošević



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**EMOTIONAL CONTEXT AND  
EFFECTIVENESS OF TV ADVERTISING**

This study examined the impact of emotional context on effectiveness of TV commercials (TVCs). In two experiments, participants were exposed to either emotionally positive or emotionally negative stimuli before watching a TVC. The effectiveness of the TVC was measured by 4 indicators: Ad recall, attitude toward the ad (Aad), attitude toward the brand (Ab), and purchase intent (PI). Results of Experiment 1 revealed that participants who were pre-exposed to a positive emotional context had a more positive Aad, Ab and a higher PI, when compared to those who were pre-exposed to a negative emotional context. Experiment 2 demonstrated that pre-exposure to the positive emotional context was associated with more positive Ab and a higher PI, while pre-exposure to the negative emotional context led to more negative Aad. In both experiments there was no indication of the influence of the emotional context on Ad recall. However, data from Experiment 2 suggested that both positive and negative emotional contexts positively affected ad recognition, when compared to an emotionally neutral situation. In conclusion, our findings advocate the importance of emotional context in which TVCs are broadcasted to the general public, a fact that has been vastly neglected so far by media planners.

**Key words:** emotional context, ad, effectiveness, media planning

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## Introduction

Advertising is considered effective if it positively affects the change of consumers' attitudes, beliefs and intentions. Traditionally, advertising effectiveness is measured by several indicators: attitude toward the ad (Aad), attitude toward the brand (Ab), purchase intention (PI) and Ad recall (Poels & Dewitte, 2006). Today, global TV advertising budget approaches 200 billion dollars annually (Price Waterhouse Coopers, 2016), and companies spend 80-85% of their promotional budgets on media presence (Kelley, Jugenheimer, & Sheehan, 2015). Thus, media planning that fails to synchronize all relevant elements needed to effectively convey a commercial message to the target audience will cause a huge financial loss for the advertisers (De Pelsmacker, Geuens, & Vermeir, 2004). Current approach to TV media planning is focused on achieving the appropriate amount of gross rating points (GRPs; Baron & Sissors, 2010), and pays no attention to the emotional context in which TVC is embedded. In other words, according to the prevailing approach in the media planning industry, GRP is GRP irrespective of the fact whether it is attained during a broadcast of a romantic comedy, or during a live broadcast of a tsunami's aftermath.

Previous studies showed that there are numerous contextual factors that can affect TVC effectiveness, such as a program content, an advertising clutter, a position of the commercial break, and a position of the TVC in the commercial break (De Pelsmacker, Geuens, & Van den Bergh, 2010). The main reason why media planning does not take these contextual factors into consideration is best explained by the fact that their measurement methodology is still not developed systematically, nor it is widely accepted (Malthouse & Calder, 2010). A special attention has also been paid to advertising effectiveness of a TVC depending on the emotional context in which it is shown. It has been reported that contents preceding advertising can induce positive or negative emotions, which primarily affect the attitude toward the ad (Coulter, 1998; De Pelsmacker et al., 2010). Furthermore, a positive or a negative attitude toward the ad can affect the attitude toward the brand and the purchase intent (Coulter, 1998; Mackenzie, Lutz, & Belch, 1986; Mehta, 2000; Poels & Dewitte, 2006). The emotional context of TVC can be the program in which TVC is presented, or other TVCs in the same commercial break.

Earlier studies on the effect of the emotional context on TVC effectiveness measured by one or more indicators have not provided unequivocal conclusions. The early study by Goldberg and Gorn (1987) showed that TVCs shown after the program which induced positive emotions were seen as more effective and more memorable, in relation to those shown after the program which induced negative emotions. However, their study did not detect the effect of the emotional context on the purchase intent. The research conducted by De Pelsmacker, Geuens, and Anckaert (2002) has also shown that participants had a more positive Aad, and Ad recall following an appreciated TV program. On the other hand, Pavelchak, Antil, and Munch (1988) reported that pre-exposure to either positive or negative program-induced emotions had a negative effect on TVC recall relative to the neu-



tral condition. This finding was explained by interference of intense emotions on memory consolidation regardless of their valence, since there was no difference in Ad recall between the groups that were pre-exposed to either negative or positive program-induced emotions.

The study which experimentally induced positive or negative mood showed that positive mood causes more positive global evaluation of a product, more positive attitude toward the ad and higher purchase intent (Murry, Lastovicka, & Singh, 1992). An extensive study conducted by Lee and Sternthal (1999) showed that respondents with induced positive mood memorized brand names better than those with induced neutral mood.

Pre-exposure to positive music-induced emotions led to more positive evaluations of a TVC relative to pre-exposure to emotionally neutral music (Gorn, Pham, & Sin, 2001). However, this effect was present only when the affective tone of the TVC was neutral, but not when it was positive. Thus, it was concluded that the emotional context affected advertising evaluation only when advertising itself was not clearly emotionally polarized. Poncin and Derbaix (2009) studied the influence of affective tone of TVCs that were aired in the same commercial break. They found that foregoing TVCs which induced moderate and strong emotional reactions enhanced positive emotional reactions, ensuing TVCs that were designed to induce weak or moderate emotional reactions. Likewise, foregoing TVCs which induced strong negative emotions potentiated negative evaluation of the ensuing TVCs.

Obviously, previous studies have not provided a clear-cut agreement regarding the influence of the emotional context on TVC effectiveness. Results of most studies have agreed on the effect of the emotional context on Ad recall and Aad, while the influence of the emotional context on Ab and PI is less clear. Taking this into consideration, the aim of this research was to experimentally study the influence of the emotional context on TVC effectiveness measured by all four effectiveness indicators: Ad recall, Aad, Ab and PI. Emotional context was presented by standard stimuli which were previously proven to cause positive or negative emotional reactions: photographs from the Affective Picture System (IAPS), database (Lang, Bradley, & Cuthbert, 2008), and sounds from the International Affective Digitalized sounds (IADS) database (Bradley & Lang, 1999). Importantly, we tested the effectiveness of emotional manipulation on a TVC that had not been previously publically aired, thus assuring its complete novelty for our subjects. Our starting hypothesis is best summarized by the statement that an advertisement will be more effective if it follows an emotionally positive context than if it follows an emotionally negative context.

## Experiment 1

The main objective of Experiment 1 was to investigate how positive and negative emotional contexts affected advertising effectiveness assessed by Ad recall,

Aad, Ab, and PI. Participants were shown emotionally positive or negative stimuli, which were followed by a TVC. After watching the TVC, participants filled in questionnaires which measured advertising effectiveness.

## Method

**Participants.** Forty students of both sexes, aged 20-23, participated in the Experiment 1. They were randomly assigned to two experimental groups that were pre-exposed to either positive ( $n = 20$ ) or negative ( $n = 20$ ) emotional context before watching the TVC.

**Stimuli and measures. TV commercials.** Before the study, the emotional tone of a 45-second TVC for non-carbonated juice was estimated by an independent panel of 21 referees on three seven-point Likert scales (1 – pleasant, 7 – unpleasant; 1 – attractive, 7 – repulsive; 1 – good, 7 – bad). The results showed that mean value on all 3 scales was 3.94 ( $SD = 1.19$ ), (pleasant – unpleasant 4.47,  $SD = 1.25$ ; attractive – repulsive, 3.70,  $SD = 1.48$ ; good – bad 3.64,  $SD = 1.63$ ), placing the TVC's content in emotionally neutral territory. In addition, following the experimental procedure (see below), participants evaluated how well they knew the brand shown in the TVC on a 5-point scale (1 – not familiar at all, 5 – completely familiar). The mean value was 1.43 ( $SD = 0.64$ ), indicating that the brand was relatively unknown to the participants.

**Mood induction materials.** For the purpose of the study, 8 positive (number 5760, 1460, 1750, 1920, 2040, 2331, 2340, 1710) and 8 negative (number 1120, 1220, 1300, 2120, 2690, 6230, 6300, 6370) photos were selected from the International Affective Picture System (IAPS) database (Lang et al., 2008); and 8 positive (number 151, 111, 813, 601, 110, 809, 221, 815) and 8 negative (134, 116, 106, 275, 291, 289, 276, 275) sounds were selected from the International Affective Digitalized Sounds (IADS) database (Bradley & Lang, 1999). Photos and sounds were chosen by applying the two criteria: affective valence and content diversity. The average value of affective valence for positive photos (on the scale from 1 to 9) was 8.07 ( $SD = 1.29$ ), and for negative photos 3.32 ( $SD = 1.7$ ). The average value of affective valence for positive sounds was 7.05 ( $SD = 1.27$ ), and for negative sounds 2.84 ( $SD = 1.70$ ). The photographs were displayed consecutively on a 15-inch flat monitor screen that was placed in front of every participant, each exposure lasting for 8 seconds. Every positive/negative photograph was paired with a positive/negative sound and displayed for 8 seconds following the order presented above: the photograph 5760 was paired with the sound 151; the photograph 1120 was paired with the sound 134, and so on. In that manner, two videos were created: one with emotionally positive and one with emotionally negative stimuli. Every video lasted for 109 seconds (a series of 8 audio-visual stimuli, each lasting for 8 seconds, plus a 45-second TVC). Auditory stimuli were distributed via headphones (Intex IT-HS301B). Viewing distance from Monitor LG 19.5" LED 20M38 was approximately 80cm.

**Emotion check.** Participants' evaluation of induced emotions was performed after experimental manipulation by using the PANAS psychometric scale (Watson, Clark, & Tellegan, 1988), which contained 5 positive emotions (PE; joy, love, satisfaction, inspiration and pride), and 5 negative emotions (NE; fear, anger, sadness, anxiety and disgust). The participants responded on a 5-point Likert scale (1 – I did not feel it at all, 5 – I was completely immersed in this emotion). The reliability of PE and NE was calculated as Cronbach's  $\alpha = .94$ , and  $\alpha = .93$ , respectively.

**Ad recall scale.** This scale consisted of 18 items, 6 items corresponding to the TVC content and 12 items not corresponding to the TVC content. For example, the participants were asked whether the slogan at the end of the TVC was: "It does matter". The participants were asked to estimate correctness of every item on a 5-point Likert scale (1 – completely disagree, 5 – completely agree). The score for the scale was calculated as the arithmetic mean of the answers to all questions, following rotation of scores of the items with incorrect answers; Cronbach's  $\alpha = .85$ .

**Attitude toward the ad (Aad).** Attitude toward the ad was estimated by answering the question: "Which of the following statements best shows your attitude regarding the TVC you have just seen?". The participants responded to seven 5-point Likert scales that were used in the previous studies (Singh, Balasubramanian, & Chakraborty, 2000; Till & Baack, 2005; Walker & Dubitsky, 1994). The scales were as follows: 1 – the TVC is bad, 5 – the TVC is excellent; 1 – I do not like the TVC, 5 – I like the TVC; 1 – the TVC is annoying, 5 – TVC is not annoying; 1 – the TVC is insulting, 5 – the TVC is not insulting; 1 – the TVC is not interesting, 5 – the TVC is interesting; 1 – the TVC is not true, 5 – the TVC is true; 1 – my attitude toward the TVC is negative, and 5 – my attitude toward the TVC is positive. The score for Aad was calculated as a total mean of all answers on all seven 5-point Likert scales; Cronbach's  $\alpha = .97$ .

**Attitude toward the brand (Ab).** Ab was assessed by answering the question: "Which of the following statements best describes your attitude toward the brand you have just seen in the TVC?". The participants responded to five 5-point Likert scales, which were used in the previous studies (Singh et al., 2000; Till & Baack, 2005). The scales were as follows: 1 – the brand is bad, 5 – the brand is good; 1 – the brand is not of a good quality, 5 – the brand is of an excellent quality; 1 – I do not like the brand, 5 – I like the brand; 1 – I find the brand repulsive, 5 – I find the brand pleasant; and 1 – my attitude toward the brand is negative, 5 – my attitude toward the brand is positive. The score for Ab was calculated as a total mean of all answers on all five 5-point Likert scales; Cronbach's  $\alpha = .92$ .

**Purchase intent (PI).** PI was assessed by responses to five 5-point Likert scale items, as follows: 1 – unlikely, 5 – likely; 1 – improbably, 5 – probably; 1 – impossible, 5 – possible; 1 – definitely not, 5 – definitely; and 1 – uncertainly, 5 – certainly. The score for PI was calculated as the mean of answers on all 5 items; Cronbach's  $\alpha = .94$ .

**Procedure.** The group research was conducted in an e-classroom. Prior to watching the TVC, the group of 20 respondents was pre-exposed to a video containing the positive emotion inducing stimuli (Positive group), and the other group was pre-exposed to a video containing the negative emotion inducing stimuli (Negative group). After watching the TVC, the participants estimated their current emotional state, and filled in questionnaires pertaining to brand familiarity, Ad recall, Aad, Ab, and their PI. The research procedure was anonymous and lasted for 30 minutes.

## Results

**Manipulation check.** The success of experimental manipulation was evidenced by significantly higher PE scores,  $t(38) = 13.91, p < .01$ , and significantly lower NE scores,  $t(38) = 21.83, p < .01$ , of participants from the Positive group, in relation to PE and NE scores of participants from the Negative group.

**Descriptive statistics.** Descriptive statistics for Ad recall, Aad, Ab and PI for 3 treatment groups is summarized in Table 1.

Table 1  
*Descriptive statistics for Ad recall, Aad, Ab and PI*

|           | Emotional context | <i>N</i> | <i>Min</i> | <i>Max</i> | <i>M</i> | <i>SD</i> | <i>zSk</i> | <i>zKu</i> |
|-----------|-------------------|----------|------------|------------|----------|-----------|------------|------------|
| Ad recall | Positive          | 20       | 4.28       | 5.00       | 4.83     | 0.20      | -3.02      | 1.83       |
|           | Negative          | 20       | 2.44       | 5.00       | 4.61     | 0.60      | -5.57      | 9.12       |
| Aad       | Positive          | 20       | 3.57       | 5.00       | 4.27     | 0.42      | 1.04       | -0.40      |
|           | Negative          | 20       | 2.00       | 3.71       | 2.58     | 0.41      | 2.06       | 1.75       |
| Ab        | Positive          | 20       | 3.40       | 5.00       | 3.90     | 0.43      | 2.57       | 1.66       |
|           | Negative          | 20       | 2.00       | 3.20       | 2.64     | 0.35      | -0.53      | -1.18      |
| PI        | Positive          | 20       | 2.80       | 5.00       | 3.75     | 0.56      | 0.57       | -0.12      |
|           | Negative          | 20       | 1.00       | 4.80       | 2.06     | 0.94      | 2.82       | 2.60       |

*Note.* *n* – sample size, *Min* – minimum, *Max* – maximum, *M* – Mean, *SD* – standard deviation, *zSk* – standardized skewness, *zKu* – standardized kurtosis, Aad – attitude toward the ad, Ab – attitude toward the brand, PI – purchase intent.

**MANOVA results.** A favorable effect of pre-exposure to emotionally positive stimuli was evidenced on Aad,  $F(1, 38) = 165.33, p < .01, \eta^2 = .81$ , Ab,  $F(1, 38) = 103.16, p < .01, \eta^2 = .73$ , and PI,  $F(1, 38) = 47.94, p < .01, \eta^2 = .56$ . However, there was no statistically significant difference between the two treatment groups with respect to Ad recall,  $F(1, 38) = 2.51, p = .12, \eta^2 = .06$ .

## Discussion

Experiment 1 has validated our experimental manipulation intended for induction of positive and negative emotions. Furthermore, it has supported our starting hypothesis that a TVC will be more effective if it is displayed in an emotionally positive context in relation to the same TVC that has been displayed in an emotionally negative context. Absence of the treatment effect on Ad recall has been most likely due to a nearly perfect success of both treatment groups. Therefore, it is quite possible that treatment-related differences could be detected by utilizing different or additional measures of Ad recall. Additionally, the outcome of Experiment 1 is somewhat inconclusive, since it is not clear whether the observed difference between the two treatment groups should be attributed to beneficial effects of the positive emotional context or to harmful effects of the negative emotional context.

## Experiment 2

### Overview

Experiment 2 was designed as a partial replication, refinement and extension of Experiment 1 with the intention to overcome methodological constraints of the two-group comparison and imperfections of group testing. The third treatment group consisting of participants watching the TVC without pre-exposure to any emotion inducing context was added to the experimental design. Also, respondents were tested individually in a better controlled laboratory setting, devoid of external noise and intra-group interference. Measurement of outcome variables was also modified in order to achieve more accurate group differentiation. Psychometric scales measuring Ad recall, Aad and Ab were partially modified, and a new procedure for measuring speed and accuracy of recognition of visual contents of the TVC was used in Experiment 2.

## Method

**Participants.** Seventy university students of both sexes, aged 20-23, were randomly assigned to 3 treatment groups. The first treatment group was pre-exposed to emotionally positive context (Positive group;  $n = 25$ ), the second treatment group was pre-exposed to emotionally negative context (Negative group;  $n = 24$ ) and the third treatment group was not pre-exposed to any emotion inducing context prior to viewing of the TVC (Neutral group;  $n = 21$ ).

**Stimuli and measures.** TVC and Mood induction materials were identical as in Experiment 1.

**Emotion check.** It was assessed by the identical procedure utilized in Experiment 1. Reliability of scales PE and NE was  $\alpha = .89$ , and  $\alpha = .78$ , respectively.

**Ad recall scale.** This scale consisted of 31 items, with 7 items corresponding to the TVC content and 24 items not corresponding to the TVC content. The participants were asked to estimate correctness of every item on a 5-point Likert scale (1 – completely disagree, 5 – completely agree). The score for the scale was calculated as the arithmetic mean of the answers to all questions, following rotation of item scores with incorrect answers. Internal consistency of the scale was calculated as  $\alpha = .67$ .

**Ad recognition.** Ad recognition was assessed by displaying 18 visual frames to the participants. Eight of 18 frames were selected from the TVC that was shown to the participants while 10 frames were unrelated to the TVC, and had never before been displayed to the participants. The frames were presented on a 19-inch monitor (LG 19.5" LED 20M38), at the center of the screen on a white background. Viewing distance was approximately 80cm. Each trial consisted of a fixation cross (500ms) followed by the frame that remained on the screen until the participant gave a response. The inter-trial interval was set to 1000ms. Trials were presented in random order. The participants were instructed to respond by clicking the push button as quickly as possible, following the question whether the frame belongs to the TVC or not, with push buttons counter-balanced across the participants. Dependent variables were reaction time (RT) and a number of errors (Err). The 2-minute procedure was enabled by SuperLab 4.0 software and Cedrus RB-530 response-box.

**Attitude toward the ad (Aad).** Aad was assessed by identical procedure utilized in Experiment 1. Internal consistency of the psychometric scale was calculated as  $\alpha = .88$ .

**Attitude toward the brand (Ab).** Ab was assessed by participants' answers to the question: "Which of the following statements best describes your attitude toward the brand you have just seen in the TVC?". The participants responded on three 5-point Likert scales: 1 – the brand is not of good quality, 5 – the brand is of great quality, 1 – I do not like the brand, 5 – I like the brand, 1 – my attitude about the brand is negative, 5 – my attitude about the brand is positive. The score for Ab is calculated as the arithmetic mean of answers on all scales;  $\alpha = .83$ .

**Purchase intent (PI).** PI was assessed by responses to two 5-point Likert scale items, as follows: 1 – unlikely, 5 – likely; and 1 – definitely not, 5 – definitely. The score for PI was calculated as the arithmetic mean of answers on both items. Internal consistency was calculated as  $\alpha = 0.94$ .

**Procedure.** The experiment was conducted individually in the controlled conditions. Following exposure to the TVC, the participants estimated their current emotional state, and filled in the questionnaires. The research lasted for about 30 minutes. Statistical analysis was identical as in Experiment 1.

## Results

**Emotion check.** Effectiveness of experimental manipulation was evidenced by statistically significant difference among the 3 treatment conditions, on both

the PE,  $F(2, 67) = 28.81$ ,  $p < .01$ , and the NE psychometric scale,  $F(2, 67) = 19.32$ ,  $p < .01$ . Post hoc test (LSD) showed that participants from the Positive group estimated their emotions as significantly more positive in relation to the Neutral group  $p < .01$ , and to the Negative group,  $p < .01$ . The Negative group estimated their emotions to be more negative in relation to both the Neutral and the Positive group, both  $p < .01$ .

**Descriptive statistics.** Descriptive statistics for Ad recall, Ad recognition (RT and Err), Aad, Ab, and PI is summarized in Table 2. Since there were hardly any mistakes in Ad recognition, variable Err was excluded from the ensuing statistical analyses.

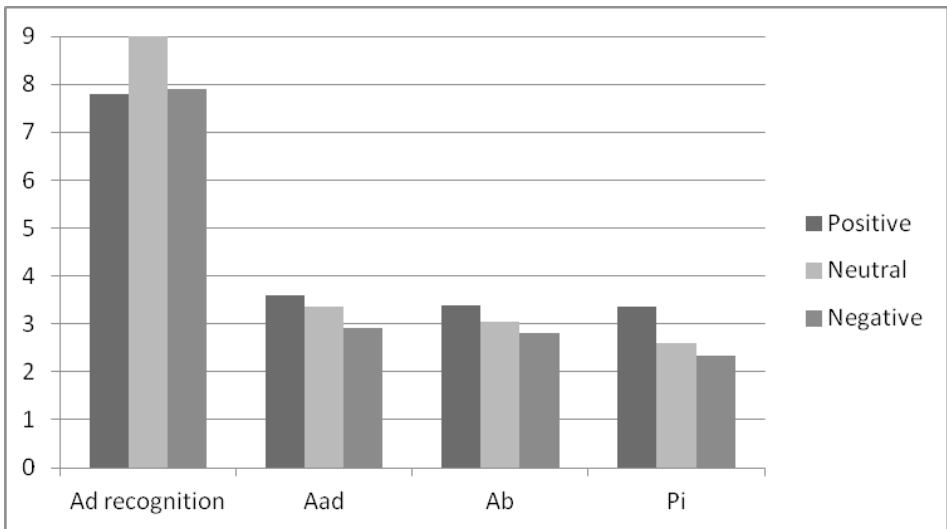
Table 2

*Descriptive statistics for Ad recall, RT, Err, Aad, Ab, and PI*

|                        | Context  | <i>n</i> | <i>Min</i> | <i>Max</i> | <i>M</i> | <i>SD</i> | <i>zSk</i> | <i>zKu</i> |
|------------------------|----------|----------|------------|------------|----------|-----------|------------|------------|
| Ad recall              | Positive | 25       | 30.75      | 34.55      | 33.01    | 1.19      | -1.41      | -0.98      |
|                        | Neutral  | 21       | 31.03      | 35.00      | 33.17    | 1.22      | -0.86      | -1.06      |
|                        | Negative | 24       | 27.87      | 34.80      | 32.74    | 1.73      | -2.49      | 1.39       |
| Ad recognition RT (ms) | Positive | 25       | 647.86     | 1176.14    | 780.41   | 141.51    | 3.20       | 2.02       |
|                        | Neutral  | 21       | 555.50     | 1443.38    | 900.57   | 196.17    | 1.58       | 1.93       |
|                        | Negative | 24       | 631.43     | 1143.75    | 789.57   | 124.96    | 3.36       | 3.29       |
| Ad recognition Err     | Positive | 25       | 0.00       | 2.00       | 0.68     | 0.75      | 1.33       | -0.99      |
|                        | Neutral  | 21       | 0.00       | 2.00       | 0.57     | 0.68      | 1.57       | -0.36      |
|                        | Negative | 24       | 0.00       | 2.00       | 0.54     | 0.66      | 1.76       | -0.28      |
| Aad                    | Positive | 25       | 2.60       | 5.00       | 3.61     | 0.51      | 0.54       | 1.36       |
|                        | Neutral  | 21       | 1.60       | 4.80       | 3.35     | 1.04      | -1.08      | -1.21      |
|                        | Negative | 24       | 1.80       | 4.00       | 2.93     | 0.48      | -0.96      | 0.88       |
| Aab                    | Positive | 25       | 2.67       | 4.67       | 3.39     | 0.44      | 2.17       | 1.80       |
|                        | Neutral  | 21       | 1.33       | 4.00       | 3.05     | 0.74      | -1.74      | 0.29       |
|                        | Negative | 24       | 1.67       | 3.33       | 2.81     | 0.38      | -3.62      | 3.08       |
| PI                     | Positive | 25       | 2.00       | 5.00       | 3.36     | 0.74      | 0.61       | -0.38      |
|                        | Neutral  | 21       | 1.00       | 6.00       | 2.60     | 1.45      | 1.30       | -0.32      |
|                        | Negative | 24       | 1.00       | 3.50       | 2.33     | 0.87      | -0.53      | -1.62      |

*Note.* *n* – sample size, *Min* – minimum, *Max* – maximum, *M* – Mean, *SD* – standard deviation, *zSk* – standardized skewness, *zKu* – standardized kurtosis, RT – reaction time, Err – number of errors, Aad – attitude toward the ad, Ab – attitude toward the brand, PI – purchase intent.

**MANOVA results.** Quite in accordance with our starting hypothesis and the results of Experiment 1, statistically significant differences among the 3 treatment conditions were observed on variables Aad,  $F(1, 38) = 5.84, p < .01, \eta^2 = .15$ , Ab,  $F(1, 38) = 7.42, p < .01, \eta^2 = .18$ , and PI,  $F(1, 38) = 6.44, p < .01, \eta^2 = .16$ , respectively. Post hoc Tukey HSD test indicated that the Negative group had more negative Aad and Ab than the Positive at  $p = .01$  level of statistical significance, while differences between the Negative and the Positive group, and between the Positive and the Neutral group were not statistically significant. With respect to PI, post hoc Tukey HSD testing pointed that the Positive group was superior to the Negative group at  $p = .01$  level and superior to the Neutral group at  $p = .05$  level of statistical significance, while differences between Negative and Neutral group were not statistically significant. Significant difference among the 3 treatment conditions was also revealed on recognition of the visual contents (Ad recognition – RT,  $F(2, 66) = 4.11, p < .05, \eta^2 = .11$ ). Post hoc Tukey HSD test indicated that the Neutral group had significantly higher reaction times (slower recognition) in relation to both the Positive ( $p < .01$ ) and the Negative group ( $p < .05$ ). Four dependent variables sensitive to experimental manipulation are depicted in Figure 1.



*Graph 1.* Graphic overview of arithmetic means for Ad recognition (reaction time in hundred milliseconds) – Aad, Ab, and PI.

## Discussion

Experiment 2 replicated and extended findings of Experiment 1. In both experiments, the same experimental manipulation led to induction of projected emotional states. Also, the results of both experiments suggested that emotionally positive context improved TVC effectiveness as measured by Aad, Ab and PI



in relation to emotionally negative context. However, introducing the third experimental condition in Experiment 2 (Neutral group; watching of the TVC without any pre-exposure to an emotion-inducing context) indicated that pre-exposure to emotionally positive context was associated with higher PI in comparison with emotionally neutral context. Besides, in both experiments there was no significant difference between the Positive and the Negative group with respect to Ad recall. However, in Experiment 2 both the Positive and the Negative group had significantly shorter recognition times in relation to the Neutral group indicating that pre-exposure to emotionally shaded context facilitated recognition of TVC contents regardless of the direction of its emotional valence. Experiment 2 additionally specified the way in which emotionally positive and negative contexts affected TVC effectiveness. Even though scores for Aad, Ab and PI were the highest for the Positive group, and the lowest for the Negative group, with Neutral group in between, only some of these differences among the groups were statistically significant. Namely, a positive emotional context caused higher PI (when compared to the negative and the neutral context), which indicated that the observed effect should be attributed to beneficial effects of the positive emotional context. Based on the observed results, we can conclude that the positive emotional context is the most suitable environment for placing of a TVC.

### General discussion

This study has demonstrated relevance of the emotional context on TVC effectiveness measured by the four indicators which are traditionally used in marketing research: Ad recall, Aad, Ab and PI (Poels & Dewitte, 2006). To the best of our knowledge, this is the first experimental study in which Ad recognition has been assessed by the reaction time, in which TVC effectiveness has been assessed by use of a completely novel TVC, and in which the emotional context has been manipulated by standardized stimuli from the IAPS (Lang et al., 2008) and the IADS (Bradley & Lang, 1999) databases. Taken together, these methodological improvements additionally validate the strength of our findings.

Previous studies investigating the influence of emotions on advertising effectiveness have used different research paradigms, different operationalization of the emotional context, and different measures of effectiveness. Therefore, their results are not always directly comparable. For example, in some studies, the emotional context has been defined by the content of the TV program that preceded the TVC (De Pelsmacker et al., 2002; Goldberg & Gorn, 1987; Pavelchak et al., 1988), while other studies have employed experimental induction of emotional states (Gorn et al., 2001; Lee & Sternthal, 1999; Murry et al., 1992). Regardless of the way used to define the emotional context, most studies have shown that the positive emotional context causes more positive Aad (De Pelsmacker et al., 2002; Lee & Sternthal, 1999; Murry et al., 1992), while the influence of the emotional

context on Ab and PI is less clear (Cohen, Pham, & Andrade, 2008). Our findings are generally in accordance with findings that the positive emotional context preceding the TVC leads to more positive Aad, when compared to the emotionally negative context. Besides, our data strongly suggest that the emotionally positive context is also associated with positive Ab and higher PI. Since purchase is the final objective of marketing campaigns, one can conclude that the positive emotional context of a TVC is an important prerequisite for a successful campaign.

In both experiments presented here there has not been any statistically significant influence of the emotional context on Ad recall. Previous studies regarding the influence of the emotional context on Ad recall have given mixed results. Some studies have reported that the pre-exposure to positive emotional states improves recalling of TVC content and brand names (Goldberg & Gorn, 1987; De Pelsmacker et al., 2002; Lee & Sternthal, 1999). On the other hand, there are also studies which have failed to detect the difference in memorizing a TVCs shown in the positive and the negative context (Pavelchak et al., 1988). In our study, the participants' Ad recall has been checked shortly after watching a TVC, which resulted in a high percentage of correct answers in all treatment groups. This may explain the lack of the expected effect of the emotional context on Ad recall. Having in mind that Ad recall is considered to be an important indicator of advertising effectiveness (Mehta & Purvis, 2006), further studies should verify how positive and negative emotional context affect memorizing a TVC after longer time periods (1 day or more). Even though both Experiment 1 and Experiment 2 have failed to demonstrate an influence of the emotional context on Ad recall, Experiment 2 has shown that the emotional context affects Ad recognition, as evidenced by shorter reaction times in both the Positive and the Negative group in relation to the Neutral group. We take it as evidence that the emotional context, regardless of its valence, can influence faster processing of contents which were, and were not, shown in the commercial. Having in mind that this research paradigm has not been used in the previous studies regarding memorizing TVCs, our findings should be additionally checked in further studies.

Our data are in accordance with the idea that emotional states affect subsequent cognitive processes in a way which is congruent with these states. In other words, positive emotional states make the ensuing stimuli more positive, while negative emotional states make them more negative. These findings can be explained by cognitive theories dealing with the influence of emotional processes on evaluation subsequent mental processes: Mood Congruency-Accessible hypothesis (Goldberg & Gorn, 1987), Affect-As Information Model (Schwarz & Clore, 1983), and Affect Infusion Model (Forgas, 1995). On the other hand, our findings are not in line with the assumption that more positive emotions cause less elaborate processing, which leads to more negative attitude toward the TVC (De Pelsmacker et al., 2004).

This study has found striking differences between effect sizes reported in Experiment 1 and Experiment 2. Proportion of variance accounted for by each of the

main effects in Experiment 1 has been substantially higher than in Experiment 2, which is a finding that deserves further elucidation. Both the Positive and the Negative group in Experiment 1 have been exposed to the same stimuli as the Positive and the Negative group in Experiment 2. The main procedural difference between the two experiments relates to the fact that group testing has been utilized in Experiment 1, whereas individual testing has been utilized in Experiment 2. All possible precautions have been taken to prevent participants of Experiment 1 from communicating with each other or observing the actions of others. Nevertheless, it seems that the presence of others has somehow augmented the impact of the emotional context on the effectiveness of TV commercials contradicting the attentional deficit of co-viewing of TVCs that has been reported in the literature (Bellman, Rossiter, Schweda, & Varan, 2012).

The research presented in this paper has examined the influence of the emotional context on the effectiveness of emotionally neutral new and unknown TVC that show a brand unknown to the participants. Further studies should examine the influence of the emotional context on the effectiveness of TVCs that induce positive or negative emotions on their own; TVCs of well-known brands that elicit a rich network of mental associations (Adaval, 2003), and effectiveness of TVCs that are already familiar to the participants. Finally, the durability of the effects of the emotional context on advertising effectiveness should also be examined.

## Conclusion

A lot of media planning effort is directed toward defining adequate target groups, analysis of their media consumption, and definition of a suitable amount of media pressure. Even though there is enough evidence that different contextual factors affect TVC effectiveness, they are rarely taken into consideration in media planning (Malthouse & Calder, 2010). This study suggests that effectiveness of advertising message is dependent on the emotional context. In other words, media planning should be concerned about the emotional context brought along with the program in which a TVC is presented, and also about the emotional context of other TVCs presented during the same commercial break. Future studies should develop a thorough model, which would take into consideration other contextual factors as well. Such a model should be capable to optimize important media planning decisions by synchronizing most relevant elements involved in TVC effectiveness.

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## EMOCIONALNI KONTEKST I EFEKTIVNOST TELEVIZIJSKOG REKLAMIRANJA

Uticaj emocionalnog konteksta na efektivnost TV reklama ispiti-  
van je izlaganjem emocionalno pozitivnih ili emocionalno nega-  
tivnih sadržaja pre gledanja TV reklama. Korišćena su četiri indi-  
katora za merenje efektivnosti TV reklama: sećanje na reklamu,  
dopadljivost reklame (Aad), dopadljivost brenda (Aab) i namera  
kupovine (PI). Rezultati Eksperimenta 1 su otkrili da su učesni-  
ci koji su bili izloženi pozitivnom emocionalnom kontekstu imali  
pozitivniji Aad, Ab i viši PI, kada se uporede sa onima koji su bili  
izloženi negativnom emocionalnom kontekstu. Eksperiment 2 je  
pokazao da je prethodno izlaganje pozitivnom emocionalnom  
kontekstu povezano sa pozitivnijom Aab i višom PI, dok prethodna  
izloženost negativnom emocionalnom kontekstu dovodi  
do negativnije Aad. U oba eksperimenta nije bilo indikacija o uti-  
caju emocionalnog konteksta na pamćenje reklame. Ipak, nalazi  
u okviru Eksperimenta 2 ukazuju na to da i pozitivni i negativni  
emocionalni kontekst pozitivno utiču na prepoznavanje oglasa, u  
poređenju sa emocionalno neutralnom situacijom. Kao zaključak,  
naši rezultati ukazuju na važnost emocionalnog konteksta u ko-  
jem se TV reklama pokazuje širokoj publici, što se u dosadašnjoj  
praksi medijskog planiranja u priličnoj meri zanemaruje.

**Ključne reči:** emocionalni kontekst, Aad, efektivnost, medijsko  
planiranje

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**KARIJERNA ADAPTABILNOST KAO  
MEDIJATOR ODNOSA IZMEĐU  
MRAČNE TRIJADE I STAVOVA PREMA  
ORGANIZACIONIM PROMENAMA**

Cilj ovog istraživanja je da se ispituju odnosi između osobina mračne trijade i stavova prema organizacionim promenama, kao i da se utvrdi da li je karijerna adaptabilnost značajan medijator ovih odnosa. Na uzorku od 390 zaposlenih (42% muškog pola) u organizacijama u Srbiji primenjene su Skala stavova prema organizacionim promenama (OP), Kratka skala mračne trijade (Short Dark Triad - SD3) i Skala karijerne adaptabilnosti (Career Adapt-Abilities Scale - CAAS 2.0). Rezultati su pokazali da sve tri dimenzije mračne trijade imaju direktan efekat na negativan odnos zaposlenih prema organizacionim promenama. Na iniciranje promena direktan efekat ima samo narcizam, dok na fleksibilnost zaposlenih direktan efekat ostvaruje samo psihopatija. Rezultati, takođe, pokazuju da narcizam ostvaruje i indirektno efekte na sve tri dimenzije stavova prema organizacionim promenama, preko karijerne adaptabilnosti.

**Ključne reči:** organizacione promene, mračna trijada, karijerna adaptabilnost

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Informatička era dovela je do brojnih promena koje se u organizacijama dešavaju na dnevnom nivou i koje predstavljaju izazov i za organizacije i za pojedince. Organizacione promene se odnose na promenu aktuelnog stanja jedne organizacije u neko drugo, planirano ili neplanirano stanje (Đurišić-Bojanović, 2015). Tokom procesa promena svaki član organizacije prolazi kroz jednu vrstu personalne tranzicije, tokom koje doživljava različite psihološke reakcije i emocije. Neke reakcije i emocije mogu biti pogubne po promene, jer će inicirati otpor prema njima, dok će neke druge biti korisne i od pomoći pojedincu da prihvati promene i doprinese njihovoj uspešnoj implementaciji (Duck, 2001). Pored značaja koji uvođenje promena ima za opstanak i napredak organizacija, one nisu uvek rado prihvaćene od strane zaposlenih. Istraživanja pokazuju da karakteristike pojedinca imaju značajnu ulogu u njihovom odnosu prema organizacionim promenama. Rezultati istraživanja Đurišić-Bojanović i Savković (2010) ukazuju na to da je spremnost zaposlenih na promene pozitivno povezana sa prihvatanjem pluraliteta ideja i sa snagom ega, dok je negativno povezana sa dogmatizmom i netolerancijom prema neizvesnosti. U istraživanju Vakole i saradnika (Vakola, Tsousis, & Nikolaou, 2013) dobijena je pozitivna korelacija između ekstroverzije, savesnosti, prijatnosti, otvorenosti za iskustvo i afirmativnih stavova prema organizacionim promenama, dok je korelacija sa neuroticizmom bila negativna. Istraživanje Suvajdžić i Vujić (2015) pokazalo je da su otvorenost za iskustvo i unutrašnji lokus kontrole značajni pozitivni prediktori fleksibilnosti zaposlenih, dok su samoefikasnost, pozitivna valenca i otvorenost ka iskustvu pozitivni prediktori iniciranja promena. Prediktori sa negativnim predznakom bili su ekstroverzija i spoljašnji lokus kontrole. Ova istraživanja ukazuju na opravdanost da deo objašnjenja varijanse stavova zaposlenih prema promenama tražimo u karakteristikama ličnosti. Kada je reč o osobinama ličnosti i radnom ponašanju, istraživanja su dugo bila usmerena na prosocijalne osobine. Međutim, poslednjih decenija pažnju istraživača privlače osobine ličnosti koje leže u osnovi antisocijalnih ponašanja. Ova činjenica usmerila je istraživače da tragaju za subkliničkim sklopom ličnosti, analizirajući upravo nekliničku populaciju, kako bi identifikovali one osobine koje mogu biti visoko prediktivne za kontraproduktivne oblike radnog ponašanja (DeFruyt, Wille, & Furnham, 2013; Hogan & Hogan, 2001; O'Boyle, Forsyth, Banks, & McDaniel, 2012). Na osnovu rezultata istraživanja, Paulhus i Williams (Paulhus & Williams, 2002) zaključuju da se tri osobine posebno ističu kada je reč o dispoziciji za amoralno ponašanje: makijavelizam, subklinički narcizam i subklinička psihopatija. Ove osobine čine meru istog latentnog konstrukta (Jonason & Webster, 2010), nazvanog „mračna trijada“, kojeg karakterišu bezobzirna samopromocija, emocionalna hladnoća, dvoličnost, manipulativnost i agresivnost (Paulhus & Williams, 2002).

Makijavelizam je osobina koju karakteriše dvoličnost, eksternalizacija krivice, emocionalna hladnoća i korišćenje interpersonalnih strategija za manipulaciju drugim ljudima zarad lične dobiti (Christie & Geis, 1970; Fehr, Samsom, & Paulhus, 1992, prema Wai & Tiliopoulos, 2012). Makijavelisti imaju negativno



viđenje ljudske prirode i stav da cilj opravdava sredstvo. Oni umeju da prepoznaju i iskoriste slabosti drugih ljudi, dok svoje slabosti vešto kriju. Imaju ciničan pogled na svet i veruju da je bolje manipulirati nego biti izmanipulisan (Wai & Tiliopoulos, 2012). Istraživanja pokazuju da je makijavelizam pozitivno povezan sa kontraproductivnim radnim ponašanjem (O'Boyle et al., 2012), a negativno sa odgovornim građanskim ponašanjem (Becker & O'Hair, 2007).

Danas se uglavnom razlikuju dva istraživačka pristupa konstruktu narcizma – kategorijalni, koji ga definiše kao poremećaj ličnosti, i dimenzionalni, koji ga određuje kao interpersonalnu crtu ličnosti. Raskin i Hall (Raskin & Hall, 1979) prvi razmatraju narcizam kao osobinu ličnosti i definišu skalu za merenje subkliničkog narcizma. Oni smatraju kako se samo ekstremna ponašanja mogu svrstavati u poremećaj, dok se u opštoj populaciji pronalaze ponašanja koja imaju elemente narcizma, ali nisu patološka (Baboselac-Marić, 2015). Osobe izraženog narcizma sklone su preuveličavanju sopstvene važnosti, tašti su, arogantni, skloni samoobmani i veruju kako su bolji od drugih, čime zaslužuju više poštovanja i divljenja. S obzirom na visoka očekivanja koja imaju prema sebi, te preuveličanu sliku vlastitih mogućnosti, ranjivima ih mogu činiti situacije u kojima povratne informacije nisu u skladu sa njihovom percepcijom „zasluženog divljenja“ (Boody, 2011, prema Baboselac-Marić, 2015). Istraživanja pokazuju značajnu povezanost narcizma sa različitim oblicima kontraproductivnog ponašanja (Judge, LePine, & Rich, 2006; Penney & Spector, 2002).

Psihopatija se među članovima trijade smatra najmračnijom osobinom (Rauthmann & Kolar, 2013). Ona se može opisati u terminima antisocijalnog ponašanja, traženja uzbuđenja, hladnog afekta i interpersonalne manipulacije (Williams, Nathanson, & Paulhus, 2003, prema Nagler, Reiter, Furtner, & Rauthmann, 2014). Ove osobe pokazuju neodgovornost i sklonost manipulacijama, te mogu biti destruktivne za sebe i druge (Hare, 1999, prema Wai & Tiliopoulos, 2012). Istraživanja odnosa psihopatije i kontraproductivnog ponašanja u organizaciji daju nedosledne rezultate. U istraživanju, koje su sproveli Scherer i saradnici, dobijena je značajna povezanost psihopatije i kontraproductivnog radnog ponašanja (Scherer, Baysinger, Zolynsky, & LeBreton, 2013). Rezultati jedne metaanalitičke studije (O'Boyle et al., 2012) pokazali su da je ta povezanost veoma niskog intenziteta ( $r = .07$ ). Cohen (2016) razloge niske povezanosti osobina mračne trijade i kontraproductivnog ponašanja nalazi u zanemarivanju značajnih medijatora i moderatora, koji doprinose tom odnosu.

Spain i saradnici (Spain, Harms, & LeBreton, 2013) ukazuju da se mračna ličnost nalazi u prostoru između normalne ličnosti i kliničke patologije. Osnovna osobina subkliničke psihopatije, kao i makijavelizma i narcizma, je nedostatak empatije, osećanja krivice i kajanja (Del Gaizo & Falkenbach, 2008, prema Wai & Tiliopoulos, 2012). Iako su se dugo „zle“ osobine ličnosti smatrale maladaptivnim, a ljudi koji ih poseduju neuspešnim, novija istraživanja pokazuju da to nije uvek tako. Smith i Lilienfeld (Smith & Lilienfeld, 2013) ukazuju da u organizacionom kontekstu osobe sa izraženom crtom psihopatije mnogo češće zauzimaju rukovo-

deće, u odnosu na izvršne pozicije. Osim toga, navodi se i to da upravo ličnosti sa izraženim psihopatskim karakteristikama bivaju percipirane kao harizmatični lideri (Deluga, 2001; Jonason, Luevano, & Adams, 2012). Rezultati longitudinalnog istraživanja, koje su sproveli Harms i saradnici (Harms, Spain, & Hannah, 2011), ukazuju na to da su makijavelizam i psihopatija negativno povezani sa razvojem liderskih veština, za razliku od narcizma koji pokazuje pozitivnu povezanost.

Iako je nesumnjivo da organizacione promene često mogu da znače i promene u karijeri zaposlenih, može se pronaći veoma malo empirijskih radova koji su se bavili ovim odnosom (Klehe, Zikic, Van Vianen, & De Pater, 2011; Lips -Wiersma & Hall, 2007; Rashid & Zhao, 2010). Uspešan odgovor na organizacione promene zahteva da zaposleni budu fleksibilni, spremni na kontinuirano učenje, ali i na suočavanje sa različitim izazovima u vezi sa radnim ulogama i sopstvenom karijerom. Na ovakav odnos pojedinca prema poslu i karijeri ukazuje konstrukt karijerne adaptabilnosti. Karijerna adaptabilnost podrazumeva resurse pojedinca za suočavanje sa aktuelnim i očekivanim zadacima, tranzicijama i traumama u vezi sa svojom profesionalnom ulogom (Savicas, 1997). Resursi pojedinca podrazumevaju kapacitete za rešavanje nepoznatih, složenih, kompleksnih i nedefinisanih problema sa kojima se osoba suočava prilikom razvoja karijere (Savickas & Porfeli, 2012). Karijernu adaptabilnost čine četiri komponente: zabrinutost, kontrola, radoznalost i poverenje. Zabrinutost ukazuje na to koliko je osoba u stanju da se pripremi za buduće zadatke u vezi sa karijerom. Kontrola se odnosi na percepciju stepena odgovornosti koji ljudi imaju u oblikovanju svoje buduće karijere. Radoznalost podrazumeva istraživanje prilika i mogućnosti u vezi sa karijerom, dok poverenje podrazumeva identifikaciju toga u kom stepenu osoba oseća da je u stanju da prevaziđe potencijalne barijere u vezi sa karijerom (Savickas & Porfeli, 2012). Istraživanja pokazuju da je karijerna adaptabilnost pozitivno povezana sa mnogim poslovnim i životnim ishodima, poput zadovoljstva karijerom, postignuća, ocene radnog učinka, napredovanja, radnog angažovanja, posvećenosti karijeri, samopoštovanja i blagostanja pojedinca (Guan et al., 2013; Porfeli & Savickas, 2012), dok je negativno povezana sa napuštanjem organizacije (Chan & Mai, 2015). Kada je reč o ulozi koju osobine mračne trijade imaju u objašnjenju različitih karijernih ishoda, rezultati upućuju na pozitivnu povezanost narcizma sa visinom zarade i zadovoljstvom karijerom (Hirschi & Jaensch, 2015; Spurk, Keller, & Hirschi, 2015). Rezultati jednog istraživanja (Spurk et al., 2015) pokazali su da je makijavelizam u pozitivnoj korelaciji sa pozicijom na radnom mestu i zadovoljstvom karijerom. Psihopatija je pokazala negativnu povezanost sa objektivnim i subjektivnim indikatorima karijernog uspeha. Istraživanje Volmera i saradnika (Volmer, Koch, & Göritz, 2016) pokazuje da percipirani narcizam rukovodioca ostvaruje pozitivne efekte na zaradu i unapređenja zaposlenih, dok percipirani makijavelizam rukovodilaca ostvaruje negativne efekte na zaradu zaposlenih. Isto istraživanje pokazuje slične rezultate kada je reč o subjektivnom karijernom uspehu. Narcizam pokazuje pozitivnu povezanost sa zadovoljstvom karijerom, a makijavelizam negativnu. Pozitivna uloga narcizma u karijerama oso-

ba sa narcističkom crtom, ali i njihovih podređenih, može se objasniti njihovom potrebom za pozitivnim povratim informacijama (Morf & Rhodewalt, 2001), ali i ulaganjem u odnose sa ljudima koji će svojim kvalitetima potvrditi njihovu uspešnost (Campbell, 1999).

Cilj ovog istraživanja je da se ispituju odnosi između osobina mračne trijade i stavova prema organizacionim promenama, kao i da se utvrdi da li je karijerna adaptabilnost značajan medijator ovih odnosa. S obzirom na rezultate malobrojnih prethodnih istraživanja koja su se bavila odnosom između osobina mračne trijade i različitih karijernih i organizacionih ishoda, možemo postaviti sledeće hipoteze:

H<sub>1</sub>: Makijavelizam ostvaruje značajne direktne negativne efekte na iniciranje promena i na fleksibilnost zaposlenih, dok na negativan stav zaposlenih prema organizacionim promenama ostvaruje značajan direktan pozitivan efekat.

H<sub>2</sub>: Narcizam ostvaruje značajne pozitivne direktne efekte na fleksibilnost zaposlenih i na iniciranje promena, dok na negativan stav prema organizacionim promenama ostvaruje značajan direktan negativan efekat.

H<sub>3</sub>: Psihopatija ostvaruje značajne direktne negativne efekte na iniciranje promena i na fleksibilnost zaposlenih, dok na negativan stav prema organizacionim promenama ostvaruje značajan direktan pozitivan efekat.

Kada se uzmu u obzir navedeni rezultati istraživanja (Morf & Rhodewalt, 2001; Spurk et al., 2015; Volmer et al., 2016) o relacijama osobina koje pripadaju mračnoj trijadi sa različitim ishodima u vezi sa karijerom pojedinaca, postavljene su i sledeće hipoteze:

H<sub>4</sub>: Narcizam ostvaruje značajne pozitivne indirektne efekte na iniciranje promena i fleksibilnost zaposlenih, a negativan indirektan efekat na negativan stav zaposlenih prema promenama, preko karijerne adaptabilnosti.

H<sub>5</sub>: Makijavelizam ostvaruje značajne negativne indirektne efekte na iniciranje promena i fleksibilnost zaposlenih, a pozitivan indirektan efekat na negativan stav zaposlenih prema promenama, preko karijerne adaptabilnosti.

H<sub>6</sub>: Psihopatija ostvaruje značajne negativne indirektne efekte na iniciranje promena i fleksibilnost zaposlenih, a pozitivan indirektan efekat na negativan stav zaposlenih prema promenama, preko karijerne adaptabilnosti.

## Metod

### Uzorak

Uzorak je činilo 390 ispitanika zaposlenih u državnim (34%) i privatnim (66%) preduzećima u Srbiji, od toga 164 muškarca i 226 žena. Od ukupnog broja ispitanika 50.1% se suočilo sa organizacionim promenama u poslednjih godinu dana, dok je 29.7% ispitanika doživelo veće promene u okviru svog radnog mesta. Prosečna starost ispitanika je 40 godina (*min* = 21; *max* = 64). Od ukupnog uzorka

42.8% ispitanika imaju završenu srednju školu, 14.9% višu, 34.1% fakultetsko obrazovanje, 6.9% završene master studije, dok doktorat ima 1.3% ispitanika.

## Instrumenti

**Skala stavova prema organizacionim promenama (OP: Suvajdžić i Vujić, 2015).** Korišćena je skraćena verzija skale koja se sastoji od 15 ajtema i petostepene Likertove skale za odgovore. Eksplorativnom faktorskom analizom proverena je latentna struktura skale. Skala se sastoji iz tri faktora: Negativan odnos prema organizacionim promenama („Ne razumem zbog čega se uvode nova pravila i procedure u poslovanje, ako je i sa starim sve funkcionisalo“;  $\alpha = .78$ ), Fleksibilnost zaposlenih („Ne bi mi smetalo da promenim radni prostor u kom radim“;  $\alpha = .63$ ) i Iniciranje promena („Uvek imam energije za pokretanje novih stvari u mom preduzeću“;  $\alpha = .78$ ). Tri faktora objašnjavaju 52% varijanse stavova prema organizacionim promenama.

**Skala karijerne adaptabilnosti (Career Adapt-Abilities Scale - CAAS-2.0: Savickas & Porfeli, 2012).** Skala se sastoji od 24 ajtema i petostepene Likertove skale za odgovore na kojoj ispitanici treba da ocene u kojoj meri su razvili svaku od navedenih kompetencija u vezi sa karijerom: Karijernu adaptibilnost ( $\alpha = .92$ ), Zabrinutost ( $\alpha = .82$ ), Kontrolu ( $\alpha = .82$ ), Radoznalost ( $\alpha = .85$ ) i Poverenje ( $\alpha = .85$ ).

**Kratka skala mračne trijade (Short Dark Triad - SD3: Jones & Paulhus, 2014).** Ova skala meri tri mračne osobine – narcizam, makijavelizam i psihopatiju. Reč je o instrumentu koji sadrži 27 ajtema i petostepenu Likertovu skalu za odgovore. Pouzdanosti subskala su nešto niže, ali zadovoljavajuće (Narcizam  $\alpha = .63$ ; Psihopatija  $\alpha = .63$ ; Makijavelizam  $\alpha = .69$ ).

## Procedura ispitivanja

Istraživanje je sprovedeno tokom jeseni 2016. godine u okviru većeg projekta. Odabir organizacija i zaposlenih koji će učestvovati u istraživanju, sproveden je po principu dostupnosti. Rukovodstva organizacija i zaposleni dali su saglasnost za učestvovanje u istraživanju nakon dobijanja informacija o svrsi istraživanja, načinu korišćenja podataka i zagarantovanoj anonimnosti. Popunjavanje upitnika trajalo je oko 30 minuta, nakon čega su ispitanici svoje upitnike stavljali u kovertu u kojoj su se nalazili drugi popunjeni upitnici.

## Rezultati

Tabela 1 sadrži pokazatelje aritmetičkih sredina, standardnih devijacija, vertikalnog i horizontalnog odstupanja od normalnosti distribucije, kao i pokazatelje interkorelacija među varijablama. Rezultati pokazuju da nema značajnog odstu-

panja od normalnosti distribucije ni na jednoj merenoj varijabli, kada se uzme u obzir kriterijum da skjunis i kurtozis budu u rasponu od  $\pm 2$  (George & Mallery, 2001; Gravetter & Wallnau, 2014; Trochim & Donnelly, 2006).

Rezultati korelacione analize pokazuju negativnu povezanost karijerne adaptabilnosti i dimenzija kontrole, radoznalosti i poverenja sa negativnim stavom prema promenama. Takođe, dobijena je značajna pozitivna korelacija negativnog stava prema promenama sa makijavelizmom i psihopatijom. Iniciranje promena u pozitivnoj je korelaciji sa karijernom adaptabilnošću, kao i svim njenim dimenzijama. Nadalje, iniciranje promena je značajno povezano sa narcizmom. Fleksibilnost zaposlenih je u pozitivnoj korelaciji sa karijernom adaptabilnošću i svim njenim dimenzijama. Značajna, negativna korelacija dobijena je između fleksibilnosti zaposlenih i psihopatije. Sve korelacije su niskog do umerenog intenziteta.

Tabela 1

*Aritmetičke sredine, standardne devijacije i interkorelacije između varijabli*

|     | <i>M</i> | <i>SD</i> | <i>Sk</i> | <i>Ku</i> | 1      | 2     | 3      | 4      | 5      | 6     | 7     | 8      | 9      | 10    |
|-----|----------|-----------|-----------|-----------|--------|-------|--------|--------|--------|-------|-------|--------|--------|-------|
| 1.  | 3.80     | 0.57      | -0.27     | -0.20     |        |       |        |        |        |       |       |        |        |       |
| 2.  | 3.53     | 0.76      | -0.35     | 0.00      | .78**  |       |        |        |        |       |       |        |        |       |
| 3.  | 3.98     | 0.65      | -0.25     | -0.57     | .81**  | .49** |        |        |        |       |       |        |        |       |
| 4.  | 3.68     | 0.72      | -0.21     | -0.24     | .85**  | .51** | .58**  |        |        |       |       |        |        |       |
| 5.  | 4.03     | 0.66      | -0.36     | -0.44     | .84**  | .49** | .60**  | .68**  |        |       |       |        |        |       |
| 6.  | 3.05     | 0.73      | 0.05      | -0.19     | -.01   | .09   | -.03   | -.03   | -.08   |       |       |        |        |       |
| 7.  | 2.74     | 0.61      | 0.05      | 0.16      | .20**  | .28** | .09    | .14*   | .13*   | .31** |       |        |        |       |
| 8.  | 1.90     | 0.62      | 0.93      | 1.58      | -.01   | .04   | -.06   | .06    | -.08   | .28** | .33** |        |        |       |
| 9.  | 2.02     | 0.61      | 0.49      | 0.10      | -.21** | -.07  | -.23** | -.21** | -.19** | .33** | .01   | .30**  |        |       |
| 10. | 2.91     | 0.61      | -0.05     | -0.61     | .43**  | .35** | .38**  | .33**  | .35**  | .06   | .33** | .07    | -.34** |       |
| 11. | 3.28     | 0.47      | -0.58     | 0.37      | .28**  | .23** | .21**  | .20**  | .27**  | .02   | .02   | -.20** | -.31** | .36** |

*Napomena.* 1. Karijerna adaptabilnost; 2. Zabrinutost; 3. Kontrola; 4. Radoznalost; 5. Poverenje; 6. Makijavelizam; 7. Narcizam; 8. Psihopatija; 9. Negativan odnos prema promenama; 10. Iniciranje promena; 11. Fleksibilnost zaposlenih.

*M* – aritmetička sredina, *SD* – standardna devijacija, *Sk* – skewness, *Ku* – kurtosis.

\*  $p < .05$ . \*\*  $p < .01$ .

Kako bi se testirale četvrta, peta i šesta hipoteza primenilo se modeliranje strukturalnim jednačinama, metodom maksimalne verodostojnosti. Model je razvijen na bazi teorijskih pretpostavki i rezultata prethodnih istraživanja. Status egzogenih varijabli imaju osobine mračne trijade, dok status endogenih varijabli imaju dimenzije stavova prema organizacionim promenama. Sve varijable u modelu su manifestne. Model 1 je razvijen prema postavljenim hipotezama. Dakle, u

modelu je, između ostalog, pretpostavljena putanja makijavelizma prema karijernoj adaptabilnosti, iako među njima nije dobijena statistički značajna korelacija nultog reda. To je učinjeno zbog mogućeg supresorskog efekta druge dve osobine mračne trijade na vezu makijavelizma sa karijernom adaptabilnošću, koji može biti uklonjen multivarijantnim postupkom.

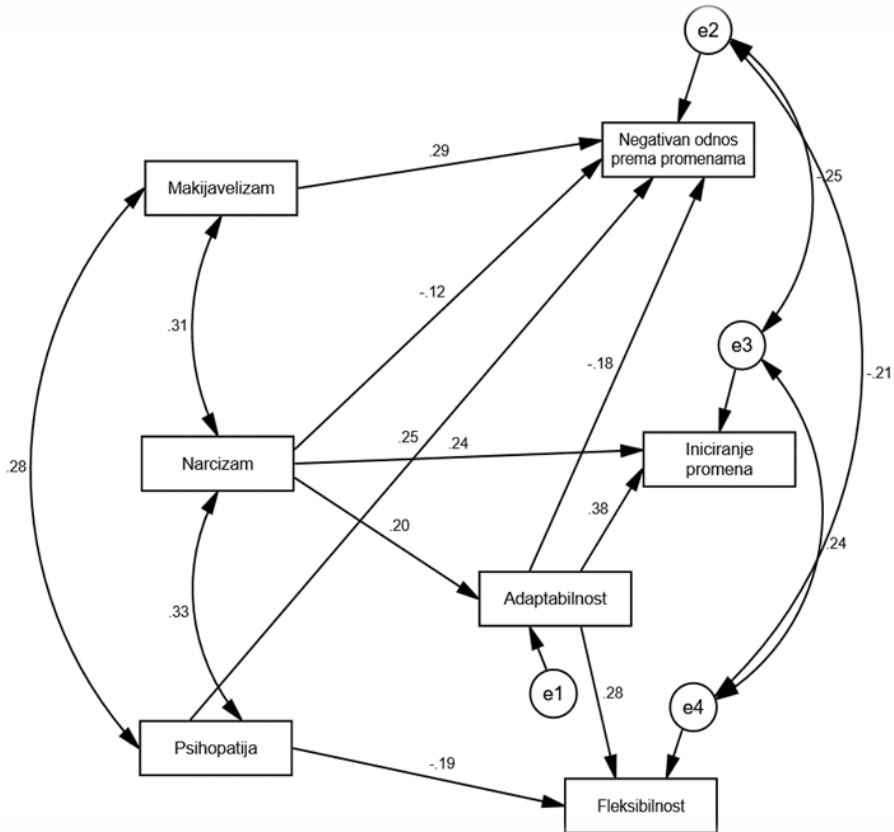
Model 1 dobro odgovara podacima (Tabela 2), na šta ukazuje hi-kvadrat test koji nije statistički značajan, kao i drugi indikatori uklapanja podataka: normirani hi-kvadrat, odnosno količnik hi-kvadrata i stepeni slobode  $\chi^2/df < 2$  (Lazarević, 2008), CFI  $> .95$ , RMSEA  $< .06$ , (Hu & Bentler, 1999), SRMR  $\leq .08$  (Kline, 2005) i AIC koji upućuje da model sa najnižem vrednošću ovog indikatora najbolje odgovara podacima (Burnham & Anderson, 1998). Međutim, i pored toga što nema značajnih razlika između kovarijansi koje predviđa model i onih dobijenih na empirijskim podacima, rezultati pokazuju da makijavelizam ne ostvaruje značajne efekte na karijernu adaptabilnost, kao ni na fleksibilnost zaposlenih. Takođe, narcizam ne ostvaruje značajne direktne efekte na fleksibilnost zaposlenih, kao ni psihopatija i makijavelizam na iniciranje promena. U modelu 2 izostavljene su putanje u kojima nisu dobijeni značajni efekti i ponovo su provereni indikatori fita. Poređenjem uklapanja empirijskih podataka u dva spomenuta modela može se zaključiti da model 2 u većoj meri pokazuje bolje indikatore uklapanja nego model 1 (Tabela 2). Model 2 prikazan je na Slici 1.

Tabela 2

*Indikatori uklapanja modela u dva testirana modela odnosa dimenzija mračne trijade, karijerne adaptabilnosti i stavova prema organizacionim promenama*

| Model | $\chi^2(df)$ | $p$   | $\chi^2/df$ | CFI   | RMSEA | SRMR  | AIC    |
|-------|--------------|-------|-------------|-------|-------|-------|--------|
| 1     | 1.816(1)     | 0.178 | 1.816       | 0.998 | 0.046 | 0.014 | 69.816 |
| 2     | 8.004(6)     | 0.238 | 1.334       | 0.995 | 0.029 | 0.028 | 66.004 |

*Napomena.*  $\chi^2(df)$  = Hi kvadrat (broj stepeni slobode);  $p$  = nivo značajnosti Hi kvadrata;  $\chi^2/df$  = količnik Hi kvadrata i broja stepeni slobode; CFI = Indeks komparativnog fitovanja (Comparative fit index); RMSEA = Kvadratni koren prosečne kvadrirane greške aproksimacije (Root-mean-square error of approximation); SRMR = Standardizovani kvadratni koren prosečnog kvadrata reziduala (Standardized root mean square residual); AIC = Akaikeov kriterijum informativnosti (Akaike information criterion).



Slika 1. Relacije osobina mračne trijade, karijerne adaptabilnosti i stavova prema organizacionim promenama.

Napomena. Sve relacije su značajne na nivou  $p < .01$ .

Na osnovu rezultata može se zaključiti da je prva hipoteza delimično potvrđena. Makijavelizam ostvaruje direktne pozitivne efekte samo na negativan stav zaposlenih ka organizacionim promenama, dok na iniciranje promena i na fleksibilnost zaposlenih ne ostvaruje značajne direktne efekte. Druga hipoteza je, takođe, delimično potvrđena. Rezultati pokazuju da narcizam ostvaruje značajne direktne efekte na negativan stav prema organizacionim promenama, kao i na iniciranje promena, dok se direktni efekti koje ostvaruje na fleksibilnost zaposlenih nisu pokazali značajnim. Rezultati ukazuju da psihopatija ostvaruje značajan direktan efekat na fleksibilnost zaposlenih i negativan stav zaposlenih prema organizacionim promenama, dok na iniciranje promena ne ostvaruje značajan direktan efekat, čime je i treća hipoteza delimično potvrđena. Treba naglasiti da su ostvareni efekti veoma niskog intenziteta.

Kako bi se proverilo da li pored direktnih postoje i indirektni efekti, testiran je indirektan efekat narcizma na dimenzije stavova prema organizacionim promenama preko karijerne adaptabilnosti. Indirektni efekti psihopatije i makijavelizma nisu testirani, s obzirom na to da su te putanje izostavljene u modelu 2. Rezultati su pokazali da narcizam ostvaruje značajan indirektan efekat na fleksibilnost zaposlenih, kroz karijernu adaptabilnost,  $b = .017$ ,  $CI[.027, .094]$ . Takođe, karijerna adaptabilnost se pokazala kao značajan parcijalni medijator između narcizma i negativnog odnosa prema organizacionim promenama,  $b = -.014$ ,  $CI[-.071, -.016]$ , kao i između narcizma i iniciranja promena,  $b = .021$ ,  $CI[.040, .121]$ , te je time četvrta hipoteza potvrđena, dok su peta i šesta hipoteza odbačene.

## Diskusija

Rezultati istraživanja ukazuju na povezanost osobina mračne trijade sa stavovima zaposlenih prema promenama u organizaciji. Narcizam ostvaruje negativan direktan efekat na negativan stav prema promenama i nije u značajnoj korelaciji sa ovom dimenzijom, jer dolazi do supresorskog efekta između funkcionalne i disfunkcionalne strane narcizma. Negativan predznak narcizam dobija tek kada se parcijalizuje varijansa koju deli sa makijavelizmom i psihopatijom, odnosno kada se parcijalizuje „zlo“ iz narcizma. Na ove „dobre“ i „mračne“ strane narcizma ukazivali su i Hogan i Kaiser (Hogan & Kaiser, 2005). Miller i saradnici (Miller, Campbell, & Pilkonis, 2007) sugerišu da je narcizam značajan prediktor ishoda koji su dobri za osobe visokog narcizma, a loši za one u blizini njih. Narcizam ostvaruje pozitivne direktne efekte i na iniciranje promena. Pored direktnih efekata, narcizam na sve tri dimenzije stava prema promenama ostvaruje i indirektno preko karijerne adaptabilnosti i predstavlja jedinu dimenziju mračne trijade koja doprinosi tome da zaposleni imaju pozitivniji odnos prema organizacionim promenama, čak i da budu njihovi inicijatori. Ovi rezultati su u skladu sa nalazima prethodnih istraživanja koji upućuju na pozitivne strane narcizma (Hirschi & Jaensch, 2015; Spurr et al., 2015; Volmer et al., 2016). Osobe sa izraženom osobinom narcizma u organizacionim promenama vide priliku da pokažu koliko su važni za organizaciju i dobiju „zasluženo“ divljenje rukovodilaca i kolega. Pored direktnih, narcizam ostvaruje i indirektno preko karijerne adaptabilnosti. Značajno je napomenuti da su efekti mali, što je u saglasnosti sa drugim studijama koje su ispitivale odnos osobina ličnosti i različitih ishoda u organizacionom kontekstu (Choi, Oh, & Colbert, 2015; Dostanić & Čizmić, 2017; Jonason, Wee, & Li, 2015; Judge & Bono, 2000; O'Boyle et al., 2012; Suvajdžić & Vujić, 2015; Vakola et al., 2013). Ovi rezultati pokazuju da su osobe sa izraženom osobinom narcizma sklone da sebe vide kao nekog ko poseduje kompetencije za savladavanje izazova koji stoje na putu ostvarenja karijernih ciljeva, kao i to da su sklone da prepoznaju šansu za napredovanje u karijeri. Oni sebe procenjuju efikasnijim od drugih ljudi i sklone



su da situacije koje drugi vide kao pretnju dožive kao priliku za samopromociju. Interesantan je i nalaz da narcizam ne ostvaruje direktne efekte na fleksibilnost zaposlenih, već samo indirektno preko karijerne adaptabilnosti, što upućuje na to da su osobe sa narcističkom crtom spremne da se prilagođavaju promenama iniciranim od strane drugih samo onda kada u tome vide neku ličnu dobit.

Makijavelizam i psihopatija ostvaruju značajne direktne efekte na negativan stav prema organizacionim promenama. Ovi rezultati upućuju na to da osobe sa makijavelističkom crtom promene u organizaciji mogu da dožive kao opasnost po sebe i svoju poziciju. Negativan pogled na ljudsku prirodu čini da svoje okruženje percipiraju kao neprijateljsko (Christie & Geis, 1970). U skladu sa tim, osobe izraženog makijavelizma mogu doživeti promene inicirane od strane drugih ljudi u organizaciji kao pokušaj da budu izmanipulisani. Istraživanja pokazuju da su osobe sa ovom crtom ličnosti iskazivale viši nivo nezadovoljstva poslom kada su radili u kompetitivnim uslovima (Baboselac-Marić, 2015), što ide u prilog tumačenju da makijavelisti troše mnogo energije na kontrolu drugih ljudi, što kod njih može izazvati veliku količinu stresa. U uslovima promena moraju da podignu nivo svoje opreznosti, kako drugi ne bi iskoristili njihove slabosti, kao što bi to oni uradili ukoliko bi im se ukazala prilika. Negativan stav prema organizacionim promenama može se očekivati i od zaposlenih sa izraženom osobinom psihopatije. Ovi rezultati su zanimljivi, jer je za psihopate karakteristično traženje senzacija koje promene svakako donose u radno okruženje, kao i odsustvo straha i anksioznosti (Paulhus & Williams, 2002), koji predstavljaju faktore rizika za promene. Ipak, ovi nalazi su u saglasnosti sa nalazima Harmsa i saradnika (Harms et al., 2011) koji ukazuju na to da osobe sa izraženim crtama makijavelizma i psihopatije nisu spremne za usvajanje novih veština. S obzirom na to da prilagođavanje na promene često zahteva usvajanje novih kompetencija, nije iznenađujuće što osobe sa ovim osobinama imaju negativan stav prema promenama. Takođe, za psihopate je karakterističan doživljavanje da se pravila i norme ne odnose na njih (Wu & LeBreton, 2011) i da su zbog odsustva straha od kazne skloni da ih zaobilaze. S obzirom na to da promene često podrazumevaju nova pravila i norme, za osobe sa psihopatskom crtom to znači da će morati da kreiraju nove strategije za izbegavanje poštovanja pravila. Psihopatija je pokazala značajan negativan direktan efekat na fleksibilnost zaposlenih, što potvrđuje nalaz da psihopate nemaju nameru da se prilagođavaju promenama koje smatraju nepoželjnim.

Makijavelizam i psihopatija nisu ostvarili indirektno efekte na stavove prema promenama preko karijerne adaptabilnosti, te su peta i šesta hipoteza odbačene. Objašnjenje se može pronaći u činjenici da su osobe sa makijavelističkom crtom orijentisane na postizanje pozitivnih ishoda u terminima lične koristi, što su pokazali nalazi prethodnih istraživanja (Spurk et al., 2015). Takođe, oni su skloniji da se posvete pronalaženju drugačijih načina kojima bi došli do uspeha, pre nego dugotrajnom angažovanju na prevazilaženju prepreka koje različiti uspesi nose sa sobom. Bavljenje sopstvenom karijerom podrazumeva dugoročno ulaganje u sticanje kompetencija i građenje odnosa sa ljudima koji mogu biti značajan izvor

informacija i podrške tokom karijere pojedinca, što za psihopate nije karakteristično s obzirom na njihovu antisocijalnu prirodu i sklonost kratkoročnim strategijama.

## Praktične implikacije

Značajne praktične implikacije proizilaze iz nalaza da je narcizam značajan i pozitivan prediktor iniciranja promena, kao i da ostvaruje značajne indirektna i direktne efekte na sve tri dimenzije stava prema organizacionim promenama. Ovi nalazi upućuju na preporuku da u kontekstu profesionalne selekcije ne treba odbacivati kandidate sa optimalno izraženom crtom narcizma, jer dobra strana narcizma omogućava jednu od najvažnijih kompetencija za savremeno poslovanje – spremnost za iniciranje promena. Takođe, harizma, karakteristična za osobe sa izraženom crtom narcizma, može doprineti tome da se i drugi zaposleni ubede u značaj koje promene imaju za organizaciju i da se spreče potencijalni otpori. Naravno, treba biti oprezan u davanju velike količine moći ovim osobama, jer negativna strana narcizma može doprineti tome da tu moć zloupotrebe.

## Ograničenja i smernice za buduća istraživanja

Iako postoji nekolicina istraživanja koja su se bavila ispitivanjem uloge koju lične karaktersitike pojedinca imaju u formiranju stavova prema promenama u organizaciji, većina radova se bavila prosocijalnim osobinama, dok je radove u kojima je akcenat na ulozi „zlih” osobina u ovom kontekstu, skoro nemoguće pronaći. Stoga je i osnovni doprinos ovog istraživanja pružanje uvida u to kako mračna strana ličnosti i karijerna adaptabilnost, kao jedna od najvažnijih kompetencija za uspeh u karijeri (O’Connell, McNeely, & Hall, 2008, prema Creed, Fallon, & Hood, 2009), doprinose pozitivnom ili negativnom viđenju promena u organizaciji. Važno je napomenuti da su efekti dobijeni u istraživanju veoma mali. Postoji mogućnost da je i veličina uzorka ( $N = 390$ ) doprinela pojavljivanju greške tipa 1, te bi bilo značajno istraživanje ponoviti na različitim uzorcima. Značajno je istaći da su subskele mračne trijade pokazale nižu pouzdanost nego u drugim istraživanjima (Egan, Chan, & Shorter, 2014; Jones & Paulhus, 2014). Razlog nižih, ali ipak prihvatljivih pokazatelja pouzdanosti može biti prevod skale, ili različit doživljaj, odnosno nerazumevanje pojedinih ajtema od strane srpskih ispitanika. Jedan od nedostataka ovog istraživanja ogleda se u tome što nisu svi zaposleni imali iskustvo organizacionih promena, niti je kontrolisana varijabla vrste promena u organizaciji, što bi bilo značajno uraditi u narednim istraživanjima. Takođe, trebalo bi ispitati da li zaposleni sa osobinama mračne trijade na različitim pozicijama različito gledaju na organizacione promene, kao i usmeriti pažnju na to da li (ne) zadovoljstvo trenutnom pozicijom ili statusom u organizaciji utiče na to da zaposleni sa osobinama mračne trijade u promenama vide priliku ili pretnju za ličnu karijeru.

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## CAREER ADAPTABILITY AS A MEDIATOR OF THE RELATIONSHIP BETWEEN DARK TRIAD TRAITS AND ATTITUDES TOWARDS ORGANIZATIONAL CHANGES

The aim of this paper was to examine whether the traits of the dark triad and career adaptability are significant predictors of attitudes towards organizational changes, as well as to determine whether career adaptability is a mediator of the relationship between the traits of the dark triad and the dimensions of attitudes towards organizational changes. The scale of attitudes towards the organizational changes (OP), the Short Dark Triad scale (SD3) for the measurement of the dark triad and the scale of career adaptability (Career Adapt-Abilities Scale - CAAS 2.0) were applied on a sample of 390 employees (42% males) in organizations in Serbia. The results show that all three dimensions of dark triad have direct effect on negative attitude of employees towards organizational changes. Direct effect on initiating changes has only narcissism, while on flexibility of employees, direct effect has only psychopathy. The results also show that narcissism has indirect effects on all three dimensions of attitudes towards organizational changes through career adaptability.

**Key words:** organizational changes, dark triad, career adaptability





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Sad**COMPARISON OF THREE SHORT  
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INSTRUMENTS<sup>2</sup>**

The aim of this research was to validate Serbian adaptations of three short six-factor model measures: 24 Questionnaire Big Six (24QB6), Mini-IPIP6, and Brief HEXACO Inventory (BHI). Besides these measures, HEXACO-100 was applied on a sample of 310 participants (41% of male) from the general population. The results of confirmatory factor analysis showed marginal fit indices for 24QB6, and satisfactory fit indices for Mini-IPIP6, but not for BHI. BHI also had the smallest Cronbach's alphas for the scales, but the highest correlations with matching HEXACO-100 scales, confirming its convergent and discriminant validity. Regarding 24QB6, it was noticeable that all scales were valid, except for Honesty/Propriety, which showed substantial relations with both Honesty-Humility and Conscientiousness. Scales from Mini-IPIP6 had the highest alphas, but also the highest mean inter-item correlation, indicating that they measured a narrower scope of the traits. Also, validity of the Agreeableness scale was limited. Taken together, all the measures had advantages and disadvantages, and authors should choose a short measure in line with the importance of either validity or reliability.

**Key words:** short inventory, HEXACO, 24QB6, Mini-IPIP6, BHI

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Since the past decade, short personality instruments have become more popular considering their efficacy and usefulness in large-scale studies. Most of the short personality measures operationalize the Big Five or Five Factor Model, but with the increased popularity of lexical six-factor personality models, there is a need for their brief measures. The most popular six-factor model is HEXACO (Ashton & Lee, 2007; Lee & Ashton, 2008), which contains Honesty-Humility, Emotionality, eXtraversion, Agreeableness, Conscientiousness, and Openness to Experience traits, with four facets per trait. Besides introducing the sixth factor Honesty-Humility, the differences compared to the Big Five model are in rearranging Neuroticism (called Emotionality in HEXACO model) and Agreeableness. Namely, Agreeableness from HEXACO model captures indicators of anger, impatience, hostility, and stubbornness, which are indicators of Neuroticism from the Big Five, while Emotionality captures empathy, sentimentality, and dependence, which are indicators of Agreeableness from the Big Five (Ashton, Lee, & de Vries, 2014; Lee & Ashton, 2008).

So far, three brief instruments have been proposed for the measurement of the six-factor model, which will be evaluated in this research. All three measurements have 24 items in the sentence format, with 4 items per scale. The first is 24 Questionnaire Big Six (24QB6: Thalmayer, Saucier, & Eigenhuis, 2011), which is the shortest version of Questionnaire Big Six (QB6), based on Saucier (2009) lexical research regarding personality structure. Saucier (2009) used a more inclusive criterion for adjective selection and reanalyzed 16 lexical studies conducted in 14 languages, which resulted in the six-factor structure: Honesty/Propriety, Resiliency vs. Internalizing Negative Emotionality, Extraversion (Gregariousness and Positive Emotionality), Agreeableness (Kindness & Event Temper), Conscientiousness, and Originality/Talent. The alphas of 24QB6 scales were in a range from .54 to .68, and scales showed predictive validity regarding some life outcomes, e.g. academic performance (Thalmayer et al., 2011).

At about the same time, Sibley et al. (2011) introduced a hybrid measure called Mini-IPIP6. Mini-IPIP6 comprised the Big Five measurement with an additional scale for assessing Honesty-Humility. The Big Five was operationalized via Mini-IPIP (Donnellan, Frederick, Oswald, & Lucas, 2006), and items for Honesty-Humility were reworded from the Honesty-Humility scale from the short version of HEXACO-PI-R (HEXACO-60: Ashton & Lee, 2009) and from the Narcissism scale developed by Campbell, Bonacci, Shelton, Exline, and Bushman (2004). Mini-IPIP was the short version of Goldberg's (1999) 50-item IPIP Big-Five factor markers, which was based on Goldberg's (1992) list of unipolar Big Five factor markers derived from lexical studies in English. Authors of Mini-IPIP6 did not provide alphas for Mini-IPIP6, but they confirmed its predictive validity regarding the time spent with friends, engaging in charity or voluntary work, religious status and identification, political affiliation, and attitudes about the environment. In an additional validation of the Mini-IPIP6, scale alphas ranged from .64 to .79 and score stability was confirmed (Milojević, Osborne, Greaves, Barlow, & Sibley, 2013), with the ex-

ception of the Neuroticism scale, while changes in Neuroticism was expected (Milojev, Osborne, & Sibley, 2014). Namely, scores on Neuroticism were changed as a result of resiliency following a natural disaster. Also, the scales showed good discrimination and information across the entire levels of trait (Sibley, 2012). Good alphas and an expected factor structure were confirmed in a study on a Serbian sample (Međedović & Bulut, 2017), along with the predictive validity of physical health and disintegration as an aspect of mental health.

The third instrument is the Brief HEXACO Inventory (BHI: De Vries, 2013), derived from the HEXACO Simplified Personality Inventory (HEXACO-SP: De Vries & Born, 2013). This is the only short measure based solely on the HEXACO model, with each item capturing one of the 24 facets (4 facets per trait). The HEXACO-SP was developed in order to be a more suitable measure of HEXACO dimensions among children and people with lower educational levels and language knowledge (e.g. the first-generation of ethnic minorities), thus containing short and easily comprehensible items. BHI scales had somewhat lower alphas, in a range from .43 to .72. However, BHI showed relatively good levels of test-retest stability (De Vries, 2013). It was important to note that BHI items were not the same as HEXACO-PI-R items. Correlations with corresponding HEXACO-PI-R were in a range from .59 to .83, with higher correlations in a student sample, compared to a community sample. So far, BHI has not been further tested, but recent research have confirmed lower alphas for eXtraversion (.59) and Conscientiousness (.51, see Oostrom, Köbis, Ronay, & Cremers, 2017).

The aim of this research was to explore the psychometric properties of three short six-factor measures, and test their convergent and discriminant validity in relations with the HEXACO-100 measure. This was the first study in which all short six-factor measures were included, and this way we could conclude which instrument had the best characteristics, or what their advantages and disadvantages were regarding psychometric properties. All three measures were expected to achieve a good model fit and show substantial correlations with matched HEXACO-100 scales (convergent validity), as well as lower (or non-significant) correlations with other scales (discriminant validity). While BHI is clearly based on HEXACO model, Thalmayer and Saucier (2014, pp. 483) state that "the QB6 scales are complementary to the HEXACO inventories", which makes HEXACO a suitable instrument for comparison with QB6. Although Mini-IPIP6 is a hybrid measure, it contains reworded items from Honesty-Humility scale from HEXACO-60, which set Honesty-Humility scale from HEXACO inventory as an adequate measure for determining its validity. The other relations between Mini-IPIP6 and HEXACO-100 should reflect the mentioned modifications in the HEXACO model compared to the Big Five model (Ashton et al., 2014; Lee & Ashton, 2008), e.g. that Neuroticism and Agreeableness from Mini-IPIP6 correlate with both Emotionality and Agreeableness from HEXACO-100. Also, it could be expected that Agreeableness from Mini-IPIP6 correlates with Honesty-Humility.

## Method

### Participants and procedure

The sample included 310 participants (41% male ) from the general population in Serbia (aged between 18 and 68,  $M = 28.59$ ,  $SD = 7.75$ ). Data were collected online. 50 trained undergraduate students were instructed to find 6 participants each, who would participate in the online study (several students collected data from more than 6 participants). In order to obtain heterogeneity, requirements regarding sex and age quotas were given. These quotas were the following: 3 males, one of which was of age in a range 18-25, the other was in a range 26-35, and the third was 36 years old or more. The same quotas applied in the case of 3 female participants. If the students could not meet the given criteria, they were instructed to find participants regarding one of the criteria (and not both). Therefore, this is a nonrandom sample. The research was approved by the Institutional Review Board.

### Instruments

**Questionnaire Big Six - 24 (24QB6: Thalmayer et al., 2011).** This is the shortest version of Questionnaire Big Six (QB6) based on Saucier's (2009) lexical research about personality structure. 24QB6 contains 24 items (4 per scale, with 2 negatively worded items in each scale), and measures six traits - Honesty/Propriety, Resiliency, Extraversion, Agreeableness, Conscientiousness, and Originality/Talent. In this research, the Serbian adaptation from Stankov, Saucier, and Knežević (2010) was applied, with the modification of three items (6, 17, and 23). These three items were modified due to QB6 development, and items used in this study reflected the final solution of 24QB6 presented in Thalmayer et al. (2011).

**Mini-IPIP6 (Sibley et al., 2011).** Mini-IPIP6 presents a combination of the 20-item Mini-IPIP (Donnellan et al., 2006) as a measure of the Big Five model (Neuroticism, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience traits) and the Honesty-Humility trait. The Honesty-Humility trait was measured via two reworded items from the Honesty-Humility scale from the HEXACO-60 (Ashton & Lee, 2009) and two reworded items from the Narcissism scale were developed by Campbell et al. (2004). In this research, the Serbian adaptation from Mededović and Bulut (2017) was applied, with the modification of two Agreeableness items (2 and 14)<sup>3</sup>.

**Brief HEXACO Inventory (BHI: De Vries, 2013).** BHI is the short version of the HEXACO Simplified Personality Inventory (HEXACO-SP: De Vries & Born, 2013) which contains 24 items (4 per scale) and operationalizes the HEXACO personality model (namely, Honesty-Humility, Emotionality, eXtraversion, Agreeable-

<sup>3</sup> In the case of Serbian version of Mini-IPIP6, the originally and new translated versions of two items (2 and 14) made by the author of this research were applied, and items with the higher factor loadings on supposed factor were kept.

ness, Conscientiousness, and Openness to Experience traits). The Serbian adaptation of BHI was applied in this study for the first time. The back-translation of the Serbian adaptation of BHI was approved by Prof. De Vries.

**HEXACO-100 (Lee & Ashton, in press, for Serbian adaptation see Mededović, Čolović, Dinić, & Smederevac, 2017, in press).** HEXACO-100 measures six traits from the HEXACO model, with 16 items per trait and 4 additional items for measuring Altruism. Reliabilities of scales are good and range from .81 for Agreeableness to .86 for Conscientiousness.

All items were rated on a Likert scale, ranging from 1 = *totally disagree* to 5 = *totally agree*. Reliabilities for short measures in this study are presented in Table 1.

## Data analysis

Firstly, Cronbach's alpha and mean inter-item correlations (MIC) as the measure of homogeneity were calculated for every short measure scale, as well as gender differences. In order to test the supposed six-factor structure with correlated factors, a confirmatory factor analysis (CFA) was conducted for each short measure. Since multivariate normality was violated for all the measures, robust diagonally weighted least squares (DWLS) estimator was used. Criteria for good model fit were CFI and TLI > .90 and RMSEA and SRMR < .08 (Hu & Bentler, 1999). Analysis was run in "lavaan" R package (Rosseel, 2012). Since BHI did not achieve acceptable fit indices, an exploratory factor analysis (EFA; principal axis method) with promax rotation was applied in order to explore its latent structure. EFA was run in IBM SPSS 22 for Windows. For determining the number of factors, the parallel analysis and the recommended 95% percentile criteria were used (e.g., Glorfeld, 1995). The parallel analysis was run in O'Connor (2000) syntax for SPSS with 1000 simulated data sets. Eigenvalues obtained from total variance instead from common variance, since syntax had problems with overestimating the number of factors in EFA models (e.g. Timmerman & Lorenzo-Seva, 2011). Convergent and discriminant validity correlations were calculated between the scales of short measures and HEXACO-100 scales and facets. In order to further inspect the validity of the short measures, a principal component analysis (PCA) with promax rotation was conducted on the scale scores of all three short measures and HEXACO-100 together. PCA was used in order to obtain the reduction of the space of variables and total variance. Parallel analysis was conducted to determine the number of components in the same way as in the case of EFA of BHI.

## Results

Considering the small number of items per scale, Cronbach's alphas were acceptable, except for BHI Emotionality and Agreeableness (< .50, see Table 1). It could be noticed that Mini-IPIP6 had higher alpha coefficients for scales, com-

pared to the scales from other instruments, but also higher mean inter-item correlations (MIC). This could mean that the scales of Mini-IPIP6 were narrower regarding their scope, and that they did not cover all relevant indicators of the traits.

Consistent sex differences were found in Honesty-Humility and Openness to Experience across all three instruments, with females obtaining higher scores. Females also had higher scores on Resilience and Extraversion from 24QB6, on Agreeableness from Mini-IPIP6, and on Emotionality from BHI. Surprisingly, there were no significant sex differences in Mini-IPIP6 Neuroticism.

Table 1  
*Descriptives, Cronbach' alphas, and sex differences for 24QB6, Mini-IPIP, and BHI scales*

|     |          | 24QB6      |             |            |             |
|-----|----------|------------|-------------|------------|-------------|
|     | $\alpha$ | MIC        | Total       | Male       | Female      |
| H/P | .52      | .22        | 3.68(0.72)  | 3.47(0.70) | 3.83(0.69)* |
| R   | .63      | .28        | 2.70(0.82)  | 2.53(0.76) | 2.81(0.83)* |
| Ex  | .54      | .24        | 3.58 (0.71) | 3.46(0.70) | 3.67(0.71)* |
| A   | .61      | .21        | 3.07(0.80)  | 3.00(0.78) | 3.11(0.81)  |
| C   | .72      | .22        | 3.57(0.90)  | 3.56(0.93) | 3.57(0.89)  |
| O/T | .50      | .30        | 3.66(0.65)  | 3.55(0.62) | 3.73(0.67)* |
|     |          | Mini-IPIP6 |             |            |             |
| H   | .77      | .45        | 3.11(0.99)  | 2.90(1.02) | 3.25(0.95)* |
| N   | .68      | .35        | 2.88(0.84)  | 2.80(0.77) | 2.93(0.89)  |
| Ex  | .81      | .52        | 3.25(0.98)  | 3.21(0.97) | 3.28(0.98)  |
| A   | .78      | .47        | 3.83(0.79)  | 3.49(0.80) | 4.06(0.70)* |
| C   | .81      | .52        | 3.67(0.98)  | 3.60(0.99) | 3.72(0.97)  |
| O   | .78      | .46        | 3.71(0.93)  | 3.49(0.98) | 3.86(0.87)* |
|     |          | BHI        |             |            |             |
| H   | .63      | .30        | 3.67(0.88)  | 3.14(0.93) | 3.84(0.80)* |
| E   | .47      | .19        | 2.91(0.77)  | 2.61(0.75) | 3.12(0.71)* |
| X   | .65      | .33        | 3.87(0.77)  | 3.81(0.75) | 3.91(0.78)  |
| A   | .41      | .15        | 2.97(0.68)  | 2.96(0.67) | 2.98(0.68)  |
| C   | .70      | .38        | 3.53(0.86)  | 3.53(0.91) | 3.54(0.83)  |
| O   | .68      | .35        | 3.68(0.87)  | 3.49(0.98) | 3.81(0.75)* |

*Note.* H/P = Honesty/Propriety, R = (lack of) Resiliency, Ex = Extraversion, A = Agreeableness, C = Conscientiousness, O/T = Originality/Talent, H = Honesty-Humility, N = Neuroticism, O = Openness to Experience, E = Emotionality, X = Extraversion. MIC - mean inter-item correlation as the coefficient of homogeneity.

\* significant sex differences.

The CFA revealed marginal model fit for 24QB6, and acceptable model fit for Mini-IPIP6, while model fit for BHI was unacceptable due to CFI and TLI below cut-off criteria (Table 2, model parameters are given in Appendix).

Table 2

*Fit indices for proposed six-factor structure of 24QB6, Mini-IPIP6, and BHI*

| Measures   | DWLS $\chi^2(df)$ | $\chi^2/df$ | CFI | TLI | RMSEA (95% CI) | SRMR |
|------------|-------------------|-------------|-----|-----|----------------|------|
| QB6-24     | 453.36(237)       | 1.91        | .88 | .86 | .05 (.05-.06)  | .07  |
| Mini-IPIP6 | 483.51(237)       | 2.04        | .92 | .91 | .06 (.05-.07)  | .08  |
| BHI*       | 699.94(238)       | 2.94        | .72 | .68 | .08 (.07-.09)  | .09  |

*Note.* \* item 17 had restricted loading (.99) due its original loading over 1.

In 24QB6 three items had a loading  $< .30$  (10, 20, and 21), and the rest were in a range from .33 to .78. In Mini-IPIP6 loadings were high and ranged from .51 to .92. In BHI item 17 from Emotionality factor had loading over 1, and after its restriction (on .99), loadings were in a range from .15 to .99, with clearly low item loadings in the Emotionality scale, except for item 17. However, model fit for BHI was unacceptable and did not achieve acceptable fit even after including correlations between residuals, in line with the modification indices recommendations. Therefore, in order to gain an insight into BHI structure, an EFA was conducted (a principal axis factoring). Based on a parallel analysis, 6 factors were extracted (empirical  $\lambda$ s obtained on overall variance were 3.56, 2.44, 2.20, 1.73, 1.48, 1.41, and for the 7<sup>th</sup> factor  $\lambda$  was 1.09, while simulated 95%  $\lambda$ s were 1.62, 1.52, 1.44, 1.37, 1.32, 1.27, and for 7<sup>th</sup> factor 1.23). The obtained structure was in line with model assumptions, except for two items: item 6, which originally belonged to the Honesty/Propriety scale, but in EFA it was in the Agreeableness scale; and item 15, which had marginal loading on its corresponding factor Agreeableness (Table 3). Therefore, further analysis was conducted on the mean scores in order to compare measures.

Table 3  
*Pattern matrix of BHI*

| Item  | Factor     |            |            |            |            |            |
|---|------------|------------|------------|------------|------------|------------|
|   | C          | X          | O          | H          | A          | E          |
| 2 Uvek se pobrinem da su stvari na svom mestu.  | <b>.70</b> | .02        | -.15       | -.19       | .15        | .18        |
| 20 Često radim stvari bez razmišljanja.   | <b>.68</b> | -.15       | -.15       | -.02       | -.01       | -.12       |
| 14 Kad radim, veoma sam precizan.   | <b>.63</b> | .14        | .05        | -.06       | -.01       | .04        |
| 8 Odlažem složene zadatke što duže mogu.  | <b>.60</b> | .04        | .12        | .01        | -.17       | -.14       |
| 16 Volim da pričam s drugim ljudima.  | -.04       | <b>.91</b> | -.07       | -.07       | -.04       | .19        |
| 10 Lako prilazim nepoznatim ljudima.  | -.12       | <b>.57</b> | -.08       | -.30       | .00        | -.09       |
| 4 Niko ne voli da priča sa mnom.  | .17        | <b>.48</b> | .04        | .13        | -.06       | .01        |
| 22 Retko sam veseo.   | .10        | <b>.41</b> | -.01       | .13        | .02        | -.25       |
| 13 Veoma sam maštovit.  | -.09       | -.01       | <b>.75</b> | -.02       | -.03       | .09        |
| 19 Volim ljude koje imaju čudne ideje.  | -.20       | .00        | <b>.70</b> | -.05       | .05        | -.01       |
| 1 Mogu dugo da posmatram neku umetničku sliku.  | .15        | -.15       | <b>.59</b> | -.09       | .05        | .07        |
| 7 Mislim da je nauka dosadna.   | .29        | .11        | <b>.37</b> | .07        | .05        | .03        |
| 24 Zaslužujem poseban status.   | -.25       | -.02       | -.03       | <b>.89</b> | .03        | .00        |
| 18 Želim da budem slavan.   | .12        | -.14       | -.12       | <b>.54</b> | .08        | .06        |
| 12 Voleo bih da znam kako mogu da dođem do puno para, iako to uključuje nepošten način. | .06        | .18        | .02        | <b>.44</b> | .20        | .06        |
| 21 Čak iako se prema meni drugi ophode loše, ostajem smiren.                            | .01        | -.16       | .10        | -.09       | <b>.64</b> | -.00       |
| 3 Ostanem neprijateljski raspoložen prema nekome ko je bio loš prema meni.              | -.10       | .11        | .00        | .14        | <b>.42</b> | -.05       |
| 6 Ne mogu tek tako da lažem.  | .06        | .04        | -.08       | .18        | <b>.40</b> | .15        |
| 9 Često kritikujem druge.   | .03        | -.06       | .06        | .24        | <b>.37</b> | -.14       |
| 15 Sklon sam da se brzo složim s onim što drugi kažu.                                   | -.11       | -.07       | -.15       | -.12       | .24        | .10        |
| 17 Lako mogu da prevaziđem teškoće.   | -.09       | -.13       | -.07       | .19        | -.25       | <b>.54</b> |
| 5 Plašim se da mogu osećati bol.  | -.11       | .01        | .10        | -.22       | .08        | <b>.46</b> |
| 23 Moram da zaplačem tokom tužnih ili romantičnih filmova.                              | -.01       | .21        | .06        | .09        | .11        | <b>.45</b> |
| 11 Manje brinem od drugih ljudi.  | .23        | -.05       | .11        | .12        | -.07       | <b>.42</b> |
| % of common variance  | 12.29      | 7.90       | 6.77       | 4.85       | 3.59       | 3.41       |

*Note.* C = Conscientiousness, X = Extraversion, O = Openness to Experience, H = Honesty-Humility, A = Agreeableness, E = Emotionality. Loadings higher than ± .30 were bolded.



Convergent correlations with matching HEXACO-100 scales were mostly confirmed, with a few exceptions (Table 4). In the case of 24QB6, it could be noticed that Honesty/Propriety achieved the same correlations with both Honesty-Humility and Conscientiousness from HEXACO-100. Bearing in mind that the matching Honesty-Humility correlation was the smallest convergent correlation among 24QB6 scales, these results brought concerns due to the validity of the 24QB6 Honesty/Propriety scale. In the case of Mini-IPIP6, correlations of Neuroticism and Agreeableness scales were somewhat in line with theoretical expectations, with Neuroticism and Agreeableness from the Big Five corresponding to a combination of Emotionality and Agreeableness from the HEXACO-100. However, the correlation between Mini-IPIP6 Neuroticism and HEXACO-100 eXtraversion was almost in the same range as convergent validity correlation, which was not expected. Also, although Mini-IPIP6 Agreeableness had the highest correlation with HEXACO-100 Emotionality, it also correlated with Openness to Experience and Honesty-Humility almost in the same extent or even higher as with the matching Agreeableness scale. Of all instruments, BHI clearly showed the highest correlations with corresponding HEXACO-100 scales. This was expected, considering the conceptual similarities between the two instruments.

Table 4

Correlations between HEXACO-100 and three short HEXACO instruments - 24QB6, Mini-IPIP6, and BHI

|                           | 24QB6 |      |      |      |      |      |      |      |      |     | Mini-IPIP6 |      |      |      |      |      |      |      |      |      | BHI  |      |      |      |      |      |      |     |      |      |      |      |      |      |      |      |      |     |
|---------------------------|-------|------|------|------|------|------|------|------|------|-----|------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|-----|
|                           | H/P   | R    | Ex   | A    | C    | O/T  | H    | N    | Ex   | A   | C          | O    | H    | E    | X    | A    | C    | O    | H/P  | R    | Ex   | A    | C    | O/T  | H    | N    | Ex   | A   | C    | O    | H    | E    | X    | A    | C    | O    |      |     |
| Sincerity                 | .23   | -.18 | .08  | .10  | .11  | .18  | .32  | -.14 | -.09 | .11 | .13        | .10  | .43  | -.03 | .08  | .01  | .18  | .11  | .37  | -.01 | .12  | .23  | .25  | .08  | .41  | -.12 | -.14 | .25 | .24  | .12  | .53  | .14  | .02  | .24  | .26  | .18  |      |     |
| Fairness                  | .37   | -.01 | .12  | .23  | .25  | .08  | .41  | -.12 | -.14 | .25 | .24        | .12  | .53  | .14  | .02  | .24  | .26  | .18  | .30  | -.00 | .07  | .31  | .12  | .07  | .74  | -.10 | -.26 | .21 | .16  | .16  | .61  | .18  | -.04 | .23  | .16  | .26  |      |     |
| Greed Avoidance           | .27   | -.03 | .20  | .20  | .09  | -.13 | .50  | -.14 | -.15 | .23 | .09        | .00  | .55  | .10  | .01  | .24  | .08  | .05  | .27  | -.03 | .20  | .20  | .09  | -.13 | .50  | -.14 | -.15 | .23 | .09  | .00  | .55  | .10  | .01  | .24  | .08  | .05  |      |     |
| Fearfulness               | .27   | .47  | .04  | -.08 | -.02 | -.06 | .09  | .32  | -.13 | .20 | .07        | .07  | .13  | .51  | -.14 | -.03 | .04  | .06  | .27  | .47  | .04  | -.08 | -.02 | -.06 | .09  | .32  | -.13 | .20 | .07  | .07  | .13  | .51  | -.14 | -.03 | .04  | .06  |      |     |
| Anxiety                   | .23   | .54  | .02  | -.10 | .12  | .05  | .03  | .46  | -.01 | .22 | .13        | .15  | .13  | .55  | -.07 | -.09 | .13  | .14  | .23  | .54  | .02  | -.10 | .12  | .05  | .03  | .46  | -.01 | .22 | .13  | .15  | .13  | .55  | -.07 | -.09 | .13  | .14  |      |     |
| Dependence                | .10   | .27  | .37  | -.03 | -.03 | .02  | .00  | .16  | .20  | .36 | -.03       | .13  | .01  | .35  | .17  | .09  | -.11 | .12  | .22  | .36  | -.03 | .13  | .01  | .35  | .17  | .09  | -.11 | .12 | .22  | .36  | -.03 | .13  | .01  | .35  | .17  | .09  | -.11 | .12 |
| Sentimentality            | .22   | .36  | .28  | -.00 | .12  | .04  | .15  | .21  | .07  | .50 | .13        | .14  | .25  | .53  | .15  | .14  | .06  | .17  | .22  | .36  | .28  | -.00 | .12  | .04  | .15  | .21  | .07  | .50 | .13  | .14  | .25  | .53  | .15  | .14  | .06  | .17  |      |     |
| Social Self-Esteem        | -.01  | -.50 | .41  | .10  | .29  | .25  | -.02 | -.45 | .50  | .07 | .27        | .05  | -.02 | -.29 | .53  | .12  | .21  | -.03 | -.01 | -.50 | .41  | .10  | .29  | .25  | -.02 | -.45 | .50  | .07 | .27  | .05  | -.02 | -.29 | .53  | .12  | .21  | -.03 |      |     |
| Social Boldness           | -.22  | -.25 | .39  | -.04 | .09  | .29  | -.17 | -.20 | .69  | .04 | .09        | .09  | -.20 | -.21 | .54  | -.10 | .06  | .06  | -.22 | -.25 | .39  | -.04 | .09  | .29  | -.17 | -.20 | .69  | .04 | .09  | .09  | -.20 | -.21 | .54  | -.10 | .06  | .06  |      |     |
| Sociability               | -.10  | -.11 | .59  | -.09 | .08  | .10  | -.07 | -.10 | .65  | .21 | .07        | .02  | -.08 | -.04 | .64  | .02  | -.00 | .01  | -.10 | -.11 | .59  | -.09 | .08  | .10  | -.07 | -.10 | .65  | .21 | .07  | .02  | -.08 | -.04 | .64  | .02  | -.00 | .01  |      |     |
| Liveliness                | -.13  | -.43 | .50  | .18  | .14  | .17  | .03  | -.47 | .51  | .11 | .12        | .07  | .02  | -.27 | .59  | .14  | .05  | .01  | -.13 | -.43 | .50  | .18  | .14  | .17  | .03  | -.47 | .51  | .11 | .12  | .07  | .02  | -.27 | .59  | .14  | .05  | .01  |      |     |
| Forgivingness             | .11   | -.02 | .18  | .36  | -.03 | -.04 | .16  | -.15 | .01  | .28 | .01        | .04  | .20  | .02  | .13  | .58  | .00  | .12  | .11  | -.02 | .18  | .36  | -.03 | -.04 | .16  | -.15 | .01  | .28 | .01  | .04  | .20  | .02  | .13  | .58  | .00  | .12  |      |     |
| Gentleness                | .08   | -.06 | .16  | .36  | -.04 | -.01 | .13  | -.15 | -.03 | .22 | -.03       | .07  | .19  | .00  | .05  | .53  | -.07 | .13  | .08  | -.06 | .16  | .36  | -.04 | -.01 | .13  | -.15 | -.03 | .22 | -.03 | .07  | .19  | .00  | .05  | .53  | -.07 | .13  |      |     |
| Flexibility               | .16   | -.18 | .18  | .37  | .15  | -.06 | .23  | -.25 | .01  | .11 | .16        | -.00 | .20  | -.11 | .09  | .44  | .14  | -.01 | .16  | -.18 | .18  | .37  | .15  | -.06 | .23  | -.25 | .01  | .11 | .16  | -.00 | .20  | -.11 | .09  | .44  | .14  | -.01 |      |     |
| Patience                  | .24   | -.14 | .11  | .68  | .15  | .11  | .26  | -.39 | -.07 | .15 | .16        | .17  | .23  | -.10 | .04  | .51  | .23  | .19  | .24  | -.14 | .11  | .68  | .15  | .11  | .26  | -.39 | -.07 | .15 | .16  | .17  | .23  | -.10 | .04  | .51  | .23  | .19  |      |     |
| Organization              | .32   | -.08 | .14  | .17  | .77  | .07  | .08  | -.17 | .04  | .12 | .77        | .00  | .18  | .04  | .18  | .08  | .67  | .07  | .32  | -.08 | .14  | .17  | .77  | .07  | .08  | -.17 | .04  | .12 | .77  | .00  | .18  | .04  | .18  | .08  | .67  | .07  |      |     |
| Diligence                 | .26   | -.15 | .23  | .19  | .54  | .32  | .12  | -.24 | .15  | .17 | .52        | .20  | .18  | -.09 | .28  | .60  | .23  | .26  | -.15 | .23  | .19  | .54  | .32  | .12  | -.24 | .15  | .17  | .52 | .20  | .18  | -.09 | .28  | .60  | .23  |      |      |      |     |
| Perfectionism             | .32   | .07  | .11  | .16  | .47  | .28  | .10  | -.07 | .06  | .28 | .49        | .24  | .15  | .11  | .14  | .03  | .61  | .28  | .32  | .07  | .11  | .16  | .47  | .28  | .10  | -.07 | .06  | .28 | .49  | .24  | .15  | .11  | .14  | .03  | .61  | .28  |      |     |
| Prudence                  | .36   | -.18 | -.01 | .33  | .47  | .15  | .16  | -.26 | -.07 | .11 | .49        | .04  | .20  | -.13 | .02  | .62  | .11  | .36  | -.18 | -.01 | .33  | .47  | .15  | .16  | -.26 | -.07 | .11  | .49 | .04  | .20  | -.13 | .02  | .62  | .11  |      |      |      |     |
| Aesthetic Appreciation    | .20   | .13  | .12  | .32  | .06  | .37  | .32  | -.01 | -.03 | .29 | .10        | .53  | .22  | .19  | .04  | .14  | .17  | .60  | .20  | .13  | .12  | .32  | .06  | .37  | .32  | -.01 | -.03 | .29 | .10  | .53  | .22  | .19  | .04  | .14  | .17  | .60  |      |     |
| Inquisitiveness           | .11   | -.03 | .11  | .26  | .17  | .34  | .11  | -.19 | .05  | .17 | .17        | .34  | .05  | -.03 | .08  | .16  | .27  | .49  | .11  | -.03 | .11  | .26  | .17  | .34  | .11  | -.19 | .05  | .17 | .17  | .34  | .05  | -.03 | .08  | .16  | .27  | .49  |      |     |
| Creativity                | .07   | .13  | .20  | .14  | -.03 | .51  | .20  | .02  | .05  | .39 | -.03       | .76  | .07  | .17  | .14  | .06  | .04  | .74  | .07  | .13  | .20  | .14  | -.03 | .51  | .20  | .02  | .05  | .39 | -.03 | .76  | .07  | .17  | .14  | .06  | .04  | .74  |      |     |
| Unconventionality         | -.04  | .12  | .12  | .12  | -.09 | .58  | .19  | .05  | .08  | .28 | -.06       | .67  | .02  | .10  | .12  | .06  | .03  | .67  | -.04 | .12  | .12  | .12  | -.09 | .58  | .19  | .05  | .08  | .28 | -.06 | .67  | .02  | .10  | .12  | .06  | .03  | .67  |      |     |
| Altruism (vs. Antagonism) | .37   | -.07 | .47  | .26  | -.25 | .29  | .31  | -.19 | .12  | .54 | .27        | .27  | .46  | .18  | .31  | .22  | .26  | .31  | .37  | -.07 | .47  | .26  | -.25 | .29  | .31  | -.19 | .12  | .54 | .27  | .27  | .46  | .18  | .31  | .22  | .26  | .31  |      |     |

Note. H/P = Honesty/Propriety, R = (lack of) Resiliency, Ex = Extraversion, A = Agreeableness, C = Conscientiousness, O/T = Originality/Talent, H = Honesty-Humility, N = Neuroticism, E = Emotionality, X = Extraversion, O = Openness to Experience. All correlations > ± .12 were significant at *p* < .05, bolded correlations are convergent validity correlations.

Table 5

*Pattern matrix of principal component analysis of 24QB6, Mini-IPIP4, BHI, and HEXACO-100 scales*

| Instrument          | Dimension              | Component  |            |            |            |            |            |
|---------------------|------------------------|------------|------------|------------|------------|------------|------------|
|                     |                        | C          | X          | O          | E          | H          | A          |
| 25QB6               | Honesty/Propriety      | <b>.48</b> | -.14       | -.09       | .21        | <b>.33</b> | .13        |
|                     | (lack of) Resiliency   | -.05       | -.22       | .05        | <b>.80</b> | -.16       | .02        |
|                     | Extraversion           | -.08       | <b>.82</b> | -.01       | .17        | .14        | .13        |
|                     | Agreeableness          | .17        | -.12       | .14        | -.20       | -.00       | <b>.69</b> |
|                     | Conscientiousness      | <b>.94</b> | .05        | -.11       | -.00       | -.07       | -.01       |
|                     | Originality/Talent     | .08        | .17        | <b>.79</b> | -.13       | -.04       | -.19       |
| Mini-IPIP6          | Honesty-Humility       | -.15       | -.04       | .09        | -.10       | <b>.93</b> | -.08       |
|                     | Neuroticism            | -.15       | -.18       | -.00       | <b>.66</b> | -.14       | -.25       |
|                     | Extraversion           | -.04       | <b>.88</b> | -.04       | .02        | -.20       | -.08       |
|                     | Agreeableness          | .04        | <b>.33</b> | .28        | <b>.39</b> | .17        | .18        |
|                     | Conscientiousness      | <b>.93</b> | .04        | -.08       | .02        | -.04       | -.01       |
|                     | Openness to Experience | -.06       | -.04       | <b>.91</b> | .03        | .01        | -.03       |
| BHI                 | Honesty-Humility       | .02        | -.00       | -.12       | .04        | <b>.94</b> | -.05       |
|                     | Emotionality           | .02        | -.02       | .01        | <b>.83</b> | .06        | -.02       |
|                     | Extraversion           | .04        | <b>.87</b> | .02        | -.05       | .04        | -.05       |
|                     | Agreeableness          | -.08       | .01        | -.07       | .08        | -.11       | <b>.93</b> |
|                     | Conscientiousness      | <b>.94</b> | -.10       | .07        | -.04       | -.04       | -.03       |
|                     | Openness to Experience | -.01       | -.08       | <b>.89</b> | .05        | -.03       | .08        |
| HEXACO-100          | Honesty-Humility       | -.01       | -.02       | .01        | -.06       | <b>.92</b> | -.05       |
|                     | Emotionality           | .12        | .23        | -.05       | <b>.89</b> | .03        | .03        |
|                     | eXtraversion           | .02        | <b>.88</b> | -.01       | -.18       | -.07       | -.04       |
|                     | Agreeableness          | -.11       | .02        | -.03       | -.04       | -.04       | <b>.95</b> |
|                     | Conscientiousness      | <b>.90</b> | .00        | .14        | .01        | -.02       | -.09       |
|                     | Openness to Experience | -.01       | -.06       | <b>.89</b> | .02        | .01        | .06        |
| % of total variance |                        | 23.02      | 15.47      | 13.20      | 10.29      | 8.34       | 5.63       |

*Note.* C = Conscientiousness, X = Extraversion, O = Openness to Experience, E = Emotionality, H = Honesty-Humility, A = Agreeableness. Loadings higher than  $\pm .30$  were bolded.

In order to further inspect the validity of the scales, a principal component analysis (PCA) was conducted on the scale scores of all three short measures and HEXACO-100. Based on the parallel analysis, six components were extracted (empirical  $\lambda$ s obtained on total variance were 5.53, 3.71, 3.17, 2.47, 2.00, 1.35, and for the 7<sup>th</sup> factor it was 0.68, while simulated 95%  $\lambda$ s were 1.62, 1.52, 1.44, 1.37, 1.32, 1.27, and for 7<sup>th</sup> factor it was 1.23), and promax rotation was applied. The content of the components corresponded to HEXACO structure (Table 5). However, Honesty/Propriety from 24QB6 loaded on both the Conscientiousness and Honesty-Humility component. Also, Agreeableness from Mini-IPIP6 loaded on both the eXtraversion and Emotionality components, but these loadings were remarkably small. BHI and HEXACO-100 scales loaded on expected components.

## Discussion

The aim of this research was to explore psychometric characteristics of Serbian adaptation of three short Six-factor measures: 24QB6, Mini-IPIP6, and BHI. All three measures showed advantages and disadvantages. 24QB6 showed marginal model fit, with three items having low factor loadings. These items were from different scales, but all of them were negatively worded and somewhat “difficult” to endorse, compared to the rest of the items from the same scale (for example, recoded item 10 had  $M = 3.47$  while the rest of the items in the same scale had  $M$  in a range from 3.63 to 3.77). This affected the reliabilities of the scales, with scales containing these items showing somewhat smaller Cronbach’s alphas (Originality/Talent, Extraversion, and Agreeableness). The alphas of the scales were in a range from .50 to .72, with Conscientiousness having the highest reliability, which mostly corresponded with previous research (Thalmayer et al., 2011). MIC coefficients suggested that there was a reasonable overlap among the items, with no redundancy. Regarding relations with HEXACO-100, there was clear overlapping with matching scales, except for Honesty/Propriety. This scale showed the same correlations with HEXACO-100 Honesty-Humility and Conscientiousness, and emerged in the Conscientiousness component in joined PCA analysis. The factor combining Conscientiousness and Negative Valence emerged in Saucier (2009) five-factor solution in lexical studies, and clearly these traits were related, at least in QB6. Moreover, in Thielmann, Hilbig, Zettler, and Moshagen (2017) study, it was shown that Honesty-Humility from HEXACO-60, and Honesty/Propriety from 30-item QB6, obtained the smallest trait-correlations, and that Honesty/Propriety showed limited predictive power for some conceptually relevant criteria, compared to Honesty-Humility. Namely, it seemed that Honesty/Propriety showed explanatory power for ethical risk-taking, but not for social risk-taking, or other aspects of Honesty-Humility domain such as fairness, dishonesty, narcissism, entitlement (Thielmann et al., 2017). Since Honesty/Propriety seemed relevant only

to ethical risks, it explained the relation with Conscientiousness which captured diligence, organization, perfectionism, etc. Results of this study showed that the content of Honesty-Humility and Honesty/Propriety was different, but further examination is needed, especially the examination of predictive validity.

Mini-IPIP6 showed acceptable model fit, and all items loaded substantially on the expected factor. Scales from Mini-IPIP6 had the highest alphas, but also a somewhat higher MIC coefficient, suggesting that redundancy between items could be the problem. This was the most obvious in Extraversion and Conscientiousness scales with MIC over recommended cut-off criteria ( $> .50$ , see Clark & Watson, 1995). This could mean that the Mini-IPIP6 scales captured a smaller number of traits' indicators, and that they had a narrower scope of measurement. Regarding relations with HEXACO-100, all the scales showed high correlations with matching scales, except Neuroticism and Agreeableness. Some differences in these two scales, compared to the scales from the HEXACO model, were expected and in line with rearranging these traits in the HEXACO model. Namely, Neuroticism and Agreeableness from the Big Five should correlate with both Emotionality and Agreeableness from the HEXACO model (Ashton et al., 2014; Lee & Ashton, 2008). However, other differences were not expected. The first was the negative correlation between Mini-IPIP6 Neuroticism and HEXACO-100 eXtraversion, which was as high as the correlation between Mini-IPIP6 Neuroticism on the one side, and HEXACO-100 Emotionality and Agreeableness on the other side. The correlation between Neuroticism from the Big Five Inventory and HEXACO-100 eXtraversion was also obtained in the previous research (e.g., Mededović et al., 2017, in press). Inspection of correlations with HEXACO-100 facets showed that Neuroticism was highly negatively related to the Social Self-Esteem and Liveliness facets of eXtraversion, which was in line with previous research (e.g., Mededović et al., 2017, in press), including the results that depression correlated more with eXtraversion (negatively) compared to Emotionality (Mededović, 2014). This confirmed that Neuroticism from Mini-IPIP6, besides anxiety and negative affectivity, also captured a lack of self-esteem and optimism, e.g. depressive affect, which was in line with theoretical expectations. However, it seemed that indicators of depression were more incorporated in the negative pole of HEXACO eXtraversion. The second unexpected high correlation regarded Agreeableness. This scale was mostly linked to Emotionality, especially to Dependence and Sentimentality facets, which was in line with theoretical expectations (e.g., Ashton et al., 2014) and previous research (e.g., Mededović et al., 2017). The relation with HEXACO-100 Agreeableness was also expected, although this relation could be higher. However, a somewhat higher relation with Openness to Experience was not expected, and this relation was mostly due to a higher correlation with the Creativity facet. It could be assumed that more agreeable persons were more attached to other people's emotions, and overall more open to emotional experience which was also present in creativity process, e.g. writing a novel. However, further examination of this relation is needed. In addition, PCA results showed that Mini-IPIP6 Agree-

ableness had marginal loadings on both Emotionality and eXtraversion components, but no significant loading on the Agreeableness component. It seems that Mini-IPIP6 Agreeableness content is closer to Emotionality, but also that there is no clear representation of this scale in the HEXACO space.

The most controversial of the obtained results were those related to BHI. Namely, BHI showed poor model fit and lower alphas, although EFA resulted in the expected factor structure with the exception of two items. However, MIC coefficients were appropriate, and more importantly, convergent and discriminant correlations with HEXACO-100 were excellent. So, BHI clearly captured HEXACO dimensions, although the reliabilities of some scales were not satisfactory. The relevance of the alpha in brief scales has been debated, especially in combination with relatively high test-retest stability (De Vries, 2013). However, caution is needed with the use of BHI regarding reliability.

There are several limitations to this study. Firstly, relations between short measures and other full length six-factor measures have not been examined in this study. In order to get a better insight into construct validity, relations with QB6 and Goldberg's 50-item IPIP Big-Five Factor Markers should be investigated. Secondly, for full validation, a predictive validity should be tested via relations with some life and behavior outcomes. Thirdly, due to non-random sampling, the generalizability of the results is limited. However, the sample covers sex and age quotas, which brings an appropriate heterogeneity to the sample. Also, obtained alphas are in the same range as in other studies which were conducted on both student and community samples (e.g., De Vries, 2013; Sibley et al., 2011; Thalmayer et al., 2011). Despite these limitations, this research has shown the advantages and disadvantages of every short six-factor measure. If some recommendations could be made, BHI should be preferred when validity is most important and the HEXACO model is of interest, but with caution. This is the first study to validate BHI in languages other than Dutch, so further validation is warranted.

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## Appendix

Table A

Standardized item loadings and factor covariances for 24QB6, Mini-IPIP6, and BHI models

|     | Standardized item loadings |            |      | Factor covariances |            |     |      |   |      |   |      |
|-----|----------------------------|------------|------|--------------------|------------|-----|------|---|------|---|------|
|     | 24QB6                      | Mini-IPIP6 | BHI  | 24QB6              | Mini-IPIP6 | BHI |      |   |      |   |      |
| H/P | H                          | H          |      | H/P                | ~~         | H   | ~~   | H | ~~   |   |      |
| 5   | .33                        | 6          | -.58 | 6                  | .45        | R   | .05  | N | -.22 | E | .12  |
| 11  | -.39                       | 12         | -.51 | 12                 | -.71       | X   | .14  | X | -.24 | X | .17  |
| 17  | -.41                       | 18         | -.87 | 18                 | -.53       | A   | .59  | A | .33  | A | .54  |
| 23  | .67                        | 24         | -.72 | 24                 | -.51       | C   | .72  | C | .18  | C | .34  |
| R   | N                          | E          |      | O/T                | .07        | O   | .30  | O | .17  |   |      |
| 6   | .70                        | 4          | .74  | 5                  | .31        | R   | ~~   | N | ~~   | E | ~~   |
| 12  | -.48                       | 15         | -.52 | 11                 | -.24       | X   | -.36 | X | -.22 | X | -.39 |
| 18  | .52                        | 16         | .59  | 17*                | -.99       | A   | -.30 | A | -.08 | A | -.22 |
| 24  | -.43                       | 17         | -.50 | 23                 | .15        | C   | -.36 | C | -.35 | C | -.16 |
| X   | X                          | X          |      | O/T                | -.23       | O   | .00  | O | .00  | O | -.02 |
| 3   | .63                        | 1          | .67  | 4                  | -.63       | X   | ~~   | X | ~~   | X | ~~   |
| 9   | .61                        | 7          | -.64 | 10                 | .33        | A   | .24  | A | .15  | A | .23  |
| 15  | -.55                       | 19         | -.76 | 16                 | .58        | C   | .22  | C | .08  | C | .30  |
| 21  | -.19                       | 23         | .82  | 22                 | -.70       | O/T | .40  | O | .03  | O | .21  |
| A   | A                          | A          |      | A                  | ~~         | A   | ~~   | A | ~~   | A | ~~   |
| 2   | .78                        | 2          | .65  | 3                  | -.47       | C   | .41  | C | .23  | C | .22  |
| 8   | .57                        | 8          | -.74 | 9                  | -.57       | O/T | .32  | O | .48  | O | .39  |
| 14  | -.67                       | 14         | .59  | 15                 | .02        | C   | ~~   | C | ~~   | C | ~~   |
| 20  | -.13                       | 20         | -.76 | 21                 | .41        | O/T | .23  | O | .02  | O | .24  |
| C   | C                          | C          |      |                    |            |     |      |   |      |   |      |
| 1   | .68                        | 3          | .53  | 2                  | .56        |     |      |   |      |   |      |
| 7   | .59                        | 10         | .66  | 8                  | -.65       |     |      |   |      |   |      |
| 13  | -.60                       | 11         | -.78 | 14                 | .72        |     |      |   |      |   |      |
| 19  | -.66                       | 22         | -.91 | 20                 | -.50       |     |      |   |      |   |      |
| O/T | O                          | O          |      |                    |            |     |      |   |      |   |      |
| 4   | .71                        | 5          | .51  | 1                  | .57        |     |      |   |      |   |      |
| 10  | -.22                       | 9          | -.69 | 7                  | -.67       |     |      |   |      |   |      |
| 16  | -.35                       | 13         | -.74 | 13                 | .58        |     |      |   |      |   |      |
| 22  | .54                        | 21         | -.76 | 19                 | .52        |     |      |   |      |   |      |

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**POREĐENJE TRI KRATKA INSTRUMENTA  
ŠESTOFAKTORSKIH MODELA**

Cilj ovog istraživanja je validacija srpske adaptacije tri kratka instrumenta šestofaktorskih modela: 24 Upitnik Velikih šest (24 Questionnaire Big Six - 24QB6), Mini-IPIP6 i Kratki HEXACO inventar (Brief HEXACO Inventory - BHI). Pored ovih instrumenta, primenjen je i HEXACO-100 na uzorku od 310 ispitanika (41% muškaraca) iz opšte populacije. Rezultati konfirmatorne faktorske analize pokazuju marginalne indikatore fita za 24QB6 i zadovoljavajuće za Mini-IPIP, ali ne i za BHI. Skale BHI inventara imaju najniže alfa koeficijente pouzdanosti, ali najviše korelacije sa istoimenim HEXACO-100 skalama, što potvrđuje njihovu konvergentnu i diskriminativnu validnost. Validnost skala 24QB6 je potvrđena, osim za Poštenje/Poštovanje pravila, koje ostvaruje značajnu korelaciju i sa Poštenjem-Skromnošću i sa Savesnošću iz HEXACO-100. Skale Mini-IPIP6 instrumenta imaju najviše alfa koeficijente, ali ujedno i najviše prosečne inter-ajtemske korelacije (mera homogenosti), što ukazuje na to da ove skale zahvataju uži domen osobina koje mere. Takođe, validnost skale Prijatnost iz Mini-IPIP6 je ograničena. Generalno, sve tri mere imaju svoje prednosti i mane i autori bi trebalo da odaberu kratki instrument na osnovu toga da li im je važnija validnost ili pouzdanost.

**Ključne reči:** kratki inventar, HEXACO, 24QB6, Mini-IPIP6, BHI

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## SOCIAL RANK STYLES, MACHIAVELLIANISM AND THE ATTITUDE TOWARD CONSPICUOUS CONSUMPTION<sup>2</sup>

Conspicuous consumption describes signalling of one's buying power in order to impress others and secure and/or preserve a favourable place in a social hierarchy. The current study, involving 200 junior and senior high school students from Serbia, examined inclination for lavish spending on brand name clothes in relation to social dominance. Our aim was to examine a predictive relationship between an exploitative interpersonal strategy (marked by Machiavellianism, Leadership, and Ruthless Self-Advancement), and the attitude toward conspicuous consumption. Our respondents with high esteem of power, emanating from the principal position within a group, and prone to Machiavellianism and Ruthless Self-Advancement, had a positive attitude toward conspicuous consumption (an indirect measure of the actual behaviour). Although one's attitude toward conspicuous consumption is likely to be multifaceted, our findings suggest that a positive attitude towards conspicuous consumption may be an accompanying ingredient of the opportunistic and calculating life strategy. The results indicate that conspicuous consumption is most likely embedded in the social ranking processes.

**Keywords:** Social rank styles, Machiavellianism, Attitude toward conspicuous consumption

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Social competition is an inevitable consequence of group living (West–Eberhard, 1979), and it is considered to be a main form of social interaction (Dunbar, 1998), as well as a main driving force of primate (Bates & Byrne, 2015) and hominid brain evolution (Bailey & Geary, 2009). Hierarchical organization of primate social groups warrants that individuals occupying top ranks enjoy primacy in procuring essential resources, such as mates (Cowlshaw & Dunbar, 1991). In order to achieve and protect valued positions in the social hierarchy, humans have developed sophisticated strategies that do not rely on physical attributes such as size and force. For instance, in human societies, power and status are achieved not only through accumulation of wealth, but also through its public display. Thus, a conspicuous consumption (Veblen, 1902) is considered to be an effective strategy for gaining and sustaining the favourable social status and contingent procuring benefits (De Fraja, 2009; Nelissen & Meijers, 2011; Saad, 2007). Indeed, eye-catching display of signals of dominance is an inevitable ingredient of social competition (Johnstone, 1997, 2002). Not surprisingly, Darwin (1871) has been the first to notice that extravagance of outer appearance is usually best explained by pressures of sexual selection.

Recent research (Sundie et al., 2011; Wang & Griskevicius, 2014) demonstrate that conspicuous consumption may be instrumental for gaining advantage over potential mating competition. In the context of intra-sexual rivalry, both women (Wang & Griskevicius, 2014) and men (Griskevicius et al., 2007) use conspicuous consumption to advertise their reproductive superiority over potential competition. Conspicuous consumption seems to be an ubiquitous device for gaining and maintaining a high social rank, as evidenced by its diverse historical instances and cultural practices (Bloch, Rao, & Desai, 2004; Calzi & Corno, 2007; Schoep, 2004; Wisman, 2009; Zuckerman, 2007). Lavish spending on functionally irrelevant items may be a sign of self-centredness and opportunistic and competitive approach to others. However, psychological foundations of conspicuous consumption are not fully understood, and little is known about interrelationships among conspicuous consumption and other expressions of social dominance. We have decided to look at the theoretical overlap among Machiavellianism (as defined by MACH IV; Christie & Geis, 1970), Ruthless Self-Advancement, and Dominant Leadership (as defined by RSPQ; Zuroff, Fournier, Patal, & Leybman, 2010), as well as Leadership as an interpersonal value (as defined by Gordon, 1960), in the context of conspicuous consumption. Our aim has been to examine a predictive relationship between an exploitative interpersonal strategy (marked by Machiavellianism, a high esteem of power, and Ruthless Self-Advancement) and the attitude toward conspicuous consumption.

In their seminal paper, Zuroff and his associates (2010) have approached social dominance from an evolutionary perspective. According to Zuroff et al. (2010), individual differences in preferred strategies for pursuing and defending social dominance (rank) styles are best accounted for by three latent dimensions of their Rank Style with Peers Questionnaire (RSPQ): Dominant Leadership, Coa-

lition Building, and Ruthless Self-Advancement. Dominant Leadership is defined by one's tendency for assuming a guiding role among the peers, overconfidence in promotion of one's ideas, and a dominant initiative when making a final decision about the group actions. Coalition Building is characterized by the tendency to cultivate cooperative coalitions, respect for the opinion of other group members, avoiding confrontation and seeking a compromise. Finally, Ruthless Self-Advancement is typified by readiness to secure a higher social rank through manipulative, cheating and self-serving strategies.

Drawing on Zuroff et al. (2010) study, it seems plausible to explore the connection between individual social rank styles and conspicuous consumption. While it seems plausible to assume that there is a positive relationship between self-serving and opportunistic strategies of social competition and conspicuous consumption, today there is no data to support this claim. The problem of this research is focused on the examination of social ranks dimensions which contribute to the formation of attitudes about conspicuous consumption, as well as on the question of how conspicuous consumption depends on individual differences in the context of Machiavellianism and Leadership.

Since our preliminary and published paper (Velov, Gojković, & Đurić, 2014) indicates that people are rather reluctant to admit practicing conspicuous consumption, we have opted for examining the attitude toward conspicuous consumption (hereinafter ATCC), as an indicator of the actual inclination toward conspicuous consumption. Namely, one could expect different linear associations between ATCC and the three social rank styles, as defined by RSPQ. This has led to our first hypothesis:

H1: There is a positive correlation between ATCC and Ruthless Self-Advancement, as well as between ATCC and Dominant Leadership, but there is no correlation between ATCC and Coalition Building.

In addition, our intention has been to integrate different theoretical perspectives on the self-centred action and its relation with conspicuous consumption. Since Ruthless Self-Advancement is conceptually related to calculated social manipulation (Book, Visser, & Volk, 2015), we have decided to examine theoretical overlap between Machiavellianism (as defined by MACH IV; Christie & Geis, 1970) and Ruthless Self-Advancement (as defined by RSPQ), in the context of conspicuous consumption leading to additional hypothesis:

H2: There is a positive correlation between Machiavellianism and ATCC.

In addition, we have expected that there is a positive correlation between Machiavellianism and Ruthless Self-Advancement, and a negative correlation between Machiavellianism and Coalition Building.

For the same reason, we have decided to look at the theoretical overlap between Dominant Leadership (as defined by RSPQ) and Leadership as an interpersonal value (as defined by Gordon, 1960). For the sake of clarity of our exposition, it is critical to emphasize the difference between the two related but distinctive constructs with similar names: Leadership (as defined by Survey of Interpersonal

Values; Gordon, 1960), and Dominant Leadership (as defined by RSPQ). Leadership as an interpersonal value is mostly saturated with power emanating from the principal position within a group, while Dominant Leadership is expressed as a disposition to assume a guiding role in a conscientiousness, non-neurotic, extrovert, and non-avoidant manner (Zuroff et al., 2010). We believe that it would be interesting to examine a predictive value of the interpersonal value Leadership on ATCC, and examine its correlations with different social rank styles. Consequently, we have put forward a new set of hypotheses:

H3: There is a positive correlation between Leadership (defined as an interpersonal value) and ATCC.

Nevertheless, we expected that there was a positive correlation between Leadership (defined as an interpersonal value) and Dominant Leadership (as defined by RSPQ), as well as Ruthless Self-Advancement, and a negative correlation between Leadership and Coalition Building.

As the final and encompassing test of our approach to psychological underpinnings of the relationship between ATCC and social dominance, we examined joint predictive power of the three RSPQ-defined social rank styles, Machiavellianism, and the interpersonal value Leadership on ATCC. This reasoning was summarized in:

H4: There is a statistically significant linear combination of predictor variables (the three RSPQ-defined social rank styles, Machiavellianism, and Leadership) explaining a substantial proportion of total ATCC variance, and exceeding the predicting power of every individual predictor variable.

In short, we assumed that ATCC had substantial parts of common variance with an optimal linear combination of the three social rank styles, Machiavellianism, and Leadership, and empirically tested this proposition. Establishing the aforementioned variables as predictors of ATCC would help us to further elucidate conspicuous consumption as a strategy for gaining and maintaining the social dominance status.

Finally, we assumed that:

H5: The original latent structure of the RSPQ scale is replicable on a Serbian adolescent sample.

## Method

### Sample and procedure

The study involved 107 male and 93 female junior and senior high school students (mean age 16) from six different Serbian schools. The examination was carried out in groups, in the classrooms of the selected schools. The respondents were familiar with the structure of the questionnaire, the purpose of research, and guaranteed anonymity.

After coding, the data were analyzed by standard statistical procedures. Reliability of scales was assessed by use of the Cronbach's alpha coefficient. The Kaiser–Meyer–Olkin measure of sampling adequacy (KMO) was used to compare observed and partial correlation coefficients, and the Bartlett's test of sphericity was used to check for variable independence in conjunction with the ensuing exploratory factor analysis, involving method of principal components followed by Varimax rotation. Bivariate linear associations among constructs and their latent structures were analysed by Pearson's index of linear correlation. Predictive power of Machiavellianism, Social competition, and Leadership relative to ATCC, were examined by stepwise multiple regression.

## Instruments

**Attitude toward Conspicuous Consumption Scale (ATCC–55: Mitić, Velov, & Đurić, 2011).** Attitude toward conspicuous consumption was evaluated by use of our standard 5–point Likert–type scale ATCC–55. All 55 items consisted of statements related to purchase and wearing of brand name clothes, a manifestation of conspicuous consumption that was familiar to our sample. The examples of representative items were the following: “People respect you more when you wear branded clothing”, “Branded clothing raises confidence of people wearing it”, and “Wearing branded clothing tells a good financial status”. The rationales for using brand name clothes was a manifestation of conspicuous consumption among Serbian high school students, and we followed the rationale for formulating all statements in the third person given by Velov et al. (2014).

**Machiavellianism Scale (MACH-IV: Christie & Geis, 1970).** Machiavellianism was assessed by MACH-IV consisting of twenty 5–point Likert type items. Since the factor analysis of MACH-IV yielded two independent factors attracting Machiavellian–view affirmative items, and two independent factors attracting Machiavellian–view negative items. Thus, the composite score on Machiavellianism was obtained by inversely recoding the two factors attracting Machiavellian–view negative items.

**Rank Style with Peers Questionnaire (RSPQ: Zuroff et al., 2010).** Social competition was evaluated with 17–item 5–point Likert scale, intended to measure three individual strategies in the social dominance domain: Dominant Leadership ( $m = 5$ ), Coalition Building ( $m = 7$ ), and Ruthless Self–Advancement ( $m = 5$ ).

**Survey of Interpersonal Values (SIV: Gordon, 1960).** Leadership as an interpersonal value was assessed by a 15–item subscale of Gordon's Survey of Interpersonal Values (SIV; Gordon, 1960; Majstorović, 1998), a self–report designed to measure values involving the individual's relationships to other people, or their relationships to him/her across six scales – Support, Conformity, Recognition, Independence, Benevolence, and Leadership. Subscale Leadership used in the research was one-dimensional. A number of studies confirmed its stable structure, which allowed the possibility to use an individual subscale as one-dimensional,

without additional factor analyses. Reliability of all scales was assessed by use of Cronbach's alpha coefficient, which was presented in Table 2.

## Results

### Latent structure of Rank Style with Peers Questionnaire (RSPQ)

The factor analysis of RSPQ extracted three latent dimensions accounting for 50.7% of total variance (Table 1). Rotated Component Matrix was attached to Appendix (Table A). The Guttman-Kaiser Criterion (Eigenvalue > 2), followed by the Scree test criteria, was used for the number of factors to be extracted. When all communalities were high, the two eigenvalue rules performed quite well in terms of identifying the correct number of factors, when there were three or less factors (Pearson, Mundfrom, & Piccone, 2013). The factor analysis was used to display the underlying theoretical structure of the phenomena, as well as to explore factor distribution on the domestic population. As we assumed and wanted to confirm, the original latent structure of the RSPQ scale was replicable on a Serbian adolescent sample.

Table 1  
*Latent structure of RSPQ scale*

| Latent factors            | Eigenvalue | % of explained variance | Content coalescing items pointing at disposition to   |
|---------------------------|------------|-------------------------|---|
| Coalition Building        | 3.79       | 22.30                   | cultivate cooperation and partnership, reverence of suggestions made by others, seeking for compromise when different views occur |
| Dominant Leadership       | 2.75       | 16.18                   | strive for leadership in a self-assured and self-promoting fashion  |
| Ruthless Self-Advancement | 2.08       | 12.22                   | spread and protect one's interests by any accessible means; disrespecting all moral norms, if needed                              |

### Descriptive statistics

All scales used in this study had satisfactory reliability, as summarized in Table 2. This finding justified the use of scores on ATCC-55, MACH-IV, Leadership as an interpersonal value, Dominant Leadership, Coalition Building, and Ruthless Self-Promotion in the ensuing statistical analyses. There were some expected de-



viations from the normal distribution on the subscale Coalition Building, but it was certainly excluded from the predictive model in further analyses.

Table 2  
*Descriptive statistics of the scales*

| Scale                   | $\alpha$ | $M$  | $SD$ | $Sk$  | $Ku$  |
|-------------------------|----------|------|------|-------|-------|
| ATCC-55                 | .93      | 3.06 | 0.54 | -0.33 | 0.34  |
| MACH-IV                 | .71      | 2.98 | 0.33 | 0.30  | 0.26  |
| RSPQ                    |          | 3.61 | 0.43 | -0.09 | 0.22  |
| Dominant Leadership     | .75      | 3.26 | 0.90 | -0.17 | -0.35 |
| Coalition Building      | .83      | 4.27 | 0.63 | -1.05 | 1.39  |
| Ruthless Self-Promotion | .71      | 2.71 | 0.90 | 0.2   | -0.42 |
| Leadership (SIV)        | .92      | 2.30 | 0.68 | 0.42  | -0.36 |

*Note.*  $\alpha$  - Cronbach's alpha coefficient,  $M$  - mean,  $SD$  - standard deviation,  $Sk$  - skewness,  $Ku$  - kurtosis.

### Linear associations among scales scores

Table 3 summarizes Pearson product moment correlations between the composite score on Machiavellianism, Leadership, total score on ATCC, and three different rank styles.

Table 3  
*Linear association between ATCC, Machiavellianism, rank styles, and Leadership*

| Scale            | ATCC                          |       |
|------------------|-------------------------------|-------|
| Machiavellianism | .29**                         |       |
| Rank styles      | I Coalition Building          | -.11  |
|                  | II Dominant Leadership        | .18** |
|                  | III Ruthless Self-Advancement | .40** |
| Leadership (SIV) | .33**                         |       |

*Note.*  $r$  - Pearson's product moment correlation.

\*\*  $p < .01$ .

Bivariate correlation analysis revealed statistically significant linear associations between the total score on Ruthless Self-Advancement and ATCC-55, and no statistically significant correlation between the total score on Coalition Building and ATCC-55. Contrary to our expectations summarized in H1, there was no statistically significant correlation between the total score on Dominant Leadership

and ATCC–55, following adjustment for Bonferroni correction. In compliance with our H2 and H3, there were statistically significant correlations between the total score on ATCC–55 and the total scores on MACH–IV and Leadership, respectively.

Machiavellianism negatively correlated with Coalition Building, and positively correlated with Ruthless Self–Advancement, in line with our H2, respectively. In line with hypotheses H3, Leadership positively correlated with Ruthless Self–Advancement and Dominant Leadership, but negatively correlated with Coalition Building (Table 4).

Table 4

*Linear association between Leadership, Machiavellianism and social rank types*

|                  | Coalition Building | Dominant Leadership | Ruthless Self–Advancement |
|------------------|--------------------|---------------------|---------------------------|
| Leadership (SIV) | –.22**             | .44**               | .27**                     |
| Machiavellianism | –.19**             | .14                 | .45**                     |

Note. \*\*  $p < .01$ .

This indicates that a high esteem of power predicts preference for self-centred styles of social competition. Conversely, a low esteem of power and low scores on MACH–IV have been associated with inclination toward cooperative social strategy and partnership. In addition, a significant positive correlation between Machiavellianism and Ruthless Self–Advancement have had an additional support for the notion that people scoring high on MACH–IV are prone to advance their own benefits, not being disturbed by universal moral standards.

### Prediction model of ATCC

The answer to our main question (whether Ruthless Self–Advancement, Machiavellianism, and Leadership predict ATCC) was obtained by means of stepwise multiple regression. The criterion variable was defined as the total score on ATCC–55. Predictors were total scores on Machiavellianism, Leadership, and each of the three social rank styles, as defined by RSPQ. The analysis was performed in three steps resulting in a multiple regression coefficient,  $R = .51$ ,  $F(3, 196) = 23.12$ ,  $p < .001$ . The predictors were accepted in the model in the following order: Ruthless Self–Advancement, Leadership, and Machiavellianism (Table 5). Coefficient of multiple determination indicated that predictor variables and the criterion variable had approximately 26% of variance in common. The variables excluded from the model were Dominant Leadership and Coalition Building (Table B in Appendix).

Table 5  
*Partial contribution of individual predictors*

| Model |                           | Non-standardized coefficients |           | Standardized coefficient | <i>t</i> | Correlations |         |              |
|-------|---------------------------|-------------------------------|-----------|--------------------------|----------|--------------|---------|--------------|
|       |                           | <i>B</i>                      | <i>SE</i> | $\beta$                  |          | Zero-order   | Partial | Semi-partial |
| 1     | Ruthless Self-Advancement | 0.40                          | 0.07      | .40                      | 6.14**   | .40          | .40     | .40          |
| 2     | Ruthless Self-Advancement | 0.34                          | 0.07      | .34                      | 5.11**   | .40          | .34     | .32          |
|       | Leadership                | 0.02                          | 0.01      | .24                      | 3.62**   | .33          | .25     | .23          |
| 3     | Ruthless Self-Advancement | 0.28                          | 0.07      | .28                      | 4.22**   | .40          | .29     | .26          |
|       | Leadership                | 0.03                          | 0.01      | .26                      | 4.03**   | .33          | .28     | .25          |
|       | Machiavellianism          | 0.11                          | 0.03      | .23                      | 3.60**   | .29          | .25     | .22          |

Note. *t* – value of *t*-test.

\*\*  $p < .01$ .

## Discussion

### Prediction model of ATCC

The results supported our main assumption that ATCC was predicted by Leadership (operationalized as an interpersonal value by Gordon, 1960) and the two manipulative and self-serving strategies for gaining and maintaining social dominance status: Ruthless Self-Advancement (as operationalized by Zuroff et al., 2010) and Machiavellianism (as operationalized by Christie & Geis, 1970). There were also significant zero-order correlations between Leadership and ATCC, and between Machiavellianism and ATCC, directing these two predictor variables in the multiple regression model. Thus, we concluded that people who were primarily guided by their own interest and leadership-generated power had a more positive attitude towards lavish spending, relative to people who were striving toward team work and collaboration.

In spite of their statistically significant covariance, the linear combination of Leadership, Ruthless Self-Advancement, and Machiavellianism exceeded the predicting power of every individual predictor variable. All three statistically significant predictors provided a positive contribution to the regression equation, with Ruthless Self-Advancement having the greatest impact on the regression slope. A shared vari-

ance among these three predictors might point at their common psychological foundation. On the other hand, only Leadership, but not the Dominant Leadership, entered the model. We take it as an indication of their congruence, and also as an indication that in the context of conspicuous consumption power emanating from the principal position within a group, there is a more relevant dimension of leadership than a disposition toward affirmative dominance. Thus, egotistic (Ruthless Self-Advancement and Machiavellianism) and opportunistic (a high esteem of power as exemplified in Leadership) traits go hand in hand with the positive attitude toward conspicuous consumption. This finding suggests that use of conspicuous consumption for gaining advantage in the social competition may be typical, but certainly not limited to socially toxic personalities (Sundie et al., 2011; Wang & Griskevicius, 2014).

### Linear associations among scales scores

This study has demonstrated significant correlations between Machiavellianism and Ruthless Self-Advancement, and between Machiavellianism and Leadership. Machiavellianism, psychopathy, and narcissism usually go hand in hand constituting a psychological profile known as the Dark Triad (Paulhus & Williams, 2002). Although one's ATCC is likely to be multifaceted, our findings suggest that positive ATCC may be an accompanying ingredient of the opportunistic and calculating life strategy. The protean nature of the Dark Triad (Jonason & Webster, 2012) may explain why people are rather hesitant to directly disclose their personal inclination toward conspicuous consumption.

Machiavellianism has been related to numerous personality traits and behaviours (Furnham, Richards, & Paulhus 2013; Jones & Paulhus, 2009; Lee & Ashton, 2014). Nevertheless, there is not much information on how Machiavellianism affects the consumer behaviour (Al-Khatib, D'Auria Stanton, & Rawwas, 2005; Bodey & Grace, 2007; Egan, Hughes, & Palmer, 2015; Shen & Dickson, 2001; Wirtz & Kum, 2004). Our finding about a relation between Machiavellianism and ATCC is in accordance with the study by Lee et al. (2013), which have presented evidence that the Dark Triad composite score predicts materialism and conspicuous consumption.

As predicted, there has been a significant correlation between Ruthless Self-Advancement and Machiavellianism. This is in line with Zuroff et al. (2010) who have also reported a moderate positive correlation between Machiavellianism and Ruthless self-advancement. Nevertheless, both variables have been included in the multiple regression model demonstrating their non-redundant individual contributions. It seems that Machiavellianism and Ruthless Self-Advancement have some common qualities, yet they are different psychological constructs as evidenced by the ratio of their unique and their common variance. So far, Ruthless-Self Advancement has been related to different measures of personality and adjustment, and in organizational and clinical psychology (Zuroff et al., 2010). This is the first demonstration of its predictive power in the consumer behaviour domain, demonstrating the instrumentality of this type of consumer behaviour for gaining of a desired

social status. People with little or no concerns for others (high Machiavellianism, and those prone to Ruthless–Self Advancement who are at the same time fascinated with power) will use conspicuous consumption as another self-promoting tool. Given the increasingly central role of consumption in contemporary life, conspicuous consumption may be one of many manoeuvres complementing multiple manipulation tactics (Jonason & Webster, 2012), utilized by those who are inclined to exploitative style of personal relationships in their pursuit of selfish gains.

There are still few findings in the literature on the impact of brand and psychological antecedents on conspicuous consumption. While Shukla (2008) has focused on the context of automobile buying behaviour among middle age consumers (40–60) within the region of the South-East of the UK, there is also a domestic experimental research among young population on the impact of branded clothing on the first impression (Mitić, Petrović, & Đurić, 2017). Both research have emphasized the brand significance to perception, attitude and behaviour.

### Future research and practical implications

The strength of our conclusions was limited by constraints imposed by our sample, as is the case with most correlational studies in psychology. We used an *ad hoc* sample of Serbian youth, and scales that were translated from their English original (RSPQ, MACH–IV, Survey of Interpersonal Values). Moreover, ATCC was assessed only through respondents' attitude toward brand name clothes. Any change with respect to sample and/or the scales that were used in the study could have resulted in different outcomes.

Nevertheless, the main shortcoming of the present study comes from the fact that we have studied ATCC which is only an indirect indication of the actual behaviour of conspicuous consumption. Given that attitudes could be treated as proxies for behaviour (Ajzen & Gilbert, 2008), and that ATCC and conspicuous consumption are not identical concepts, future research may benefit from examining the empirical relation between the two.

Other issues that need to be addressed in future studies involve psychological delineation between conspicuous and compulsory consumption, and better understanding of the relationship between narcissism and ATCC. Our recent data (Mitić et al., 2017) suggest that positive ATCC is strongly related to all three dimensions of the Dark Triad.

This study is the first to show the link between ATCC and highly egotistical social strategies. Although far from conclusive, this psychometric evidence is congruent with the idea that conspicuous consumption goes hand in hand with other essentially antisocial behaviours. The recent paper (Velov et al., 2014) has reported predictive relationship between materialism (a strong conviction that possession and accumulation of material objects is the key for happiness and social affirmation) and ATCC. Taken together, these findings extend our understanding of psychological foundations of conspicuous consumption.

Apparently unreasonable purchasing decisions based on motivational underpinnings of conspicuous consumption have multiple implications for economics, marketing, and sociobiology, and throw a somewhat different light on rationale consumer behaviour. Our study shows that the attitude toward conspicuous consumption is associated with reckless, misleading and competitive interpersonal strategies. At the face value, these deceiving strategies are self-defeating, since they will likely be unmasked and retaliated against by the evolved cheater detection mechanisms (Axelrod & Hamilton, 1981; Fehr & Gächter, 2002; Suzuki, Honma, & Suga 2013). Nevertheless, these strategies have successful ensuing reproductive consequences (Jonason, Li, Webster, & Schmitt, 2009), which is probably why they have been reinforced and widely promoted (Gentile, Campbell, & Twenge 2014). This may be helpful for further understanding of the lure of luxury, leading us a bit closer to the answer to the timeless question: What drives men and women to buy more than they will ever need? Approaching conspicuous consumption from an evolutionary viewpoint provides it with both empirically (Griskevicius et al., 2007, Sundie et al., 2011) and theoretically (Saad, 2007; Zahavi, 1975) better founded and much broader interpretative framework, relative to the interpretative framework based on the assumed congruency between the brand-user self-image and the brand image itself (O’Cass & Frost, 2002).

## Conclusion

In accordance with the stated aims and assumptions of this research, the data have confirmed the existence of a linear combination of selected predictor variables that participate in the construction of the attitude toward conspicuous consumption: Ruthless Self-Advancement, Machiavellianism, and Leadership. This study is the first to show the link between ATCC and highly egotistical social strategies. Positive ATCC is most likely brought into being by an elaborate competitive approach to others, which includes misleading and deceiving interpersonal strategies. This study has demonstrated significant correlations between Machiavellianism and Ruthless Self-Advancement, and between Machiavellianism and Leadership. Another significant contribution is a complete replication of the original latent structure of Rank Style with Peers Questionnaire (RSPQ) on a Serbian adolescent sample. So far, Ruthless-Self Advancement has been related to different measures of personality and adjustment, and in organizational and clinical psychology. However, this is the first demonstration of its predictive power in the consumer behaviour domain, demonstrating the instrumentality of this type of consumer behaviour for gaining of a desired social status. People with little or no concerns for others (a high Machiavellianism, and those prone to Ruthless-Self Advancement who are at the same time fascinated with power) will use conspicuous consumption as another self-promoting tool.

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## Appendix

Table A  
RSPQ – Rotated Component Matrix

| Item  | Component  |            |            |
|---|------------|------------|------------|
|   | F1         | F2         | F3         |
| rs8 Trudim se da uzmem u obzir gledišta drugih ljudi.   | <b>.77</b> | .06        | -.01       |
| rs7 Trudim se da saslušam predloge drugih ljudi.  | <b>.77</b> | .02        | -.16       |
| rs11 Rado saradujem.  | <b>.74</b> | -.04       | -.01       |
| rs9 Cenim timski rad.   | <b>.67</b> | .11        | -.07       |
| rs6 Cenim i rado ću pohvaliti zalaganja drugih ljudi.   | <b>.66</b> | .26        | -.17       |
| rs10 Kada dođe do nesuglasica, zalažem se za stvaranje kompromisa između mojih i tuđih predloga.                        | <b>.65</b> | .06        | .05        |
| rs12 Pre nego što donesem odluku volim da čujem mnoga različita mišljenja.  | <b>.64</b> | -.13       | .01        |
| rs3 Često u razgovoru namećem svoje mišljenje, stavove i ciljeve.   | -.09       | <b>.80</b> | .10        |
| rs2 Često preuzimam inicijativu i dajem predloge.   | .08        | <b>.80</b> | -.09       |
| rs1 Osećam se prijatno kao vođa.  | -.06       | <b>.79</b> | -.08       |
| rs4 U ključnom trenutku, spreman sam da donesem konačnu odluku u ime igrupe kako bi se nešto uradilo.                   | .13        | <b>.58</b> | .14        |
| rs5 Vrlo sam samopouzdan kada govorim o svojim zaslugama.   | .12        | <b>.45</b> | .22        |
| rs14 Smatram da je nekad neophodno da prikrijem svoje stvarne namere kako bih unapredio svoj društveni položaj.         | -.14       | .06        | <b>.73</b> |
| rs16 Ambiciozna osoba ne može da sebi priušti preteranu odanost drugim ljudima.   | .06        | .13        | <b>.73</b> |
| rs13 Ponekad, ako želiš da napreduješ - mislim da je neophodno da zaboraviš na obećanja i obaveze prema drugim ljudima. | -.28       | -.14       | <b>.67</b> |
| rs15 Učiniću sve što je potrebno da bih napredovao.   | -.01       | .03        | <b>.63</b> |
| rs17 Takmičim se onda kada mislim da će ishod tog takmičenja biti povoljan za mene.                                     | .04        | .08        | <b>.61</b> |

*Note.* Extraction method: Principal component analysis. Rotation method: Varimax with Kaiser normalization.

Table B  
*Variables excluded from model prediction*

| Model |                     | $\beta$ | $t$    | Partial Correlation | Collinearity Tolerance |
|-------|---------------------|---------|--------|---------------------|------------------------|
| 1     | Machiavellianism    | .21(a)  | 3.14** | .22                 | .95                    |
|       | Coalition Building  | -.11(a) | -1.67  | -.12                | 1.00                   |
|       | Dominant Leadership | .18(a)  | 2.78** | .19                 | 1.00                   |
|       | Leadership          | .24(a)  | 3.62** | .25                 | .93                    |
| 2     | Machiavellianism    | .23(b)  | 3.60** | .25                 | .94                    |
|       | Coalition Building  | -.06(b) | -.89   | -.06                | .95                    |
|       | Dominant Leadership | .09(b)  | 1.31   | .09                 | .79                    |
| 3     | Coalition Building  | -.10(c) | -1.63  | -.12                | .91                    |
|       | Dominant Leadership | .07(c)  | .93    | .07                 | .78                    |

*Note.*  $\beta$  – standardized regression coefficient,  $t$  - value of  $t$ -test.

\*\*  $p < .01$ .

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## STILOVI SOCIJALNE KOMPETENCIJE, MAKIJAVELIZAM I STAVOVI PREMA UPADLJIVOJ POTROŠNJI

Upadljiva potrošnja se obično definiše kao ponašanje kojim osoba prikazuje svoju kupovnu moć sa namerom da zadivi druge i da zadrži i/ili osvoji privilegovane položaje u društvenoj hijerarhiji. Ovo istraživanje je sprovedeno na uzorku od 200 srednjoškolaca (107 muškog pola) iz Srbije, sa namerom da se ispita povezanost između sklonosti ka luksuznoj potrošnji i stilova socijalne dominacije kod mladih. Cilj ovog istraživanja je provera veličine doprinosa koristoljubivih interpersonalnih strategija u predikciji varijanse stava prema upadljivoj potrošnji. Ispitanici sa visokom težnjom ka moći, u vidu zauzimanja rukovodećih položaja u grupi, skloni makijavelizmu i bezobzirnoj samopromociji, imali su pozitivniji stav prema upadljivoj potrošnji (indirektnoj meri samog ponašanja). Iako stav prema upadljivoj potrošnji verovatno poseduje različite izvore i funkcije, naši nalazi ukazuju da je pozitivan stav prema upadljivoj potrošnji pratilac oportunističkih i proračunatih životnih strategija, i da je kao takav sastavni deo strategija socijalne kompeticije.

**Ključne reči:** stilovi socijalne kompeticije, makijavelizam, stav prema upadljivoj potrošnji



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**VALIDACIJA KOEFICIJENTA IZUZETNOSTI  
U PROCENI LIKOVNIH PRODUKATA**

U radu su testirane validnost i pouzdanost novog načina merenja kreativnosti produkata, putem konstruisanja koeficijenata izuzetnosti i kreativnosti. Proverena je preciznost merenja, kao i opravdanost primene koeficijenata u proceni likovnih produkata, uz poređenje sa rezultatima izvedenim iz konsenzualne tehnike procene (CAT). Postupak konstrukcije obuhvata dva koraka: 1) kategorizaciju kreativnih produkata po sličnosti, uz proveru njihove intencionalnosti, nakon čega sledi 2) izračunavanje koeficijenata izuzetnosti kao mere originalnosti pojedinačnih odgovora (količnika broja 1 i broja ispitanika koji su dali isti odgovor), i koeficijenta kreativnosti (količnika dobijenih i mogućih odgovora na nivou varijable). Validnost i pouzdanost koeficijenata izuzetnosti testirane su uz učešće 53 studenta, podeljenih u dva poduzorka: umetnička i opšta studentska populacija. Svaki student je imao zadatak da na osnovu apstraktnog stimulusa napravi svoj crtež. Potom je kreativnost njihovih crteža izmerena koeficijentima, kao i konsenzualnom tehnikom procene (Consensual Assessment Technique - CAT). Razlike u kreativnosti između umetničke i opšte studentske populacije ukazuju na diskriminativnost i kriterijumsku validnost koeficijenata. Pozitivna i statistički značajna korelacija između ekspertskih procena i koeficijenata govori u prilog konvergentne validnosti. Nalazi sugerišu da konstruisani koeficijenti omogućuju precizno i objektivno procenjivanje likovnih produkata podjednako kao i CAT, pritom su daleko dostupniji u uslovima ograničenih resursa, te se primena već sada čini opravdanom.

**Ključne reči:** kreativnost, likovna produkcija, konstrukcija koeficijenta, validnost, pouzdanost

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Merenje kreativnosti izazov je srazmeran složenosti samog predmeta istraživanja, te se i pristupi znatno razlikuju. Pojedini autori smatraju da se u zavisnosti od načina merenja mogu razlikovati procena kreativnosti ličnosti, procesa i produkta (Glăveanu, 2012). Ipak, savremena istraživačka praksa vezuje se samo za dve tačke procesa: prva je njegov početak, odnosno procena kreativnih sposobnosti, a druga je kraj, odnosno procena produkta koji posredno može pružiti informacije o procesu i kontekstualnim uticajima.

Od kada je Guilford (1950, 1967) ponudio model strukture ljudskog intelekta i usmerio pažnju naučne javnosti na merenje sposobnosti koje leže u osnovi kreativnosti, među mernim instrumentima za procenu kreativnog potencijala dominiraju testovi divergentnog mišljenja (Long, 2014; Thysa, Sabbec, & De Herta, 2014; Zeng, Proctor, & Salvendy, 2011). Uz kasnije razrade Guilfordovog modela (Torrance, 1984, 1990, 1998) omogućena je kvantifikacija dobijenih podataka koji se odnose na: fluentnost (broj svih dobijenih odgovora ispitanika), fleksibilnost (broj korišćenih kategorija u produkovanim rešenjima), originalnost (učestalost pojedinačnih odgovora unutar referentne grupe) i elaboraciju (broj detalja kojim se određeno rešenje opisuje). Dalje provere pokazale su da se kreativno mišljenje može objasniti manjim brojem faktora (Bart, Hokanson, & Can, 2017; Kim, 2006; Kim, Cramond, & Bandalos, 2006), jer se elaboracija često isključuje kao sposobnost koja leži u osnovi divergentnog mišljenja, dok fluentnost, fleksibilnost i originalnost u osnovi imaju istu sposobnost (Runco, 1999). Čini se da pitanje strukture kreativnog mišljenja i dalje ostaje otvoreno (Bart et al., 2017), mada je psihometrijski pristup jasno pokazao kakve su prednosti kvantifikacije u prevazilažnju subjektivnosti i varijabilnosti eksternih procena.

Nažalost, još uvek ne postoje ubedljivi dokazi validnosti i pouzdanosti testova divergentnog mišljenja, jer nalazi nisu konzistentni (Davis, 1989; Hocevar & Bachelor, 1989; Kaufman, Plucker, & Baer, 2008; Plucker & Makel, 2010; Plucker & Runco, 1998; Runco, 1991, 1999; Runco, Okuda, & Thurston, 1987). Potvrđena je prediktivna i simultana validnost merenja (Hong, Milgram, & Gorsky, 1995; Milgram & Hong, 1993; Okuda, Runco, & Berger, 1991; Plucker, 1999; Sawyers & Canestaro, 1989), delimično i diskriminativna validnost (Kaufman et al., 2008; Plucker & Makel, 2010), ali je pitanje konvergentne validnosti sasvim zanemareno (Plucker, Qian, & Schmalensee, 2014). Osim toga, testovi divergentnog mišljenja uzimaju u obzir samo kriterijum novine, odnosno originalnosti, dok se funkcionalnost, odnosno celishodnost odgovora, kao drugi kriterijum kreativnosti oko kojeg postoji konsenzus među savremenim istraživačima, takođe zanemaruje (Sternberg & Lubart, 1996; Zeng et al., 2011).

Javlja se i drugi problemi. Samo merenje zasniva se na proceni potencijala bez razmatranja strukture i dinamike kreativnog procesa, kao i ishoda. Pritom se potencijal procenjuje na osnovu rešavanja precizno definisanih zadataka, što sam postupak čini upitnim, jer je ustanovljeno da je otkrivanje i definisanje problema važan aspekt kreativnog čina (Amabile, 1996; Einstein & Infelf, 1938; Getzels & Csiksyentmihalyi, 1976; Mandić & Ristić, 2013; Mumford, Reiter-Palmon, & Red-



mond, 1994; Okuda et al., 1991; Ristić, 2010; Wakefield, 1991). U umetničkim i naučnim disciplinama zadaci su vrlo specifični, kao i sami produkti (Plucker & Runco, 1998; Proctor & Van Zandt, 2008), proces zahteva određen stepen ekspertize (Smith, Ward, & Finke, 1995; Weisberg, 2006), te se ishodi ne mogu izjednačiti sa rezultatima na testovima divergentnog mišljenja (Zeng et al., 2011). Usled manjka ekološke validnosti, merenje kreativnosti na osnovu procene opštih sposobnosti nije opravdano u istraživanjima procesa i produkata koji su vezani za specifične domene (Feldhusen & Goh, 1995; Mansfield, Busse, & Krepelka, 1978; Okuda et al., 1991).

Drugačiji pristup merenja kreativnih sposobnosti vezan je za tehnike supervizijske i vršnjačke procene, kao i za samoprocene (Reiter-Palmon, Robinson-Morrall, Kaufman, & Santo, 2012). One otkrivaju posebna ograničenja među kojima su: subjektivnost pri proceni kreativnog postignuća, socijalno poželjni odgovori, kao i nepreciznost indikatora kreativnosti koji se svode na stepen motivacije i uključenosti u produktivne aktivnosti, bez obzira na ishode (Heidemeier & Moser, 2009). Poređenje sa drugim merama kreativnosti otkriva manjak konvergentne validnosti, zbog čega treba biti krajnje oprezan prilikom tumačenja rezultata dobijenih u postupku samoprocene (Priest, 2006; Reiter-Palmon et al., 2012).

Merenje ishoda, sa druge strane, najčešće se zasniva na postupku konsenzualne tehnike procene (Consensual Assessment Technique - CAT). Ovaj postupak pretpostavlja angažovanje nezavisnih eksperata koji su dobro upoznati sa domenom, i koji bez prethodne pripreme i uputstva procenjuju kreativnost produkata (Amabile, 1996). Merenje se smatra validnim ako postoji visok stepen intersubjektivne saglasnosti nezavisnih procenjivača, što može biti provereno analizom relijabilnosti. CAT pristup nije ograničen određenom teorijom kreativnosti, i omogućuje istraživanja procesa kroz procenu produkata koji verno odražavaju stvaralačke uslove, kao i zahteve specifičnih disciplina. Stoga se CAT ponekad naziva „zlatnim standardom” u merenju kreativnosti (Baer & McKool, 2014; Kaufman et al., 2010), mada su evidentirane brojne teškoće u njegovoj primeni. Pre svega, CAT zahteva angažovanje više eksperata iz određene oblasti (Amabile, 1996; Kaufman & Baer, 2012), što nije uvek lako obezbediti iz ekonomskih razloga (Hass, 2013). Nadalje, to može biti dugačak i zamoran postupak za procenjivače, a pritom procene ostaju subjektivne, i uvek delimično pod uticajem interferirajućih varijabli, ličnih preferencija i sl., zbog čega se dešava da istraživači prilikom obrade redukuju prvobitni uzorak kako bi postigli zadovoljavajući stepen intersubjektivne saglasnosti (Milošević & Ristić, 2016). Alternativno, mogu se angažovati „kvazieksperti”, odnosno daroviti početnici, ili pak potpuno naivni subjekti, ali je pokazano da njihovo uključivanje značajno umanjuje validnost procena (Amabile, 1996; Kaufman & Baer, 2012; Kaufman, Baer, & Cole, 2009; Kaufman, Baer, Cole, & Sexton, 2008). Ovo posebno dolazi do izražaja kada se procenjuju produkti višeg stepena složenosti (Galati, 2015).

Upitno je može li egzaktnost i efikasnost psihometrijskog pristupa biti sačuvana u proceni kreativnog produkta, ali tako da se merenje zasniva na kriterijumi-

ma koje savremeni istraživači prepoznaju kao ključne u razumevanju kreativnosti. Kako je već pomenuto, prvi kriterijum se odnosi na novinu, na produkcovanje originalnog odgovora i procenu učestalosti u okviru referentne grupe, dok se drugi kriterijum odnosi na funkcionalnost (Diedrich, Benedek, Jauk, & Neubauer, 2015; Plucker & Beghetto, 2004; Ristić, Škorc, & Mandić, 2016; Sharma & Rastogi, 2009; Sternberg, Grigorenko, & Singer, 2004). Savremeni autori ga različito imenuju, te navode termine kao što su celishodnost, podesnost, korisnost i primenljivost, u nameri da označe vrednost koju procenjivani produkt ima u odnosu na sopstvenu namenu, što omogućuje da se bizarne ideje, iako retke i ponekad krajnje neobične, razlikuju od kreativnih (Sharma & Rastogi, 2009). Međutim, dosadašnje studije potvrđuju da je novina pouzdaniji prediktor kreativnosti od funkcionalnosti, odnosno korisnosti (Runco & Charles, 1993), te se potonja može označiti kao kriterijum drugog reda koji služi da razdvoji smislene od besmislenih i bizarnih ideja među već visoko inovativnim odgovorima (Diedrich et al. 2015). Kao mogući odgovor na ovaj problem Vajsber predlaže redefiniciju kreativnosti kao intencionalne novine, što objedinjuje i znatno olakšava primenu kriterijuma u različitim domenima i disciplinama (Weisberg, 2015).

## Postupak konstrukcije i provera koeficijenata

Na osnovu Vajsbergove reformulacije kriterijuma i psihometrijskih iskustava, nedavno je predložen nov način procene produkata konstrukcijom koeficijenata kreativnosti i izuzetnosti zasnovanih na statističkoj proceni originalnosti koja je relativna, i odnosi se na učestalost sličnih odgovora u uzorku ispitanika (Milošević i Ristić, 2016, 2017; Ristić i Milošević, 2017). Sam postupak konstrukcije obuhvata dva koraka.

**Korak 1: kategorizacija odgovora.** Najpre se svi odgovori ispitanika, odnosno kreativni produkti nastali na osnovu zadatka heurističkog tipa, svrstavaju u kategorije po sličnosti, po principima obrade otvorenih upitnika, a zatim se proverava intencionalnost svakog jedinstvenog odgovora: ocenjuje se da li je produkovan kao plod racionalnog mišljenja i smislen odgovor na zadatak, čime predstavlja intencionalnu novinu, ili ne (Weisberg, 2015). Produkt označen kao neintencionalna novina priključuje se najširoj kategoriji sa učestalim odgovorima, ili se ispitanik isključuje iz dalje obrade, ako često daje ovakve odgovore ( $>3x$ ).

**Korak 2: izračunavanje koeficijenata izuzetnosti i kreativnosti.** Nakon kategorizacije, može se izračunati mera originalnosti pojedinačnih odgovora, odnosno koeficijent izuzetnosti, kao količnik broja 1 i broja ispitanika koji su dali isti odgovor:

$$KI_i = 1/m \qquad i = 1, \dots, n$$

..gde je  $KI_i$  – koeficijent izuzetnosti pojedinačnog odgovora ispitanika, a  $m$  – broj ispitanika koji su dali isti odgovor (Milošević i Ristić, 2016, 2017).

Ukoliko su ispitanici odgovarali na više heurističkih zadataka, za svaku varijablu može se izračunati koeficijent kreativnosti, kao količnik dobijenih i mogućih različitih odgovora na nivou varijable:

$$KK = N/n$$

...gde je  $KK$  – koeficijent kreativnosti varijable,  $N$  – broj dobijenih različitih odgovora i  $n$  – broj ispitanika (Milošević i Ristić, 2016, 2017).

Koeficijent kreativnosti varijable jednak je aritmetičkoj sredini koeficijenata izuzetnosti svih ispitanika:

$$M = (KI_1 + KI_2 + \dots + KI_n)/n = KK$$

...gde je  $M$  – aritmetička sredina kreativnosti pojedinačnih odgovora,  $KI_1, KI_2, \dots, KI_n$  – koeficijenti izuzetnosti pojedinačnih odgovora ispitanika,  $n$  – broj ispitanika i  $KK$  – koeficijent kreativnosti varijable (Milošević i Ristić, 2016, 2017).

U prirodnim uslovima, recimo, kada u domenu vizuelnih umetnosti kustos/kinja predloži temu za veliku grupnu izložbu, i pozove deset umetnika/ca da učestvuju, za svaki od kreativnih produkata u tematskoj izložbi mogao bi se izračunati koeficijent izuzetnosti, koji istovremeno predstavlja koeficijent kreativnosti na nivou varijable (u slučaju da postoji samo jedna tema, odnosno samo jedan zadatak). Ako svi daju različite odgovore, onda je koeficijent kreativnosti na nivou varijable maksimalan -  $KK = 10/10 = 1$ . Ako samo jedan umetnik produkuje originalan odgovor, a svi drugi slične, onda je koeficijent kreativnosti za čitavu izložbu daleko niži -  $KK = 2/10 = 0.2$ . U prvom slučaju, koeficijent izuzetnosti za svakog pojedinačnog umetnika je isti -  $KI_i = 1/1 = 1$ , dok je aritmetička sredina koeficijenata izuzetnosti svih umetnika  $M = (1+1\dots1)/10 = 1$ . U drugom slučaju, koeficijent izuzetnosti za umetnika koji je produkovao originalni rad je  $KI_1 = 1/1 = 1$ , a za sve ostale je  $KI_{2,3,\dots,9} = 1/9 = 0.11$ , dok bi aritmetička sredina koeficijenata izuzetnosti za sve njih bila  $M = (1+0.11+0.11+0.11+0.11+0.11+0.11+0.11+0.11)/10 = 0.20$ , i odgovara koeficijentu kreativnosti varijable, odnosno čitave izložbe. Ovo su samo primeri koji pokazuju način izvođenja koeficijenata, mada se retko mogu prepoznati u praksi, i ukazuju na moguće teškoće ili ograničenja samog postupka konstrukcije. Nameće se pitanje mogu li se kreativni produkti tako lako razvrstati u kategorije po sličnosti, i na koju vrstu kreativnih produkata se ovakav način merenja može primeniti.

Rezultati prvih validacionih studija u kojima su studenti različitih usmerenja (umetnici, producenti i opšta populacija) generisali kreativne naslove za 40 vizuelnih stimulusa, ukazuju na dobre metrijske karakteristike konstruisanih koeficijenata (Milošević i Ristić, 2017). Utvrđene razlike između studenata umetnosti i opšte studentske populacije ukazuju na diskriminativnost i kriterijumsku validnost koeficijenata, dok snažna i statistički značajna pozitivna povezanost koeficijenata sa CAT skorovima na nivou prosečnih procena za svakog ispitanika

ka potvrđuje konvergentnu validnost novog načina merenja. Pritom je pokazano da koeficijenti bolje opisuju kreativnost produkata nego nezavisne ekspertske procene - CAT mere odstupaju od normalne raspodele, skorovi su relativno niski i ishod su strogih ekspertskih kriterijuma, svakako subjektivnih i izvedenih na osnovu apsolutnih merila vezanih za zamišljene domete kreativnosti. Sa druge strane, normalna distribucija kod konstruisanih koeficijenata potvrđuje jednu od najvećih prednosti ovakvog pristupa: omogućen je viši stepen preciznosti prilikom merenja, jer se kreativnost meri komparativno, u odnosu na realne ishode unutar referentne grupe (Milošević i Ristić, 2017).

Iako je pokazano da koeficijenti kreativnosti i izuzetnosti imaju dobre metrijske karakteristike, te da merenje pokazuje visok stepen objektivnosti, diskriminativnosti, kriterijumske i konvergentne validnosti, kao i zadovoljavajući stepen pouzdanosti, ostalo je otvoreno pitanje njihove primene. Na osnovu rezultata možemo uočiti brojne prednosti novog načina merenja, te pretpostaviti da se konstruisani koeficijenti mogu primeniti u drugim domenima i disciplinama, kao i da merenje može ostvariti zadovoljavajući nivo validnosti i pouzdanosti. Međutim, kratki naslovi nisu isto što i crteži, scene, ili kompozicije, te je nužno proveriti da li je uopšte moguće precizno izvesti postupak kategorizacije na osnovu ishoda kreativne produkcije zasnovane na drugačijim zadacima i formama. Mogu li koeficijenti objektivno i konsekvantno opisati kreativnost u istraživanjima u kojima se javljaju produkti višeg stepena složenosti, kao i njihovu raznovrsnost unutar uzorka?

Cilj ovog istraživanja je ispitati mogućnost primene, validnost i pouzdanost novog načina merenja kreativnosti pri proceni vizuelnih materijala (crteža) koji su nastali u procesu likovne produkcije. Fokus istraživanja je bio na validaciji koeficijenta izuzetnosti koji, kada postoji samo jedna tema ili zadatak, što je čest slučaj u vizuelnim umetnostima, omogućuje procenu individualnih postignuća i izvođenje koeficijenta kreativnosti u okviru zadatka.

U istraživanju se krenulo od pretpostavki da u proceni likovnih produkata:

- postoji pozitivna i statistički značajna povezanost skorova izvedenih na osnovu CAT merenja i koeficijenta izuzetnosti što potvrđuje njegovu konvergentnu validnost;
- koeficijent izuzetnosti, sledstveno i kreativnosti, pokazuje visok stepen pouzdanosti, diskriminativnosti i kriterijumske validnosti;
- koeficijent izuzetnosti precizno i objektivno može opisati kreativnost produkata podjednako kao i mere izvedene na osnovu CAT procena.

## Metod

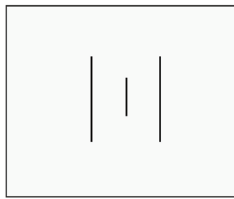
### Uzorak

U istraživanju su učestvovala 53 ispitanika, raspoređena u dva poduzorka. Prvi poduzorak je obuhvatao 24 studenta umetnosti, sa Fakulteta likovnih umet-

nosti (FLU) i Fakulteta dramskih umetnosti (FDU) u Beogradu, prosečnog uzrasta 22 godine. Drugi poduzorak je činilo 29 studenata menadžmenta i elektronskog poslovanja, sa Rektorata Univerziteta umetnosti u Beogradu i Visoke škole elektrotehnike i računarstva (VISER), prosečnog uzrasta 24.5 godine. Studenti FLU i FDU pripadaju visokoselekcionisanoj populaciji kreativnih i talentovanih pojedinaca koji se obučavaju i stiču iskustvo u umetničkoj produkciji, dok studenti Rektorata i VISER-a po kreativnim predispozicijama mogu predstavljati opštu studentsku populaciju. Uzorak je formiran tako da se može podeliti u dva studentska poduzorka (umetnička vs. opšta populacija), kako bi se proverila kriterijumska validnost koeficijenata.

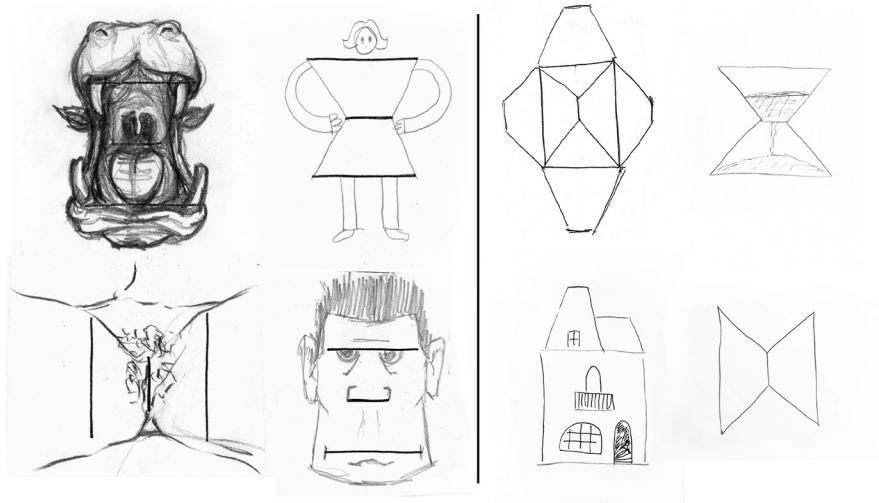
## Postupak

Svaki učesnik je dobio list belog papira veličine 10x15 cm na kome je bio iscrtan apstraktni stimulus (Slika 1). Instruirani su da na osnovu ponuđenog apstraktnog stimulusa pripreme svoj mali crtež, da dopune linije po slobodnom nahođenju i da naprave skicu kakvu god žele. Jedino ograničenje je bilo vremensko – izvođenje zadatka je trajalo pet minuta. Učesnici su koristili obične ili hemijske olovke tamne boje.



*Slika 1.* Apstraktni stimulus koji je korišćen u zadatku „Nastavi linije i napravi svoj crtež“.

Na ovakav način produkovana su 53 crteža, koja su potom skenirana, monohromatski ujednačena i pripremljena za procenu (Slika 2).



Slika 2. Primeri produkovanih crteža: umetnička (levo) vs. opšta studentska populacija (desno).

Ispitanici su učestvovali u istraživanju na dobrovoljnoj osnovi. Na samom početku informisani su da će podaci biti korišćeni anonimno i da u svakom trenutku mogu da odustanu od istraživanja bez ikakvih posledica. Usmenim i pismenim putem upoznati su sa procedurom i zadacima, i pozvani su da daju svoju pismenu saglasnost za učešće. Izvođenje istraživanja odobreno je od rukovodstva svih uključenih fakulteta, odnosno Rektorata, i u skladu je sa Kodeksom profesionalne etike Univerziteta umetnosti u Beogradu, kao i sa Etičkim principima i kodeksom propisanim od strane APA.

## Merenje i mere

Merenje je izvršeno putem koeficijenta izuzetnosti i putem CAT. U merenju putem koeficijenta izuzetnosti učestvovala su dva psihologa koji su najpre izvršili kategorizaciju crteža na osnovu sličnosti. Potom je za svaki crtež koji je procenjen kao jedinstven, i kao takav činio posebnu kategoriju, proveren stepen intencionalnosti. Provera intencionalnosti se odnosila na procenu da li se u crtežu može prepoznati osmišljena usmerena akcija ili je u pitanju slučajni ishod besmislenih poteza. Prateći uvide ranijih istraživača, procena intencionalnosti je primenjena kako bi se proverilo da li su crteži koji nisu pripojeni nijednoj drugoj kategoriji, već su činili jedinstvene kategorije, nastali kao paušalni i bizarni odgovor na zadatak ili zaista predstavljaju novinu, kao likovni produkti jasno usmerenih namera u odnosu na potencijalnog recipijenta (Diedrich, et al. 2015; Weisber, 2015). Samo je jedan crtež procenjen kao bizaran odgovor, odnosno kao neintencionalna novina, te je priključen kategoriji sa najvećim brojem crteža. Nakon toga, izračunati su

koeficijenti izuzetnosti za svaki pojedinačni crtež, prema formuli koja je opisana u uvodnom poglavlju.

CAT merenje je izvršeno na dva načina: sa uzorkom nezavisnih eksperata, i sa uzorkom kvaziekspertata.

Ekspertski uzorak činili su akademski obrazovani umetnici sa više od deset godina profesionalnog iskustva u polju likovnih umetnosti (tri umetnice i dva umetnika). Svi angažovani eksperti stekli su relevantno pedagoško iskustvo u okviru formalnih i/ili neformalnih obrazovnih praksi. Uz uvid u eksperimentalni stimulus i informacije o uslovima produkcije crteža (o vremenskom ograničenju, tehnici i zadatku), eksperti su ocenjivali kreativnost svakog produkovanog crteža na skali od 1-7, pri čemu je redosled izlaganja sistematski balansirani. Procene su izvršene nezavisno, uz pomoć elektronskih fajlova za procenjivanje. U postupku procene eksperti su učestvovali volonterski, a procene je svako od njih izvršio samostalno u prostoru u kome inače radi. Eksperti su instruirani da tokom procenjivanja mogu praviti pauze radi odmora, ali da je važno da čitav postupak procene, od prvog do poslednjeg procenjenog crteža, ne sme da traje duže od dva dana.

Drugi uzorak procenjivača činili su kvazieksperti, studenti Fakulteta dramskih umetnosti u Beogradu koji pokazuju posebna interesovanja za vizuelne discipline. Ukupno ih je bilo osmoro, prosečne starosti 20.5 godina (pet studentkinja i tri studenta).

Ekspertski i kvaziekspertski uzorci procenjivača formirani su kako bismo uporedili novi način merenja sa ishodima do sada najčešće korišćenih procedura u okviru CAT pristupa.

## Obrada podataka

Najpre je urađena analiza pouzdanosti kako bi se proverila pouzdanost svih izvedenih mera. Proveren je stepen intersubjektivne saglasnosti za koeficijente izuzetnosti (KI) i za CAT skorove, uzimajući u obzir dva uzorka procenjivača - ekspertski (ExpCAT) i kvaziekspertski (QuaziCAT). Onda su uporednom deskriptivnom analizom proverene metrijske karakteristike koeficijentata izuzetnosti, i ekspertskih, odnosno kvaziekspertskih procena izraženih kroz CAT skorove. Urađena je i korelaciona analiza svih mera kreativnosti (KI, ExpCAT i QuaziCAT) kako bi se proverila konvergentna validnost novog načina merenja. Nakon normalizacije vrednosti, primenjena je ANOVA kako bi se proverio glavni efekat faktora poduzoračke pripadnosti (umetnička naspram opšte populacije), odnosno kako bi se ispitalo da li postoji razlika između kreativnosti umetničke i opšte populacije merene koeficijentima i putem CAT. Primljena je i MANOVA (za ponovljena merenja) kako bi se proverom interakcije faktora poduzoračke pripadnosti (umetnička naspram opšte populacije) i faktora merenja (KI vs. ExpCAT) ispitalo da li razlike između opšte i umetničke populacije variraju u zavisnosti od načina merenja.

## Rezultati

Rezultati analize pouzdanosti potvrdili su zadovoljavajući stepen pouzdanosti svih izvedenih mera (Tabela 1). Pouzdanost mera izvedenih na osnovu koeficijenata (KI), kao i kvaziekspertskih procena (QuaziCAT) vrlo je visokog stepena, dok je intersubjektivna saglasnost ekspertskih procena (ExpCAT) nešto slabija, ali se uklapa u standarde CAT merenja.

Tabela 1

*Rezultati komparativne analize pouzdanosti: procena kreativnosti nezavisnih eksperata (ExpCAT), kvazieksperata (QuaziCAT) i putem koeficijenta izuzetnosti (KI)*

| Intersubjektivna saglasnost | Cronbah $\alpha$ | Broj procenjivača | Broj ispitanika |
|-----------------------------|------------------|-------------------|-----------------|
| ExpCAT                      | .78              | 5                 | 53              |
| QuaziCAT                    | .92              | 8                 | 53              |
| KI                          | .89              | 2                 | 53              |

Deskriptivna analiza pokazuje da se ekspertске procene kreću u donjoj polovini skale, da je kod njih standardna devijacija srazmerno niska, kao i da greška ocene prosečne vrednosti u populaciji iznosi 4.44% kod ekspertskih procena, 5.21% kod kvaziekspertskih procena i 10% kod koeficijenta kreativnosti. Istovremeno, vrednosti skjunisa i kurtozisa pokazuju relativno normalnu distribuciju ekspertskih i kvaziekspertskih CAT skorova, što nije slučaj kod koeficijenata izuzetnosti (Tabela 2).

Tabela 2

*Rezultati deskriptivne analize: Procene kreativnosti crteža (N=53) merene putem koeficijenta izuzetnosti (KI) i konsenzualne tehnike procene sa ekspertima (ExpCAT) i sa kvaziekspertima (QuaziCAT)*

|          | Min  | Max  | M    | SD   | Sk   | Ku    |
|----------|------|------|------|------|------|-------|
| KI       | 0.14 | 1    | 0.40 | 0.32 | 1.17 | -0.41 |
| ExpCAT   | 1.20 | 5    | 2.70 | 0.89 | 0.19 | -0.34 |
| QuaziCAT | 1.13 | 6.63 | 3.65 | 1.38 | 0.30 | -0.61 |

*Napomena.* Min – minimalna vrednost, Max – maksimalna vrednost, M – aritmetička sredina, SD – standardna devijacija, Sk - skewness, Ku – kurtosis.

U sledećem koraku urađena je normalizacija svih mera, a zatim i transformacija u *t* - skorove, kako bismo mogli da uporedimo mere dobijene na osnovu različitih skala.



Rezultati korelacione analize (Tabela 3) potvrđuju pozitivnu statistički značajnu povezanost koeficijenta, kako sa ekspertskim, tako i sa kvaziekspertskim procenama kreativnosti, kao i visoku pozitivnu povezanost ekspertskih i kvaziekspertskih procena.

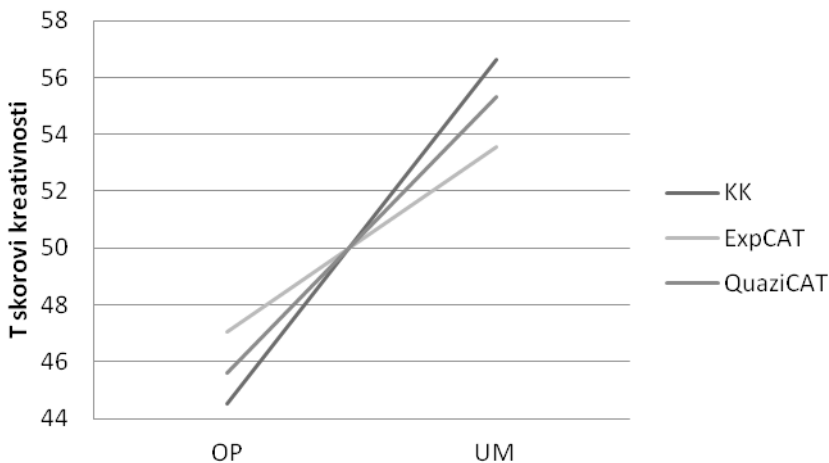
Tabela 3

*Povezanost različitih mera kreativnosti: ekspertskih procena (ExpCAT), kvaziekspertskih procena (QuaziCAT) i koeficijenta izuzetnosti (KI)*

|          | KI    | ExpCAT | QuaziCAT |
|----------|-------|--------|----------|
| KI       | 1     |        |          |
| ExpCAT   | .51** | 1      |          |
| QuaziCAT | .59** | .80**  | 1        |

Napomena. \*\*  $p < .01$ .

Analizom varijanse potvrđeno je da su razlike u kreativnosti između studentskih poduzoraka statistički značajne (Grafikon 1). Kada se kreativnost procenjuje koeficijentima, proverene razlike pokazuju da je umetnička populacija značajno kreativnija od opšte,  $F(1.51) = 29.73$ ,  $p < .001$ . Kada se kreativnost meri pomoću ekspertskih procena (ExpCAT) razlika koja ukazuje da je umetnička populacija značajno kreativnija od opšte je takođe statistički značajna,  $F(1.51) = 6.07$ ,  $p < .05$ , mada znatno manja, a sličan rezultat dobijen je i kod kvaziekspertskih (QuaziCAT) procena,  $F(1.51) = 15.98$ ,  $p < .001$ .



*Grafik 1.* Razlike između srednjih vrednosti umetničke (UM) i opšte populacije (OP) kada se koriste različiti načini merenja: ekspertске procene (ExpCAT), kvaziekspertске procene (QuaziCAT) i koeficijenti izuzetnosti (KI).

Kada se porede samo ekspertske procene sa koeficijentima izuzetnosti, rezultati multivarijantne analize varijanse pokazuju da je interakcija neponovljenog faktora poduzoračka pripadnost (umetnička naspram opšte populacije) i ponovljenog faktora merenje (KI vs. ExpCAT) statistički značajna. Razlike između opšte i umetničke populacije variraju u zavisnosti od načina merenja,  $F(1.51) = 4.45, p < .05$ , a kod koeficijenata (KI) razlika je značajno veća nego kada se prate ekspertske procene.

## Diskusija

Na osnovu analize pouzdanosti pokazano je da je pouzdanost novog načina merenja visokog stepena. Intersubjektivna saglasnost pri konstrukciji koeficijenata je vrlo snažna - već sa dva ocenjivača mera pouzdanosti (Cronbach  $\alpha$ ) postiže vrednost višu nego kod ekspertske procene, i približnu kvaziekspertske procene. Konstruisani koeficijenti pouzdano i precizno mogu meriti kreativnost likovnih produkata, a način merenja omogućuje preciznost, što je u skladu sa validacionom studijom izvedenom u domenu verbalne produkcije (Milošević i Ristić, 2017).

Pozitivna i statistički značajna korelacija između CAT skorova i koeficijenata govori u prilog konvergentne validnosti novog načina merenja. Ipak, potvrđena korelacija nije visokog već umerenog intenziteta, kako sa ekspertske, tako i sa kvaziekspertske procene. Kada se osvrnemo na analizu pouzdanosti možemo razmotriti mogućnost da interferirajuće varijable, a posebno estetske preferencije koje se baziraju na subjektivnom doživljaju, utiču na nezavisne ekspertske procene i tako smanjuju nivo pouzdanosti CAT merenja, te i korelacija sa izmerenim koeficijentima slabi. U prilog tome govore i nalazi prethodne studije izvedene sa različitim zadacima verbalne produkcije u kojoj se visoka korelacija CAT ocena i koeficijenata javlja tek na nivou prosečnih skorova ispitanika (Milošević i Ristić, 2017). O manjkavostima konsenzualne tehnike procene CAT, posebno u pogledu objektivnosti i preciznosti, a neretko i ekonomičnosti, govore savremeni autori, podsećajući nas na nužnost pronalazanja novih načina koji preciznije mogu meriti kreativnost (Cropley & Cropley, 2010; Lu & Luh, 2012; Snyder, Mitchell, Bosso-maier, & Pallier, 2004).

Dragoceno je, takođe, razmotriti rezultat o visokom stepenu povezanosti ekspertske i kvaziekspertske procene, što nije u skladu sa rezultatima ranijih studija u kojima je pokazano da kvaziekspertske ne mogu adekvatno procenjivati kreativnost složenih produkata, koji se javljaju u procesu umetničke produkcije (Galati, 2015). Moguće je da su studenti koji su u ovom istraživanju bili angažovani kao kvaziekspertske ipak kompetentniji u vizuelnim disciplinama, nego što bi se to očekivalo od jednog prosečnog kvazieksperta koji se nije pokazao sjajno u prethodnim studijama. Takođe možemo pretpostaviti da se petominutne skice ne mogu opisati kao kompleksna stimulacija nalik dovršenim umetničkim delima, te su studenti mogli da procenjuju likovne produkte pouzdano i precizno poput

eksperata. Delikatno je pitanje stepena složenosti produkata, kao i pitanje stepena ekspertize darovitih početnika koji se angažuju i imenuju kao kvaziekspteri. Utoliko je značajnije pristupiti validaciji postupaka koji omogućuju objektivno, dostupno i ekonomično merenje kreativnih ishoda, u različitim disciplinama i domenima. Na osnovu utvrđenih korelacija u ovom istraživanju možemo zaključiti da za procenu skica u domenu likovne produkcije, kvaziekspteri mogu parirati ekspertima, kao što koeficijenti izuzetnosti mogu biti dostojna zamena CAT merenju, jer pružaju pouzdanu i validnu meru kreativnosti u znatno ekonomičnijim uslovima. Pozitivna statistički značajna povezanost skorova izvedenih na osnovu CAT merenja i koeficijenta izuzetnosti može se smatrati kao potvrda njegove konvergentne validnosti, a ujedno i kao potvrda prve postavljene hipoteze.

U prilog diskriminativnosti i validnosti novog načina merenja govore rezultati analize varijanse u kojoj su utvrđene značajne razlike između umetničke i opšte populacije. S obzirom na to da su studenti umetnosti selektovani u okviru zahtevne procedure koja se zasniva na nizu precizno osmišljenih heurističkih zadataka u oblasti umetničke produkcije, visoke vrednosti koeficijenata izuzetnosti po kojima „odskaku“ u odnosu na studente manje specifičnih interesovanja i bez umetničkog iskustva, očekivane su i ukazuju na kriterijumsku validnost novog načina merenja. Razlike su utvrđene i kod CAT merenja, ali su daleko manje, posebno kod strogih eksperata kod kojih se sve ocene kreću u donjoj polovini skale, sledeći neki neuhvatljiv idealni kriterijum bez utemeljenja u realnom opsegu postignuća unutar referentne grupe. Visoki ekspertski kriterijumi koji umanjuju preciznost CAT merenja, i razlike između likovnih produkata umetničke i opšte populacije koje su koeficijentima jasno detektovane, poklapaju se sa nalazima iz prethodne validacione studije u oblasti verbalne produkcije (Milošević i Ristić, 2017). Bez obzira da li je reč o smišljanju naslova ili pravljenju crteža, konstruisanim koeficijentima mogu se proceniti produkti različitog stepena kreativnosti daleko preciznije i pouzdanije, nego kada se primenjuje CAT merenje. Nalazi pokazuju da se druga hipoteza može prihvatiti. U proceni likovnih produkata, koeficijent izuzetnosti, sledstveno i kreativnosti, pokazuje visok stepen pouzdanosti, diskriminativnosti i kriterijumske validnosti.

Kada se uporede metrijske karakteristike svih izvedenih mera, rezultati mogu delovati iznenađujuće. Naime, greška ocene prosečne vrednosti kod koeficijenta veća je nego kod CAT skorova, a distribucija odstupa od normalne. Prilikom konstrukcije koeficijenata sa relativno malim uzorkom likovnih produkata, veći broj crteža se klasifikuju kao izuzetni, dok se ostali uglavnom grupišu u kategorije učestalijih odgovora. Zbog toga su umerene vrednosti koeficijenta ređe prisutne nego kod CAT merenja. Sa druge strane, nezavisni procenjivači daleko ređe daju maksimalne i minimalne ocene, te je i distribucija CAT skorova kao po pravilu normalna, što može biti prednost kada je populacija homogena, ali i teškoća kada populaciju čine poduzorci različitog stepena kreativnosti, te je važno preciznije detektovati razlike. Na prvi pogled, lošije metrijske karakteristike koeficijenata ukazuju na nužnost odbacivanja treće hipoteze, jer na osnovu rezultata ne može-

mo zaključiti da konstruisani koeficijenti mere kreativnost precizno i objektivno kao i mere izvedene na osnovu CAT procena. Rezultati, ipak, nisu jednoznačni i ne mogu se tako tumačiti. Normalnu krivu očekujemo kod opšte populacije za sve varijable koje ulaze u opseg normativne kognicije, između ostalog i za kreativnost, ali mi smo u ovom istraživanju imali dva namenski formirana poduzorka, od kojih samo jedan može biti okarakterisan kao opšta populacija, a od drugog se očekuju značajna odstupanja od normativa. Stoga rezultat o slabijim metrijskim karakteristikama koeficijenata u odnosu na CAT merenje, kada se izvede na osnovu celokupnog uzorka, predstavlja istraživački artefakt.

U nedavno objavljenoj studiji Hyeon i Runco (Hyeon & Runco, 2018) ističu da validaciona istraživanja često zanemaruju heterogenost populacije, zbog čega još nije potvrđena kriterijumska validnost testova divergentnog mišljenja. Niske korelacije između kreativnih postignuća ispitanika i skorova na testovima divergentnog mišljenja uzimaju se kao dokaz manjka validnosti, ali se pritom previđaju razlike koje populaciju sistematski mogu fragmentovati u odnosu na stepen kreativnosti, što je slučaj kada umetničku populaciju, kontinuirano involvirano u zadatke kreativne produkcije, upoređujemo sa opštom. Upravo takav slučaj imamo u ovom istraživanju. Sa jedne strane, metrijske karakteristike mogu ukazivati na manjak preciznosti koeficijenata kada o njima zaključujemo na osnovu celokupnog uzorka, dok sa druge strane, nalazi govore o višem stepenu diskriminativnosti koeficijenata kada registrujemo razlike između poduzoraka. Iako ovo istraživanje nije usmereno na procenu divergentnog mišljenja, već na validaciju koeficijenata za merenje kreativnog produkta, zadatak koji smo ispitanicima dali liči na jedan od zadataka iz čuvenog i najčešće korišćenog Torranceovog testa (TTCT, Torrance, 1984, 1990, 1998), te pomenute teškoće u validaciji testova divergentne produkcije u velikoj meri mogu objasniti nalaze i u ovom istraživanju (Hyeon & Runco, 2018). Slabije metrijske karakteristike mogu biti indikator manjka preciznosti posebno ako su uzorci mali, ali se ne mogu posmatrati izolovano, jer treba uzeti u obzir diskriminativnost merenja, kao i dokaze kriterijumske validnosti dobijene na osnovu praćenja sistematskih razlika u populaciji.

Dobijeni rezultati pružaju delimičnu potporu i trećoj hipotezi i nadovezuju se na nalaze prethodne validacione studije (Milošević i Ristić, 2017). Procena likovnih produkata može biti isto tako precizna kao i procena verbalnih produkata, kada se konsekvntno sprovodi postupak konstrukcije koeficijenata. Nalazi sugerišu da koeficijent izuzetnosti pruža mogućnost za precizno i objektivno procenjivanje kreativnosti individualnih produkata podjednako kao i CAT, ali je pritom daleko dostupnije u uslovima ograničenih resursa. Iako su u ovom istraživanju ispitanici radili jedan likovni zadatak, tako da je validacija fokusirana samo na koeficijent izuzetnosti, svi dobijeni rezultati i zaključci mogu se primeniti i na koeficijent kreativnosti, jer je zasnovan i može se izvesti iz pojedinačnih koeficijenata izuzetnosti.

Ipak, ishitreno bi bilo zaključiti da stepen složenosti produkata nema nikakvog uticaja na preciznost i pouzdanost merenja putem predloženih koeficijenata.

U ovom radu pokazano je da skice, odnosno likovni produkti mogu biti precizno kategorisani, kao i naslovi, a sledstveno i precizno procenjeni pomoću koeficijena- ta izuzetnosti. Reč je ipak o skicama, nastalim u uslovima vrlo rigidnih tehničkih i vremenskih ograničenja, te su ishodi manje složeni, nego što bismo mogli očeki- vati od raznobojnih kolaža, sonata ili filmskih sekvenci. Stoga je uputno proveriti pouzdanost i validnost novog načina merenja kroz empirijske studije u drugim umetničkim disciplinama, sa većim i raznorodnijim uzorcima ispitanika i više ra- zličitih zadataka koji podrazumevaju kompleksnije forme. Prilikom usložnjavanja estetskih formi može se očekivati da sam postupak konstrukcije koeficijenata za- hteva dodatnu razradu, koja se pre svega odnosi na precizno definisanje pravila u postupku kategorizacije – neke vrste protokola koji bi sa jedne strane propisivao na koji način se pristupa grupisanju složenih umetničkih celina, a sa druge strane postavljao jasna oraničenja za izvođenje u odnosu na eksperimentalni postupak.

Neosporna prednost novog načina merenja leži u organizacionim i finansij- skim olakšicama koje mogu proširiti obim empirijskih studija kreativnog procesa i njegovih kontekstualnih uslovljenosti, ali i postati dragoceno oruđe za procenji- vanje kreativnih produkata u različitim umetničkim i obrazovnim praksama. Na osnovu dobijenih nalaza primena novog načina merenja već sada se čini opravda- nom.

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**VALIDATION OF THE UNIQUENESS  
COEFFICIENT IN ASSESSMENT OF  
DRAWINGS**

The new method for measuring product creativity by the constructing of a uniqueness coefficient and a creativity coefficient was tested. A validity, a reliability, an accuracy and a feasibility of the new method were verified in the domain of fine arts, and coefficients are compared with Consensual Assessment Technique (CAT) which is most commonly applied for measuring product creativity. The construction procedure had two steps: 1) categorization of products based on similarity, in line with the principles for processing open-ended questionnaires, followed by testing their intentionality, and then 2) calculating the uniqueness coefficient, as a measure of originality for each drawing, and the creativity coefficient at the level of the variable. The validity and reliability testing of the coefficients was carried out on a sample of 53 students, splitted in two subsamples: the art students and general student population. They were asked to generate drawings, starting from the simple abstract stimuli. The creativity of the drawings was measured by the constructed coefficients and with the CAT in addition. Differences between art students and general population confirmed sensitivity and criterion-based validity of the new measuring method. Positive and statistically significant correlation with CAT scores suggests convergent validity of the coefficients. The results indicate that coefficients enable the accurate, reliable and objective assessments of creative products in the domain of fine arts, at least as good as the CAT can do. Furthermore, the greater cost-effectiveness and availability of the coefficients justify its wider application in the future.

**Key words:** creativity, fine arts, coefficient construction, validity, reliability

## UPUTSTVO AUTORIMA

Za objavljivanje u časopisu *Primenjena psihologija* prilažu se isključivo originalni radovi koji nisu prethodno štampani i nisu istovremeno podneti za objavljivanje negde drugde. U časopisu se objavljuju empirijski i pregledni radovi. Pregledni rad treba da sadrži originalan, detaljan i kritički prikaz istraživačkog problema ili područja u kome je autor ostvario određeni doprinos, vidljiv na osnovu autocitata. Radovi koji nisu pripremljeni prema ovom uputstvu, neće se recenzirati. Rukopisi se šalju isključivo putem platforme za prijavu, koja je dostupna na: <http://primenjena.psihologija.ff.uns.ac.rs/index.php/pp/about/submissions>.

U časopisu se mogu objavljivati radovi na srpskom i srodnim jezicima bivšeg srpsko-hrvatskog govornog područja, kao i na engleskom jeziku. Ukoliko rad nije na srpskom jeziku, autorova obaveza je da ga lektoriše. U slučaju jezika srodnih srpskom, redakcija zadržava pravo da pojedine termine prilagodi srpskom jeziku zarad boljeg razumevanja teksta. Sve predložene izmene se dostavljaju autorima na uvid i odobrenje.

Prilikom dostavljanja rukopisa, autori moraju navesti da se slažu sa etičkim standardima o objavljivanju u časopisu, odnosno da preuzimaju odgovornost za etičku saglasnost za sprovođenje istraživanja, kao i za dozvole o legalnom korišćenju upitnika i softvera u svojim radovima. Uredništvo zadržava pravo da traži na uvid dozvolu za prevod, korišćenje i modifikaciju instrumenata, kao i softvera. Pre prijave rada, autori se upućuju na [ček listu za autore](#) koja je dostupna na internet stranici časopisa.

**Recenziranje i objavljivanje.** Svi radovi se anonimno recenziraju od strane dva recenzenta. Uredništvo na osnovu primljenih recenzija donosi jednu od sledećih odluka o rukopisu: **A** - prihvatanje, **B** - prihvatanje uz korekcije, **C** - odbijanje uz sugestiju da se rad u velikoj meri koriguje i ponovo pošalje ili **D** - odbijanje. Uredništvo pismeno obaveštava autora o odluci. Ukoliko autor ponovo podnosi korigovani rad, dužan je da u obrascu recenzije odgovori na sve sugestije upućene od strane recenzenta.

**Format rada.** Rad mora biti napisan u tekst procesoru Microsoft Word, na stranici formata A4, fontom Times New Roman (12 tačaka), latinicom, sa razmakom od 1.5 reda, sa marginama od 2.54 cm (odnosi se na sve margine). Rad treba da bude dužine do jednog autorskog tabaka (do 30000 znakova, sa razmacima, bez referenci i priloga), a ukoliko je reč o kratkom izveštaju, rad treba da bude do 5 000 znakova (s razmacima) bez referenci i priloga. Redni brojevi strana treba da budu dati u gornjem desnom uglu, zajedno sa zaglavljem koje sadrži skraćeni naslov rada (tzv. *running head*), pisan velikim slovima, bez imena autora. Zaglavlje ne sme imati više od 50 karaktera. Paginacija bi trebalo da počinje od prve strane.

Rad treba da bude strukturiran u skladu sa IMRAD formatom i pravilima koja su definisana u 6. izdanju Priručnika Američke psihološke asocijacije (*APA Publication Manual*). Shodno tome, rad treba da sadrži odeljke *Rezime* sa ključnim rečima, *Uvod*, *Metod*,

*Rezultati*, *Diskusija*, *Zaključak* (opciono), *Reference*, *Prilozi* (opciono), kao i naslov i rezime sa ključnim rečima na engleskom jeziku.

**Naslovna strana.** Naslov treba da bude što koncizniji, ali i dovoljno precizan. Preporuka APA standarda je da naslov ne sadrži više od 15 reči. Ukoliko se u članku izveštava o nekom instrumentu koji nije opštepoznat široj naučnoj i stručnoj javnosti, naziv instrumenta je potrebno navesti u celini u naslovu rada, a ne samo skraćenicu. Ukoliko je rad nastao u sklopu projekta, iza naslova rada treba staviti fusnotu koja sadrži naziv finansijera projekta i broj projekta. Ukoliko je deo rezultata izlagan na skupu, u fusnoti treba dati podatke o skupu. Iza naslova rada slede imena autora i njihove afilijacije. Iza imena autora za korespondenciju treba staviti fusnotu koja sadrži e-mail adresu autora. Naslov rada, imena autora i afilijacije autora daju se na prvoj strani, bez ostatka teksta. Ova strana se, kao poseban dokument, prilaže na platformu, odnosno odvojeno od samog rukopisa.

**Rezime.** Rezime treba da bude dužine do 250 reči. Na kraju rezimea treba dati ključne reči (do pet ključnih reči). Ukoliko je rad na srpskom jeziku, potrebno je priložiti naslov, rezime i ključne reči i na engleskom jeziku. Ukoliko je rad na engleskom jeziku, poželjno je priložiti duži rezime (do 2 strane) na srpskom jeziku. Rezime po pravilu ne sadrži reference, sem ukoliko je to neophodno.

**Naslovi odeljaka.** Naslovi odeljaka (*Metod*, *Rezultati* i sl.) pišu se **podebljanim** slovima, „rečeničnim“ formatom (velikim početnim slovom), centrirano. Podnaslovi se pišu **podebljanim** slovima, poravnato u levo i u „rečeničnoj“ formi. Prvi podnaslovi stoje na marginama, a njima subordinirani podnaslovi pišu se uvučeno (takođe **podebljano**, u „rečeničnoj“ formi, s tačkom na kraju). Naslovi četvrtog nivoa se formatiraju na isti način, ali se stavljaju u *kurziv*. Nazive instrumenata treba navoditi kao subordinirane podnaslove u okviru odeljka *Instrumenti*, dakle uvučeno, **podebljano**, u „rečeničkoj formi“, s tačkom na kraju. Referenca za instrument je deo ovog podnaslova. Na primer:

## Metod

### Uzorak i postupak

#### Instrumenti

**Eysenckov upitnik ličnosti (Eysenck Personality Questionnaire - EPQ: Eysenck & Eysenck, 1975).**

## Skala zadovoljstva životom (Satisfaction With Life Scale - SWLS: Diener, Emmons, Larsen, & Griffin, 1985).

### Rezultati

#### Validnost Upitnika o veštinama komunikacije

**Faktorska analiza.**

**Interkorelacije konstrukata.**

***Korelacije veština komunikacije sa osobinama ličnosti.***

***Korelacije veština komunikacije sa emocionalnim kompetencijama.***

**Analiza puta.**

**Doslovno citiranje.** Svaki citat koji je direktno preuzet iz teksta, bez obzira na dužinu, treba da prati referenca sa brojem strane. Za svaki citat duži od 350 znakova autor mora imati pismeno odobrenje vlasnika autorskih prava koje treba da priloži.

**Tabele.** Tabele i grafikoni treba da budu sačinjeni u Wordu ili nekom Word-kompatibilnom formatu. Tabele i grafikone iz statističkih paketa treba prebaciti u Word. Iste podatke ne treba istovremeno prikazivati i tabelarno i grafički. Podaci koji su već dati u tabeli ili na grafikonu, ne smeju se ponavljati u tekstu, već se treba samo pozvati na njih. Tabele i grafikone je potrebno pozicionirati u samom radu, odnosno nije potrebno da se prilažu kao posebni dokumenti na platformu, već u sklopu rukopisa. Svaka tabela treba da bude označena brojem i adekvatnim nazivom. Broj tabele treba da bude napisan običnim slovima, a naziv tabele treba da bude dat u sledećem redu, *kurzivom*. Broj i naziv tabele nalaze se iznad tabele, poravnati u levo. Tabele ne smeju da sadrže vertikalne linije. Redovi tabele ne treba da budu razdvojeni linijama, ali zaglavlje tabele mora da bude linijom odvojeno od ostalih redova.

Vrednosti u tabelama bi trebale da budu date u sredini kolone, sa decimalnim mestima pozicioniranim levim tabulatorom.

Korektan prikaz tabele:

Tabela 1  
Korelacije nasilnog ponašanja i osobina ličnosti

| EPQ-R         | Nasilno ponašanje |                  |                   |
|---------------|-------------------|------------------|-------------------|
|               | Fizičko nasilje   | Verbalno nasilje | Relaciono nasilje |
| Neuroticizam  | .23               | .26              | .12               |
| Ekstraverzija | .18               | .25              | .36               |
| Psihoticizam  | .45               | .33              | .39               |

Nekorektan prikaz tabele:

**Tabela 1: Korelacije nasilnog ponašanja i osobina ličnosti**

| EPQ-R         | Nasilno ponašanje |                  |                   |
|---------------|-------------------|------------------|-------------------|
|               | Fizičko nasilje   | Verbalno nasilje | Relaciono nasilje |
| Neuroticizam  | 0.236             | 0.261            | 0.122             |
| Ekstraverzija | 0.187             | 0.255            | 0.361             |
| Psihoticizam  | 0.454             | 0.336            | 0.397             |

**Grafikoni i slike.** Slike treba slati u elektronskoj formi sa rezolucijom od najmanje 300 dpi. Štampa časopisa je crno-bela, pa se autori mole da prilagode tabele, grafikone i slike crno-belju štampi. Ukoliko se koristi ilustracija iz štampanog izvora nužno je pismeno odobrenje vlasnika autorskih prava. Naziv slike treba da bude prikazan ispod slike nakon oznake rednog broja. Na primer:

*Slika 1.* Schwartzov model univerzalnih ljudskih vrednosti

**Rezultati statističke obrade.** Rezultati statističkih testova treba da budu dati u sledećem obliku:  $F(1, 9) = 25.35, p < .001$  i slično za druge testove (npr.  $\chi^2(5, N = 454) = 5.311, p > .10$  ili  $t(452) = 2.06, p < .05$ ). Treba navoditi manji broj konvencionalnih  $p$  nivoa (.05, .01 ili .001). Ukoliko je broj teorijski manji od 1 (npr.  $\alpha, r$ , opterećenja u faktorskoj analizi,  $p$  nivo i sl.), nula se ne stavlja ispred tačke. Po pravilu, nazivi statističkih testova i oznaka treba da budu napisani u *kurzivu*, sem ako je reč o grčkim simbolima koji se **ne pišu** u kurzivu.

**Decimalni brojevi.** Uvažavajući statističke konvencije, decimalne brojeve treba pisati sa tačkom. Sve decimalne zapise treba zaokružiti na dve decimale, sem

kada se navode indikatori fita, *p* nivo značajnosti i sl. gde je i podatak o razlikama na trećoj decimali bitan.

**Navođenje referenci u tekstu.** Imena stranih autora navode se u originalu, npr. Dimanche (1990), ili kada je potrebno u padežnom obliku „...rezultati Dimanchea (Dimanche, 1990)...“, s tim što je onda potrebno u zagradu staviti referencu.

Ukoliko referenca ima **dva autora**, oba se navode u tekstu, npr. (Costa & McCrae, 1992). Ukoliko je u pitanju domaća referenca, umesto znaka „&“ navodi se „i“, npr. (Jovanović i Petrović, 2011).

Ukoliko rad ima **3 do 5 autora**, u prvom navodu se pominju prezimena svih, a u kasnijim navodima samo prezime prvog autora i skraćena „et al.“ za strane reference, ili „i sar.“ za domaće. Na primer, na engleskom jeziku, prvi navod bi imao formu (Roberts, Bogg, Walton, Chernyshenko, & Stark, 2004), a naredni (Roberts et al., 2004). Na srpskom jeziku, prvi navod bi imao formu (Novović, Biro i Nedimović, 2011), a naredni (Novović i sar., 2011).

Ukoliko dva rada iz iste godine imaju istog prvog autora, a ostali su različiti, treba navesti onoliko imena autora koliko je potrebno da bi se reference mogle jasno razlikovati u tekstu. Na primer, reference (Black, White, Brown, & Green, 1991) i (Black, Brown, White, & Green, 1991) imaju istog prvog autora i istu godinu izdanja. U ovom slučaju, u tekstu bi se navodile kao (Black, White, et al., 1991) i (Black, Brown, et al., 1991).

Ukoliko rad ima **šest ili više autora**, u tekstu se navodi samo prezime prvog i skraćena „et al.“ ili „i sar.“.

**Spisak referenci.** U spisku literature navode se samo reference na koje se autor pozvao u radu, abecednim redom po prezimenima autora. Ukoliko rad sadrži nekoliko referenci čiji je prvi autor isti, najpre se navode radovi u kojima je taj autor jedini autor, po rastućem redosledu godina izdanja, a potom se navode radovi u odnosu na abecedni red prvog slova prezimena drugog autora (ukoliko ima koautore). Ukoliko se navodi više radova istog autora u jednoj godini, godine treba da budu označene slovima a, b, c, npr. (1995a), (1995b). Za svaku referencu u popisu literature potrebno je navesti i **DOI broj**, ukoliko je dostupan. Na stranici <https://www.crossref.org/requestaccount/>, nakon otvaranja svog naloga, možete pronaći DOI broj za većinu dostupnih članaka.

**Monografija (knjiga).** Bibliografska jedinica knjige treba da sadrži prezime i inicijale autora, godinu izdanja, naslov knjige (*kurzivom*), mesto izdanja i izdavača, odnosno:

Pantić, D. (1990). *Promene vrednosnih orijentacija mladih u Srbiji*. Beograd: Institut društvenih nauka.

Nazivi knjiga na engleskom jeziku pišu se u „rečeničnom“ formatu, takođe u *kurzivu*. Ukoliko naziv knjige ima podnaslov, on može počinjati velikim slovom.

**Zbornik u celini.** Ukoliko se kao referenca navodi zbornik radova u celini, referenca ima sledeću formu:

Biro, M., Smederevac, S. i Novović, Z. (Ur.) (2010). *Procena psiholoških i psihopatoloških fenomena*. Beograd: Centar za primenjenu psihologiju.

**Poglavlje u knjizi ili zborniku** navodi se na sledeći način:

Day, R. L. (1988). Measuring preferences. In R. Ferber (Ed.), *Handbook of marketing research* (pp. 112-189). New York: McGraw-Hill.

Naslovi stranih knjiga i zbornika treba da budu dati u „rečeničnoj formi“, sa početnim velikim slovom i ostalim malim. Ukoliko rad ima podnaslov, on se od naslova odvaja sa dve tačke i počinje velikim slovom. Ukoliko zbornik ima samo jednog urednika, umesto Eds. se navodi oblik jednine Ed. U domaćim referencama ovog tipa, strana skraćena Ed. ili Eds. treba da glasi „Ur.“, a „In“ - „U“.

**Članak u časopisu** treba da sadrži prezimena i inicijale autora, godinu izdanja u zagradi, naslov članka, puno ime časopisa (*kurzivom*), volumen (*kurzivom*) i stranice, odnosno:

Jovanović, V. (2010). Validacija kratke skale subjektivnog blagostanja. *Primenjena psihologija*, 3(2), 175-190.

Dweck, C. S., & John, A. T. (1986). Motivational processes affecting learning. *American Psychologist*, 41, 1040-1048.

Nazivi članaka pišu se u „rečeničnom“ formatu, u kom je samo prvo početno slovo veliko. Nazivi časopisa na engleskom jeziku pišu se tako da početna slova svih reči, izuzev veznika, budu velika. Nakon prezimena autora, uvek se stavlja zarez, kao i nakon inicijala (ukoliko ima više inicijala imena, zarez se stavlja nakon svih inicijala zajedno, a ne nakon svakog posebno). U domaćim referencama, znak „&“ treba zameniti veznikom „i“. Ukoliko se svi brojevi časopisa u okviru jednog volumena paginiraju sukcesivno, **ne treba** navoditi broj časopisa. Ukoliko se svaki broj časopisa u okviru volumena paginira odvojeno, referenca treba da sadrži i broj časopisa, pa izgleda ovako:

Dweck, C. S., & John, A. T. (1986). Motivational processes affecting learning. *American Psychologist*, 41(2), 26-37.



Referenca rada objavljenog u časopisu koji se izdaje isključivo u elektronskoj formi ima iste elemente kao referenca rada iz štampanog časopisa, ali se nakon broja stranica navodi „Retrieved from“ (za domaće reference „Preuzeto sa“) i web adresa:

Sillick, T. J., & Schutte, N. S. (2006). Emotional intelligence and self-esteem mediate between perceived early parental love and adult happiness. *E-Journal of Applied Psychology*, 2(2), 38-48. Retrieved from <http://ojs.lib.swin.edu.au/index.php/ejap>

Kada je reč o **web dokumentu ili stranici**, navodi se ime autora, godina, naziv dokumenta (*kurzivom*), datum kada je sajt posećen, i internet adresa sajta, npr.

Degelman, D. (2000). *APA Style Essentials*. Retrieved May 18, 2000 from: <http://www.vanguard.edu/psychology/apa.pdf>

Navođenje **nepublikovanih radova** (npr. rezimea sa naučnog skupa, manuskripta i sl.) nije poželjno. Ukoliko je takvo navođenje neophodno, treba navesti što potpunije podatke, kao u sledećem primeru:

Smederevac, S. (2000). *Istraživanje faktorske strukture ličnosti na osnovu leksičkih opisa ličnosti u srpskom jeziku* (Nepublikovana doktorska disertacija). Filozofski fakultet, Univerzitet u Novom Sadu, Novi Sad.

**Prevod referenci.** Ukoliko se na recenziju predaje rad na engleskom jeziku i pri tome se citiraju reference na srpskom, potrebno je dati engleski prevod citiranih naslova u uglastim zagradama:

Padejski, N., & Biro, M. (2014). Faktori vulnerabilnosti za posttraumatski stresni poremećaj kod žrtava partnerskog nasilja [Vulnerability factors for posttraumatic stress disorder in victims of intimate partner violence]. *Primenjena psihologija*, 7, 63-85.

**Prilog.** U prilogu treba staviti samo one opise materijala koji bi bili korisni čitaocima za razumevanje, evaluiranje ili ponavljanje istraživanja.

**Fusnote i skraćenice.** Fusnote treba izbegavati. Skraćenice takođe treba izbegavati, osim izrazito uobičajenih. Skraćenice koje su navedene u tabelama i slikama treba da budu objašnjene. Objašnjenja (legenda) se daju ispod tabele ili slike.

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