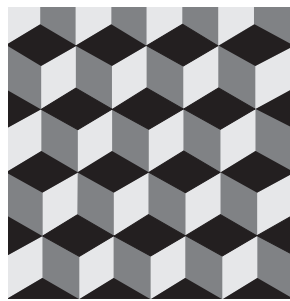


PRIMENJENA PSIHOLOGIJA



**STRES KAO MEDIJATOR IZMEĐU RIZIČNIH I ZAŠTITNIH
ČIMBENIKA I ONLINE RIZIČNOG PONAŠANJA KOD ADOLESCENTA**

Tena Velki i Marija Milić

**RELACIJE DIMENZIJA AFEKTIVNE VEZANOSTI I
AFEKATA U ODRASLOJ DOBI: MEDIJATORSKI
EFEKTI PSIHOLOŠKE FLEKSIBILNOSTI**

Aleksandra Hadžić i Dejan Kantar

**PUT DO MRAČNE STRANE POSLA:
DA LI STAVOVI I EMOCIJE OBJAŠNJAVAJU ODNOS
LIČNOSTI I NEPOŽELJNOG ORGANIZACIJSKOG PONAŠANJA?**

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**EMOCIONALNA UKLJUČENOST, ALI NE I TRANSPORTACIJA
DOVODI DO VIŠE EMPATIJE NAKON ČITANJA FIKCIJSKE PRIČE,
KOD SUDIONIKA S VIŠOM UGODNOŠĆU**

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**GLAZBA KAO NAČIN REGULACIJE EMOCIJA:
ULOGA UŽIVLJENOSTI U GLAZBU I USREDOTOČENE SVJESNOSTI**

Katija Kalebić Jakupčević, Ina Reić Ercegovac i Snježana Dobrota



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STRESS AS A MEDIATOR BETWEEN RISK AND PROTECTIVE FACTORS AND ONLINE RISKY BEHAVIORS IN ADOLESCENTS

The aim of the study was to examine the mediating role of stress in associations between online risky behaviors and real-life risky behaviors and information security awareness as risk factors, and life satisfaction as a protective factor. Participants were university students ($N = 883$, 40.5% male, and 59.5% female) with an average age of $M = 21.93$ years ($SD = 4.29$). They filled out the Users' Information Security Awareness Questionnaire, Youth self-reported delinquency and risk behaviors questionnaire, Life satisfaction scale and Perceived Stress Scale. Mediation analysis revealed a significant mediating role of stress in associations between online risky behaviors and real-life risky behaviors and life satisfaction. For the association between real-life risky behaviors and online risky behaviors stress had only a partially mediating role. However, stress had a fully mediating role in the association between life satisfaction and online risky behaviors. Overall results indicate that stress can be seen as underlying mechanism in association's between real-life and online risky behaviors in adolescents. Under stressed conditions, adolescents choose to focus on negative outcomes more frequently because they refocus their cognitive resources on emotion regulation and leave inhibitory processes necessary to prevent risky behaviors uncontrolled.

Keywords: stress, online risky behaviors, real-life risky behaviors, life satisfaction, information security awareness

Introduction

Online Risky Behaviors as a Type of Adolescent Risky Behaviors

According to previous study (Adams & Berzonsky, 2003), adolescence has been viewed as a critical developmental period and, also, as the period of greatest risk for engagement in problematic behaviors (Eaton et al., 2012) such as alcohol, cannabis, and drug use, smoking, aggression, minor delinquency, risky sexual behaviors and unsafe driving (Duell et al., 2018). In late adolescence (from 18 to 24 years of age), which is a period of frequent change and exploration of life goals and roles, young people seek to gain economic and psychological autonomy, become more responsible and step into adulthood (Sawyer et al., 2018). In this process risky behaviors become more frequent and reach peak during late adolescence (Duell et al., 2018). However, adolescents' engagement in risky behaviors is usually temporary and depending on their age, social context and social roles (Derefinko et al., 2016). As they enter the legal age, young people become more aware of social and legal consequences of their risky behaviors.

In the recent decades, information and communication technologies (ICTs), especially smartphones and the Internet, have become a part of everyday adolescent life. With the new technologies, young people can satisfy their primary emotional and communicative needs in the safety of online environment (Dolev-Cohen & Barak, 2013; Valkenburg & Peter, 2011). However, digital environment has become a "safe place" for manifestation of adolescents' risky behaviors, especially when they reach legal age. Young people in late adolescence make a transition from real-life risky to online risky behaviors, such as revealing too much personal information (O'Keeffe & Clarke-Pearson, 2011), sharing sexual content with strangers (Baumgartner et al., 2010), sharing content with potentially negative impact on a person's career (Pujazon-Zazik & Park, 2010), texting with strangers and meeting them in real life, cyberbullying or visiting unsecured sites (Dowell et al., 2009). Adolescents are even more encouraged to engage in online risky behaviors since there basically are no legal and social consequences most of the time. Most online activities can be anonymous, they are not firmly monitored as real-life behaviors, and there are still lots of legally unregulated areas when it comes to engagement in online risky behaviors. Hence, online risky behaviors can be considered as another specific type of risky behaviors in adolescence. More importantly, engaging in online risky behaviors is more likely in late adolescence than in any other age group (Escobar-Chaves & Anderson, 2008).

Information and communication technologies bring adolescents a significant amount of opportunities and diversities in their lives. There is no wonder that those technologies became a substantial part of adolescents' lives. However, in addition to the positive sides, these technologies also have a dark side if used for the wrong purposes. Online risky behavior may result in severe con-

sequences, such as mental health difficulties and some cases, suicide (Kowalski & Limber, 2013).

Stress as a Trigger for Risky Behaviors in Adolescents

Traditionally, adolescence is viewed as a period of life associated with highest levels of stress (e.g., Spear, 2000), which are caused by developmental tasks that young people face in the transition from childhood to adulthood (Blakemore, 2008). Krapić et al. (2015) pointed at certain developmental changes that can have stressful effect on adolescents, such as sexual changes related to puberty, school life demands, problems with initiating and maintaining friendships and romantic relationships, career choice, beginnings of working life, gaining independence from families, adaptation to cultural expectations of becoming an adult. In this period some adolescents also have to face unusual stressors such as mental or physical illness, drug or alcohol abuse, parental divorce, poverty, violence, teenage pregnancy, abuse, etc. (Krapić et al., 2015). A large number of studies on adolescents' risky behaviors have found an association with stressful life events (Duell et al., 2018), i.e., a higher stress level led to more problematic behaviors in adolescents (Windle, 1992) and to internalizing and externalizing problems (Kim et al., 2003).

More recently, late adolescence has emerged as problematic when it also comes to online risky behaviors of wider student population (Valcke et al., 2011). These problems usually arise when young people experience stress in their lives. The presence of stress has a direct influence on the type of decisions that individuals make. Individuals under stress have limited cognitive resources as they are now recruited for emotion regulation, and, consequently, neglect to deal with inhibitory processes necessary to prevent risky behaviors, which results in more risky behaviors (e.g., Richards, 2004). Transferring this model to online risky behavior, it can explain how adolescents are trying to find an escape from the stressful reality in an online setting. They use the Internet to vent and since most of things on Internet go anonymously or without any punishment, adolescents probably feel less responsible for online risky behavior compared to that kind of behavior in reality. Moreover, recent studies consistently showed positive relations between stress and problematic Internet use, that is, stress preceded excessive use of the Internet (Feng et al., 2019) and online risky behaviors (Karaman, 2013). Stress facilitates online risky behaviors (Li et al., 2009). Types and intensity of risky behaviors in real life decreases in this age group due to severe and sometimes legal penalties, but online risky behaviors usually go unpunished and serve as a substitute for risky behaviors in reality. Interestingly, only a small amount of studies examines the influence of stressful life events on adolescents' risky behaviors online (Leung, 2007). These studies show that stress significantly increases the risk of problematic behaviors online (Leung, 2007; Li et al., 2009). Evidently, stress

plays a significant role in emerging risky behavior. Therefore, it would be helpful to investigate the possible role of stress in regulating the connection among those two, online and real-life, risky behaviors.

In the last decades, the significant role in risk-taking behaviors has been given to affective intensity and biobehavioral sensitivity to rewards in risk-taking behavior (Casey et al., 2008; Somerville et al., 2010; Steinberg, 2010). Maturation of brain structures responsible for appetitive drives, compensation, and novelty seek proceeds to maturation of prefrontal area responsible for cognitive and behavioral inhibition. Therefore, adolescents may be more prone to risky behaviors due to uneven maturation of motivational and cognitive control systems (Steinberg, 2008; Steinberg, 2010). Moreover, hypothalamic pituitary adrenal (HPA) axis activity is greater in adolescence than in another life period, which results in more significant stress reactivity (Lupien et al., 2009). This may explain why adolescents are more prone to make poor decision while being in emotional arousal situations and under the social pressure or the presence of desired rewards (Ernst & Koeleitz, 2009; Galvan, 2010) compared to adults. Research findings by Johnson et al. (2012) indicate that adolescents exposed to social evaluation (cognitive stressor) manifested less planning and more risk-taking behaviors than those not exposed to a stressor. In addition, same authors found that variability in adolescent responses to stress is related to an orientation toward risk-taking. Stressed adolescents are prone to risk-taking situations more than less stressed adolescents (Johnson et al., 2012).

On the other hand, diathesis-stress model postulates that psychological disorders result from the interaction between one's vulnerability for that disorder and an individual's experience with stressful events (Broerman, 2018). Applying this model to adolescents risky behaviors, one can conclude that real-life risky behaviors, which is often characteristic for adolescence, may interact with different stressor (adolescence is a time of particular stress reactivity), and consequently result with more often engaging in risky online behaviors (as IT are ubiquitous in the lives of adolescents). In this relation real-life risky behaviors can be seen as vulnerability for online risky behaviors. It is also probable that both, the same type of personality characteristics drives real-life risky behaviors and online risky behaviors, thus they may share the same diathesis. When the stress comes to play, it probably interacts with those personality traits increasing the probability of occurring both real-life risky behaviors and online risky behaviors.

Potential Risk and Protective Factors for Online Risky Behaviors

Risk and protective factors affect the likelihood of disorder occurring among different individuals. Risk factors refer to factors that are associated with a greater likelihood of experiencing a disorder. Those are descriptive variables that don't explain disorder development's actual mechanisms (it doesn't

explain how or why the condition occurs). On the other hand, protective factors or resilient factors refer to variables that diminish the possibility of experiencing psychopathology (Ingram & Price, 2010). According to Ingram & Price (2010), those two variables represent different vulnerability continuum ends. Relating to stress, a small amount of stress would cause disorder development on the risk end of the continuum (i.e., most vulnerable end of the range). On the other end of the vulnerability continuum is the opposite, protective end of continuum. On that end of vulnerability continuum, it would be necessary to experience a lot of stress for maladaptive behavior to develop (Ingram & Price, 2010). For example, on risk end of continuum real-life risky behaviors and information security awareness can be considered as risk factors in relation to stress and online risky behaviors while on the other end of continuum life satisfaction can serve as protective factor in relation of stress with online risky behaviors.

In the theory of risky behaviors and problem behaviors during adolescence (Jessor, 1991), problem behaviors are defined as the ones that depart from regulatory norms relative to age norms and expectations, while risky behaviors are defined as any behaviors that can influence psychosocial development negatively. Risk factors increase the likelihood of engaging in risky behaviors, while protective factors decrease the probability of engagement. Furthermore, engaging in one risky behavior increases the risk of involvement in more risky behaviors due to similar social and psychological functions that these behaviors may fulfill (Guilamo-Ramos et al., 2005). If adolescents focus on positive outcomes of risky behaviors, the likelihood of engagement will be high. Although adolescents are aware of and recognize potentially negative consequences of their risky behaviors, they have been found to focus more often on positive outcomes (e.g., peer acceptance, excitement, richer social life, etc.), which is the main reason why they are involved in risk-taking behaviors including online risky behaviors (Livingstone et al., 2011; Romer, 2003).

A significant amount of previous studies showed a positive association between different types of real-life and online risky behaviors, namely, adolescent real-life risky behaviors usually antecedes problematic Internet use in late adolescence (Duell et al., 2018; Šolić et al., 2015; Velki et al., 2015). However, some studies found a statistically significant moderate correlation between real-life risky and delinquent behaviors and online risky behaviors in adolescents (Velki et al., 2015). Moreover, older adolescent and young adult Internet users (18 to 30 year-olds) showed the riskiest online behaviors in Šolić et al. (2015). In the study by Velki and Romstein (2019) on user risky online behaviors throughout the lifespan, adolescents (college students with average age $M = 21.93$) reached a peak in risky online behaviors. In general, existing real-life problematic behaviors in adolescence can be considered as one of the risk factors influencing online risky behaviors.

Contrary to intuitive expectations, higher level of information security awareness and knowledge has been associated with more risky behaviors on-

line (Šolić et al., 2015; Velki & Romstein, 2019; Velki et al., 2015). Furthermore, previous studies showed that awareness and knowledge of information security were deficient in ensuring safe online behaviors, even in the case of highly educated university professors (Šolić & Ilakovac, 2009). Although adolescents are aware that their online behaviors are highly risky and with minimal benefits, they still engage in risky activities online (Livingstone et al., 2011). The paradox of privacy revealed that raising awareness about privacy issues failed to lead to increased use of privacy settings or taking measures to protect personal information on social networks. Children and young people share private data on Facebook despite being aware of privacy risks (Brstilo et al., 2014). On the contrary, higher level of knowledge and awareness instead to serve as protective factor led to more online risky behavior, such as revealing passwords to strangers or sharing private data (Livingstone et al., 2011; Velki & Romstein, 2019).

Another factor that can affect a person's involvement in risky behavior is overall life satisfaction. Overall life satisfaction can act as a protective factor in online risky behaviors (Shahnaz & Karim, 2014) and in engaging in risky behavior (Zerihun et al., 2014). Higher levels of life satisfaction are associated with lower levels of real-life risky behavior such as drug abuse and violence (MacDonald et al., 2005) and also Internet addiction and the specific addiction to social media (Longstreet & Brooks, 2017). Life satisfaction can reduce the adverse effects of life stress (Suldo & Huebner, 2004) and improve success in social problem solving (Jiang et al., 2016). More dissatisfied individuals mainly use the Internet because of feelings of boredom, to look for entertainment on the web, and to communicate on social networks, which increases their risky behaviors online (Kalmus et al., 2011).

Although a significant amount of studies mentioned above found correlations between stress and different types of risky behaviors in adolescence, mediating role of stress in the relationship between different types of risky behaviors in real life and online has not been explored yet.

Aims of the Study

The aim of the study was to examine the mediating role of stress in associations between online risky behaviors and risk and protective factors in late adolescence. Real-life risky behaviors and information security awareness, as risk factors, are tested for direct and indirect effect (via stress) on online risky behavior. Furthermore, life satisfaction, as protective factor, is tested for direct and indirect effect (via stress) on online risky behavior.

Previous studies established a positive association between real-life risky behaviors and online risky behaviors in adolescents (Velki et al., 2015) and it can be logically assumed that stress has a role to play in this association since it is well known that stress increases instances of both types of risky behaviors

(Leung, 2007; Li et al., 2009). Also, previous studies found positive associations between information security awareness and online risky behaviors despite the participating adolescents' perception of their nature as highly hazardous with minimal benefits (Bristol et al., 2014; Livingstone et al., 2011). However, stress was absent in the examination of this particular relationship. Finally, certain protective factor, e.g., life satisfaction, proved to be connected to online risky behaviors. Adolescents who were more satisfied with their lives are less engaged in different types of online risky behaviors such as internet addictions, communications with strangers, private data revealing, etc. (Kalmus et al., 2011; Shahnaz & Karim, 2014), but stress as a mediator was not tested in this association.

According to the study aim, the Hypothesized mediation model (Figure 1) and associated hypotheses were tested:

H1: Stress will have a direct effect on online risky behaviors, in other words, a higher level of perceived stress will lead to riskier online behaviors of the participants.

H2: Stress will have a mediating effect on the association between the two risk factors and online risky behaviors, i.e., real-life risky behaviors and information security awareness will have a positive indirect effect on online risky behaviors through stress. Under stressed condition, the direct effect of risk factors on online risky behaviors will change due to limited cognitive resources dealing with stressors and because adolescents will try to escape from the stressful reality in an online settings where they can avoid punishment and responsibility for online risky behaviors compared to that kind of behaviors in reality.

H3: Stress will have a mediating effect on the association between life satisfaction as a protective factor and online risky behaviors, i.e., life satisfaction will have a negative indirect effect on online risky behaviors through stress. Partial mediation of stress is expected, in other words effect of life satisfaction on online risky behaviors will no longer be as strong as before stress condition in his protective role, because in the process of coping with stress more attention will be paid to the stressors and associated overwhelming emotions than to positive emotions that arise from life satisfaction.

Method

Participants

Students from four Croatian universities were chosen for participation: 78% of participants were from the University of Osijek, 13% from the University of Zagreb, 4% from the University of Rijeka, and 5% from the University of Zadar. The total number of participants was 883 with an average age of $M = 21.93$ years. Great majority were undergraduate students and 90% of them

were late adolescents as defined by their age (18 to 25 years old). Most of graduate students (80%) also were late adolescents as defined by their age (21 to 25 years old). Details of the sample are shown in Table 1.

Table 1
Distribution of participants by gender and university level

University level	Gender	<i>f</i>	%	Mean age
Undergraduate	male	183	24.70	<i>M</i> = 21.51 <i>SD</i> = 4.38
	female	557	75.30	
	total	740	83.80	
Graduate	male	33	23.10	<i>M</i> = 24.06 <i>SD</i> = 2.98
	female	110	76.90	
	total	143	16.20	
Overall	male	254	24.50	<i>M</i> = 21.93 <i>SD</i> = 4.29
	female	667	75.50	
	total	883	100.0	

Note. *M* – mean; *SD* – standard deviation.

Procedure

Ethics committee of the Faculty of Education, University of Osijek, approved the study which was a part of the larger project entitled “*Safer Internet Centre Croatia: Making the Internet a good and safe place*”, Agreement Number: INEA/CEF/ICT/A2015/115320. Anonymous cross-sectional data were collected online during one academic year. After the deans of faculties from four Croatian universities had given permission for data collection with students, a link with questionnaires was distributed via shared e-mail address.

Instruments

Demographic data

The students filled out a form with demographic data including age, gender, year of study, university and college they had attended at the time of questionnaire completion.

Users’ Information Security Awareness Questionnaire (UISAQ, Velki & Šolić, 2014; in Velki et al., 2015)

UISAQ measures information security awareness and consists of two parts with a total of 33 questions. The first part of UISAQ includes 17 items measuring computer users’ potentially risky behaviors (item example: “*How often do you share your access data?*”). The second part of the questionnaire consists

of 16 items measuring the level of user's information security knowledge and awareness (item example: "*How risky is online communication?*"). The participants indicated the frequency of each risky behaviors and self-evaluated their security awareness on a 5-point scale ("*never*" - "*always*" and "*not risky*" - "*very risky*", respectively). The results for the scales were computed as an arithmetic mean of responses to the corresponding items and theoretically ranged from 1 to 5. The internal consistency for both subscales was satisfactory (Cronbach's $\alpha = .69$ for the Scale of computer users' potentially risky behaviors, and $\alpha = .79$ for the Scale of information security awareness).

Youth Self-Reported Delinquency and Risk Behaviors Questionnaire (Ručević et al., 2009)

Youth self-reported delinquency and risky behaviors questionnaire measures the degree of delinquent and risky behaviors in adolescents (item example: "*Engaged in theft or other criminal activity led by some of your friends*" or "*Smoked marijuana or hashish*"), and it consists of seven parts ($k = 42$): (1) Misdemeanor and minor delinquent behaviors, (2) Undesirable normative behaviors, (3) Risky sexual behaviors, (4) Drug abuse, (5) Violence in close relationships, (6) Serious delinquency - theft, burglary and robbery, and (7) Suicidal and self-aggressive behaviors. The participants indicated the number of times in their life they had exhibited a behaviors in question on the 5-point scale: 0 = *never* (1), 1-4 = *rare* (2), 5-10 = *sometimes* (3), 11-20 = *often* (4), 21 and more = *almost always* (5). The result was computed as an arithmetic mean of responses to all items and theoretically ranged from 1 to 5. The internal consistency for the whole questionnaire was satisfactory (Cronbach $\alpha = .89$).

Life Satisfaction Scale (Penezić, 2002)

Life Satisfaction Scale consists of 20 items, divided into 2 subscales: 1) global life satisfaction ($k=17$) and 2) situational life satisfaction ($k=3$). For the purpose of this study only the first subscale was used (item example: *If I were to live again, I would change almost nothing*). It is a self-assessment scale and respondents indicate their agreement with statements on a 5-point Likert scale (from "strongly disagree" to "strongly agree"). The result for the subscale was computed as an arithmetic mean of responses to the corresponding items and theoretically ranged from 1 to 5. The internal consistency was high (Cronbach $\alpha=.95$).

Perceived Stress Scale (Cohen et al., 1983; adapted Croatian version Hudek-Knežević et al., 1999)

Perceived Stress Scale measures the degree of subjective stress through assessments of lack of control, feelings of overload, and unpredictability

of life over the last few months. The scale contains 10 items (item example: “How often have you felt nervous and stressed”?) and respondents provide their answers on a 5-point Likert scale (from “never” to “very often”). The result obtained on the scale was computed as an arithmetic mean of responses to all items and theoretically ranged from 1 to 5. The internal consistency was satisfactory (Cronbach $\alpha = .86$).

Data Analytic Plan

Taking into consideration proposed hypothesis three separate mediation analysis will be conducted with stress as mediator and online risky behaviors as criterion variable. For the first mediation analysis, predictor is real-life risky behaviors as risk factor, for the second information security awareness also as risk factor and for the third life satisfaction as protective factor. Mediation analyses is performed by using the macro Process version 3.5 in SPSS version 24. The number of bootstrap samples is 5000 and confidence interval 95%. The bootstrap confidence interval is used to test for significance of indirect effects. Mediation models that will be tested are shown in Figure 1.

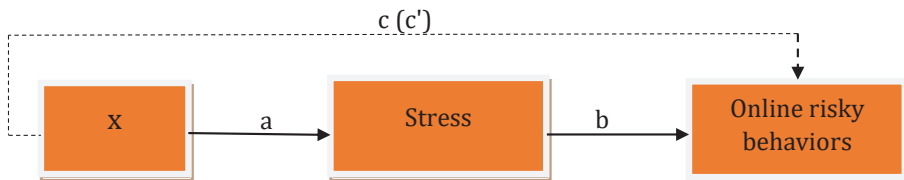


Figure 1. Hypothesized mediation models: stress as a mediator variable in the association between adolescents' online risky behaviors and the selected risk and protective factors (X).

In Figure 1, a represents unstandardized regression coefficient (b) for the association between the independent variable and the mediator, b represents unstandardized regression coefficient (b) for the association between the mediator and the dependent variable, c represents unstandardized regression coefficient (b) for the association between the independent variable and the dependent variable (in the absence of the mediator), which is a direct effect, and c' represents unstandardized regression coefficient (b) for the association between the independent variable and the dependent variable (in the presence of the mediator) or total effect. X represents predictors, for each mediation analysis different one, i.e., real-life risky behavior in first model, information security awareness in the second one and life satisfaction in the third one. Solid line is used for direct effects and dotted line for both effects, direct and total.

Results

Preconditions for parametric statistics and regression analysis were met (the predictor and criterion variables are quantitative and on an interval level, the predictor variances are not null, there is no perfect multicollinearity, i.e., the predictors are not too highly correlated with each other, there is no third variable in a moderating sense which could affect the correlation with the predictors, the homogeneity of variance is also satisfied, the Watson Durbin test showed error independence, i.e., the residuals are in null correlations, error distribution does not differ statistically significantly from normal distribution, the correlation of variables is linear and they are measured independently). Descriptive statistics were calculated (Table 2) for all variables included in the study. Hardly any variables deviated significantly from normal distribution. Indexes of asymmetry were within acceptable values (not greater than ± 2.00 ; Field, 2014), except for the real-life risky behaviors variable, but this was found acceptable as it measures delinquent and risky behaviors in adolescents and more often displays Poisson distribution of rare (“*sometimes*”) events. Both of the risky behaviors had a low frequency of occurrence (“*never*” or “*rare*”), the information security awareness was average, the life satisfaction was mostly high and the perceived level of stress in the last few months was average (i.e., “*sometimes*”).

Table 2
Descriptive statistics for variables measured in research

Variables	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>	<i>Sk</i>	<i>SE</i>	<i>Ku</i>	<i>SE</i>
Online risky behaviors	883	2.47	4.94	1.94	.42	-0.73	.09	0.55	.17
Real-life risky behaviors	883	1.00	5.00	1.33	.72	4.03	.09	8.77	.18
Information security awareness	883	1.66	4.83	2.92	.52	0.39	.09	0.68	.17
Life satisfaction	883	1.00	5.00	3.80	.73	-0.98	.09	1.66	.19
Stress	883	1.00	5.00	2.83	.69	-0.13	.09	-0.08	.19

Note. *N* – number of participants; *Min* – minimal score; *Max* – maximal score; *M* – mean; *SD* – standard deviation; *Sk* – skewness; *Ku* – kurtosis; *SE* – standard error.

Correlation between stress and online risky behaviors was statistically significant but low. Correlations between potential predictors and online risky behaviors were all statistically significant. Among predictors, only life satisfaction and real-life risky behavior were statistically significant correlated but low (Table 3). Taking into consideration rather small and mostly non-significant correlations between potential predictors, three separate mediation analysis were conducted.

Table 3
Pearson correlations for all measured variables

	Stress	Online risky behaviors	Real-life risky behaviors	Information security awareness
Stress	1			
Online risky behaviors	.11**	1		
Real-life risky behaviors	.34**	.22**	1	
Information security awareness	-.04	.26**	-.01	1
Life satisfaction	-.55**	-.11**	-.14**	-.06

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

The first hypothesis was tested by means of regression analysis and for second and third hypothesis three separate mediation analysis were performed (Figure 2, 3 and 4).

The first hypothesis was confirmed. A higher level of stress in adolescents predicted more frequent online risky behaviors ($F_{(1,882)} = 8.09, p < .01, R^2 = .01, p < .01$). Nevertheless, this effect was very small. Only 1% of online risky behaviors variance was explained by stress.

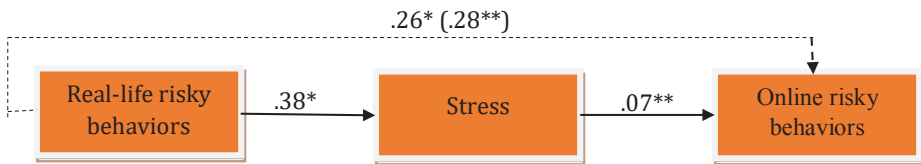


Figure 2. Results for the first Hypothesized mediation model: stress as a mediator variable in the association between adolescents' online risky behaviors and real-life risky behaviors.

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

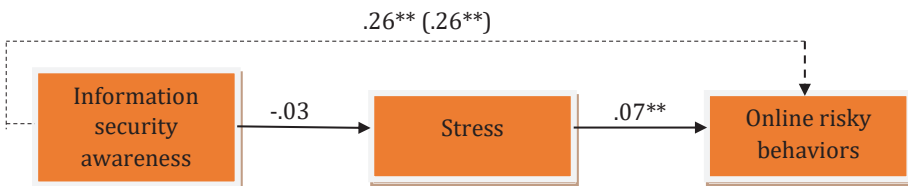


Figure 3. Results for the second Hypothesized mediation model: stress as a mediator variable in the association between adolescents' online risky behaviors and information security awareness.

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

The second hypothesis was partially confirmed (Figure 2 and 3). Stress failed to exhibit a mediating role in the association between information security awareness and online risky behaviors (Figure 2), but mediation effect of stress was confirmed in the association of real-life risky behaviors and online risky behaviors (Figure 3, Table 4). Stress had a partially mediating role in the association of real-life risky behaviors and online risky behaviors (Figure 2). Moreover, under stressed conditions the strength of this association increases, in other words association between real-life risky behaviors and online risky behavior before including stress in model (b_1) becomes stronger after including stress in model (b_2) ($b_1 = 0.26, p < .05$; $b_2 = 0.28, p < 0.01$).

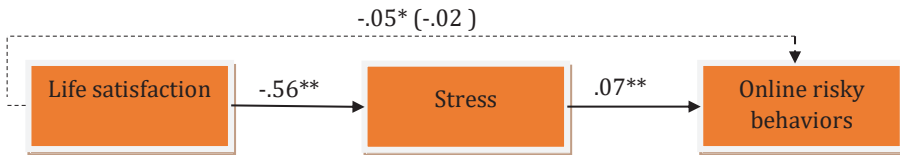


Figure 4. Results for the third Hypothesized mediation model: stress as a mediator variable in the association between adolescents’ online risky behaviors and life satisfaction.

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

The third hypothesis was also confirmed (Figure 4). There was a significant indirect effect of life satisfaction on online risky behaviors through stress, in other words mediation effect of stress was significant (Table 4). Stress had a full mediating effect on the association between life satisfaction and online risky behaviors, that is in the presence of the mediator the association between life satisfaction and online risky behaviors became statistically non-significant ($b_1 = -0.05, p < .05$; $b_2 = -0.02, p > .05$).

Table 4
Testing mediating role of stress

Relations with online risky behaviors	Indirect effect b, 95% [CI]
Real-life risky behaviors	.025 [.001, .055]
Information security awareness	-.002 [-.012, .007]
Life satisfaction	-.038 [-.070, -.005]

Discussion

The period of late adolescence has proven to be problematic for online risky behaviors in students' population (Escobar-Chaves & Anderson, 2008; Velki & Romstein, 2019). Studies conducted so far tested how real-life risky behavior, satisfaction with life and information security awareness predict online risky behavior. The aim of this study was to investigate at once the role of these concepts in performing online risky behavior but also to go beyond that and test the mediating role of perceived stress in this relationship. The direct effect of stress on online risky behaviors was tested first and the obtained results were expected but the effect found for stress was rather small. As stress increases in adolescents, online risky behaviors also increase. Some previous studies found that stress was a crucial antecedent of online risky behaviors in adolescents (Ah & Jeong, 2011). The small effect of stress in our study could be ascribed to the operationalization of the construct stress as a general feeling of stress (e.g., items like *"things not going as planned"* or *"were upset about something that happened unexpectedly"*) and not situationally stress-specific or specific for a period of late adolescence (e.g., accepting new life roles). The participants in our study were in their late adolescence and beginning transition to young adulthood. In this phase of life stress could be a normative part of growing up (Sawyer et al., 2018), that is, it may be experienced positively (for example, a new job opportunity) and not only negatively. Students recognize and are aware of negative consequences of online risky activities (Romer, 2003), but increased stress leads them to focus more on instant positive outcomes and seek out a diversion in the online world.

A significant amount of previous studies confirmed that stress increases the effects of risk factors (Leung, 2007; Windle, 1992). To test the second hypothesis, mediating effect of stress was examined for the relationship between two risk factors (real-life risky behaviors and information security awareness) and online risky behaviors. Our findings partially confirmed the second hypothesis as stress showed to have a partially mediating role in the case of real-life risky behaviors but non-significant mediating role of stress was found for information security awareness. As adolescent real-life risky behaviors usually precede online risky behaviors in late adolescence (Duell et al., 2018) it was worth to explore what are possible mediators that can explain how the real-life risky behaviors leads to online risky behaviors. Stress, as mediator, potentially can explain these relations because when students feel stressed their cognitive capacity for making decision is overwhelmed with stressor leaving their inhibitory regulator system without capacity to deal with risk behavior (Welsh et al., 2019). Moreover, adolescents can try to escape from the stressful reality to virtual one. For them, Internet can serve as venting mechanism since online risky behavior most of the time go unpunished and without consequence in reality. According to impaired disengagement hypothesis (Koster et al., 2011), individuals under stress are prone to ruminative thinking which influences

their capacity to reconsider their risky behaviors. This in turn results in stronger associations between real-life risky behaviors and online risky behaviors. Partial mediation could be caused by high covariation, co-occurrence and associations between real-life and online risky behaviors established in a number of previous studies (Casas et al., 2013; Kowalski et al., 2014; Velki et al., 2015), although in obtained results correlation between real-life and online risky behaviors was significant but rather low (Table 3). Another possible explanation is that real-life and online risky behaviors are preceded by the same personality traits i.e., they share vulnerability, and therefore stress can only partially influence the connection between these two subtypes of same construct (i.e., risky behaviors).

Further, no mediation was found for stress in the association between information security awareness and online risky behaviors. In adolescence online risky behaviors reaches its maximum towards the end of formal education (i.e., final years at graduate level). In the same period there is a growth in knowledge and security awareness, probably a reflection of formal education, high-school and college curricula, thus making the association between information security awareness and online risky behaviors negative (Velki & Romstein, 2019). It seems that students act carelessly about revealing their passwords because they rely on the knowledge they themselves possess about data protection and somehow believe that thanks to this knowledge data theft cannot happen to them. However, this falsely created sense of security makes them the highest risk group. The same was found in previous research with highly educated participants (Šolić & Ilakovac, 2009).

Finally, the third hypothesis was confirmed. Stress had a fully mediating role in the association between life satisfaction and online risky behaviors. Other studies revealed an interaction effect between life satisfaction and stressful life events, that is, externalizing behaviors were predicted by stressful life events in subjects with low life satisfaction. This interaction provides support for the proposition that life satisfaction acts as a buffer against problematic adolescent behaviors including online risky behaviors (Proctor et al., 2009). In the present study, however, the protective role of life satisfaction becomes insignificant in connection to online risky behaviors when stress is included into the model. Under stressed conditions, students become preoccupied with negative thoughts and emotions and there is no room for positive emotions (Richards, 2004) despite feeling satisfied with their lives. Rumination, as well as worry, occurs as a reaction to stressful events (Smith & Alloy, 2009) and obstructs normal cognitive functioning by making one focus on these intrusive thoughts (Miyake et al., 2000). It is also possible that being under stress lowers students' satisfaction with life and makes them more vulnerable to online risks, in other words, students may try to escape from unsatisfying reality to more attractive virtual one. Protective role of life satisfaction is buffered by stress, which consequently leads to increase of the likelihood of online risky communication, suggesting that young people on the Internet in a way try to compensate for shortcomings

in real-life (Livingstone & Helsper, 2008). Since the present study has shown that the benefits of well-being cease in the presence of stress, perhaps some other protective factors should be examined in these relations in future studies.

Practical implications

Obtained results could have significant outcome on adolescents' life. Knowing the important role of stress in this sensitive life period, parents, educators and health care professionals could help in organizing safe environment and everyday activities for adolescents at risk. Previous risky behaviors, i.e. during the high-school education, in combination with stressful life events (such as going to other city for study, taking a part-time job, making career choice, etc.) could lead to problematic online behaviors. IT experts in cooperation with health care professionals could help to identify adolescents at risk and assist them in coping with stress. Organizing for them appropriate counseling (face-to-face or online), i.e., assuring them guidance in resolving personal, social, or psychological problems and difficulties, can be of extreme importance in dealing with everyday challenges and risk-taking behaviors.

Contributions and Limitations of the Study

Important contributions of the study are worth mentioning. This is one of the first studies that examined the role of stress as a mediator in associations between online risky behaviors and risk and protective factors. Previous studies mostly investigated the direct effect of stress on online risky behaviors and, usually, on younger adolescents. i.e., primary and secondary school students. However, late adolescence is a period marked by highest risk of problematic Internet behaviors. Transition to adulthood can provide negative and positive experiences of stress that new life roles bring to young people's lives. Future studies should include other risk and protective factors of relevance in this particular period of life, for example, peer and family relations or satisfaction with certain aspects of life (i.e., job, education, etc.). Furthermore, it would be interested to take into consideration personality traits since the same type of personality characteristics drives real-life risky behaviors and online risky behaviors, thus they may share the same diathesis. In addition, an examination of influence of positive stress on normative life events would be welcome.

However, shortcomings of the study are important to understand as well. The sample was not representative; the participants were mostly from one moderately-sized university (78%) and a much smaller number was from the most prominent university in Croatia (only 13%). Other limitations include smaller proportion of male participants (24.5%) as well as the fact that the measured variables were participants' self-assessments and not actual risky behaviors values. Further, only general life satisfaction and general feeling of stress were measured. Assessment of situated feelings could be more inter-

esting and, perhaps, more revealing. Finally, the study was cross-sectional in design. Future studies should consider longitudinal design.

Conclusion

The study corroborated the results obtained in previous studies on the significant role of stress in adolescents' lives (Ah & Jeong, 2011; Karaman, 2013; Leung, 2007). As expected, the association between real-life risky behaviors (risk factor) and online risky behaviors become stronger (although with a small indirect effect) under stressed conditions, due to the inability of an overwhelmed cognitive system to deal with negative emotions. Next, stress had a full mediating role and suppressed the life satisfaction (as a protective factor) in online risky behaviors. University students under stress were preoccupied with negative emotions instead of enjoying life, therefore, stress buffered associations between life satisfaction and online risky behaviors. In conclusion, stress seems not to trigger online risky behaviors per se but it has a major role in mediating these processes of prediction of online risky behaviors.

Authors' note

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Conflict of interest

We have no conflicts of interest to disclose.

Data availability statement

As this article is part of a larger research project, authors do not have permission to publish the whole dataset online (including raw and processed data), only to use data for research purposes and publish research data according to project aims and activities.

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STRES KAO MEDIJATOR IZMEĐU RIZIČNIH I ZAŠTITNIH ČIMBENIKA I ONLINE RIZIČNOG PONAŠANJA KOD ADOLESCENTA

Cilj studije bio je ispitati ulogu stresa kao medijatora u povezanosti online rizičnih ponašanja s rizičnim ponašanjima u stvarnom životu i svesti o informacionoj sigurnosti kao faktorima rizika, te s zadovoljstvom životom kao zaštitnog faktora. Učesnici su bili studenti univerziteta (N = 883, 40,5% muškog pola i 59,5% ženskog pola) prosečne starosti M = 21.93 godine (SD = 4,29). Popunili su Upitnik o informacionoj sigurnosti online korisnika, Upitnik samoprocene o delinkvenciji i rizičnom ponašanju mladih, Skalu zadovoljstva životom i Skalu percipiranog stresa. Medijacijska analiza otkrila je značajnu ulogu stresa kao medijatora u povezanosti između rizičnih ponašanja na mreži s rizičnim ponašanjem u stvarnom životu i zadovoljstvom životom. U povezanosti između rizičnog ponašanja u stvarnom životu i rizičnog ponašanja na mreži, stres je imao samo delimičnu medijacijsku ulogu. Međutim, stres je imao potpunu medijacijsku ulogu u povezanosti između zadovoljstva životom i rizičnog ponašanja na mreži. Ukupni rezultati ukazuju na to da se stres može smatrati osnovnim mehanizmom koji povezuje stvarni život i rizična ponašanja na mreži kod adolescenata. U stresnim uslovima, adolescenti se češće fokusiraju na negativne ishode jer svoje kognitivne resurse preusmeravaju na regulaciju emocija dok inhibitorni procesi neophodni da bi sprečili rizično ponašanje ostaju van njihove kontrole.

Ključne reči: stres, online rizično ponašanje, rizično ponašanje u stvarnom životu, zadovoljstvo životom, svest o informacionoj sigurnosti

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THE RELATIONSHIPS BETWEEN ATTACHMENT DIMENSIONS AND AFFECT IN ADULTHOOD: THE MEDIATING EFFECTS OF PSYCHOLOGICAL FLEXIBILITY

This research was conducted during the state of emergency in response to coronavirus pandemic with the aim to further examine the relationships between attachment dimensions – attachment anxiety and attachment avoidance – and affect and to test the mediating role of psychological flexibility in these relationships. The sample which was obtained by using the snowball sampling method consists of 1515 adults (70.4% females) from the Republic of Srpska, entity of Bosnia and Herzegovina, aged between 18 and 65 who filled a relatively short form of an online. Attachment dimensions were measured by the Relationship Questionnaire (RQ), affect by the Negative and Positive Affect Scale (NAPAS), and psychological flexibility by the Acceptance and Action Questionnaire (AAQ-II). The results indicate that attachment anxiety and attachment avoidance correlate positively with the negative affect and correlate negatively with the positive affect. Furthermore, the results showed that the relationships between attachment dimensions and negative affect can be explained through psychological flexibility – higher values of attachment dimensions contribute to lower psychological flexibility, which then leads to higher negative affect. The mediatory role of psychological flexibility is not determined in the relation between attachment dimensions and positive affect. The obtained findings have been considered in the light of theoretical and practical importance.

Key words: attachment dimensions, psychological flexibility, positive and negative affect, adulthood

Introduction

Right after the introduction of the emergency situation due to the coronavirus pandemic, in the beginning of April 2020, Republic of Srpska declared the state of emergency. Measures in this entity were stricter than in other parts of Bosnia and Herzegovina and were established almost a month earlier. This meant introducing a series of measures which limited movement and prohibited assembling of citizens with the intention to reduce the possibility of virus transmission. Though for the purposes of public welfare, these measures, combined with the fear of infection and worry for the future, can prove to have a strong influence on the population's everyday life and their mental health (Brooks et al., 2020), making the entire context of fighting a new and unknown virus a potential source of many unpleasant experiences.

It is a common opinion that unpleasant experiences are followed by the emotions of the same quality since they are natural and adaptive answers to stressful events. However, pleasant emotions during difficult circumstances also aren't an unusual occurrence – they are spotted among people going through numerous major stressful life events and also among those experiencing stress on a daily basis (Ong et al., 2006). Emotions such as happiness, contentment and joy are displayed together with the unpleasant ones and, most importantly, have a unique effect on physical and psychological well-being (Folkman, 2007; Folkman & Moskowitz, 2000). It is established that persons with the tendency of experiencing more positive emotions are less prone to the influence of stressful experiences (Fredrickson, 2001; Fredrickson & Joiner, 2002; Zautra et al., 2005), which can be conceptually and empirically correlated with certain characteristics of secure attachment.

According to attachment theory, people are born with a psychobiological system which motivates them to seek proximity to significant others in times of stress (Bowlby, 1988). Frequent experiences with persons who are available and responsive in times when help is needed promote a relatively stable feeling of emotional security – a perception of others as reliable, caring and trustworthy, and themselves as appreciated and competent (that is, a positive model of others and self). As opposed to that, experiences with persons who don't react, reject or offer inconsistent answers encourage a development of insecure attachment – a perception of others as unreliable (i.e., a negative model of others) and/or perceiving oneself as unworthy and inefficient (i.e., a negative model of self). These early experiences serve as a pattern for the development of later interpersonal relationships, and it is believed they affect the way in which an individual experiences, processes and expresses emotions in all aspects of their life (Bretherton & Munholland, 1999).

Even though there is a wide variety of conceptualizations and ways of measuring attachment, individual differences in adults are mostly defined through variations in two dimensions – attachment anxiety and attachment avoidance, which characterize the quality of relationship (Brennan et al.,

1998). Attachment anxiety represents the fear of being rejected and abandoned, while attachment avoidance represents the tendency to avoid closeness and dependence on others in a relationship. Low values in both dimensions suggest secure attachment, while high values in one or both dimensions indicate an insecure attachment.

Many different studies show that insecure attachment, especially the one characterized by anxiety, is connected with various indicators of poor mental health, and has gained a status of a vulnerability factor in the development of emotional problems and dysfunctional behaviors, while secure attachment is recognized as a protective factor which helps the development of emotional stability, subjective well-being and resilience (Mikulincer & Florian, 2003; Mikulincer & Shaver, 2016). Apart from studying the relationships of (in)secure attachments and different parameters of mental health (Mikulincer & Shaver, 2016), a growing number of researchers focus on examining the potential mediators, i.e., variables which mediate in those relationships and explain the perceived effects. Psychological flexibility is one of the concepts that drew their attention relatively recently. It developed as a part of Acceptance and commitment therapy (ACT) and represents ability of humans as rational and aware beings to interact with the present more fully, i.e., to accept unpleasant conditions (thoughts, emotions, sensations and memories) without any defence or control, in order to realize important goals and live according to personal values (Bond et al., 2011; Hayes et al., 2006). On the contrary, psychological inflexibility implies a rigid domination of behaviors which are not in accordance with personal values and goals, which often happens when people believe in the literal meaning of their own thoughts, making them their only possible reality (cognitive fusion), that is, when they wish to avoid unpleasant inner conditions and context which made them happen (experiential avoidance). Cognitive fusion and experiential avoidance, according to some authors (e.g., Calvo et al., 2020), can be brought into a relationship with typical regulatory strategies which are used by insecurely attached persons. On the one hand, they believe that dealing with difficulties is only possible if they rely solely on themselves, and perceive unpleasant emotions such as fear, anxiety, anger, sadness and guilt as the characteristics of sensitive people, which is the opposite of the way in which they perceive themselves, so they tend to repress and deny these emotions, even when their physiological indicators are evident (attachment avoidance is expressed), or, on the other hand, being too sensitive to rejection they experience their unpleasant emotions more intensely, and regulate them with strategies which only further intensify them and make them escalate, thus capturing the attention of a close person (attachment anxiety is expressed). Compared to this, securely attached persons are able to regulate these emotions with the use of a wide spectrum of strategies, including relying on emotional and social support of close persons, so that the problems they face are mostly perceived as challenges which are manageable and not as elusive threats (Collins, 1996; Garrison et al., 2014; Mikulincer & Shaver, 2016). In

this respect, psychological flexibility could be viewed as one of the strategies employed by securely attached persons, since it benefits psychological and emotional well-being (Kashdan & Rottenberg, 2010; Wolgast, 2014), the constructs which are related to this quality of attachment.

Although it is believed that the attachment style affect emotional experiences in all aspects of life, the relations of these phenomena are usually viewed in the context of specific close relations (e.g., attachment style in romantic relationship) and/or problems which potentially affect their dynamic (e.g., Meuwly & Davila, 2019; Simpson & Rholes, 2017; Wei et al., 2005). There are far less studies which put individual differences with regarding the general qualities of attachment and subjective states in broader context. In one such research concerning the evaluation of everyday, common, emotional experiences (Torquati & Raffaelli, 2004), it has been established that securely and insecurely attached persons, independent of the type of relation, differ from one another regarding experiencing specific strong emotions. In fact, securely attached individuals specified their experiences of certain strong pleasant emotions more often, while insecurely attached ones highlighted their experiences of certain strong unpleasant emotions. However, the differences were not spotted in regards to the general tendency of experiencing pleasant affective conditions, that is, positive affect, nor have they been seen through the subtypes of insecure attachment, or after having considered the negative affect (the general tendency of experiencing unpleasant affective states). In some other studies, however, the connections between attachment dimensions and both types of affect – negative correlation with positive affect and positive correlation with negative affect, have been observed, but have been perceived as unstable when tested on different samples (Barry et al., 2007). Since these evaluations were based on small sample sizes, the authors have suggested further research in order to create a clearer picture of the relations between the quality of attachment and general affective tendencies.

With regards to this, the goal of this paper is focused on the further examination of the attachment relations and affect among adult population from the Republic of Srpska during the state of emergency. This context seems appropriate since the circumstances that follow this pandemic represent a potential trigger to attachment system, and therefore to the variables which are conceptually and empirically connected to the system.

Having in mind the setup of attachment theory and the findings of above-mentioned studies, it is expected that the characteristics of secure attachment will be connected with positive affect, and that characteristics of insecure attachment will be connected with negative affect, while it is possible that the strengths of connections differ depending on the type of the attachment dimensions. Besides, since there are studies which bring into connection the qualities of attachment and variables from the domain of emotional reaction with the characteristics of psychological flexibility, as aforementioned, the other goal is to examine whether the potential effects of attachment dimen-

sions on positive and negative affect can be explained indirectly – through psychological flexibility. In this way, we not only get a clearer picture of the relations of these variables, but also the understanding of possible modalities of psychotherapeutic action.

Method

Sample

The sample which was obtained by using the snowball sampling method consists of 1515 adults (70.4% females) from the Republic of Srpska, entity of Bosnia and Herzegovina, aged between 18 and 65 ($Mdn = 22$, $M = 27.58$, $SD = 10.91$), who have completed a relatively short form of an online set of questionnaires. The research was conducted voluntarily and anonymously between April 28th and May 20th 2020, i.e., the period of the state of emergency on the territory of the Republic of Srpska, precisely one month after the declaring of the state of emergency and introduction of the first measures to prevent the spread of the coronavirus. During the state of emergency the measures changed frequently. Many of them, such as the closure of educational institutions and switching to online mode, stringent measures for public gatherings, the special working regime of markets and pharmacies, mandatory wearing face masks in open and closed spaces, self-isolation and „stay at home” campaigns etc., were still active in the data collection period.

Instruments

The Relationships Questionnaire (RQ)

RQ (Bartholomew & Horowitz, 1991) is a simple instrument with good metric characteristics (Scharfe & Bartholomew, 1994). It consists of four descriptions, one for each of four attachment styles – secure, dismissive, preoccupied and fearful. The participants choose one of those which, in their opinion, best describes them, while also ranking every description on the scale from 1 (*completely unrelated to me*) to 7 (*completely related to me*). Based on this instrument's results we can gather several pieces of information – the style which the participants ranked as best describing them, values for the model of self and the model of other, that is, for attachment anxiety and attachment avoidance. The model of self is calculated by summing the values of scores in the forms which have a positive model of self (secure and dismissive), after which the value of circled scores which have a negative model of self (fearful and preoccupied) are subtracted from the value of positive scores. The model of others is calculated by adding the scores on the forms which have positive model of others (secure and preoccupied), after which the value of circled scores with the negative model of others (dismissing and fearful) are

subtracted from the value of positive scores. If we want to view the data from the perspective of attachment anxiety and attachment avoidance, which is a far more precise and desirable way of considering individual differences (Fraley et al., 2015), the calculation is somewhat different – the minuend from the previous formula becomes the subtrahend and vice versa. In order to avoid negative values, the received data is recoded in a way that values range from 1 and 25, bearing in mind that higher values indicate a more expressed anxiety, i.e., more expressed avoidance. The questionnaire scores showed medium test-retest stability in previous research (Scharfe & Bartholomew, 1994) and were highly correlated with other self-report measures of attachment style (Schmitt et al., 2004; Stein et al., 2010).

The Short version of the Negative and Positive Affect Scale (NAPAS)

NAPAS (Joshani, 2017) consists of five positive and five negative affective states of low and high levels of excitations, where the participants estimate how often they have experienced each condition in the last thirty days, using a scale from 1 (*never*) to 5 (*always*). A complete result in each subscale can vary in a range from 5 to 25. The instrument has been translated from English using the double translation method (Van de Vijver & Hambleton, 1996), and with a confirmative factor analysis the original two-factor structure is confirmed, with good model-data fit indices ($\chi^2(34) = 288, p < .001, CFI = .96, TLI = .95, RMSEA = .07, 90\% CI [.063, .078], SRMR = .04$). Good indicators of internal consistency are also obtained (negative affect: $.84$ and $\omega = .84$; positive affect: $\alpha = .85$ and $\omega = .87$).

The Acceptance and Action Questionnaire (AQS 2)

AQS 2 (Bond et al., 2011; adapted by Žuljević, Rakočević, & Krnetić, 2020) represents a measure of psychological flexibility and it consists of seven claims. The participants provide the answers using a seven point Likert scale (from *never* to *always*), choosing the value which reflects the degree of their agreement with each individual claim. The overall result can vary in a range from 7 to 49. For easier interpretation of the data, the values on the scale are recoded in such way that higher values indicate a more expressed psychological flexibility. Excellent indicators of internal consistency are obtained for this scale ($\alpha = .90$ and $\omega = .91$).

Results

The results of descriptive statistics for variables used in the research are shown in Table 1. The values of skewness and kurtosis vary within the recommended range (± 1.5 ; Tabachnick & Fidell, 2013).

Before introducing the intercorrelations of variables, something that needs to be pointed out is that the sample in this research wasn't homogenized regarding the sex (70.4% female), and that almost three quarters of the participants were under the age of thirty (74.6%), meaning that in the preliminary analysis, the potential effects of sex and age have been examined. Statistically significant, but practically low effects of sex have been observed in attachment anxiety ($M_f = 10.71$, $SD_f = 3.83$; $M_m = 11.21$, $SD_m = 3.70$; $t(1513) = -2.37$, $p = .018$, $d = 0.13$), psychological flexibility ($M_f = 38.66$, $SD_f = 7.60$; $M_m = 40.94$, $SD_m = 7.10$; $t(1513) = -5.44$, $p < .001$, $d = 0.31$) and negative affect ($M_f = 11.05$, $SD_f = 3.80$; $M_m = 10.03$, $SD_m = 3.68$; $t(1513) = 4.81$, $p < .001$, $d = 0.27$), while between the age and attachment avoidance ($r = -.12$, $p < .01$), that is age and negative affect ($r = -.10$, $p < .01$), statistically significant correlations of low intensity have been recorded. In further analysis the effect of these variables has been controlled, primarily because of the sample structure, but also with the aims of the research. So, the coefficients of partial correlations have been shown in Table 1 apart from the results of descriptive statistics. All tested relations have showed their statistical significance, given that in the case of the relation between attachment dimensions and other variables, the correlations seem to be stronger when referring to attachment anxiety. As expected, attachment anxiety and attachment avoidance correlate negatively with positive affect and positively with negative affect. Although generally speaking the identified correlations have smaller strength, they significantly differ statistically ($z_{pa} = 3.97$, $p < .001$ and $z_{na} = 5.27$, $p < .001$). Besides the fact that they correlate weakly with one another, attachment dimensions correlate negatively with psychological flexibility (attachment anxiety moderately, and attachment avoidance weakly), while it is in a low positive correlation with positive affect and a relatively high negative correlation with negative affect. A moderate negative correlation between the affect was noticed.

Table 1
Descriptive statistics and the results of partial correlation analysis

	<i>M</i>	<i>SD</i>	<i>Sk</i>	<i>Ku</i>	1.	2.	3.	4.
1. Attachment anxiety	10.86	3.80	0.16	0.04	-			
2. Attachment avoidance	12.29	3.76	0.34	0.06	.13**	-		
3. Psychological flexibility	39.33	7.52	-0.93	0.65	-.44**	-.19**	-	
4. Positive affect	16.64	3.65	-0.29	0.02	-.27**	-.14**	.34**	-
5. Negative affect	10.75	3.79	0.62	0.01	.33**	.16**	-.61**	-.44**

Notes. *M* – mean; *SD* – standard deviation; *Sk* – skewness; *Ku* – kurtosis.

** $p < .01$.

In order to examine the mediating role of psychological flexibility in relation to attachment dimensions and affect, four models have been tested by using the PROCESS macro for SPSS (c. tables 2-5), given that the evaluation of indirect effect ($a \times b$) has been based on bootstrap method with 5000 repeat samples (recommendation c. Hayes, 2013). In each of the tested models, one attachment dimension was set as a predictor, psychological flexibility was set as a mediator and one affect per each of the tested models was used as a criterion. With regards to the formerly observed effects, the effects of other variables have been controlled – sex, age, and the variables which were not the subject of the concrete analysis in the given model – the other attachment dimension and the other affect quality.

Attachment anxiety was used as a predictor in the first model, and positive affect as a criterion. Besides the effects of sex and age, the effects of attachment avoidance and negative affect have been controlled in this model. The results are shown in Table 2.

Table 2

Psychological flexibility as a mediator between attachment anxiety and positive affect

	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
Direct effect (<i>c'</i>)	-0.11	.02	-4.62	<.001	[-.16, -.06]
Indirect effect ($a \times b$)	-0.01	.01	-	-	[-.03, .00]
Effect <i>a</i>	-0.50	.04	-12.49	<.001	[-.58, -.42]
Effect <i>b</i>	0.03	.01	1.89	.06	[.00, .06]
Total effect (<i>c</i>)	-0.13	.02	-5.45	<.001	[-.17, -.08]

Notes. *B* – unstandardised regression coefficient; *SE* – standard error; *p* – level of significance; *CI* – confidence interval. The statistical significance of the indirect effect is evaluated based on the upper and lower limit of the confidence interval. The indirect effect is considered statistically significant if the confidence interval does not include the value 0.

Based on the presented results one can notice that attachment anxiety (*c'*) significantly predicts the positive affect when the mediator effect is held under control, with potential effects of sex, age, attachment avoidance and negative affect. However, that relation cannot be explained by mediation of psychological flexibility ($a \times b$) as well since the confidence interval of the indirect effect includes the value 0. This trend – significant direct, but not significant indirect effect – has been observed when, instead of attachment anxiety as a predictor, attachment avoidance served that purpose, while the criterion, with the control of all the rest of the variables, remains the same (Table 3). Based on these two test results we can conclude that lower values of attachment dimensions predict a stronger positive affect, given that the relations between these

variables aren't mediated with psychological flexibility. Approximately 22% of variance in positive affect was explained by the variables in both models since the same variables were included in them ($R^2 = .22$, $F(6, 1508) = 71.76$, $p < .001$).

Table 3
Psychological flexibility as a mediator between attachment avoidance and positive affect

	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% <i>CI</i>
Direct effect (<i>c'</i>)	-0.05	.02	-2.40	.02	[-.10, -.01]
Indirect effect (<i>a</i> × <i>b</i>)	0.00	.00	-	-	[-.01, .00]
Effect <i>a</i>	-0.16	.04	-3.99	<.001	[-.23, -.08]
Effect <i>b</i>	0.03	.01	1.89	.06	[.00, .06]
Total effect (<i>c</i>)	-0.06	.02	-2.60	.01	[-.10, -.01]

Notes. *B* – unstandardised regression coefficient; *SE* – standard error; *p* – level of significance; *CI* – confidence interval. The statistical significance of the indirect effect is evaluated based on the upper and lower limit of the confidence interval. The indirect effect is considered statistically significant if the confidence interval does not include the value 0.

On the other hand, significant mediation effects of the psychological flexibility have been observed in the relations between attachment dimensions and negative affect (Tables 4 and 5). In both cases, when attachment anxiety and attachment avoidance were used as predictors and the effects of other variables were controlled, the effects which have been labelled as full mediation before the contemporary approach to testing (Hayes, 2013), have been obtained. In other words, statistically significant indirect, but not direct effects were identified, which tells us that the relations between these variables are mediated by psychological flexibility, in such way that higher values on attachment dimensions contribute to a weaker psychological flexibility (effects *a*), which in turn results with stronger negative affect (effects *b*). In this way we can explain about 45% of the variance in negative affect, bearing in mind that the same variables were included in both mediation models ($R^2 = .45$, $F(6, 1508) = 205.80$, $p < .001$).

Table 4

Psychological flexibility as a mediator between attachment anxiety and negative affect

	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% <i>CI</i>	
Direct effect (<i>c'</i>)	0.04	.02	1.79	.07	[.00, .08]	
Indirect effect (<i>a</i> × <i>b</i>)	0.18	.02	-	-	[.15, .21]	
Effect <i>a</i>	-0.71	.05	-15.58	<.001	[-.80, -.62]	
Effect <i>b</i>	-0.26	.01	-22.68	<.001	[-.28, -.23]	
Total effect (<i>c</i>)	0.22	.02	9.53	<.001	[.17, .26]	

Notes. *B* – unstandardised regression coefficient; *SE* – standard error; *p* – level of significance; *CI* – confidence interval. The statistical significance of the indirect effect is evaluated based on the upper and lower limit of the confidence interval. The indirect effect is considered statistically significant if the confidence interval does not include the value 0.

Table 5

Psychological flexibility as a mediator between attachment avoidance and negative affect

	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% <i>CI</i>	
Direct effect (<i>c'</i>)	0.02	.02	0.99	.32	[-.02, .06]	
Indirect effect (<i>a</i> × <i>b</i>)	0.06	.01	-	-	[.03, .08]	
Effect <i>a</i>	-0.23	.04	-5.08	<.001	[-.32, -.14]	
Effect <i>b</i>	-0.26	.01	-22.68	<.001	[-.28, -.23]	
Total effect (<i>c</i>)	0.08	.02	3.42	<.001	[.03, .12]	

Notes. *B* – unstandardised regression coefficient; *SE* – standard error; *p* – level of significance; *CI* – confidence interval. The statistical significance of the indirect effect is evaluated based on the upper and lower limit of the confidence interval. The indirect effect is considered statistically significant if the confidence interval does not include the value 0.

Discussion and conclusion

The research was conducted in the Republic of Srpska one month after the implementation of the emergency situation and the introduction of first measures of prevention due to the pandemic caused by coronavirus, with the goal of further examining the relations between attachment dimensions and affect and to test the mediatory role of psychological flexibility in these relations. Considering the role of attachment and the mechanisms through which it achieves its effect on numerous aspects of psychological functioning in

the context of various crisis situations, especially this one, which by itself is specific, can help better understand the potential ways to prevent unwanted outcomes and to determine therapeutic action.

The obtained results confirm the relation between attachment and affect. It has been shown that the characteristics of secure attachment – lower anxiety and lower avoidance – are followed by a stronger positive affect, and the characteristics of insecure attachment – high anxiety and high avoidance – are followed by a stronger negative affect, which is in accordance with the theory and with the findings of earlier studies (Barry et al., 2007). Even though these connections have, generally speaking, a lower intensity, they are the most expressed, as expected, in the case of attachment anxiety, given that avoidance-prone persons are more likely to repress and deny emotions. On the other hand, if we take into account the opinion according to which repression and denial help avoidant attached persons keep optimal levels of well-being in everyday life, as well as in extremely stressful conditions, these strategies become inefficient, so that even the people who use them experience stress in the same way as other types of insecurely attached persons (Edelstein & Shaver, 2004). To a certain degree, the results indirectly suggest that the participants of this research did not experience the state of emergency and implemented restrictive measures due to coronavirus pandemic as very stressful. These kinds of findings are already mentioned in some reviewed works, but the authors don't deny the possibility of the unwanted outcomes of isolation and the accompanying circumstances being uncovered after a few months or years as they end (Brooks et al., 2020).

When talking about the analysis in which the mediation effect of psychological flexibility was researched, it has been determined that the relations between attachment dimensions and affect are mediated by this psychological mechanism only in the case of negative affect. Namely, it was shown that persons with a more expressed fear of rejection and abandonment, as well as tendency to avoid closeness and dependability in relationships, are more prone to the negative affect because of their psychological inflexibility. On the other hand, the mediatory role of psychological flexibility is not determined in the relation between attachment dimensions and positive affect. Broadly viewed, these results show that early attachment, as a primary context of learning to control one's own emotions (Bowlby, 1988), finds different ways of acting over time, which can be recognized in adulthood. Numerous papers point out a wide spectrum of possible ways (e.g., Čačić & Gavrilov Jerković, 2013; Wei et al., 2005) and this research confirmed another one used for the negative affect. The connection between attachment and positive affect is evidently manifested through the mediation of other mechanism. These findings are not unusual, since psychological flexibility does not problematize pleasant emotions, but it rather entails people's ability to actively and conscientiously accept their unpleasant inner experiences and reactions, without the intention of changing them. The need for control and avoid them, which is at the same time the

core characteristic of insecurely attached persons, often becomes the source of the problem, rather than its solution. The fact that the attempts to release unpleasant emotions and thoughts only increase their frequency, strength and duration goes in favor of that (Wegner, 1994).

The obtained results are in accordance with the point of view that positive and negative affect do not represent polar opposites of one bipolar dimension, but rather that they phenomenologically differ (*e.g.*, Feldman Barrett & Russell, 1998). Bearing that in mind, it should be mentioned that the instrument used in this research for measuring affect comprised of a small number of different conditions, with some conditions characterized by an extremely low level of excitation. It is possible that a clearer picture of emotional reaction would have been gained if those conditions that people have experienced in a quarantine, such as anger, fear, frustration, helplessness, loneliness, nervousness and worry, were included (Brooks et al., 2020). However, since the intention was to collect the largest possible sample during the state of emergency in order to implement the research aims and to keep participants motivated and prevent their giving up on the research, especially bear in mind the fact that the questionnaires were set online and we had no possibility to affect their motivation, simpler instruments were used. The broader picture could be obtained in future research by collecting an equal sample in terms of sex and age, since it would be possible to examine sex and age differences seen in this research.

As it turns out, by including the concept of psychological flexibility in the research of attachment relations and affect, one can get a clearer picture of their relations. However, the obtained findings not only further point out the complexity of attachment itself, but also potentially offer another important mechanism of psychotherapeutic change. If, in fact, attachment is viewed as a relatively stable characteristic of personality, and psychological flexibility as an ability which is learned and developed, one can conclude that working on flexibility represents a potentially simpler solution than changing basic personal beliefs, such as one's view of self and others.

Conflict of interest

We have no conflicts of interest to disclose.

Data availability statement

The datasets presented in this study can be found in online repositories. This data can be found here: <https://osf.io/5gpbm/>.

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RELACIJE DIMENZIJA AFEKTIVNE VEZANOSTI I AFEKATA U ODRASLOJ DOBI: MEDIJATORSKI EFEKTI PSIHOLOŠKE FLEKSIBILNOSTI

Istraživanje je sprovedeno tokom vanrednog stanja za vrijeme pandemije izazvane virusom korona da bi se dodatno ispitali odnosi dimenzija afektivne vezanosti i afekata, te da bi se testirala medijatorska uloga psihološke fleksibilnosti u tim relacijama. Metodom snježne grudve (snowball sampling method) 1515 odraslih osoba iz Republike Srpske, entiteta Bosne i Hercegovine, (70.4% ženskog pola) u dobi između 18 i 65 godina popunilo je online bateriju upitnika. Dimenzije afektivne vezanosti mjerene su Upitnikom za procjenjivanje odnosa (RQ), afekti – Skalom negativnog i pozitivnog afekta (NAPAS), a psihološka fleksibilnost – Upitnikom prihvatanja i akcije (AAQ-II). Rezultati pokazuju da dimenzija anksioznosti i dimenzija izbjegavanja pozitivno koreliraju sa negativnim afektom, a negativno sa pozitivnim afektom, kao i da se odnosi dimenzija afektivne vezanosti i negativnog afekta mogu objasniti posredstvom psihološke fleksibilnosti, i to tako da više vrijednosti na dimenzijama afektivne vezanosti doprinose slabijoj psihološkoj fleksibilnosti, što zatim rezultira snažnijim negativnim afektom. Medijatorska uloga psihološke fleksibilnosti nije ustanovljena u relaciji dimenzije anksioznosti odnosno izbjegavanja i pozitivnog afekta. Dobijeni nalazi sagledani su u svjetlu teorijske i praktične važnosti.

Ključne riječi: dimenzije afektivne vezanosti, psihološka fleksibilnost, pozitivni i negativni afekat, odrasla dob

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**PUT DO MRAČNE STRANE POSLA: DA
LI STAVOVI I EMOCIJE OBJAŠNJAVAJU
ODNOS LIČNOSTI I NEPOŽELJNOG
ORGANIZACIJSKOG PONAŠANJA?**

Nepoželjna organizacijska ponašanja (NOP) štetna su ponašanja koja donose milijunske gubitke organizacijama, a ujedno škode psihološkoj dobrobiti i produktivnosti zaposlenika. Osobine ličnosti su jedna od glavnih determinanti NOP-a, no istraživanja odnosa ličnosti i NOP-a uglavnom su se fokusirala na svjesne/eksplicitne aspekte ličnosti i tek su u manjem broju razmatrala psihološke mehanizme putem kojih osobine ličnosti djeluju na NOP. Ovaj rad uključuje pregled istraživanja odnosa ličnosti i NOP-a pri čemu, u odnosu na ranije preglede, razmatra i kako nesvjesni/implicitni aspekti ličnosti mogu pomoći u objašnjavanju NOP-a. U radu se fokusiram se na metodu za mjerenje implicitnih aspekata ličnosti koja je pokazala najveći potencijal za predviđanje radnog ponašanja – Test uvjetovanog rezoniranja. Nakon toga, razmatram psihološke mehanizme putem kojih eksplicitni i implicitni aspekti ličnosti djeluju na NOP, koristeći stavove prema poslu i organizaciji i emocije na radnom mjestu kao varijable koje objašnjavaju odnos osobina ličnosti i NOP-a. Konačno, na temelju pregleda istraživanja odnosa osobina ličnosti, stavova, emocija i NOP-a, razvijam teoretski model odnosa ove četiri varijable, koji olakšava razumijevanje složenih psiholoških mehanizama putem kojih implicitni i eksplicitni aspekti ličnosti dovode do NOP-a.

Ključne riječi: ličnost, implicitni aspekti ličnosti, stavovi, emocije, nepoželjno organizacijsko ponašanje

Uvod

Nepoželjna organizacijska ponašanja (NOP) su namjerna ponašanja koja štete ili im je cilj da štete organizaciji ili suradnicima (npr. krađa, nasilje, zabašavanje, ogovaranje; Sackett & DeVore, 2001; Spector & Fox, 2005). Ona donose velike financijske gubitke organizacijama (Bennet et al., 2018; Coffin, 2003; McGee & Fillon, 1995), a dovode i do negativnih ishoda za same radnike (Griffin et al., 1998; Hoel et al., 2003; Keashly & Jagatic, 2003). NOP su važan problem i u zemljama bivše Jugoslavije pa tako Jernei i Tonković Grabovac (2016; prema Tonković Grabovac, 2019) pokazuju da je 13% hrvatskih radnika barem jednom u posljednjih godinu dana došlo na posao pod utjecajem alkohola i da je čak 40% zaposlenika prekršilo sigurnosne propise na poslu, dok Hrvatski zavod za zdravstveno osiguranje (n.d.) navodi da je čak 34% bolovanja u 2018. godini bilo otvoreno bez opravdanog razloga. U Srbiji se procjenjuje da je 11% ljudi 2017. godine bilo na bolovanju iz neopravdanih razloga (Božinović, 2019).

S obzirom na navedeno, istraživanja odrednica NOP-a su važna tema za radne organizacije. Iako će organizacije s dobrim radnim uvjetima koje promiču etično ponašanje svojih zaposlenika imati manje stope NOP-a, neki ljudi će se i u ovakvim organizacijama upuštati u NOP. Najvažnije individualne razlike za objašnjavanje NOP-a su razlike u osobinama ličnosti (Sackett & DeVore, 2001). U ovom radu ću, u odnosu na prijašnje preglede uloge ličnosti u NOP-ima, napraviti dva iskoraka: (1) razmotrit ću kako nesvjesni/implicitni aspekti ličnosti mogu pomoći u objašnjavanju nastanka NOP-a i (2) opisat ću ulogu stavova i emocija prema poslu u odnosu osobina ličnosti s NOP-om. Na temelju ovih spoznaja, razvit ću teorijski model koji detaljno objašnjava proces nastanka NOP-a koja proizlaze iz individualnih razlika u ličnosti zaposlenika.

Odnos ličnosti i NOP-a

Meta-analičke studije odnosa samoprocijenjenih osobina ličnosti i NOP-a pokazuju da ugodnost, savjesnost i emocionalna stabilnost iz petfaktor-skog modela ličnosti (Berry et al., 2007; Berry et al., 2012; Mackey et al., 2019; Pletzer et al., 2019; Salgado, 2002), integritet (Ones et al., 1993; Van Iddekinge et al., 2012) te poštenje/skromnost iz HEXACO modela ličnosti (Mackey et al., 2019; Pletzer et al., 2019) predviđaju NOP. Niska samokontrola se također pokazuje važnom odrednicom NOP-a jer su efekti drugih osobina ličnosti, poput agresivnosti, snažniji kod osoba s niskom razinom samokontrole (Douglas & Martinko, 2001; Marcus & Schuler, 2004; Restubog et al., 2010; Galić & Ružojčić, 2017).

No dominantne taksonomije ličnosti ne zahvaćaju najbolje „mračnu stranu“ ličnosti (Block, 2010; Veselka et al., 2012), koja bi trebala bolje predviđati devijantna, socijalno nepoželjna ponašanja (Wu & LeBreton, 2011). Mračna

strana ličnosti često se opisuje kroz osobine „mračne trijade“ – makijavelizam, narcizam i psihopatiju (Paulhus & Williams, 2002), a nekoliko meta-analiza pokazalo je da su ove tri osobine pozitivno povezane s NOP-om (Grijalva & Newman, 2015; Mackey et al., 2019; O’Boyle et al., 2012).

Konačno, postoje robusni meta-analički nalazi koji pokazuju da su dvije osobine koje definira sklonost doživljavanju negativnih emocija – dispozicijska agresivnost i negativni afektivitet - važni korelati NOP-a (Herschovis et al., 2007; Kaplan et al., 2009; Shockley et al., 2012). Prediktivna valjanost dispozicijske agresivnosti za NOP potvrđena je i na kulturama izvan SAD-a (npr. Rumunjska - Ilie et al., 2012; Filipini - Restubog et al., 2010; Novi Zeland - Roberts et al., 2007). Također, pokazalo se da dispozicijska agresivnost predviđa NOP povrh osobina petfaktorskog modela (Michel & Bowling, 2013) i NOP odmjerena čak 8 godina nakon mjerenja agresivnosti (Roberts et al., 2007). Dakle, nalazi o odnosu agresivnosti i negativnog afektiviteta jasno ukazuju na važnost ove dvije osobine ličnosti za NOP, ali i govore o bitnoj ulozi koju emocije igraju u procesima koji dovode do NOP-a.

Implicitni aspekti ličnosti i NOP

Iako su upitnici ličnosti vrlo popularan mjerni instrument, oni su podložni namjernom iskrivljavanju odgovora (Birkeland et al., 2006; Okanović & Okanović, 2009; Visveswaran & Ones, 1999), koje dovodi do sustavno pristranih rezultata što je problematično kada su ljudi motivirani prikazati se u pozitivnom svjetlu (npr. u selekcijskim postupcima). Također, ljudi su skloni nesvjesnom samozavaravanju do kojeg dolazi zbog nekompetentnosti za davanje točnih procjena o sebi i nesvjesnih obrambenih mehanizama koji služe održavanju pozitivne slike o sebi (Dunning et al., 2004; Roth et al., 1986; Sackeim & Gur, 1979). No čak i kad bi se ove dvije poteškoće mogle u potpunosti eliminirati, upitnici ličnosti i dalje bi zahvaćali samo svjesne i kontrolirane procese ličnosti koji su dostupni introspekciji – tzv. eksplicitni aspekti ličnosti. Izvan dosega upitnika ličnosti ostaju kognitivne strukture (npr. implicitni motivi) i procesi (npr. obrambeni mehanizmi) koji nisu dostupni svijesti i kao takvi čine nesvjesne odnosno implicitne aspekte ličnosti (Frost et al., 2007).

Implicitni aspekti ličnosti trebali bi biti važni za psihološko funkcioniranje i preciznije predviđanje ponašanja (Pervin, 1999). Ipak, oni su uglavnom bili zanemareni u području psihologije rada, prvenstveno zbog toga što su mjereni projektivnim tehnikama (npr. Morgan & Murray, 1935; Rorschach, 1927) koje uglavnom imaju loše psihometrijske karakteristike, a primjena i bodovanje su im dugotrajni (Lillienfeld et al., 2000; Uhlmann et al., 2012). No krajem dvadesetog stoljeća razvijeni su nešto drugačiji načini mjerenja koji imaju potencijal da na efikasan, objektivan i valjan način zahvate implicitne aspekte ličnosti (Uhlmann et al., 2012) te predvide NOP povrh upitnika ličnosti i drugih selekcijskih metoda. Dvije metode koje najviše obećavaju i privukle su najviše pažnje

u području psihologije rada i organizacijske psihologije (Sackett et al., 2017) su Test implicitnih asocijacija (IAT; Schnabel et al., 2008) i Test uvjetovanog rezoniranja (TUR; James & LeBreton, 2012). Iako je IAT općenito poznatija mjera, valjanost IAT-a koji mjeri osobine ličnosti (Asendorpf et al., 2002; Greenwald et al., 2002) za predviđanje organizacijskih ponašanja rijetko je provjeravana. Samo su Clark & Meade (2012) pokazali da IAT za integritet predviđa NOP dok je istraživanje Ružojčića (2019) pokazalo da IAT za agresivnost nije bio povezan s NOP-om. Suprotno tome, prediktivna valjanost TUR-ova je detaljno istražena u radnom kontekstu. Stoga ćemo se u nastavku prvenstveno fokusirati na istraživanja valjanosti TUR-a u radnom kontekstu.

Testovi uvjetovanog rezoniranja (TUR; James & LeBreton, 2012; LeBreton et al., 2019) zahvaćaju pristrane obrasce rezoniranja (tzv. mehanizme opravdavanja) karakteristične za pojedince s određenim implicitnim motivima ličnosti putem zadataka sličnim zadacima induktivnog rezoniranja. Za razliku od tipičnih zadataka induktivnog rezoniranja, zadaci uvjetovanog rezoniranja imaju više podjednako logičnih odgovora koji su konstruirani tako da budu različito privlačni pojedincima ovisno o implicitnim aspektima njihove ličnosti. U primjeru zadatka iz TUR-a za agresivnost na Slici 1 podjednako su logični i odgovor (a) i (c). Implicitno agresivni pojedinci bi trebali odabrati odgovor (c) jer implicira da proizvođači žele iskoristiti svoje zaposlenike i naškoditi im. Ovakvo rezoniranje u stvarnom životu omogućava implicitno agresivnim pojedincima opravdavanje vlastitog agresivnog ponašanja. Konzistentan odabir logičnih alternativa vezanih uz implicitni motiv koji TUR zahvaća ukazuje na to da je taj motiv u većoj mjeri prisutan u implicitnom sustavu ličnosti pojedinca.

Proizvođači tvrde da žele dati kupcima dobar proizvod po niskoj cijeni. Kako bi zadržali troškove na niskoj razini, tvrtke su svele radnu snagu na najmanju moguću mjeru. Većina radnika za plaću ne može kupiti onoliko koliko su mogli ranije.

Koji je najlogičniji zaključak na temelju gore navedenih informacija?

- a. Pridobivanje kupaca ovisi o zadržavanju niskih troškova.
- b. Mnoge tvrtke isplaćuju zaposlenike mjesečno.
- c. Dok god su njihove cijene niske, tvrtke ne vode brigu o kvaliteti života svojih zaposlenika.
- d. Tvrtke obično podižu cijene kako bi privukle kupce.

Slika 1. Primjer zadatka iz hrvatske verzije Testa uvjetovanog rezoniranja za agresivnost (James et al., 2005; prijevod Galić et al., 2014).

TUR-ovi su razvijeni za niz konstrukata (Fine & Gottlieb-Litvin, 2013; Galić et al., 2021; James, 1998; Schoen et al., 2016), ali najviše validiran i najkorisniji za predviđanje NOP-a je TUR za agresivnost (TUR-A; James et al., 2005). Prediktivna valjanost TUR-A za NOP potvrđena je kroz nekoliko meta-analiza (Berry et al., 2010; James & LeBreton, 2012), a studije na američkim i hrvatskim uzorcima pokazale su da predviđa NOP povrh upitnika agresivnosti (Bing et al., 2007; Galić et al., 2018), velikih pet faktora i hostilnosti (Galić et al.,

2014; Ružojčić et al., 2021) te osobina mračne trijade, HEXACO modela ličnosti i samokontrole (Galić, 2016). Osim toga, TUR-A predviđa agresivno ponašanje i u interakciji s eksplicitnim aspektima ličnosti (Bing et al., 2007; Frost et al., 2007; Galić & Ružojčić, 2017), a pokazao se i otpornim na lažiranje dok god je prava svrha testa skrivena sudionicima/kandidatima (Galić et al., 2014; LeBreton et al., 2007; Ružojčić et al., 2021; Wiita et al., 2020).

Ukupno, pregled brojnih istraživanja veze ličnosti i NOP-a jasno pokazuje da su osobine ličnosti važne odrednice nepoželjnih ponašanja na poslu. No pitanje mehanizama putem kojih one djeluju na NOP i dalje ostaje otvoreno. Prema dosadašnjim teorijama i istraživanjima, dva glavna mehanizma putem kojih osobine ličnosti djeluju na NOP su stavovi prema poslu i emocije na radnom mjestu.

Uloga stavova prema poslu

Teorija socijalne razmjene (Cropanzano & Mitchell, 2005) razjašnjava zašto stavovi prema poslu i organizaciji objašnjavaju vezu osobina ličnosti i NOP-a. Ova teorija smatra odnos poslodavca i zaposlenika oblikom socijalne razmjene u kojoj zaposlenici očekuju nagrade razmjerne njihovom doprinosu organizaciji (tzv. norma recipročnosti; Gouldner, 1960). Ukoliko zaposlenici procijene da su nagrade manje od doprinosa, oni bi se mogli upustiti u NOP kako bi uravnotežili odnos doprinosa i dobivenih nagrada.

Polazeći od ove teorije, istraživanja na eksplicitnim aspektima ličnosti pozicioniraju stavove kao posredujuće varijable odnosa osobina ličnosti i NOP-a. Ovo se temelji na meta-analitičkim nalazima koji pokazuju da su, ovisno o osobinama ličnosti, neke osobe sklonije razvijanju negativnih stavova prema poslu i organizaciji. Na primjer, savjesne i ekstrovertirane osobe doživljavaju više razine zadovoljstva poslom (Judge et al., 2002), a osobe visokog negativnog afektiviteta percipiraju organizaciju manje pravednom (Cohen-Charash & Spector, 2001). Nadalje, Anderson & Bushman (2002) navode da su osobe koje se često ponašaju agresivno sklone atribuirati, percipirati i očekivati hostilna ponašanja kod drugih. U kontekstu teorije socijalne razmjene, ovo znači da će prilikom procjene kvalitete razmjene osobe koje su agresivne, neurotične i/ili imaju više razine negativnog afektiviteta biti sklone procijeniti kvalitetu razmjene nižom neovisno o stvarnim inicijalnim ponašanjima poslodavca ili suradnika (Crede et al., 2007). Uzevši u obzir da bi stavovi trebali biti bliža odrednica ponašanja od osobina ličnosti (Mount et al., 2006), oni bi trebali posredovati vezu osobina ličnosti i NOP-a.

Manji broj istraživanja koji je provjeravao ovu pretpostavku pokazao je da zadovoljstvo poslom posreduje vezu ugodnosti (Mount et al., 2006) te pozitivne i negativne emocionalnosti (Crede et al., 2007) s NOP-ima. Guay et al. (2016) su pokazali da odanost organizaciji posreduje vezu ugodnosti i savjesnosti s NOP-ima. Pri tome su osobine ličnosti, odanost i NOP mjerili s

po tjedan dana razmaka, što donekle osnažuje zaključak o pretpostavljenom uzročno-posljedičnom slijedu. Studija Le et al. (2014) pruža impresivan pokazatelj posredujuće uloge zadovoljstva poslom u vezi savjesnosti i neuroticizma s NOP-ima jer su osobine ličnosti sudionika odmjerili u adolescentskoj dobi, a zadovoljstvo poslom i NOP čak 18 godina kasnije. Konačno, Kaplan et al. (2009) su putem meta-analitičkih medijacijskih analiza pokazali da zadovoljstvo poslom i percipirana pravednost organizacije posreduju vezu negativnog afektiviteta i NOP-a.

Stavovi prema poslu i organizaciji i teorija socijalne razmjene mogu poslužiti i za razumijevanje odnosa implicitnih aspekata ličnosti i NOP-a. No budući da se ljudi ne upuštaju u ponašanja koja proizlaze iz implicitnih aspekata njihove ličnosti kako bi se ponašali u skladu sa svojim pojmom o sebi (Banse et al., 2015; Galić, 2016), stavovi bi u ovom odnosu trebali pružiti vanjsko opravdanje za NOP koje je posljedica implicitnih procesa ličnosti koji su izvan svijesti pojedinca.

Ovakva uloga stavova otvara mogućnost za dva uzročno-posljedična slijeda veze implicitnih aspekata ličnosti, stavova i NOP-a. Prvi pretpostavlja da razvijanje negativnih stavova prema poslu i organizaciji prethodi NOP-u jer određeni implicitni motivi (npr. agresivnost) vode ka korištenju pristranih načina procesiranja socijalnih informacija kao što su selektivna pažnja i pristrani uzročno-posljedični zaključci (James & LeBreton, 2012). Ovi obrasci rezoniranja mogu dovesti do formiranja negativnih stavova koji daju „dopuštenje“ za upuštanje u NOP. Prema drugom uzročno-posljedičnom slijedu, negativni stavovi prema poslu i organizaciji razvijaju se nakon upuštanja u NOP koje proizlazi iz implicitnih aspekata ličnosti, kao oblik naknadne racionalizacije. Iako praktički neistražen u području psihologije rada, ovakav način formiranja stavova u temeljima je važnih teorija socijalne psihologije. Bem (1972) u teoriji samopercepcije navodi da stavovi mogu proizlaziti iz opažanja vlastitog ponašanja, pogotovo ako je uzrok ponašanja nejasan. Festinger (1957) u teoriji kognitivne disonance pretpostavlja da ponašanje nesukladno slici o sebi dovodi do doživljaja kognitivnog nesklada koji se može riješiti razvijanjem stava kojim se može opravdati izvršeno ponašanje bez ugrožavanja pozitivne slike o sebi. Ako se razmotre pretpostavke da implicitni/automatski psihološki procesi mogu dovesti do ponašanja bez svjesnog izbora pojedinca (npr. Bargh & Chartrand, 1999; Becker et al. 2011; McClelland et al., 1989; Strack & Deutsch, 2004) i da osobine ličnosti mogu biti izravne odrednice NOP-a čak i kad se uzmu u obzir eksplanatorni mehanizmi kao što su stavovi i emocije na poslu (Cullen & Sackett, 2003), ovaj slijed se također čini plauzibilnim.

Ulogu stavova u odnosu implicitnih aspekata ličnosti i NOP-a do sada su jedino ispitivali Galić et al. (2018) i Ružojčić et al. (2021). Rezultati Galića et al. na dvije studije na velikim uzorcima hrvatskih radnika dali su snažniju potporu uzročno-posljedičnom smjeru prema kojem stavovi (percipirana organizacijska pravednost, kvaliteta socijalne razmjene i zadovoljstvo poslom) predstavljaju naknadnu racionalizaciju NOP-a koji proizlaze iz implicitnih

aspekata ličnosti. Međutim, iako slabiji, većina indirektnih efekata u smjeru implicitna agresivnost -> stavovi -> NOP također je bila značajna. Ipak, ovi nalazi su dobiveni isključivo na samoprocijenjenim NOP-ima i nisu se replicirali na NOP koje su procijenili suradnici.

Ružojčić et al. (2021) su pokušali razjasniti ovaj odnos snažnijim istraživačkim nacrtom u kojem su na uzorku hrvatskih radnika izmjerili zadovoljstvo poslom i NOP u dva navrata u razmaku od 6-12 mjeseci. Nalazi su replicirali Galića et al. (2018), ali samo na NOP-u usmjerenom prema organizaciji, a ne suradnicima. Indirektni efekti za oba kauzalna smjera bili su značajni na samoprocijenjenim NOP-ima usmjerenim prema organizaciji, ali se samo efekt prema kojem zadovoljstvo poslom služi kao racionalizacija NOP-a koji proizlaze iz implicitnih aspekata ličnosti potvrdio i na suradničkim procjenama NOP-a. Prema tome, čini se da oba istraživanja pokazuju da su oba kauzalna smjera odnosa implicitnih aspekata ličnosti, stavova i NOP-a plauzibilna. Ipak, nešto jaču empirijsku potporu dobio je smjer implicitni aspekti ličnosti-> NOP-> stavovi.

Uloga emocija prema poslu

Uz osobine ličnosti i stavove prema poslu i organizaciji, važnu odrednicu NOP-a predstavljaju emocije koje zaposlenici doživljavaju na poslu. Pri tome je za očekivati da će emocije koje vezujemo uz NOP biti disfunkcionalne i negativne (npr. ljutnja, krivnja; David et al., 2005) jer je NOP disfunkcionalno ponašanje za objekte NOP-a, ali i za osobe koje ga izvršavaju u slučaju da su razotkrivene. Shockley et al. (2012) su proveli meta-analizu studija koje su mjerile emocije na poslu kao kratkotrajna stanja, a ne trajne dispozicije, i pokazali značajne povezanosti za niz afektivnih stanja, pogotovo onih koji se tiču negativnih emocija. Npr., negativni afekt općenito, ali i ljutnja, anksioznost, frustriranost, zavist i krivnja/sram, bili su pozitivno povezani s NOP-ima. Osim toga, pozitivni afekt je bio negativno povezan s NOP-ima, iako specifične pozitivne emocije uglavnom nisu. Ovi nalazi ukazuju da su, uz složenije kognitivne procese, NOP dijelom i rezultat emocionalnih reakcija na događaje na poslu (Weiss & Cropanzano, 1996). Uzevši u obzir i činjenicu da se neke od osobina ličnosti poput dispozicijske agresivnosti i negativnog afektiviteta izravno povezuju s tendencijom doživljavanja određenih emocija, jasno je i kako afektivna stanja doživljena na radnom mjestu mogu pomoći u objašnjavanju efekata osobina ličnosti na NOP.

Dvije teorije emocija na radnom mjestu pomažu u razumijevanju važnosti emocija u odnosu osobina ličnosti i NOP-a – model stresora i emocija NOP-a (Spector & Fox, 2005) i teorija afektivnih događaja (TAD; Weiss & Cropanzano, 1996). Obje teorije radno ponašanje vide kao posljedicu afektivnih reakcija na događaje na radnom mjestu, ali i daju važnu ulogu osobinama ličnosti u procesu djelovanja emocija na radno ponašanje, pretpostavljajući da neke osobine

predisponiraju pojedince da snažnije reagiraju na događaje na poslu. Studije koje su ispitivale zajedničko djelovanje emocija i osobina ličnosti na NOP, uglavnom su pozicionirale osobine ličnosti kao moderatore odnosa radne okoline i emocija (npr. Judge et al., 2006; Yang & Diefendorff, 2009), pokazujući da je veza percipiranih karakteristika radne okoline i negativnih emocija snažnija kod osoba s višim razinama negativnog afektiviteta/dispozicijske hostilnosti. No za razumijevanje mehanizama djelovanja ličnosti na NOP, prikladnije je pozicionirati emocije kao posredujuće varijable odnosa osobina ličnosti i NOP-a. Mogućnost ovakvog odnosa spominju i Weiss & Cropanzano (1996) u TAD. Također, ranije je navedeno da osobine ličnosti utječu na procjenu kvalitete socijalne razmjene poslodavca i zaposlenika (Crede et al., 2007). Ovo implicira da osobine ličnosti djelomično determiniraju i percepciju karakteristika radne okoline pa će, npr. agresivni pojedinci i pozitivne i neutralne događaje ponekad interpretirati negativno i u skladu s tim razviti negativne emocionalne reakcije.

Iako smisljena, hipoteza o posredujućoj ulozi emocija u odnosu osobina ličnosti i NOP-a do sada je slabo istražena. Kaplan et al. (2009) su, koristeći meta-analitičke korelacije, pokazali da emocionalni stres na poslu posreduje vezu negativnog afektiviteta i NOP-a, pri čemu je ovaj indirektni efekt bio snažniji od indirektnih efekata preko zadovoljstva poslom i pravednosti. Ružojčić et al. (2021) su u longitudinalnom istraživanju na hrvatskim zaposlenicima pokazali da emocija ljutnje posreduje odnos implicitne agresivnosti i NOP-a usmjerenih prema suradnicima, ali ne i prema organizaciji. Nalaz su objasnili time da su implicitno agresivni pojedinci skloniji percipirati negativne događaje na poslu i reagirati na njih emocijom ljutnje koja im daje dodatni poticaj za upuštanje u NOP usmjerena prema „dostupnijem“ objektu agresije – suradnicima.

Iako se na prvi pogled čini da će emocije koje proizlaze iz ličnosti uvijek prethoditi NOP-ima, istraživanja odnosa emocija i NOP-a su uglavnom koristila kros-sekcijske korelacijske nacрте (Shockley et al., 2012). Stoga se suprotan kauzalni smjer, prema kojem bi emocije bile posljedica NOP-a, još ne može otpisati. Na primjer, prema teoriji kognitivne disonance (Festinger, 1957), kognitivni nesklad prate negativne emocije. S obzirom da je kod implicitno agresivnih pojedinaca NOP posljedica procesa koji su izvan svijesti pojedinca, oni bi nakon upuštanja u NOP trebali doživjeti nesklad sa slikom o sebi, a time i disfunkcionalne negativne emocije usmjerene prema samome sebi, kao što su krivnja ili sram koje su također povezane s NOP-om (Shockley et al., 2012). Buduća istraživanja bi svakako trebala empirijski potvrditi navedene pretpostavke i pokazati koje sve emocije i na koji način mogu pomoći razumijevanju efekata eksplicitnih i implicitnih aspekata ličnosti na NOP. Ljutnja se čini očitim kandidatom iako bi i druge emocije poput krivnje, ali i široke dimenzije negativnog afekta mogle biti korisne.

Model odnosa ličnosti, stavova prema poslu, emocija i NOP-a

Iako bi stavovi prema poslu i emocije na radnom mjestu trebali objašnjavati zaseban dio veze ličnosti i NOP-a, razmatranje njihove međusobne povezanosti može dodatno doprinijeti razumijevanju djelovanja osobina ličnosti na NOP. Postoje meta-analitički pokazatelji da su pozitivna i negativna afektivna stanja povezana sa zadovoljstvom poslom (Thoresen et al., 2003), a jedna od glavnih postavki TAD-e je da su stavovi na poslu dijelom posljedica emocija na radnom mjestu (Weiss & Cropanzano, 1996). Iz toga proizlazi da bi u kauzalnom lancu efekta osobina ličnosti na NOP, emocije trebale prethoditi stavovima tako da će osobe s određenim osobinama ličnosti u većoj mjeri doživljavati određene emocije što će dovesti do razvoja određenih stavova koji će dovesti do većeg ili manjeg upuštanja u NOP. Na primjer, agresivne osobe bi trebale u većoj mjeri osjećati ljutnju na radnom mjestu (Anderson & Bushman, 2002; Ružojčić et al., 2021), što će dovesti do većeg nezadovoljstva poslom i/ili percepcije nepravednosti organizacije što će konačno rezultirati većom razinom NOP-a.

No pretpostavka da osobine ličnosti djeluju na stavove zato što vode ka češćem doživljavanju određenih emocija pa posljedično razvoju određenih stavova samo je jedan od mogućih razloga zašto osobine ličnosti djeluju na stavove prema poslu/organizaciji. Također je moguće da osobine ličnosti djeluju na stavove zato što vode do pristranosti u percipiranju radne okoline kao i zbog toga što će osobe različitih osobina ličnosti same odabrati poslove ili radne situacije koje su u skladu s njihovom ličnosti (Bruk-Lee et al., 2009). Na primjer, osobe niske emocionalne stabilnosti trebale bi percipirati veći broj negativnih događaja na poslu, a agresivne osobe bi u većoj mjeri trebale ulaziti u konflikte što bi za posljedicu imalo negativne stavove prema poslu i organizaciji. U ovom slučaju, negativne emocije bi se mogle razviti kao reakcija na ove stavove što implicira drukčiji uzročno-posljedični mehanizam efekta osobina ličnosti na NOP, koji je bliži onome što pretpostavlja model stresora i emocija NOP-a (Spector & Fox, 2005). Na primjer, agresivni pojedinci bi u većoj mjeri trebali doživjeti nezadovoljstvo poslom i/ili percipirati organizaciju nepravednom što bi dovelo do ljutnje i posljedično viših razina NOP-a. I konačno, treba spomenuti mogućnost koja eliminira stavove iz efekta osobina ličnosti na NOP. Naime, neki autori navode da bi se NOP mogla podijeliti na NOP temeljena na prosudbama i afektivna NOP, koja prvenstveno proizlaze iz afektivnih stanja (Fox & Spector, 2010; Weiss & Cropanzano, 1996). Iako ova podjela do sada nije empirijski provjeravana, ona se svakako čini korisna i smislena u kontekstu odnosa NOP-a s emocijama i stavovima prema poslu, odnosno implicitnim i eksplicitnim aspektima ličnosti. Na primjer, budući da bi afektivna NOP trebala prvenstveno biti uzrokovana emocijama, za objašnjavanje efekta ličnosti na njih stavovi nisu niti potrebni.

Ukupno, ako spojimo ovakvu podjelu NOP-a sa spoznajama o eksplicitnim i implicitnim aspektima ličnosti, možemo razjasniti složenu ulogu stavova

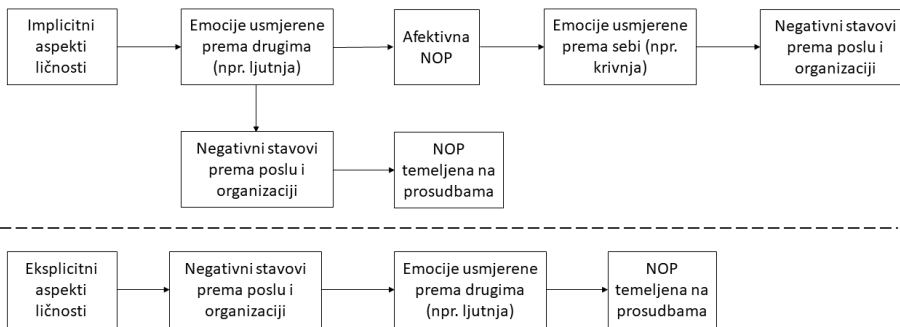
i emocija u objašnjavanju efekata ličnosti na NOP. Budući da su snažne emocionalne reakcije prvenstveno obilježja brzih/impulzivnijih sustava procesiranja informacija kao što su implicitni aspekti ličnosti (Strack & Deutsch, 2004; Weiss & Cropanzano, 1996) i da bi negativni stavovi prema poslu i organizaciji trebali biti opravdanja za NOP koja proizlaze iz implicitnih aspekata ličnosti (Galić et al., 2018; James & LeBreton, 2012; Ružojčić et al., 2021), kod objašnjavanja odnosa implicitnih aspekata ličnosti i NOP-a, emocije bi trebale prethoditi stavovima. Ako ponovimo primjer agresivnosti to znači da će implicitno agresivni pojedinci prvo doživjeti negativne emocije (vjerojatnu ljutnju) te će tek nakon toga razviti negativne stavove prema poslu kako bi opravdali ponašajne tendencije i emocije koje proizlaze iz njihove implicitne agresivnosti. Pri tome, budući da su stavovi preduvjet da bi došlo do NOP temeljenih na prosudbama (Fox & Spector, 2010; Weiss & Cropanzano, 1996), zaposlenici će vjerojatno prvo razviti negativne stavove prema poslu prije upuštanja u ovaj tip NOP-a. Suprotno tome, afektivna NOP su prvenstveno uzrokovana emocijama, pa bi stavovi kod ovog tipa NOP-a trebali uslijediti nakon samog ponašanja, kao oblik naknadne racionalizacije NOP-a.

Budući da emocije koje se javljaju prije ponašanja prvenstveno služe kao poticaj za ponašanje koje je sukladno doživljenoj emociji (Anderson & Bushman, 2002), a svrha NOP-a je naškoditi drugima, emocije koje prethode afektivnim NOP-ima bi trebale biti usmjerene prema drugima, kao što je slučaj kod ljutnje. Ipak, moguće je da se negativne emocije pojave i nakon afektivnih NOP-a koja proizlaze iz implicitnih aspekata ličnosti no svrha ovih emocija bila bi nešto drukčija budući da je ponašanje koje je povezano s njima već izvršeno ranije. S obzirom da bi to ponašanje trebalo proizlaziti iz procesa koji su izvan svijesti pojedinca i kao takvo proizvesti kognitivni nesklad, ove bi emocije trebale biti usmjerene prema sebi (npr. krivnja) kako bi demotivirale pojedince od daljnjeg upuštanja u NOP. No budući da ovi pojedinci istovremeno imaju i implicitne motive koji ih predisponiraju na NOP, vjerojatnije je da će kognitivni nesklad povezan s upuštanjem u NOP razriješiti razvojem negativnih stavova prema poslu i organizaciji (Festinger, 1957). Na taj način mogu eliminirati negativne emocije usmjerene prema sebi i ujedno nastaviti zadovoljavati motiv za nepoželjnim ponašanjem.

Što se tiče eksplicitnih aspekata ličnosti, uzročno-posljedični slijed bi trebao biti jednostavniji jer ih karakterizira sporije i promišljenije procesiranje informacija (Epstein, 2003; Strack & Deutsch, 2004). U skladu s tim, mogli bismo očekivati da će eksplicitni aspekti ličnosti prvenstveno utjecati na razvoj negativnih stavova koji će onda dovesti do razvoja negativnih emocija. Budući da bi stavovi trebali prethoditi samo NOP-ima temeljenim na prosudbama, eksplicitni aspekti ličnosti bi trebali biti važni prvenstveno za ovaj tip NOP-a. Predloženi model odnosa implicitnih i eksplicitnih aspekata ličnosti, stavova prema poslu, emocija na poslu i NOP-a prikazan je na Slici 2.

S obzirom da navedeni model pretpostavlja niz medijacijskih odnosa koji objašnjavaju promjene u stavovima, emocijama i NOP-ima tijekom vremena,

njegove pretpostavke potrebno je testirati longitudinalnim istraživačkim nacrtima s barem tri, a poželjno i više točaka mjerenja (Ployhart & MacKenzie, 2015). No budući da je ovakav tip istraživačkih nacrti teško ostvariv u organizacijskom kontekstu, nekoliko je mogućnosti koje istraživačima mogu olakšati testiranje ovog modela. Prvo, s obzirom da su osobine ličnosti pojedinca i njihov efekt na ponašanje u većoj mjeri stabilni nakon dosezanja odrasle dobi (Caspi et al., 2005; Epstein, 2003; Le et al., 2014; Metcalfe & Mischel, 1999; Strack & Deutsch, 2004), čini se opravdanim zahvatiti osobine ličnosti samo u jednoj točki mjerenja i na taj način „rasteretiti“ ostale točke. Drugo, moguće je testirati pojedine dijelove ovog modela te na taj način djelomično potvrditi njegove pretpostavke. U tom slučaju bi se pregledom istraživanja temeljenih na prikazanom modelu moglo utvrditi koji aspekti modela adekvatno opisuju procese odnosa ličnosti i NOP-a, a koji se dijelovi trebaju doraditi. Dodatno, budući da je vjerojatno da se procesi opisani u modelu odvijaju brzo i dinamično, model bi bilo korisno testirati i putem metoda uzorkovanja iskustava ili dnevničkih studija u kojima sudionici trebaju kroz kraće vremenske intervale ili na dnevnoj razini izvještavati o svojim iskustvima na poslu (npr. Judge et al., 2006). Ovakve metode imaju potencijal da bolje zahvate promjene koje proizlaze iz uzročno-posljedičnih odnosa opisanih u ovom modelu.



Slika 2. Model odnosa implicitnih i eksplicitnih aspekata ličnosti, stavova prema poslu i organizaciji, emocija na radnom mjestu i nepoželjnih organizacijskih ponašanja (NOP).

Zaključak

NOP su štetna za radnike, organizacije, ali i korisnike njihovih usluga i proizvoda (Sutton, 2007). Jedne od glavnih odrednica NOP-a, osobine ličnosti, djeluju na NOP složenim mehanizmima koji uključuju implicitne i eksplicitne aspekte ličnosti, stavove prema poslu i emocije na radnom mjestu. U ovom radu, razvio sam teoretski model ovih složenih odnosa koji uključuje niz

provjerljivih pretpostavki koje bi trebalo testirati u budućim istraživanjima u svrhu boljeg razumijevanja determinanti NOP-a. Bolje razumijevanje nastanka NOP-a ima i važne praktične implikacije jer otvara više mogućnosti za sprječavanje ovog štetnog organizacijskog ponašanja. Na primjer, ukoliko bi se predložena uloga stavova u modelu potvrdila, to bi značilo da čak i ako su pojedinci s predispozicijama za NOP prošli selekcijski proces i postali zaposlenici organizacije, njihova NOP bi se i dalje mogla umanjiti tako što bi im se otežalo razvijanje negativnih stavova prema organizaciji (npr. jasnijim komuniciranjem pravednosti organizacije).

Iako opsežan, model je i dalje donekle pojednostavljen kako bi olakšao razumijevanje ovih složenih odnosa i potaknuo daljnja istraživanja. Nakon empirijske provjere trenutnog modela, u daljnjem razvoju modela mogle bi se razmotriti interakcije između eksplicitnih i implicitnih aspekata ličnosti u predviđanju stavova, emocija i ponašanja (npr. Bing et al., 2007; Frost et al., 2007; Galić & Ružojčić, 2017). Primjerice, moguće je da bi osobe koje su istovremeno i implicitno i eksplicitno agresivne mogle doživjeti pozitivne emocije nakon upuštanja u NOP. Također, model je trenutno fokusiran na „tamnu stranu“ ličnosti s obzirom da bi ovaj aspekt ličnosti trebao biti važniji za NOP. Ipak, buduća unapređenja bi mogla razmotriti i odnose socijalno poželjnih aspekata ličnosti s NOP-om (npr. motiv za afilijativnost, Runge et al., 2020).

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THE PATH TO THE DARK SIDE OF WORK: DO ATTITUDES AND EMOTIONS EXPLAIN THE RELATIONSHIP BETWEEN PERSONALITY AND COUNTERPRODUCTIVE WORK BEHAVIOR?

Counterproductive work behaviors (CWBs) are harmful behaviors that are detrimental to financial success of organizations while also harming the psychological well-being and productivity of employees. Personality traits are one of the main determinants of CWB, but research on the relationship between personality traits and CWB has mainly focused on the conscious/explicit aspects of personality. Also, only a small number of studies has considered the psychological mechanisms through which the personality traits affect CWB. This paper includes an overview of research on the relationship between personality and CWB, and, compared to previous reviews, also considers how unconscious/implicit aspects of personality can help in explaining CWB. I focus on the method for measuring implicit aspects of personality that showed the greatest potential for predicting work behavior - the Conditional Reasoning Test. In the rest of the paper, I consider the psychological mechanisms by which explicit and implicit aspects of personality affect CWB, using attitudes toward work and organization and emotions in the workplace as variables that explain the relationship between personality traits and CWB. Finally, based on a review of research on the relationships of personality, attitudes, emotions, and CWB, I develop a theoretical model of the relationship of these four variables, which facilitates understanding of the complex psychological mechanisms by which implicit and explicit aspects of personality lead to CWB.

Keywords: personality, implicit personality, attitudes, emotions, counterproductive work behavior

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EMOTIONAL ENGAGEMENT, BUT NOT TRANSPORTATION LEADS TO HIGHER EMPATHY AFTER READING A FICTIONAL STORY, IN MORE AGREEABLE PARTICIPANTS

Research from different disciplines points to a positive relationship between reading fiction and empathy. Some studies also focus on potential moderators of this relationship, such as individual personality differences and how the individual engages with the fictional text in terms of transportation. This paper aims to investigate whether reading-induced Affective empathy can be explained by personality trait of Agreeableness, as well as Emotional engagement, and Transportation. Participants were 132 undergraduate and graduate students, who read a short fictional story by J. Joyce and after that completed a set of questionnaires, containing measures of Big Five personality traits, Emotional engagement, Transportation, and Affective empathy. Results show that there is a strong positive relationship between Agreeableness and story-induced Empathy and that this relationship can be partially explained by Emotional engagement. Transportation, on the other hand, did not show to be an important variable in the relationship of Agreeableness and story induced Empathy; neither did it show to be a significant factor in this relationship when Emotional engagement was included. This study provides information for additional understanding of the relationship between reading fiction and empathy through the investigation of its mediators.

Key words: agreeableness, story induced empathy, emotional engagement, transportation

Introduction

Most people spend at least some part of their leisure time reading, and quite often that includes reading fiction. Fictional texts (e.g., novels) differ from non-fiction or expository texts (e.g., instructional manuals, textbooks) in several ways. The first difference is regarding structure, because fiction represents goal-oriented structure of human experience (Gerrig, 1993). The second difference is regarding content. While fictional texts emphasize the characteristics and interactions of the characters, non-fictional texts are more informational (Gardner, 2004). Researches shows that these differences are related to some specific reading outcomes, such as comprehension and recall (Graesser et al., 1980) and verbal ability (Mar & Rain, 2015), which have been more pronounced in relation to exposure to narrative fiction. Additionally, studies show that reading fiction, but not non-fiction, can be related to better theory of mind and empathy (Johnson, 2012; Mar et al., 2006).

Theory of mind is a metarepresentational ability – representation of a representation and it refers to understanding of our personal as well as other people's mental states, e.g., desires, beliefs, intentions, thoughts, perceptions, emotions etc. Empathy, on the other hand, refers to our ability to understand or feel what another person is experiencing, from that person's perspective. Two basic types of empathy are affective or emotional empathy and cognitive empathy (Davis, 1983). Affective empathy is when we feel what another person is feeling both physically and emotionally. We feel someone's pain or joy, for example, as if it is our own. Cognitive empathy refers to the capacity to understand another person's perspective or mental states, e.g., what someone is thinking of. This type of empathy is often defined in the same way as the theory of mind ability (Leverage et al., 2011). In fact, many studies dealing with either theory of mind or cognitive empathy use the same measurements to assess this ability, but they name it differently, depending on their theoretical perspective (Olderback et al., 2015; Stansfield & Bunce, 2014).

Reading Fiction, Theory of Mind and Affective Empathy

The relationship of reading fiction with theory of mind and affective empathy can be explained through more careful analyses of the fictional text. As mentioned before, unlike non-fictional texts which are more expository in nature, fictional texts take the form of a narrative. According to Bruner (1986) narrative is a distinctive mode of thought that focuses on the mental lives of characters – their desires, beliefs, intentions, knowledge etc., and their interactions with other people. It is also very complex because stories include past, present and future events. They are full of different ambiguities, opinions, dilemmas, and problems that their characters' experiences. Gerring (1993) was the first to use the travel metaphor to describe how reading fiction can take

us, or transport us to where ever and whenever the story is happening, and thus allow us to experience what the story characters are feeling. Neussbaum (1995) took the notion of transportation a step further, by saying that the active practice of explaining people's behavior based on their mental states, which is present during fiction reading, is of great importance for our social lives. Oatley (1999) also proposed that the simulation of social experiences that we experience while reading fiction might have real consequences for our social lives. In other words, by reading about character's mental and emotional lives and their social experiences, we learn about them and they affect our mind and behavior, especially social skills connected to empathy and theory of mind (Mar et al., 2006).

Indeed, there are studies showing that reading a fictional story can lead some individuals to engage in more prosocial behavior (Johnson, 2012; Koopman, 2015), and this relationship is moderated by theory of mind and affective empathy. However, it is important to distinguish between studies that deal with lifetime exposure to fiction and its relations to other variables, and studies that focus on the effects of reading a fictional story in experimental conditions. Previous researches point to a positive correlation between lifetime exposure to fiction and theory of mind (Djikic et al 2013; Mar et al., 2006; Mar et al., 2009). The first report of a causal relation in a manner that reading a short fictional paragraph leads to a better theory of mind was provided by Kidd and Castano (2013). Attempts to replicate these results did not always prove successful (Djikic et al., 2013; Panero et al., 2016), but a recent meta-analysis of experiments addressing this question (Dodell-Feder & Tamir, 2018), shows that there is indeed a small positive impact of fiction reading on social cognition (abilities related to processing, interpreting and responding to social information).

Studies on reading fiction and affective empathy are much scarcer. While studying the direct response to reading a fictional story in an experiment, Johnson (2012) showed that deeper transportation into the story leads to higher affective empathy, and later to better chances of engaging in prosocial behavior. At the same time, based on Green and Brock's research (2000) he introduced transportation as an important variable influencing the relation of reading fiction and empathy. Green and Brock (2000) define transportation into the narrative world as a combination of attention, imagery, and feelings, and posit that transformation happens when the reader is fully engaged with the text, experiences high imagery and the story has an emotional impact on him. Bal and Veltkamp (2013) also found that reading a fictional story induces affective empathy, but only in the case of emotional transportation. Emotional transportation, also known as emotional engagement is defined as feeling for and with characters (Bussele & Bilandzic, 2009). It is what the reader experiences as a result of emotional arousal that happens while he is engaged with fictional text, but it does not have to be related to a specific emotion. Compared

to transportation, emotional engagement focuses more on the affective, than on the cognitive involvement with the text. Djikic et al. (2013) found different associations between reading a fictional story and cognitive and affective empathy, with no increase in affective empathy. Stansfield and Bunce (2014) found different associations of lifetime exposure to fiction with trait empathy vs. story-induced emotional and cognitive empathy. They found that exposure to fiction was associated with trait cognitive and not affective empathy, but the experience of being transported was associated with story-induced affective empathy. Inconsistencies in results from these studies shows that the relationship between reading fiction and affective empathy needs to be further explored.

Reading Fiction and Personality Differences

To obtain deeper understanding of the relationship between reading fiction and affective empathy or theory of mind, some researchers directed their interest to individual personality differences and how the individual engages with the fictional text. Early research on reading fiction and personality showed positive associations between fiction reading and openness to experience (McManus & Furnham, 2006; Tirre & Dixit, 1995), with less consistent findings regarding extraversion and agreeableness (Tirre & Dixit, 1995). Mar et al. (2009) took this research to a new context. By investigating the causal association between exposure to fiction and social ability, they additionally wanted to rule out the possible influence of individual personality differences. Using a Big Five model of personality (Costa & McCrae, 1992) they identified openness as the most consistent correlate, and after controlling for this trait the authors still found that exposure to fiction predicted performance on cognitive empathy. Another of the Big-Five personality traits that could be of particular importance in studying affective empathy is agreeableness (Graziano & Eisenberg, 1997). Persons who score high on this dimension are often described as sympathetic, helpful and generous (Goldberg, 1992), and Graziano et al. (2007) emphasize its similarity to empathy. The same authors found a positive correlation between agreeableness and total score on empathy (Davis, 1996), but also more specifically to empathic concern and perspective taking, e.g., the two components that are related to promoting prosocial action (Graziano et al., 2007). Penner et al. (1995) and Habashi et al. (2016) also found positive correlations between agreeableness and other-oriented empathy. Therefore, this research focuses on agreeableness, which has been shown by previous research to be the most likely to generate a systematic pattern of empathic responses (Graziano & Eisenberg, 1997).

Based on the mentioned studies that point to a positive association between reading a fictional story and affective empathy (Johnson, 2012), but also highlight the importance of transportation (Johnson, 2012) and emotional

engagement (Bal & Veltkamp, 2013), as well as the potential contribution of agreeableness (Graziano et al., 2007; Habashi, 2016; Penner et al., 1995) in this relationship, we propose a hypothetical model depicted in Figure 1. According to this model, the relationship between agreeableness and story induced affective empathy can be explained through emotional engagement and transportation. We propose that affective empathy will be enhanced after reading a short fictional story in participants with a higher level of agreeableness who can easily be emotionally engaged and transported in the story.

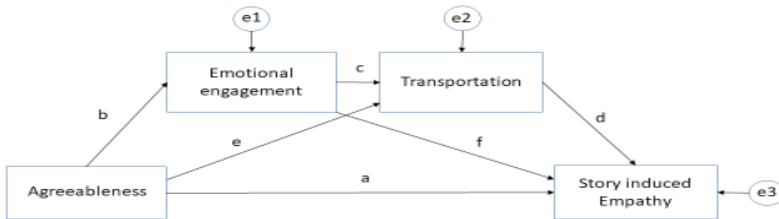


Figure 1. Hypothetical model of mechanisms for the development of story induced affective empathy based on agreeableness.

Practical implications that the confirmation of the proposed model would provide, include a better understanding of the relationship between personality dimensions, e. g., agreeableness and affective empathy induced after reading a fictional story. These findings might provide a base for development of more personalized reading programs, aimed at enhancing empathy in general population.

Methods

Participants

Participants were undergraduate and graduate students at the University of Osijek, Croatia ($N = 132$), who volunteered to participate in the experiment: 83 were female and 49 male. The average age was 21 ($M = 21.45$, $SD = 2.07$, range 19-33).

Procedure

The experiment was done in small groups of up to 25 participants in different classrooms at the University. Participation was voluntary. After the Ethics committee of the author's institution and deans of the two faculties from the J. J. Strossmayer University approved the research, e-mail invitations for participation were sent to students through their professors. The students

were informed by their professors that prior to coming to regular classes, they will be offered to participate in a research project on reading, and that that day the first hour of classes will be dedicated to this research. There were up to 25 students in each class who agreed to participate. Once they were seated, the experimenter explained the general purpose of the research to each group of participants; they signed the consent form and were given a set of questionnaires. The procedure was the following: participants were instructed to read a fictional story and then complete the set of questionnaires, comprising of the measures reported in this research, but also additional measures. All the participants read a short fictional story "Araby" by J. Joyce from the book titled "Dubliners". The procedure lasted up to 45 minutes.

Measures

Fictional Story

Participant read a short story named "Araby", from the J. Joyce book titled "Dubliners", which was published in 1914. We specifically chose a previously published story written by a well-known and skilled author, instead of creating a story specifically for the study purpose, because we wanted to examine the effect of a story that the general public can also read in real life. In the story the main character, a boy falls in love with his friend's sister but fails in his quest to buy her a worthy gift from the Araby bazaar.

IPIP50

International Personality Item Pool (IPIP; Mlačić & Goldberg, 2007). To measure the Big-Five domains we used the short form of Croatian translation of the IPIP. Participants were presented with 50 items and asked to rate how well they believed it described them on a 5-point scale ranging from 1 ("very inaccurate") to 5 ("very accurate") as in the original instrument (Goldberg, 1999). Previous research confirmed the stability of the five-factor structure of IPIP50 and satisfactory scale reliability on a sample of Croatian adolescents (Mlačić, et al. 2007). For each of the five factors, namely Extraversion, Agreeableness, Conscientiousness, Emotional stability and Intellect, there are 10 items and the final result is calculated as a sum of responses on these items.

Emotional Engagement

Emotional engagement (feeling for and with characters) was measured using an adaptation of the three items from Busselle and Bilandzic (2009): (1) "The story affected me emotionally", (2) "During story reading, when the main character was offered a chance to do something that would make him look good

in the eyes of the girl he liked, I felt happy for him"; (3) *"Considering the story ending, I felt sorry for the main character"*. For each item participants rated how well they believed it described them on a 5-point scale ranging from 1 (*"not at all"*) to 5 (*"absolutely"*). The total score was calculated as a sum of all responses.

Transportation

Transportation was measured using Green and Brock's transportation scale (2000). It consists of 12 items that describe the degree to which the participants are engaged in the story. An example item is *"While I was reading the narrative, I could easily picture the events in it taking place"*. Two researchers who were proficient in English language and familiar with the study purpose independently translated all the items from the original version of the transportation scale into Croatian language. Following this, the translations were compared and the different translation options were discussed. As a result, the unique version of the scale was constructed in Croatian, containing item translations for which both researchers agreed they represent the best semantic and conceptual translation of the original items. For each item the participants rated how much they experienced what the items described while reading the fictional story, using a scale from 1 (*"very little"*) to 7 (*"extremely"*). Three items were reversed while scoring. The total score was calculated as a sum of all responses.

Affective Empathy

Affective empathy was measured using an Affective empathy scale (Raboteg-Šarić, 1995) which consists of 19 items describing emotional reactions to other people's emotional states, care about others that find themselves in unfavorable situations, and emotional reactions to other people's unfavorable experiences. Using a scale from 1 (*"It doesn't describe me well at all"*) to 5 (*"It describes me completely"*) participants rated how well each item can be applied to them. The total score was calculated as a sum of all responses.

Results

Descriptive statistics data for variables in the study are shown in Table 1. All the scales showed good to excellent reliability.

Table 1
Descriptive statistics of variables in the study

	<i>M</i>	<i>SD</i>	α
Affective empathy	73.06	11.23	.90
Extraversion	35.20	6.90	.85
Agreeableness	40.46	5.16	.83
Consciousness	35.49	7.45	.87
Emotional stability	33.22	7.28	.85
Intellect	38.19	4.70	.72
Emotional engagement	9.22	2.80	.77
Transportation	42.22	12.43	.86

The correlations between constructs are shown in Table 2. Although we can see that besides Agreeableness other personality dimensions are significantly related to Affective empathy too (Consciousness and Emotional stability), Agreeableness is the only personality dimension that significantly correlates to Affective empathy, Emotional engagement, and Transportation.

Table 2
Correlation matrix of personality dimensions measured by IPIP and empathy, emotional engagement and transportation

	Extraversion	Agreeableness	Consciousness	Emotional stability	Intellect
Empathy	-.05	.75**	.27**	-.24**	-.10
Emotional engagement	.11	.47**	.13	-.06	.13
Transportation	.26**	.30**	.02	.07	.19**

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

To examine the mechanisms behind the positive relations between Affective empathy and Agreeableness, we conducted a regression analysis aiming to establish chain-related mediators which could explain this connection. Based on a hypothetical model described in the Introduction (Figure 1) we hypothesize that participants who score higher on Agreeableness can more easily be emotionally engaged as well as transported in the fictional story they read and that this results in higher Affective empathy. The model was tested using

Model 6 of the Hayes program for statistical analysis, Process for SPSS (Hayes, 2017). Model 6 tests a larger number of relations between variables. As visible in Figure 1, besides the direct effect of Agreeableness on Empathy (trajectory a), it measures the direct effect of Agreeableness on Emotional engagement (trajectory b) and Transportation (trajectory e), as well as the indirect effect of Agreeableness on Empathy through Emotional engagement (1. indirect effect) and Transportation (2. indirect effect) independently and in combination (3. indirect effect). To examine the indirect effects model 6 was tested on 2000 bootstrap samples. A more detailed description of the analyses is provided in Hayes (2017).

Results from Table 3 show that Agreeableness is significantly related to Emotional engagement (trajectory b) but not with Transportation (trajectory e). Furthermore, the results from Table 3 show that the relationship between Agreeableness and Transportation is completely explained by Emotional engagement. What is also significant is the relation of Agreeableness with Affective empathy but through Emotional engagement (1. indirect effect). This means that participants who score higher on Agreeableness tend to be more emotionally engaged in the fictional story and because of that, they achieve higher scores on Affective empathy. The relation between Agreeableness and Affective Empathy, through Transportation, did not show to be significant, and neither did the relationship between Agreeableness and Affective empathy through Emotional engagement and Transportation.

Table 3

Unstandardized OLS regression coefficients with 95% security interval in estimating Empathy based on Agreeableness, Emotional engagement, and Transportation

	Criteria					
	Emotional engagement		Transportation		Empathy	
	Coefficient	95% interval	Coefficient	95% interval	Coefficient	95% interval
Agreeableness	0.24**	0.159 – 0.326	-0.07	-0.41 – 0.27	1.33**	1.061-1.60
Emotional engagement			3.08**	2.43 – 3.73	1.19**	0.512 – 1.87
Transportation					0.00	-0.15 – 0.14
Constant	-0.58	-3.99 – 2.83	16.56	4.23 – 28.88	8.26	-1.85 – 18.38
	$R^2 = .21$		$R^2 = .47$		$R^2 = .62$	
	$F(2, 122) = 32.39^{**}$		$F(2, 121) = 54.24^{**}$		$F(3, 120) = 65.75^{**}$	

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

Table 4

Direct and indirect effects of Agreeableness on Empathy after reading a fictional story

	<i>Effects (SE)</i>	<i>95% interval</i>
Direct effect	0.29** (0.08)	0.14 – 0.45
Agreeableness -> Emotional engagement -> Empathy	0.29** (0.09)	0.12 – 0.47
Agreeableness -> Transportation -> Empathy	0.00 (0.01)	-0.00 – 0.03
Agreeableness -> Emotional engagement -> Transportation -> Empathy	-0.00 (0.01)	-0.10 – 0.11

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

Discussion

This research aimed to explore potential mediators of the relationship between reading a fictional story and Affective empathy in university students. It specifically focuses on personality trait of Agreeableness, as well as Emotional engagement, and Transportation. There are a few reasons to choose Agreeableness among other Big five personality dimensions. First of all, prior research indicates that this personality trait might be particularly important in the study of empathy and prosocial behavior (Graziano et al., 2007; Habashi et al., 2016). Graziano and Eisenberg (1997) define Agreeableness in terms of social motivation. This underlying motivation of more agreeable persons to maintain positive relations with others is what might contribute to them achieving higher Affective empathy after reading a fictional story. Secondly, in this research Agreeableness was the only personality dimension that showed significant correlations to Affective empathy, Emotional engagement, and Transportation, and this was a precondition for the statistical analysis that was aimed to be conducted. The results show that there is a strong positive relationship between Agreeableness and story-induced Affective empathy and that this relationship can be partially explained by Emotional engagement. In other words, more agreeable individuals tend to be more emotionally engaged in the fictional story which leads to higher Affective empathy. Buselle and Bilandzic (2009) define Emotional engagement as feeling for and with character. They tie it to emotional arousal regardless of the valence components of the affect. More agreeable individuals are often described as soft-hearted, trusting, helpful, forgiving etc. (Costa & McCrae, 1992), and results from this study show that they are better able to feel with the character from a fictional story which results in higher Affective empathy. It is suggested that their personality characteristics which result in higher Agreeableness make them more motivated to emotionally engage with the story characters. This assumption is based on Graziano and Eisenberg's (1997) idea that individual differences in

Agreeableness might be related to their motivation to engage in behaviors that bring to building intimacy and solidarity with others, which is characteristic of a prosocial personality. This model explains a high 62% of the variance of the story-induced Affective empathy, which indicates that this effect is very strong. On the other hand, Emotional engagement cannot explain the full relationship of Agreeableness and story-induced Affective empathy, and it still remains to be seen what other factors could be accountable for this relationship.

Furthermore, Transportation did not show to be an important variable in the relationship of Agreeableness and story induced Affective empathy neither did it show to be a significant factor in this relationship when Emotional engagement was included. These results point to different effects of Emotional engagement and Transportation on Affective empathy after reading a fictional story (in more agreeable participants). Green and Brock (2000) define Transportation into the narrative world as a combination of attention, imagery, and feelings. When the items from these two measures are analyzed, it can be seen that Emotional engagement focuses exclusively on the emotional experience the story induced in the reader, while Transportation also covers other, more cognitive based elements, such as lack of awareness of the surrounding and mental imagery. Based on the study results, this broader construct did not prove to be significant in achieving higher story-induced Affective empathy in more agreeable individuals. Previous research (Johnson, 2012) showed that after reading a fictional story, participants who were more transported showed higher empathy, without consideration for personality dimensions. On the other hand, as mentioned earlier, other researches points to personality traits being important for absorbed narrative fiction reading and transportation (Kujipers, et al., 2018; Meade, 2015). Kujipers et al. (2018) focused on Openness to Experience, but in a broader way than defined in the Big five personality model (Costa & McCrea, 1992), and showed that reading habits act as the mediator of the effect of personality traits on absorbed reading. They also call for further exploration of the transportation construct. Meade (2015) tried to identify which personality traits lead to better transportation and showed that agreeableness, extraversion, and imagination positively correlated with transportability. This research offers complementary findings showing that participants high in Agreeableness achieve greater Emotional engagement, but not Transportation, and that this results in higher story-induced Affective empathy.

Conclusion

Empathy is considered an important ability in life. It helps people to connect with others, e.g., to feel what they are feeling, to care about them and reach out to help them. Empathy helps people get along with others better, it helps them resolve conflict more easily, and it enhances collaboration and team work (Klimecki, 2019). It is important for individuals, but also for societies. There-

fore it is crucial for scientist to investigate the mechanisms that can help to achieve an increase in empathy. If reading fiction can indeed enhance empathy it important to consider developing programs to support this relationship. But before one recommends schools, universities and even governments to invest in development of such programs, strong evidence that reading fiction affects empathy and clear understanding of how individual differences moderate this relationship are needed.

Results from this study show that individual personality differences have an important role in considering the association between reading fiction and Affective empathy, especially Agreeableness. More agreeable individuals are more likely to experience an increase in Affective empathy after reading a fictional story. The mediator of this relationship is Emotional engagement, and Transportation did not prove to be a significant factor in this relationship. Emotional engagement might be described as a type of Transportation, but one that focuses more on the emotional aspect of being engaged in the story, specifically on feeling for and with character, and results from this research show that it is this aspect that is important and one that in case of higher Agreeableness leads to increase in story induced affective empathy. It would be interesting to investigate if Empathy induced by reading a fictional story in more agreeable individuals would further result in their better social skills and more prosocial behavior and if the same could be said about lifetime exposure to fiction.

Study limitations

This research is not without shortcomings. First of all, the study consisted of only one condition in which participants read a fictional story, without a control condition in which they would be reading a non-fictional story. Our starting point was that reading a fictional story can induce affective empathy in readers, which is something previous research clearly points to. However, we cannot fully exclude the possibility that the reading itself was what induced Empathy in our participants. Another shortcoming is that the research was conducted with the student population which holds some specifics in comparison to the general public.

Future research

For future research, it is recommended to design studies with different age groups since previous research clearly shows that personality traits change over the years even after the age of 30, especially Agreeableness (Srivastava et al., 2003). Also, it is suggested to further explore how the proposed model of relations between Agreeableness, Emotional engagement, and Transportation would function with story induced Theory of mind as the outcome variable,

since previous research point to a significant positive relation between Agreeableness and the ability to understand other people's mental states (Nettle & Liddle, 2008). Finally, future research should focus on practical implications of story-induced Empathy in more agreeable individuals and if this increase would effect in more real-life prosocial behavior as well.

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Conflict of interest

We have no conflicts of interest to disclose.

Data availability statement

The dataset linked to this empirical research was not deposited in any of the data repositories, but can be obtained by contacting the author.

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EMOCIONALNA UKLJUČENOST, ALI NE I TRANSPORTACIJA DOVODI DO VIŠE EMPATIJE NAKON ČITANJA FIKCIJSKE PRIČE, KOD SUDIONIKA S VIŠOM UGODNOŠĆU

Istraživanja iz različitih područja upućuju na pozitivnu povezanost čitanja fikcije i empatije. Neka se istraživanja usmjeravaju i na potencijalne moderatore tog odnosa, poput osobina ličnosti te načina na koji se pojedinac uključuje u čitanje teksta u vidu transportacije. Cilj ovog istraživanja je ispitati može li se afektivna empatija inducirana čitanjem fikcijske priče objasniti na temelju osobina ličnosti, konkretno ugodnosti, ali i na temelju emocionalne uključenosti i transportacije. Sudionici su 132 studenta dodiplomskih i diplomskih studija, koji su nakon čitanja priče J. Joycea ispunili set upitnika, uključujući Big Five uputnik ličnosti, skalu emocionalne uključenosti, skalu transportacije te skalu empatije. Rezultati ukazuju na snažnu pozitivnu povezanost ugodnosti i afektivne empatije nakon čitanja fikcijske priče, pri čemu se ova povezanost djelomično može objasniti na temelju emocionalne uključenosti. S druge strane, transportacija se nije pokazala kao značajni faktor u objašnjenju odnosa ugodnosti i empatije nakon čitanja priče, kao ni u objašnjenju navedenog odnosa nakon uključivanja emocionalne uključenosti. Rezultati ovog istraživanja omogućuju dodatno razumijevanje odnosa čitanja fikcije i empatije, kroz istraživanje njegovih medijatora.

Ključne riječi: ugodnost, empatija nakon čitanja fikcije, emocionalna uključenost, transportacija

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MUSIC AS A TOOL FOR MOOD REGULATION: THE ROLE OF ABSORPTION VS. MINDFULNESS

The aim of this research was to determine the relationship between mindfulness, absorption in music, and mood regulation through music in people who have different tastes in music. The research started from the assumption that absorption in music means the possibility of deep "absorption" in musical experience and thus a greater possibility of mood regulation through music. In contrast to absorption, mindfulness as full awareness of the current moment or a state of consciousness in which attention is intentionally focused on one's own experiences (bodily sensations, senses, thoughts, or emotions) could make it difficult to indulge in a musical experience. In order to test these assumptions, a study was conducted on 252 participants in late adolescence and young adulthood age who, in addition to using instruments for measuring absorption in music, mindfulness, and mood regulation through music, assessed their musical taste. The results showed a positive correlation between the preferences for different music styles and absorption in music, as well as between absorption in music and different strategies for regulating mood through music. Mindfulness, on the other hand, proved to be negatively correlated with both absorption in music and most strategies for regulating mood through music. Regression analyses showed that absorption in music is a positive predictor of all mood regulation strategies, while mindfulness is a negative predictor of discharging negative emotions and forgetting unwanted thoughts and feelings through music, after absorption is taken into account.

Keywords: absorption in music, mood regulation, mindfulness, musical taste

Introduction

Music plays an important role in people's lives fulfilling a number of functions and being present throughout life in different ways. Music is considered especially important during adolescence and young adulthood (Miranda, 2013; Reić Ercegovac et al., 2017) because it can evoke as well as regulate listeners' emotional states (Eerola & Vuoskoski, 2013; Gabrielsson, 1991; Saarikallio & Erkkilä, 2007). Furthermore, mood regulation is often seen as one of the most important reasons for listening to music (Baltazar & Saarikallio, 2016, 2019; Laiho, 2004). As Halle (2003) points out, adolescence is a transitional period characterized by numerous developmental changes, which can cause emotional restlessness and increase the need for mood regulation. Thayer et al. (1994) believe that music serves to regulate emotions but that it is also useful in changing negative moods.

In order to terminologically and conceptually separate emotions and mood, it should be emphasized that despite the similarities, there are important differences that should be stressed out. Emotions are caused by a specific event or object while cause of the mood is less obvious; mood is more controllable, less visible, more stable, and lasts longer than emotions (Lane et al., 2005; Parkinson et al., 1996). The term mood regulation refers to the processes of modifying or maintaining the occurrence, duration, and intensity of both negative and positive affective states (Eisenberg & Spinrad, 2004). Mood and emotion regulation may or may not be conscious and may be directed toward various aspects of emotions, such as emotional expression, subjective experience, or physiological responses (Gross, 1998). Saarikallio and Erkkilä (2007) propose a theoretical model that describes mood regulation through music as a process of meeting personal mood-related needs through musical activities. Central to this model is an individual (personality, age, developmental needs, sex, experiences, attitudes, mood, etc.) who has needs and goals related to mood regulation. The main goals are to feel good and control mood, and the regulatory strategies are entertainment, revival, strong sensations, mental work, anger discharge, diversion, and solace. Musical activities that allow the individual to achieve all these include listening to music, playing, singing, dancing, etc., while the basic preconditions of the whole process are that such activities be voluntary and correspond to a certain mood. Regulated elements of mood refer to subjective experience (intensity, valence, etc.), physiological aspects (energy levels, movement, etc.), and behavioral aspects (emotional expression). According to the authors, external influences include place, time, presence of other people, life events, activities, etc.

The concept of absorption refers to an individual's openness to emotional and cognitive changes and experiences and intense involvement in an experience (Studerus et al., 2012; Tellegen & Atkinson, 1974). Absorption in music is a recent construct first explained by Sandstrom and Russo (2013). It refers to an individual's ability and motivation to fully indulge in a musical experi-

ence and thus in an emotional experience of music. It is similar to the experience of flow, which Csikszentmihalyi (1975) defined as a holistic sensation of an individual where she/he is fully involved in an activity for which she/he is intrinsically motivated. The experience of flow, in addition to the sports and work, is most often studied in the context of music (Chirico et al., 2015). Custodero (2002) states that music and flow are strongly connected and that the experience of flow is easiest to realize in the context of music. Here composing, performing, or listening to music can be discussed, but a recent study found that participants reported a stronger flow while listening to music than performing (Loephtien & Leipold, 2021). Similar to the flow, absorption in music also implies a commitment to the musical-emotional experience while listening to music with the possibility of ignoring all other internal and external stimuli. A higher level of absorption in music would also mean a greater possibility of mood regulation through music because absorption, in addition to listening habits and preferences, includes the ability of music to influence an individual's mood (Wild et al., 1995). Consequently, it is possible that individual differences in absorption may be predictors of differences in the depth of emotional responses to music (Sandstrom & Russo, 2013). There are many studies of emotional responses to music that focus on the musical characteristics used to convey emotions (Grewe et al., 2007), as well as the studies of the role of culture (Balkwill & Thompson, 1999) and preferences (Menon & Levitin, 2005) in understanding emotions conveyed by music. However, few studies have focused on individual differences that can affect emotional responses, thus Sandstrom and Russo (2013) suggest that absorption in music could be an important moderator of strengthening emotional responses to music.

In the Croatian context, research on these phenomena is rare. However, some research has shown that absorption is significantly, moderately, and positively correlated with emotional, cognitive, but also background use of music (Lehpamer, 2016) as well as that women, compared to men, are more prone to higher levels of absorption in music (Trupković, 2015). It is possible that this gender difference is also correlated with a generally higher preference for music in women (Crowther & Durkin, 1982; Reić Ercegovac & Dobrota, 2011), or with a wider range of preferences for music styles (Dobrota et al., 2019; Hargreaves et al., 1995). Furthermore, women usually use music for emotional or mood regulation more often than men (North et al., 2000; Upadhyay et al., 2017).

In addition to exploring the role of absorption in music in mood regulation, this study also aimed at revealing the relationship between those constructs and mindfulness due to the presumed opposite effect of mindfulness and absorption on mood regulation by music. Brown and Ryan (2003) describe the concept of mindfulness by using two aspects: attention and awareness. Awareness is the subjective experience of our thoughts, emotions, and bodily sensations at a particular moment, while attention refers to focusing the awareness toward the experiences. The notion of objective experiential awareness refers

to a state of consciousness with attention directed to one's own experiences or to the environment in the present moment and without judgment (Williams, 2008). Brown and Ryan (2003) found that mindfulness is negatively correlated with absorption as an important component of the flow. Although both mindfulness and flow are terms that refer to positive states of consciousness and are indicators of mental health, they are more likely to be opposed to each other (Weinstein et al., 2009). Namely, flow implies spontaneity, loss of self-awareness and sense of time, while mindfulness implies self-discipline, expressed self-awareness and focus on the present moment. Sheldon et al. (2014) analyzed the correlation between mindfulness and flow and found that by encouraging a person's ability to be mindful, we actually reduce their ability to be absorbed in a particular activity. Nevertheless, Thienot et al. (2014) point to the existence of a positive correlation between mindfulness and flow, saying that by encouraging mindfulness we also encourage a person's ability to experience flow. The authors state that the contradictory results related to the correlation between these concepts may be partly due to their different ways of conceptualization and measurement, and that it is necessary to further check their relationship. Consequently, the purpose of this study is to compare the relationship between absorption in music and mindfulness and their contribution to the participants' mood regulation along with the control of musical taste.

Research objective, problems and hypotheses

The overall research goal was to examine the interrelationship between absorption in music, mood regulation through music, mindfulness, and musical taste. The research attempted to answer the following research problems:

1. To examine the relationship between musical taste, absorption in music, mindfulness and mood regulation through music and
2. To examine the contribution of absorption in music and mindfulness to explaining individual differences in mood regulation strategies with musical taste being controlled for.

The research started from the assumption that mindfulness and absorption in music are negatively related, while positive relationships were expected between absorption in music and mood regulation through music. It was also hypothesized that absorption in music will positively predict mood regulation through music, while mindfulness will be a negative predictor.

Method

Participants

The study was conducted on a sample of $N = 252$ female students of social sciences and humanities at the University of Split, average age $C = 21$ years (range from 18 to 49). The sample was convenience and voluntary, and participants were recruited through regular classes at the Faculty premises.

Instruments

The Musical Taste Questionnaire

The Musical Taste Questionnaire is created for the purposes of this study, included eight popular music styles (classical music, jazz, popular music, heavy metal, rock, rap/hip-hop, electronic music, and alternative music) with several typical representatives/performers (for example, representatives for electro music were David Guetta, Tiesto, etc.; for classical music Mozart, Beethoven etc.). Degree of liking each musical style was rated on one item, on a 5-point scale (1 – “*I do not like it at all*”, 5 – “*I really like it*”).

The Mindful Attention and Awareness Scale

The Mindful Attention and Awareness Scale (MAAS, Brown & Ryan, 2003; Kalebić Jakupčević, 2014) consists of 15 items examining the tendency toward mindful behavior and experience in everyday life (e.g., “*It occurs that I listen to someone “with one ear” and do something else at the same time*”). Croatian translation of the scale was used (Kalebić Jakupčević, 2014). The participants’ task was to assess how often they experience what is described in the items on a six-point scale (1 – “*never*”, 6 – “*always*”). CFA suggested good fit of the data ($RMSEA = .08$; $\chi^2/df = 2.45$; $CFI = .87$) to the one-factor model (Brown & Ryan, 2003; Brown et al., 2011). Therefore, a total score was obtained by summing up all reversed item scores. Higher score indicated a higher mindfulness (Table 1).

Absorption in Music Scale (AIMS)

The Absorption in Music Scale (AIMS; Sandstrom & Russo, 2013) is designed to test an individual’s ability and willingness to allow music to draw them into an emotional experience (e.g., “*When listening to music, I sometimes for the moment forget where I am*”). For the purpose of this study, Scale was translated to Croatian using the standard feedback translation procedure to ensure its comparability with the original (Van de Vijver & Hambleton, 1996). The scale contains 34 items, and the participants’ task was to assess the degree of agreement with each item on 5-point scale (1 – “*I do not agree at all*”; 5 – “*I*

completely agree”). CFA suggested good fit of the data to the one-factor model with lower CFI value ($RMSEA = .08$; $\chi^2/df = 2.64$; $CFI = .79$). Still, given the other indices and high reliability, one overall result was formed with higher values indicating higher level of absorption (Table 1).

Brief-Music and Mood Regulation Scale (B-MMR)

The Brief-Music and Mood Regulation Scale (B-MMR; Saarikallio, 2012) contains 21 items which examine the use of seven different music-related mood-regulation strategies: the ability to regulate mood through music using the seven strategies: entertainment (creating a good atmosphere and happiness, in order to maintain and intensify the positive mood, for example “*I usually put background music on to make the atmosphere more pleasant*”), revival (personal renewal, relaxation, and getting new energy from music when in a state of stress or fatigue, for example “*When I’m exhausted, I listen to music to perk up*”), strong sensation (inducing and strengthening intense emotional experiences, for example “*I feel fantastic putting my soul fully into the music*”), mental work (using music as a framework for mental contemplation and clarification of emotional preoccupations, for example “*Music helps me to understand different feelings in myself*”), discharge (letting go of negative emotions through music that expresses such emotions, for example “*When I’m angry with someone, I listen to music that expresses my anger*”), diversion (forgetting unwanted thoughts and feelings through pleasant music, for example “*For me, music is a way to forget about my worries*”), and solace (seeking pleasure, acceptance, and understanding when sad and in trouble, for example “*When I’m feeling sad, listening to music comforts me*”). For the purpose of this study, Scale was translated into Croatian using the standard feedback translation procedure to ensure its comparability with the original (Van de Vijver & Hambleton, 1996). The participants’ task was to assess the degree of agreement with each item on 5-point scale (1 – “*strongly disagree*”, 5 – “*strongly agree*”). CFA suggested good fit of the data to the 7-factor model ($RMSEA = .08$; $\chi^2/df = 2.90$; $CFI = .93$). Given the satisfactory reliability of the 7 subscales, the 7-factor original structure was retained (Table 1).

Table 1
Psychometric characteristics of the measures

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Cronbach α</i>	<i>Possible range</i>	<i>Observed range</i>	<i>Skewness</i>	<i>Kurtosis</i>
Classical music	1	3.63	1.09	-	1-5	1-5	-0.52	-0.29
Popular music	1	3.96	1.02	-	1-5	1-5	-0.78	-0.03
Jazz music	1	3.13	1.31	-	1-5	1-5	-0.07	-1.09
Rap/Hip-hop music	1	3.15	1.35	-	1-5	1-5	-1.14	-1.16
Heavy Metal music	1	2.06	1.30	-	1-5	1-5	0.97	-0.27
Rock music	1	3.86	1.22	-	1-5	1-5	-0.85	-0.32
Alternative music	1	2.78	1.34	-	1-5	1-5	0.19	-1.03
Electronic music	1	3.39	1.36	-	1-5	1-5	-0.40	-1.01
Mindfulness (MAAS)	15	54.13	10.82	.82	15-90	24-83	-0.07	-0.37
Absorption in Music (AIMS)	34	124.01	23.84	.95	34-170	49-170	-0.59	0.44
Entertainment	3	13.87	1.87	.83	3-15	3-15	-2.61	8.22
Revival	3	12.92	2.77	.91	3-15	3-15	-1.57	2.30
Strong sensation	3	11.86	2.89	.90	3-15	3-15	-0.84	0.21
Diversions	3	11.83	2.96	.84	3-15	3-15	-0.98	0.59
Discharge	3	8.23	3.56	.83	3-15	3-15	0.33	-0.79
Mental Work	3	11.77	2.94	.88	3-15	3-15	-1.00	0.60
Solace	3	12.12	3.13	.94	3-15	3-15	-1.12	0.64

Procedure and Data Analyses

The research was conducted during 2019 in the faculty premises. The questionnaire was administered in groups up to 30 participants. Participation was voluntary and anonymous, at the invitation of the researcher. Filling out the questionnaires took about 30 minutes. All of the participants firstly filled out MTQ, followed by MAAS, AIMS, and B-MMR scales in half of the sample. The

other half of the sample filled out B-MMR, AIMS, and MAAS in that order. The collected data were analyzed using the STATISTICA13 software. Since most measures had skewness and kurtosis parameters within the limits of acceptability for the application of parametric procedures (Gravetter & Wallnau, 2014), except for one variable (entertainment as a means of regulating mood through music), the parametric procedures were used in the analyses.

Results

Table 2 shows the correlation matrix of all variables in the research. Mood regulation strategies were significantly and highly interrelated. Furthermore, absorption in music was positively correlated with the preferences for all music styles and all mood regulation strategies. Negative correlation was found between absorption and mindfulness, as well as between mindfulness and preferences for alternative music. Mindfulness was negatively correlated with all mood regulation strategies, except with entertainment and strong sensation.

Table 2
Correlation matrix of all variables in the study

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1. Classical music																
2. Popular music	.12															
3. Jazz music	.36**	.02														
4. Rap/Hip-hop music	.04	.41**	.19**													
5. Heavy Metal music	.11	.05	.29**	.21**												
6. Rock music	.11	.07	.33**	.19**	.52**											
7. Alternative music	.11	.01	.29**	.27**	.46**	.40**										
8. Electronic music	.00	.38**	-.04	.44**	.01	.02	.11									
9. Mindfulness	.09	.01	-.06	-.11	-.06	-.14	-.13*	-.10								
10. Absorption	.11	.13*	.31**	.21**	.19**	.21**	.25**	.17**	-.23**							
11. Entertainment	.03	.15*	.10	.09	.01	.17**	.08	.18**	-.11	.42**						
12. Revival	.01	.19**	.07	.10	.01	.12	.10	.11	-.15*	.60**	.48**					
13. Strong Sensation	.16**	.12	.20**	.09	.18**	.17**	.19**	.07	-.11	.71**	.34**	.58**				
14. Diversion	.06	.20**	.14*	.17**	.18**	.13*	.14	.14*	-.27**	.67**	.45**	.70**	.65**			
15. Discharge	.08	.14*	.16**	.10	.30**	.22**	.24**	.10	-.26**	.38**	.24**	.29**	.35**	.47**		
16. Mental Work	.09	.17**	.21**	.12	.16**	.15*	.19**	.08	-.19**	.68**	.36**	.58**	.69**	.70**	.54**	
17. Solace	.10	.19**	.20**	.11	.12	.09	.18**	.08	-.17**	.63**	.39**	.65**	.61**	.71**	.46**	.84**

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

In order to examine the separate contribution of absorption and mindfulness to the mood regulation, a series of HRA were performed (Table 3). In the first step, musical preferences were introduced, followed by absorption in music, and mindfulness. All predictors together explained a significant portion of the variance of the criteria, from 22% for entertainment to 53% for strong sensations, with absorption in music being the most important predictor. By introducing mindfulness in the last step of the analysis, the percentage of explained variance increased significantly for two strategies – diversion and discharge.

Table 3
HRA results with strategies for regulating mood through music as criteria

	Entertainment	Revival	Strong Sensation	Diversion	Discharge	Mental Work	Solace
Step 1 – Preferences							
Classical music	-.02	-.05	.09	-.01	.01	.00	.00
Popular music	.10	.19**	.10	.16*	.12	.17*	.20**
Jazz music	.08	.06	.11	.09	.06	.15*	.17*
Rap/Hip-hop music	-.05	-.03	-.04	.02	-.08	-.03	-.05
Heavy Metal music	.12	-.10	.07	.12	.21**	.05	.02
Rock music	.19*	.11	.04	.01	.04	.02	-.04
Alternative music	.04	.09	.10	.04	.12	.12	.15*
Electronic music	.16*	.04	.04	.07	.08	.02	.01
R (R ²)	.28 (.08)	.25 (.06)	.30 (.09)	.30 (.09)	.36 (.13)	.30 (.09)	.31 (.09)
F (8,243)	2.61*	2.03*	2.92**	2.86**	4.51**	3.06**	3.13**
Step 2 – Absorption							
Classical music	-.01	-.04	.10*	.01	.01	.01	.01
Popular music	.08	.15*	.06	.11*	.10	.12*	.16*
Jazz music	-.03	-.11	-.08	-.09	-.02	-.02	.01
Rap/Hip-hop music	-.06	-.05	-.06	.01	-.09	-.05	-.07

Heavy Metal music	-.14	-.12	.05	.10	.20**	.03	.00
Rock music	.17*	.08	.01	-.03	.03	-.02	-.07
Alternative music	-.01	.02	.02	-.04	.09	.04	.08
Electronic music	.11	-.04	-.05	-.02	.04	-.07	-.07
Absorption	.41**	.64**	.72**	.68**	.32**	.67**	.62**
R (R ²)	.47 (.22)	.64 (.41)	.73 (.53)	.69 (.48)	.46 (.21)	.69 (.47)	.65 (.42)
ΔR^2	.14 **	.35**	.44**	.39**	.08**	.38**	.33**
F (9,242)	7.58**	18.45**	30.13**	24.58**	7.36**	24.06**	19.27**
Step 3 – Mindfulness							
Classical music	-.01	-.04	.10*	.02	.04	.02	.01
Popular music	.08	.15*	.06	.12**	.12	.13*	.16*
Jazz music	-.03	-.11	-.08	-.09	-.02	-.02	.01
Rap/Hip-hop music	-.06	-.05	-.06	.00	-.10	-.05	-.07
Heavy Metal music	-.14	-.12	.05	.11	.21**	.04	.00
Rock music	.17*	.08	.01	-.04	.01	-.02	-.07
Alternative music	-.01	.02	.02	-.04	.08	.04	.08
Electronic music	.11	-.04	-.05	-.02	.03	-.07	-.07
Absorption	.41**	.64**	.73**	.66**	.28**	.66**	.61**
Mindfulness	.00	-.01	.04	-.13**	-.18**	-.05	-.04
R (R ²)	.47 (.22)	.64 (.41)	.73 (.53)	.70 (.49)	.49 (.24)	.69 (.47)	.65 (.42)
ΔR^2	.00	.00	.00	.01*	.03*	.00	.00
F (10,241)	6.80**	16.54**	27.15**	23.47**	7.80**	21.73**	17.37**

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

Discussion

The results of the research showed that absorption in music does not depend on the specific musical taste, since the musical preferences for most styles were positively correlated with absorption. The exception was classical music. It is possible that classical music, although highly preferable by the participants (after popular and rock music according to the preference means), is more difficult for listening without musical education. Although Bigand and Poulin-Charronnat (2006) deny the impact of intensive music instruction on perceiving musical-expressive elements of the Western music, such as the relationships between a theme and its variations, perceiving musical tensions and relaxations, generating musical expectancies, integrating local structures in large-scale structures, learning new compositional systems and responding to music in an emotional (affective) way, it is possible that listeners without musical background lack auditory perception of musical-expressive components within classical music which makes absorption more difficult. Still, the relationship between preferences for classical music and absorption should be further explored.

Mood regulation strategies were all significantly interrelated, with correlations ranging from .29 to .84 which is similar to correlations obtained by Saarikallio (2012) who found intercorrelations ranging from .32 to .77. These results indicate the existence of an individual's general propensity to use music for the purpose of mood regulation. Absorption in music was positively correlated with all mood regulation strategies with most coefficients suggested a high or very high correlation. Such results are not surprising since other authors also confirm that absorption in music includes the possibility of the influence of music on an individual's mood (Wild et al., 1995). These are similar constructs where the mood regulation is more specific than absorption and it is operationalized as a possibility that musical activities (most often listening, but also performing) regulate the emotions. For the purposes of this research, mood regulation was presented with seven different strategies, according to the Saarikallio's model (2012). Correlation between musical preferences and the above mood regulation strategies showed that the preferences for certain music styles were correlated with specific strategies. Individuals who prefer classical music use it as a tool to strengthen and intensify their emotional experience, while individuals who prefer rap/hip-hop music more often use music to forget unwanted thoughts and feelings. Popular music preference was related to most strategies; thus, it can be concluded that individuals who prefer pop music use it more often for all mood regulation strategies, except for intensifying emotional experiences. Previous research generally confirm that the main predictors of popular music preferences relate to the musical-expressive characteristics of this type of music, such as melody, mood, rhythm, and lyrics, rather than to listener's sociocultural characteristics (Boyle et al., 1981). Such music is usually attractive and likable to the listeners after listening to it for the

first time which is probably why they use it for regulating their mood in a variety of ways. The preferences for jazz, heavy metal, and rock music were almost equally related to mood regulation strategies, therefore people who prefer these music styles more often use music to intensify emotional experiences, clarify emotions, release negative emotions, and forget unwanted thoughts and feelings. While people preferring electronic music use it for entertainment or to forget unwanted thoughts and feelings, alternative music preference is correlated with the intensification of emotional experiences, forgetting unwanted thoughts and feelings, mental contemplation, and solace.

It is possible to conclude that certain music styles, in accordance with the preferences of individuals, can have a wide range of functions within mood regulation. The great potential of music as a means of regulating emotions was also indicated in a study by Cook et al. (2019). On the sample of 794 students, they showed that preferences for popular, rap/hip-hop, soul/funk, and electronic/dance music were positively correlated with the use of music for increasing emotional arousal. Soul/funk musical preferences were positively correlated with intensifying positive emotionality and decreasing negative emotionality while energetic-rhythmic music was positively correlated with all forms of emotion regulation, suggesting that this type of music is particularly useful in modulating emotions (Cook et al., 2019).

While the results of current research showed that absorption in music is closely related to the mood regulation, mindfulness was, as expected, negatively correlated with absorption in music, but also with most strategies for regulating mood through music. Namely, a significant negative correlation was found between mindfulness and the five strategies, while a significant correlation with entertainment and intensification of emotional experiences was missing (Table 2). The obtained relationships suggest that absorption in music and mindfulness are actually opposed in their roles, that is, while absorption implies the possibility of deep immersion in the musical experience, whereby a kind of so-called dissociation occurs (Butler, 2006, as cited in Garrido & Schubert, 2010), mindfulness, on the contrary, encourages awareness of the current moment and in a way “disables” the state of absorption. The musical experience cannot absorb us if we consciously and intentionally focus on the present moment. Since absorption is “the temporary alteration or separation of what are normally experienced as integrated mental processes” (Butler, 2006, as cited in Garrido & Schubert, 2010), or “measure of this propensity to dissociate” (Garrido & Schubert, 2010; Schubert, 2010), it is possible that individuals who are more inclined to be drawn into a musical (or other) experience are actually less mindful.

Results of HRA showed that, after musical taste is being controlled for, absorption in music, in line with expectations, positively and strongly predicts mood regulation strategies. It is obvious that absorption contributes to a stronger effect of music as a mood regulator in different ways - for encouraging good mood, relaxation, reinforcement of intense emotional experiences,

mental contemplation, for discharging negative emotions, forgetting unwanted thoughts and feelings, and for solace. This is in line with Wild et al. (1995) notion that a higher level of absorption in music means greater possibility of mood regulation. Mindfulness, on the other hand, significantly predicted diversion and discharge as mood regulation strategies, above musical preferences and absorption. Discharge means releasing negative emotions through music that expresses such emotions, while diversion is a way of forgetting unwanted thoughts and feelings through pleasant music. Given the main features of mindfulness, it is not easy for mindful individuals to distract from negative thoughts with music or release negative emotions. Discharging is a sort of “cathartic” experience of emptying or purifying from negative emotions (Saarikallio, 2012) that mindful individuals find harder to achieve because they are very aware of their emotions and thoughts. Since in mindfulness the emphasis is on the cognitive element and awareness, diversion as a strategy for mood regulation is actually conceptually opposite, and the results obtained in regression analyses confirmed these assumptions. As for other mood regulation strategies, mindfulness did not show any relevance after music preferences and absorption were introduced in the analyses and predictor coefficients for mindfulness varied around zero.

Before the conclusion it is necessary to look at the shortcomings of the conducted research. This primarily refers to the measure of absorption in music which is so far the only one that has been applied in research of this phenomenon on Croatian samples. Although the authors of the scale confirmed single-factor structure, as we did in the current research, the scale has a large number of items that cover different aspects of absorption. Absorption is operationalized in the literature as a multidimensional construct, so further research of this construct is needed to develop instruments for measuring all its dimensions. This is supported by the fact that the first translation and application of this questionnaire on Croatian sample gave rise to a multifactor solution, but given the fact that the first factor explained most of the variance and that according to scree plot the one-factor solution seemed the most acceptable (Trupković, 2015). Furthermore, the shortcoming of current research is the gender-homogeneous sample, especially if we consider that previous research in Croatian samples pointed to gender differences in absorption (Trupković, 2015; Lehpaer, 2016). Another reason is that women, compared to men, generally use music more frequently for fulfilling emotional needs (Upadhyay et al., 2017), therefore, the role of absorption in explaining mood regulation strategies by listening to music is still to be verified in gender-heterogeneous sample. In the future research, the latent structure of the Absorption in Music Scale should be tested on a more heterogeneous and larger sample, which would contribute to the validation of the instrument in our language area.

Conclusion

Despite the mentioned shortcomings of current research, the results partially confirmed the initial assumption about the opposed roles of the concepts of mindfulness and absorption in the musical context, as evidenced by their negative correlation as well as a completely different contribution to explaining individual differences in mood regulation strategies. The results obtained in current study imply the importance of music as a supportive tool for regulation of different affective states, especially in adolescence and young adulthood.

Conflict of interest

We have no conflicts of interest to disclose.

Data availability statement

Data used in this paper is available at: <https://osf.io/ru928>

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GLAZBA KAO NAČIN REGULACIJE EMOCIJA: ULOGA UŽIVLJENOSTI U GLAZBU I USREDOTOČENE SVJESNOSTI

Cilj ovoga istraživanja je bio utvrditi međudnos usredotočene svjesnosti, uživljenosti u glazbu i regulacije emocija glazbom kod ljudi različitog glazbenog ukusa. U istraživanje se krenulo od pretpostavke da uživljenost u glazbu znači mogućnost dubokog „uranjanja“ u glazbeno iskustvo te time i veću mogućnost emocionalne regulacije glazbom. Nasuprot tome, usredotočena svjesnost kao potpuna osviještenost aktualnog trenutka ili stanje svijesti u kojem se pažnja namjerno usmjerava na vlastite doživljaje (tjelesne senzacije, osjete, misli ili emocije), bi mogla otežati mogućnost prepuštanja glazbenom iskustvu. S ciljem provjere ovih pretpostavki provedeno je istraživanje na 252 sudionice kasne adolescentne i odrasle dobi koje su pored instrumenata namijenjenih ispitivanju uživljenosti u glazbu, usredotočene svjesnosti i regulacije emocija glazbom procijenile i svoj glazbeni ukus. Rezultati su pokazali pozitivnu povezanost između preferencija različitih glazbenih stilova glazbe i uživljenosti u glazbu, kao i između uživljenosti u glazbu te različitih strategija reguliranja emocija glazbom. S druge strane, usredotočena svjesnost je bila negativno povezana i s uživljenošću u glazbu i s većinom strategija reguliranja raspoloženja glazbom. Provedene regresijske analize su pokazale da je uz kontrolu glazbenog ukusa, uživljenost u glazbu pozitivan prediktor svih strategija reguliranja emocija dok je usredotočena svjesnost negativan prediktor otpuštanja negativnih emocija te zaboravljanja neželjenih misli i osjećaja pomoću glazbe.

Ključne riječi: uživljenost u glazbu, regulacija emocija, usredotočena svjesnost, glazbeni ukus

