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Research Article

Internet Addiction on Psycho-Social Symptoms of Happiness and Aggression through Difficulties in Emotion Regulation: Evidence Following COVID-19 Pandemic

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ABSTRACT

Background: Internet usage has increased during the pandemic. The aim of this study is to examine the relationship between internet addiction (IA), happiness, and aggression in the context of difficulties in emotion regulation (DER). The psycho-social symptoms of the COVID-19 pandemic appear to be more persistent over time compared to its physical symptoms, especially regarding Internet addiction in the young population. This study seeks to understand these effects on happiness and aggression through difficulties in emotion regulation. **Participants and Procedure:** The sample of this study consisted of 325 university students. Data were gathered using the Young Internet Addiction Scale Short Form, Oxford Happiness Scale Short-Form, Difficulties in Emotion Regulation Scale Brief-Form, and Buss-Perry Aggression Questionnaire. **Results:** The results showed that internet addiction was negatively related to happiness, and this relationship was mediated by difficulties in emotion regulation. Similarly, internet addiction was positively related to aggression, and this relationship was fully mediated by difficulties in emotion regulation as well. **Conclusion:** These research findings emphasize the need for creating effective interventions to enhance emotion regulation skills in internet-

addicted adults. The results are discussed in light of the effects of the coronavirus pandemic.

Keywords: Internet addiction, happiness, emotion regulation difficulty, aggression

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Introduction

While the world has grappled with the rising number of deaths from the COVID-19 pandemic, social scientists and practitioners have shifted their focus to exploring the antecedents and outcomes of the pandemic (Arslan & Coşkun, 2022a; Gica et al., 2020; Kavaklı et al., 2020; Özmen et al., 2023; Yıldırım et al., 2022). Numerous studies have highlighted a surge in various psychological problems such as anxiety, depression (Arslan & Coşkun, 2022a), posttraumatic stress disorders (Carmassi et al., 2020), and a decline in well-being (Dodd et al., 2021). These issues stem not only from the inherently stressful nature of the pandemic but also from the measures adopted to combat it. Specifically, precautions like lockdowns, social distancing, travel bans, and remote education forced rapid lifestyle adaptations, making individuals more susceptible to another significant issue: Internet addiction.

Indeed, Internet-based addiction had been a growing concern long before the COVID-19 era (Mak et al., 2014). However, emotional reactions to traumatic events such as this pandemic aren't always adaptive. They can lead to an increased risk of adopting maladaptive coping mechanisms, like addictive behaviors that include excessive Internet usage (Sun et al., 2020). Unlike other traumatic events, the risk of developing Internet-based addictive behaviors may be heightened during the pandemic. This is because the pandemic's associated measures necessitated prolonged social isolation, pushing individuals towards online engagements (Tateno et al., 2019). Consequently, alongside the surge in Internet users during the COVID-19 era, there has been a sharp increase in Internet overuse (Li et al., 2021; Servidio et al., 2021; Siste et al., 2020).

This public health issue has rapidly escalated among newer generations (Lozano-Blasco et al., 2022). Thus, it warrants meticulous research and intervention, as Internet addiction is linked with significant physical and psychological health challenges. These include sleep problems (Alimoradi et al., 2019), destructed social relations (Hou et al., 2019), exacerbated mental disorders (Fumero et al., 2018), poor academic performance (Usman et al., 2014), aggression (Teng et al., 2014), and diminished psychological well-being (Samaha & Hawi, 2016). In other words, Internet addiction is a burgeoning global issue,

which surged unexpectedly during the pandemic. Consequently, investigating its outcomes and potential risk factors is pivotal for devising effective intervention and prevention strategies. To this end, the current study aimed to comprehend how Internet addiction is associated with antisocial behaviors (aggression) and positive development (happiness) of youth whilst investigating the exploratory role of difficulties in emotion regulation.

Internet Addiction and Happiness

In general, Internet addiction is characterized by a lack of control over, and excessive use of the Internet that negatively influences the quality of lives of individuals (Davis, 2001). Excessive and maladaptive use of the Internet steals time allocated for real-life social relations, lessens opportunities to develop social skills for real life, and decreases physical activity (de Leeuw et al., 2010). Consequently, this results in isolated individuals who suffer from psychosocial maladjustment (Cheng et al., 2015), reduced well-being (Valkenburg & Peter, 2007), and happiness (Baltaci, 2019; Muusses et al., 2014; Yilmaz & Karaoglan-Yilmaz, 2022).

Although addictive behaviors, including Internet-based ones, are related to pleasure in life, these are toxic sources of pleasure and decrease happiness in the end (e.g., Yang et al., 2017), which is fundamental for healthy human development. Human beings are genuinely motivated to strive for optimal and permanent well-being in life. Indeed, happiness consists of various elements such as eudemonic well-being (i.e., meaning in life), affective well-being (positive feelings), and evaluative well-being (i.e., satisfaction in life), which all make it essential for a physically and psychologically healthy lifetime (Step toe, 2019). As an important component of psychological well-being, thousands of empirical researches studied happiness from the micro-individual level to the macro level of society (Veenhoven, 2015). Correspondingly, a substantial body of evidence shows that happy people are more resistant to physical and mental illnesses (Sabatini, 2014; Steptoe, 2019), and they are more likely to grow positive mental health (Smith et al., 2023).

In essence, people need happiness and well-being to flourish, but Internet addiction emerges as an inhibitory factor against it. Past research

already found a negative association between Internet addiction and happiness (e.g., Baltaci, 2019; Muusses et al., 2014), but still, there is a gap in what possible third factors explain this relationship. Within this scope, the present study readdressed this relationship under the COVID-19 crisis by exploring the role of emotion regulation difficulties.

Internet Addiction and Aggression

As mentioned above, Internet addiction does not only impede the pursuit of positive development but also has detrimental impacts like antisocial behaviors, including aggression. Aggression, in general, involves any behaviors that are intended to harm another individual (Allen & Anderson, 2017). More specifically, the present paper adapted the conceptualization and related measurement by Buss and Perry (1992). They approached aggression as physical acts associated with hostile cognitions, perceptions, and feelings. Internet overuse, including social media, movies, and games, might be a possible explanation behind these aggressive acts. Several past studies underlined the aggressive behavioral outcomes in youth with Internet-based addictions (Agbaria, 2021; Caner & Evgin, 2021; Teng et al., 2014). Ultimately, aggression gives rise to both individual and societal problems, such as ruined social relations (Skrzypiec et al., 2021), increased psychopathological symptoms (Hayes et al., 2021), crimes (Vakili et al., 2015), and so on. Even though these adverse effects create serious concerns, it is still ambiguous why and how Internet addiction increases aggressive behaviors (Agbaria, 2021). This limits coming up with effective intervention and prevention strategies against developing aggression in young people (Widyanto & McMurrin, 2004). With this backdrop, the present study proposes difficulties in emotion regulation as a potential mediator explaining the relationship between Internet addiction and aggression, further elucidated in the following sections.

Role of Difficulties in Emotion Regulation

Emotions inform us about how we interact with the social world. They assist individuals in communication, feel empathy, make decisions, and avoid dangers in life (Hwang & Matsumoto, 2019; Kavakli, 2019); but they may also

cause poor intrapersonal and interpersonal functioning (Gratz & Roemer, 2004) and various psychopathological symptoms (Sheppes et al., 2015). Whether emotions play a constructive or detrimental role largely hinges on an individual's capacity for emotion regulation (McRae & Gross, 2020). Emotion regulation (ER) means intentional and automatic processes that involve the emergence, way of experience, magnitude, duration, and expression of an emotion (Gross & Thompson, 2007). Whilst maladaptive strategies increase the risks for the onset of various problems like derogated social relations, depressive symptoms (Marroquin & Nolen-Hoeksema, 2015), and aggressive behaviors (Robertson et al., 2012); implementing effective emotion regulation strategies contributes to the healthy functioning of individuals, (Thompson, 2011), including increased happiness (Quoidbach et al., 2015; Verzeletti et al., 2016). Hence, difficulties in emotion regulation, like Internet addiction, also prevent the pursuit of happiness and cause aggression.

Given the preceding research, emotion dysregulation and Internet addiction seem to be mutually responsible for this adverse influence on happiness and aggression. Previous empirical findings pointed out that individuals with excessive Internet use were more prone to suffer emotion regulation difficulties (Evren et al., 2018; Karaer & Akdemir, 2019; Stavropoulos et al., 2017; Yen et al., 2018). Leading a life dominated by the Internet means less social interaction, less social support (Karaer & Akdemir, 2019), and more impulsivity (Reed et al., 2015), which all-in return result in impaired cognitive reappraisal, identification and expression of emotions, and self-control. As a result, we expected that Internet addiction would inflate difficulties in emotion regulation, which in return would lead to increased aggression and diminished happiness.

Present Study

Psycho-social symptoms of the COVID-19 pandemic seem to be more resistant over time compared to its physical symptoms, especially through Internet addiction in a young population. The current study aimed to understand these effects on happiness and aggression through difficulties in emotion regulation. Like the number of Internet users, the number of studies on

excessive Internet use has also been increasing, but still more empirical explorations are needed for effective prevention programs and treatment offers (Arslan & Coşkun, 2022b; Kuss et al., 2021). Moreover, despite the worldwide pervasiveness of the Internet; several social, cultural, and economic factors create cross-cultural differences regarding people's happiness (Oishi & Gilbert, 2016), emotion regulation (Potthoff et al., 2016), and aggression (Fry, 2017). As publication bias toward Western societies is also included in the equation, culturally diverse samples other than non-Western ones would enable more robust and generalizable findings (Tindle, 2021). Furthermore, to the best of our knowledge, no study has examined the indirect effect of Internet addiction on happiness and aggression through emotion regulation. Considering all the above, the current work is believed to shed light on both the literature and the field for prevention and intervention strategies against the detrimental effects of Internet addiction.

Method

Participants

This research was carried out with university students studying at a state university in Turkey. In this study, 325 participants aged 18-50 years were included ($M = 21.20$, $SD = 3.09$). Sixty-nine males (21.2%) and 256 females (78.8%) participated, and participants were selected using the convenience sampling method in this research. The convenience sampling method is one of the non-probability sampling methods. The researchers announced the study, and participants self-select participation in the convenience sampling (Emerson, 2015; Stratton, 2021). The data were collected in January and February of 2022. An informed consent form stating the details of the research was provided to all participants. Those participants who volunteered for the study, approved the form, and consented to participate were included in the study sample.

Data Collection Tools

Young Internet Addiction Scale Short-Form

This scale was developed by Young (1998) and converted into short-form by Pawlikowski et al (2013). The psychometric properties of the Turkish language version of this scale were assessed by Kutlu et al (2016), and Cronbach's alpha value of the scale was .91 in the university student sample. The scale has a single-factor structure, 12 items, and a 5-point Likert-type scale ranging from *does not apply* (1) to *always* (5). The psychometric properties of the scale show that it is suitable for the Turkish sample. High scores from on the scale indicate a tendency towards internet addiction. Additionally, this scale's Cronbach's alpha value was .87, and Omega reliability was .87 in the current study.

Oxford Happiness Scale Short-Form

This scale was developed by Hills and Argyle (2002) and the psychometric properties of the Turkish language version of the scale were assessed by Doğan and Akıncı Çötök (2011). Cronbach's alpha value of the scale was calculated as .74 in the university student sample. The scale has a single-factor structure, 7 items, and a 5-point Likert-type scale ranging from *strongly disagree* (1) to *strongly agree* (5). The psychometric properties of the scale show that it is suitable for the Turkish sample. Additionally, this scale's Cronbach's alpha value was .77, and Omega reliability was .80 in the current study.

Difficulties in Emotion Regulation Scale Brief-Form

This scale was developed by Gratz and Roemer, 2004, and a brief form of this scale was developed by Bjureberg et al (2016). The psychometric properties of the Turkish language version of this scale were assessed by Yiğit and Yiğit (2019). The Turkish language version of the scale demonstrates good psychometric properties. The scale has a five-factor structure (clarity, goals, impulse, strategies, nonacceptance), 16 items, and a 5-point Likert-type scale ranging from *almost never* (1) to *almost always* (5). The scale also gives a total score, and the total score was used in this study. Moreover, this scale's

Cronbach's alpha value was .92, and Omega reliability was .92 in the current study.

Buss-Perry Aggression Questionnaire

This scale was developed by Buss and Perry (1992) and the psychometric properties of the Turkish language version of the scale were assessed by Demirtaş-Madran (2013). The Turkish language version of this scale demonstrates good psychometric properties. The scale has a four-factor structure (physical aggression, verbal aggression, anger, and hostility), 29 items, and a 5-point Likert-type scale ranging from *strongly agree* (1) to *strongly disagree* (5). The scale also gives a total score, and the total score was used in this study. Furthermore, this scale's Cronbach's alpha value was .91, and Omega reliability was .92 in the current study.

Procedure & Data Analysis Plan

Before the study, an informed consent form stating the details of the research was provided to all participants. The data were collected through an online platform in which questionnaires were presented in random order to prevent order effect. In the data analysis part, first, preliminary analyses were performed, such as data screening, checking normality assumption, descriptive analyses, and correlation analysis. For the normality assumption, cut-off values ($< |1|$) of skewness and kurtosis were considered (Tabachnick et al., 2013). Then, Pearson correlation analysis was run to see the correlations between the study variables. Finally, direct and indirect effects from Internet addiction to happiness and aggression through difficulties in emotion regulation were calculated by using Jamovi statistics program (Jamovi, 2023). The significance of indirect effects was questioned by using the bootstrapping method with 2000 resampling and 95% CI.

Results

Descriptive statistics and correlations

Correlation analysis results, means, standard deviations, reliability coefficients, skewness, and kurtosis values are given in Table 1. There is a

significant and negative correlation between internet addiction and happiness. Difficulties in emotion regulation positively correlated with internet addiction, and aggression and negatively correlated with happiness. Aggression is negatively associated with happiness. To test the normal distribution assumption, skewness and kurtosis values were examined. All variables' skewness and kurtosis values were found within acceptable limits (see also Table 1).

Table 1

Correlations and descriptive statistics among variables

	1	2	3	4	M	SD	α	ω	SK	KR
IA	-				28.3	8.73	.87	.87	.39	-.32
HAP	-.26***	-			23.2	5.10	.77	.80	-.31	-.24
AGG	.17**	-.31***	-		77.3	20.00	.91	.92	.47	-.23
DER	.50***	-.42***	.18***	-	43.5	13.2	.92	.92	.33	-.36

Note. IA: internet addiction, HAP: happiness, AGG: aggression, DER: difficulties in emotion regulation, M: mean, SD: standard deviation, α : Cronbach alpha reliability, ω : McDonald's omega reliability, SK: skewness, KR: kurtosis; * $p < .05$, ** $p < .01$, *** $p < .001$

Testing for mediating role of difficulties in emotion regulation

As can be seen in Table 2, the relationship between internet addiction and happiness is fully mediated by difficulties in emotion regulation (standardized indirect effect: -.19, 95% CI [-.159, -.070]). When difficulties in emotion regulation are included in the model, the direct relationship between internet addiction and happiness becomes insignificant.

Table 2

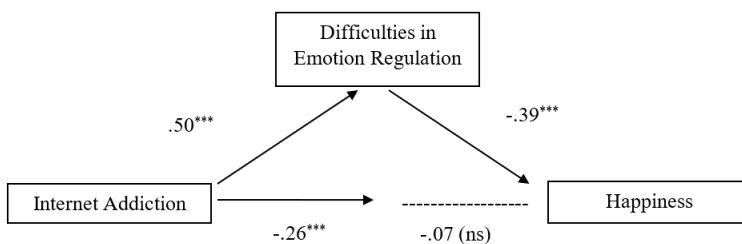
The mediating role of difficulties in emotion regulation in the relationship between Internet addiction and happiness

Effect	Label	Estimate	SE	95% Confidence Interval		Z	p	% Mediation
				Lower	Upper			
Indirect	a × b	-0.19	0.0220	-0.159	-0.0698	-5.100	< .001	74.1
Direct	c	-0.07	0.0410	-0.121	0.0395	-0.958	0.338	25.9
Total	c + a × b	-0.26	0.0348	-0.218	-0.0827	-4.353	< .001	100.0
Path Estimates								
IA→DER	a	0.50	0.0754	0.595	0.8936	9.970	< .001	
DER→HAP	b	-0.39	0.0252	-0.199	-0.1019	-5.917	< .001	
IA→HAP	c	-0.07	0.0410	-0.121	0.0395	-0.958	0.338	

Note. IA: internet addiction, HAP: happiness, AGG: aggression, DER: difficulties in emotion regulation, SE: standard error

Figure 1

The mediating role of difficulties in emotion regulation in the relationship between internet addiction and happiness



Note. ns (nonsignificant), Figure 1 displays beta coefficients that have been standardized. ***p<.001.

As can be seen in Table 3, the relationship between internet addiction and aggression is fully mediated by difficulties in emotion regulation

(standardized indirect effect: .07, 95% CI [.008, .294]). When difficulties in emotion regulation are included in the model, the direct relationship between internet addiction and aggression becomes insignificant.

Table 3

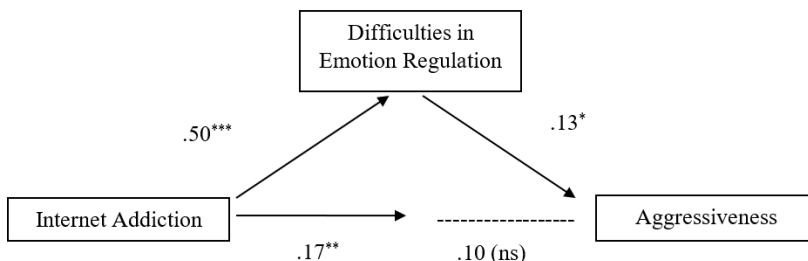
The mediating role of difficulties in emotion regulation in the relationship between Internet addiction and aggressiveness

Effect	Label	Estimate	SE	95% Confidence Interval		Z	p	% Mediation
				Lower	Upper			
Indirect	a × b	0.07	0.0729	0.008	0.294	2.07	0.039	38.6
Direct	c	0.10	0.1437	-0.042	0.521	1.67	0.095	61.4
Total	c + a × b	0.17	0.1255	0.144	0.636	3.11	0.002	100.0
Path Estimates								
IA→DER	a	0.50	0.0728	0.609	0.894	10.33	< .001	
DER→AGG	b	0.13	0.0950	0.014	0.387	2.11	0.035	
IA→AGG	c	0.10	0.1437	-0.042	0.521	1.67	0.095	

Note. IA: internet addiction, HAP: happiness, AGG: aggression, DER: difficulties in emotion regulation, SE: standard error

Figure 2

The mediating role of difficulties in emotion regulation in the relationship between internet addiction and aggression



Note. ns (nonsignificant), Figure 2 displays beta coefficients that have been standardized. ***p<.001, **p<.01, *p<.05.

Discussion

The current study investigated the mediating role of difficulties in emotion regulation in the relationship between Internet addiction, happiness, and aggression. The repercussions of the pandemic cannot be ignored when researching Internet addiction. While current literature highlights an uptick in Internet addiction during the pandemic (Evli & Şimşek, 2022; Putri et al., 2022; Siste et al., 2020), there is a pressing need for post-pandemic data. Overall, the results showed that Internet addiction is negatively related to happiness and positively related to aggression and difficulties in emotion regulation. Moreover, difficulties in emotion regulation fully mediated the relationship between Internet addiction and happiness. Similarly, the relationship between Internet addiction and aggression is fully mediated by difficulties in emotion regulation.

Existing studies support the association of Internet addiction with emotion regulation challenges (Evren et al., 2018; Karaer & Akdemir, 2019), aggression (Agbaria, 2021; Ko et al., 2009), and reduced happiness (Evli & Şimşek, 2022; Hew et al., 2023). Yet, to the best of our knowledge, this research pioneers the investigation of the indirect effect of Internet addiction on happiness and aggression via emotion regulation. These findings emphasize the importance of considering emotion regulation as a key mediating factor when examining the dynamics between internet addiction, happiness, and aggression. Therefore, it does not seem possible to discuss the results related to the mediating role of emotion regulation difficulty comparatively. The findings of this research indicate the significance of evaluating difficulties in emotion regulation as a mediating factor in the association between internet addiction, happiness, and aggression. These findings have several implications for both research and practice. First, the present study contributes to the expanding body of literature on internet addiction by establishing its negative effect on happiness (e.g., Baltacı, 2019; Muusses et al., 2014) and its positive effect on aggression (e.g., Agbaria, 2021; Caner & Evgin, 2021). Consistent with prior studies, this conclusion indicates the need for further investigation into the potential negative effects of excessive internet use on mental health and well-being.

This research underscores the importance of addressing difficulties in emotion regulation when treating internet addiction and associated mental

health challenges. The broader literature suggests that excessive internet use diminishes happiness and heightens aggressive behaviors. This study delves deeper, shedding light on the underlying mechanisms connecting internet addiction to shifts in happiness and aggression. Emotions serve as a barometer for our interactions with the social realm. They equip individuals to communicate, empathize, make decisions, and sidestep potential threats (Hwang & Matsumoto, 2019; Kavakli, 2019). Yet, they may also cause poor intrapersonal and interpersonal functioning (Gratz & Roemer, 2004) and various problems such as decreased happiness or increased aggression levels. Having problems with emotion regulation skills can make it difficult to cope with the negative effects of internet addiction. In other words, internet addiction causes problems with emotion regulation. Excessive use of the Internet can lead to difficulties in emotion regulation. Poor skills related to emotion regulation may also catalyze unhappiness and violent behavior (Kim et al., 2022; Schuster et al., 2022; Tamir, 2009).

The current findings also shed light on possible future implications. Foremost, enhancing emotion regulation skills stands out as a promising intervention to counter the negative impacts of internet addiction (both excessive Internet usage and for individuals who meet diagnostic criteria for addiction) on happiness and aggression. Building on prior research, it is evident that excessive internet use hinders one's ability to identify, describe, and manage emotions (Karaer & Akdemir, 2019). Consequently, mental health professionals may focus on training emotion regulation strategies while working on people with Internet addiction. In addition to mental health workers, other groups of people like educators in schools and employers in workplaces can facilitate training programs for promoting effective emotion regulation skills. This will make these people more resilient against the adverse effects of their addiction. From a clinical standpoint, strategies like cognitive restructuring of the thought processes fueling internet addiction (Brand et al., 2014), psychoeducational tools for bolstering parenting competencies (Karaer & Akdemir, 2019), and policy guidelines promoting purposeful internet use over inadvertent browsing (Dhir et al., 2015) are paramount. These measures aim to help individuals better control their emotions, thus diminishing aggressive online interactions and fostering a more positive online discourse. In addition,

online platforms and social media companies should be responsible for monitoring and moderating online material, as exposure to aggressive or inflammatory content can lead to aggressive behavior among internet users.

Limitations and Future Suggestions

Along with its contributions, the current study findings should be considered with its limitations, as well. First of all, unbalanced gender representation is one of the limitations of this study, and it is a correlational study that lacks cause and effect relationship. Furthermore, we included the overall Internet-based addictions, and differentiating between the contents of Internet use like social media, games, and the type of their content (whether violent or non-violent) might have provided more robust findings in explaining the consequences of Internet addiction. Moreover, the COVID-19 pandemic was not a one-point traumatic event, and it seriously affected our lives for a long time with strict measures that burdened people's lives. That is why its social and psychological effects should also be investigated by following individuals for years in their different life points.

Taken together, designing and carrying out experimental and longitudinal research in different age groups will enable us to come up with more robust and generalizable findings. Finally, in terms of implications, the need to develop prevention and intervention strategies has become more urgent after the hit by the pandemic. Despite some limitations, the present findings gave valuable information about the risk of problems in emotion regulation. In that sense, stakeholders in the field should put more emphasis on strengthening the emotion regulation abilities of individuals so that they can become more resilient against the negative effects of Internet addiction, and in return, it facilitates a flourishing society that is open to positive development with less antisocial characteristics.

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Conflict of Interest

We have no conflicts of interest to disclose.

Data availability statement

Data used in this paper are available upon a reasonable request.

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Research Article

The Effect of the Gender Inequality Sensitivity Training Program Based on Active Learning

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ABSTRACT

In the study, it was aimed to test the effectiveness of the Gender Inequality Sensitivity Training Program Based on Active Learning, which was prepared to develop sensitivity to gender inequality. The research was conducted with 26 participants studying in the Guidance and Psychological Counselling department of a university in the Central Anatolia Region in the 2019-2020 academic year. This study is a mixed-method research. In the quantitative part of the research, a quasi-experimental application was conducted with a 2x2 pre-test-post-test control group. In the qualitative part, the activity products and assignments obtained during the training were evaluated. The quantitative data of the research were collected through the Attitudes towards Gender Roles Scale and Personal Information Form, and the qualitative data were collected through the activity products and assignments obtained during the training. A 12-week-long Gender Inequality Sensitivity Training Program Based on Active Learning was applied to the experimental group. The findings showed that the training program increased the gender roles total attitude scores and traditional gender role scores of the experimental group participants significantly. In addition, after the experimental procedure, it was determined that there was a significant difference in favour of the experimental group regarding the total score, female, traditional, and male gender role sub-dimensions between the experimental and control groups. Qualitative

findings showed that the program increased participants' awareness of gender issues.

Keywords: gender role, guidance and psychological counselling, active learning, drama

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Introduction

Each individual acquires the roles, responsibilities, and gender stereotypes determined by society in the socialization process. Social role occurs when a set of interrelated behaviour patterns gather around a social function (Tezcan, 1995) and it is the sum of behaviours expected from the individual. One of the most important factors determining the social role of individuals is gender. Gender refers to the genetic, physiological, and biological characteristics of a woman or a man (Dökmen, 2004; Kıran, 2017). Although each individual comes to the world with a gender, the roles and behaviours they will acquire over time are influenced by the society they live in. The concept of gender is used in this context. Gender is a concept that means that the roles of women and men in society are shaped by the structure of culture rather than their biological characteristics (Başar, 2020).

Gender has formed one of the main subjects of a large number of disciplines such as sociology, psychology, and education (Bingöl, 2014). Research on the topic examines how perceptions of men and women are shaped in society during the socialization process, what kinds of problems social roles cause for men and women, and which dynamics in society cause gender inequality. Gender inequality leads primarily to femicide (Watts & Zimmerman, 2002), health problems in women (Başar, 2017), a decrease in the economic growth and development of the country (Klasen, 2002), and women's not being able to find a place in the field of art (Akalin & Baş, 2018). In addition to these, gender inequality may also cause a decrease in the schooling rate of girls (Rankin & Aytaç, 2006) and the rate of political representation of women (Dorius & Firebaugh, 2010), women's falling behind men in academic career (Dursun, 2013) and many other social, educational, and individual problems.

Studies on gender in the field of education in Türkiye have increased rapidly, especially since 2010. The majority of these studies are related to written and visual media. The idea that these have an active role in gaining and shaping social roles has been adopted. In the field of visual media, TV programs (Etiler & Zengin, 2015), advertisements (Büstan, 2015; Nas, 2015; Özdemir, 2010), films

(Koçak, 2017; Sekmen, 2017), cartoons (Kalaycı, 2015; Şenol et al., 2016), and news photos (Erol, 2013) have been examined within the context of gender. It can be seen that most of the studies on written media are discussed within the context of children's social role acquisition. In this context, written texts for children (Taşdelen, 2016), textbooks (Kükrer & Kıbrıs, 2017), and novels (Ayaydın-Cebe, 2016; Şahin, 2018) have been analysed.

Various studies have been conducted on gender roles at higher education level. Some of these studies have aimed to reveal gender perceptions, attitudes, and thoughts of university students, while others have emphasized taking precautions regarding gender inequality. In a study conducted on students of the Faculty of Communication, Cangöz (2013) found that students had a low level of knowledge and awareness about sexist violence and women's rights. In a metaphor study conducted on 510 teacher candidates, Aslan (2015) found that women and men had positive perceptions about their gender, while they had negative perceptions about the opposite gender. In another study, it was determined that students studying in the field of health had more egalitarian attitudes than those studying in science and social fields (Uçar et al., 2017). Aylaz et al. (2014) found that male students who attended university had a more traditional perspective on gender roles than female students. A large number of similar studies also support this finding (Alptekin, 2014). In order to reduce gender inequality, researchers recommend that gender should be taught as a course in universities (Aydın et al., 2016; Cangöz, 2013) and especially in education faculties (Aslan, 2015). In addition, research on gender roles (Dagadu et al., 2022; Dhar et al., 2018) has shown that active learning can be an effective way to develop attitudes.

Active learning

Active learning is a teaching method in which individuals are involved in the learning process (Prince, 2004). In active learning, instructional activities prompt the participants to do something and think about what they have done during the activity (Bonwell & Eison, 1991). Thinking about their learning is a critical factor in making the connection between activity and learning (Brame,

2016). While the definition of active learning can include traditional activities such as homework (Prince, 2004), it also includes a wide variety of different pedagogical techniques (Brame, 2016; Linton et al., 2014). These techniques can be listed as discussion (Lim et al., 2019; Sutherland, 1996), debate (Kennedy, 2007; 2009), small group work (Jackson & Prosser, 1989), and drama (Ball, 1999). The drama method supports active learning with a reflective classroom structure, it is based on constructivism and encourages verbal skills (Ashton-Hay, 2005). In active learning, participants interact and cooperate in the production and sharing of knowledge (Ward & Tiessen, 1997). Drama is important with its structure that reinforces cooperation and interaction. In addition, participants conduct research by using their information resources (Mentiş-Taş, 2005).

The social learning process about gender roles takes place in a variety of ways. There is no doubt that social and cultural elements are an important source of reference at this point (Robinson-Wood, 2016). As cultural memory transmitters, lullabies (Kırcı-Uğurlu, 2014), proverbs (Bulut, 2013), advertisements (Karaca & Papatya, 2011; Saatçioğlu & Sabuncuoğlu, 2016), and films (Nelmes, 2012) play a critical role in the process of acquiring social roles regarding gender roles and they have an impact on the way of thinking, value judgments, and behaviours of individuals. Written, verbal, and visual tools that permeate daily practices directly and indirectly create gender stereotypes.

The present study

There are few experimental studies on changing the negative attitude and perception towards university students regarding gender roles. Another remarkable point is related to the place of gender studies in the field of guidance and psychological counselling. Although research on gender in this field has increased in recent years in Türkiye, it is still not at a sufficient level. Koyuncu-Şahin & Çoban (2019) compiled studies on gender in the field of education in Türkiye and found only 54 studies without year limitation. Although 25 of these studies were carried out with university students and 8 with prospective teachers, it was found that no study was conducted with guidance

and psychological counselling students. Therefore, there is a limited number of studies on gender in the field of guidance and psychological counselling.

Psychological counsellors work within the body of various ministries such as the Ministry of National Education, the Ministry of Family and Social Services, and the Ministry of Internal Affairs. Regardless of the institution, the essence of the psychological counselling profession is to protect the well-being of people and to support them to be healthy individuals in society. In this context, gender inequality, which creates an element of conflict in society, is an important issue that psychological counsellors can address. In fact, it is emphasized in the psychological counselling literature that gender issues are an integral part of an inclusive and ethical education program (Daniluk et al., 1995; Stevens-Smith, 1995). In addition, as especially psychological counsellors who work in educational institutions are in a critical position in terms of communication with students and parents, they are almost at the starting point for a holistic approach to gender equality at school. On the other hand, for counsellor candidates to be able to deal with the issue of gender effectively at the beginning of the career, they need to realize their perceptions of gender roles first (Enns, 2000; Stevens-Smith, 1995). Moreover, since institutions facilitate and increase individuals' participation and acceptance to be involved in gender-oriented training (Lwamba et al., 2022), it is another important point for training to be carried out within a higher education institution.

Within the scope of this study, a training program was designed to develop the sensitivity of gender inequality. The aim of the study is to test the effectiveness of the Gender Inequality Sensitivity Training Program Based on Active Learning, which has been prepared to develop sensitivity to gender inequality. For this purpose, answers were sought to the following questions in the study.

Is there a statistically significant difference between the pre-test gender roles attitude total score and sub-dimension scores of the experimental and control group participants?

1. Is there a statistically significant difference between the pre-test and post-test gender roles attitude total score and sub-dimension scores of the experimental group participants?
2. Is there a statistically significant difference between post-test gender roles attitude total score and sub-dimension scores of the experimental and control group participants in favour of the experimental group?
3. What are the participants' opinions Gender Inequality Sensitivity Training Program?

Method

Research Design

This study is a mixed-method research. In the quantitative part of the research, a quasi-experimental application was conducted with a 2x2 pre-test-post-test control group. In the quasi-experimental design, the experimental and control groups are not determined by random assignment (Büyükoztürk et al, 2013). Gender Inequality Sensitivity Training Program Based on Active Learning was applied to the experimental group, while no application was conducted on the control group. In this context, the independent variable of the research is "Gender Inequality Sensitivity Training Program Based on Active Learning", while the dependent variable is the gender role attitude level. In the qualitative part, the activity products and assignments obtained during the training were evaluated.

Study group

The study group of the research consists of 26 second-year students attending the Guidance and Psychological Counselling department of a state university in a metropolitan city of the Central Anatolia Region. There are 13 participants (8 female, 5 male) in each of the experimental and control groups. The accessible population of this study is 120 people. In the literature, reaching 10% of the available sample is considered sufficient in experimental research

(Kızıkan & Bektaş, 2017) so the number of participants in this study meets the stated criterion.

The participants were randomly assigned to the experimental and control group. The participants are between the ages of 19-31 (Age = 21, $SD_{Age} = 2.17$). While the mothers of 4% of the participants are illiterate, 50% are primary school graduates, 12% are secondary school graduates, and 35% are high school graduates. The fathers of 23% of the participants are primary school graduates, 12% are secondary school graduates, 31% are high school graduates, and 34% have associate /bachelor/master degree. In addition, it was found that 73% (n =19) of the participants lived in the Central Anatolia Region, 7% (n = 2) lived in the Eastern Anatolia Region, and 20% (n = 5) lived in the Mediterranean Region before their undergraduate education.

Data Collection Tools

Gender Roles Attitude Scale (GRAS) (Zeyneloglu & Terzioglu, 2011)

The scale is a five-point Likert-type scale consisting of 38 items developed by Zeyneloglu & Terzioglu (2011) to determine university students' attitudes toward gender roles. The scale consists of five factors as egalitarian gender role (8 items; e.g., "Widowed woman should be able to live by herself."), female gender role (8 items; e.g., "The last decision regarding the choice of her husband should be made by her father."), marriage gender role (8 items; e.g., "Every wish of the man should be realized at home."), traditional gender role (8 items; e.g., "The head of the household is man"), and male gender role (6 items; e.g., "Education level of the man should be higher than woman in marriages). Cronbach's alpha value for the total score of the scale is 0.92. Cronbach alpha values of the factors are in the range of 0.72-0.80. The minimum score that can be obtained from the scale is 38, and the maximum score is 190. The increase in the scores indicates an increase in the egalitarian attitude in terms of gender roles.

Personal Information Form

The personal information form prepared by the researchers collected demographic information about the participants' gender, age, parent education level, and city of residence prior to their undergraduate education.

Qualitative Data

The qualitative data of the research were obtained through the activity products and assignments obtained during the education. A reporter was selected each week and the sessions were recorded in writing. In addition, the reporters collected the activity products that emerged in each session and delivered them to the trainers. Moreover, two reflective evaluation reports as assignments were received from the participants in the middle (6th week) and at the end (12th week) of the training process. Finally, the participants' reflective reports on their peer interviews about gender roles were collected.

Implementation Process of the Training Program

In this study, the "Gender Inequality Sensitivity Training Program Based on Active Learning" prepared by the researchers was applied to the experimental group participants. No intervention was made to the control group, only pre-test and post-test measurements were taken. The training program, held once a week with each session lasting approximately 120 minutes, was carried out for 12 weeks.

In the first week of the study, a meeting with the group members and pre-test application took place; in the last week, post-test application was carried out. The application was carried out simultaneously by the first author, who is a creative drama leader, and the second author, who is a psychological counsellor with an SSCI publication on film analysis (Derin & Çetinkaya-Yıldız, 2018).

The training took place in both the classroom and drama hall in accordance with the content. In some weeks, the training was conducted in a classroom with a smart board and movable desks, which were large enough for group work, and in some weeks in the drama hall, which had cushions instead

of desks and provided a wide range of movement. The activities in the drama hall were generally carried out in three phases. The first phase, which is the preparation-warm-up phase, includes such as walking at different speeds and various games. This phase was followed by the animation phase which includes drama techniques such as dramatic play, improvisation, and role-playing. Finally, the evaluation phase was carried out, where products like posters and song were produced and the participants' feelings and thoughts about the activities were taken (Appendix 1).

Validity

It is recommended in the literature to take measures to increase internal-external validity in experimental studies (Heppner et al., 2007). In order to increase internal validity, researchers have taken precautions to decrease possible threats such as maturation, selection, mortality, diffusion of treatments, and testing (Cresswell, 2012; Heppner et al., 2007). This study was carried out on ready-made groups, an unbiased assignment could not be made. In order to eliminate the threats to subject selection and maturation experimental and control group participants were selected from the same department and grade. To prevent the threat of subject loss, participants were informed about the importance of attendance, and as a result, no subject loss occurred during the training program. The diffusion effect was reduced in two different ways. Firstly, the experimental group participants were notified not to give information about the training program to the control group. Secondly, small groups in class activities were randomly formed to reduce the personal interactions of participants in the experimental group with each other. Moreover, to control the testing effect, the participants in the experimental group were not informed that the training program process was an experimental study. In order to increase external validity, "gender" topics in the course content of the fourth semester of the Guidance and Psychological Counselling department and in the courses for which the second author is responsible were presented after the post-test application. In this way, the background of the participants was controlled. Lastly, the pre-test and post-test

measurements in the study were made with a scale whose validity and reliability have been tested, as a precaution to reduce the threat of the measurement tool (Heppner et al., 2007).

Ethical Situations

This study was conducted after obtaining the 28.01.2020 dated and 04 issued approval of the Social and Human Sciences Ethics Committee of a state university in the Central Anatolia Region/Türkiye. Before starting the study, permission was obtained from the researcher who developed the scale to use GRAS via e-mail. All participants participated in the study voluntarily, an informed form was presented to the participants and their personal information was kept confidential.

Data Analysis

In order to test the effectiveness of the Gender Inequality Sensitivity Training Program Based on Active Learning which was applied to the experimental group in the study, the measurements obtained before and after the experimental procedure were compared. To do this, first of all, the normality analysis results of the data were examined. In the literature, it is recommended to evaluate Shapiro-Wilk test results when the sample is less than 35 (Shapiro & Wilk, 1965). According to normality test analysis results, data do not follow normal distribution ($p < .05$). Therefore, non-parametric tests were used in data analysis. Based on these results, Mann Whitney-U test was used to compare the mean scores between the groups in the study; Wilcoxon Signed Rank Test was used to compare the intragroup mean scores. SPSS 26 program was used for data analysis, and the level of significance was accepted as $p < .05$ in the analysis. Effect size was calculated with the formula $r = Z/\sqrt{n}$ (Kilmen, 2015), and Cohen's cut points were used to interpret the effect size (Cohen, 2007). Content analysis was conducted on the qualitative data of the research, and data were enriched by direct quotations. Female students were named F while male students were named M.

Results

Effects of the Training Program on Students' Gender Sensitivity

Mann Whitney U Test was used to determine whether GRAS total score and pre-test scores of the five sub-dimensions of the experimental and control groups differed (Table 1).

Table 1*Mann Whitney U Test Results of Experimental and Control Groups GRAS Pre-Test Scores*

Dimensions	Groups	<i>n</i>	<i>Total Rank</i>	<i>Mean Rank</i>	U	Z	<i>p</i>
Egalitarian Gender Role	Experiment	13	177.50	13.65	82.50	-0.10	.92
	Control	13	173.50	13.35			
Female Gender Role	Experiment	13	209.00	16.08	51.00	-1.72	.09
	Control	13	142.00	10.92			
Marriage Gender Role	Experiment	13	196.00	15.08	64.00	-1.06	.29
	Control	13	155.00	11.92			
Traditional Gender Role	Experiment	13	192.00	14.77	68.00	-0.85	.39
	Control	13	159.00	12.23			
Male Gender Role	Experiment	13	205.50	15.81	54.50	-1.56	.12
	Control	13	145.50	11.19			
Total Score Gender Roles Attitude	Experiment	13	211.50	16.27	48.50	-1.86	.06
	Control	13	139.50	10.73			

As seen in Table 1, no significant difference was found between the pre-test scores of the participants in the experimental and control groups in terms of total score [$U_{\text{Total}} = 48.50; p > .05$] and sub-dimensions [$U_{\text{Egalitarian Gender Role}} = 82.50; p > .05$], [$U_{\text{Female Gender Role}} = 51.00; p > .05$], [$U_{\text{Marriage Gender Role}} = 64.00; p > .05$], [$U_{\text{Traditional Gender Role}} = 68.00; p > .05$], [$U_{\text{Male Gender Role}} = 54.50; p > .05$]. These results show that the experimental and control group participants are similar to each other in terms of their attitudes towards gender roles.

Wilcoxon Signed Ranks Test was conducted to determine whether there was a difference in the pre-test and post-test scores of the experimental group regarding the GRAS total score and five sub-dimensions (Table 2).

Table 2

Wilcoxon Signed Ranks Test Findings of the Experimental Group's Pre-Test and Post-Test Score

Dimensions	Measurement	Groups	n	Mean Rank	Total Rank	\bar{X}	Z	p	r/Cohen's d
Egalitarian Gender Role	Pre-test	Increments	3	5.67	17.00	37.38	-0.67	.51	---
		Descendants	6	4.67	28.00				
	Post-test	Equal	4			37.69			
		Total	13						
Female Gender Role	Pre-test	Increments	2	4.50	9.00	28.15	-2.37	.18	---
		Descendants	10	6.90	69.00				
	Post-test	Equal	1			30.38			
		Total	13						
Marriage Gender Role	Pre-test	Increments	3	4.17	12.50	36.54	-1.21	.23	---
		Descendants	6	5.42	32.50				
	Post-test	Equal	4			37.31			
		Total	13						
Traditional Gender Role	Pre-test	Increments	1	2.00	2.00	28.23	-3.05	.00	.85
		Descendants	12	7.42	89.00				
	Post-test	Equal	0			31.62			
		Total	13						
Male Gender Role	Pre-test	Increments	6	3.83	23.00	26.38	-0.06	.95	---
		Descendants	3	7.33	22.00				
	Post-test	Equal	4			26.46			
		Total	13						
Total Score Gender Roles Attitude	Pre-test	Increments	1	2.50	2.50	156.69	-2.87	.00	.80
		Descendants	11	6.86	75.50				
	Post-test	Equal	1			163.46			
		Total	13						

As can be seen in Table 2, a significant difference was found between the gender role attitudes pre-test and post-test scores of the participants in the experimental group [$Z_{\text{Total}} = -2.87$; $p < .05$, $r = .80$]. In addition, a significant difference was found between traditional gender role sub-dimension scores [$Z_{\text{Traditional Gender Role}} = -3.05$; $p < .05$, $r = .85$]. As can be seen from the rank totals of difference scores, the aforementioned difference was in favour of the post-test. On the other hand, no significant difference was found regarding the other sub-dimensions ($p > .05$). In line with this result, it can be stated that the Gender Inequality Sensitivity Training Program Based on Active Learning increased the egalitarian attitude levels of the experimental group participants significantly.

Wilcoxon Signed Ranks Test was used to determine whether there was a difference in the pre-test and post-test scores of the control group regarding the GRAS total score and five sub-dimensions (Table 3).

Table 3*Wilcoxon Signed Ranks Test Findings of the Control Group's Pre-Test and Post-Test Score*

Dimensions	Measurement	Groups	n	Mean Rank	Total Rank	\bar{X}	Z	p	r/Cohen's d
Egalitarian Gender Role	Pre-test	Increments	7	5.07	35.50	36.46	-1.54	.12	---
		Descendants	2	4.75	9.50				
	Post-test	Equal	4			34.54			
		Total	13						
Female Gender Role	Pre-test	Increments	4	6.50	26.00	24.00	-0.63	.53	---
		Descendants	7	5.71	40.00				
	Post-test	Equal	2			24.23			
		Total	13						
Marriage Gender Role	Pre-test	Increments	6	5.92	35.50	35.00	-0.82	.41	---
		Descendants	4	4.88	19.50				
	Post-test	Equal	3			34.77			
		Total	13						
Traditional Gender Role	Pre-test	Increments	6	6.50	39.00	25.92	-1.97	.05	.55
		Descendants	3	2.00	6				
	Post-test	Equal	4			24.54			
		Total	13						
Male Gender Role	Pre-test	Increments	7	5.57	39.00	24.46	-1.20	.23	--
		Descendants	3	5.33	16.00				
	Post-test	Equal	3			24.00			
		Total	13						
Total Score Gender Roles Attitude	Pre-test	Increments	8	8.75	70.00	145.85	-1.72	.09	--
		Descendants	5	4.20	21.00				
	Post-test	Equal	0			142.07			
		Total	13						

As can be seen in Table 3, a significant difference was found between the pre-test and post-test scores of the control group participants regarding the traditional gender roles sub-dimension [$Z_{\text{Traditional Gender Role}} = -1.97$; $p \leq .05$, $r = .55$]. As can be understood from the rank totals of the difference scores, the aforementioned difference was in favour of the pre-test. In other words, the traditional gender role scores of the control group participants decreased in the post-test measurements compared to the pre-test measurements. On the other hand, no significant difference was found regarding the total score and four sub-dimensions.

Mann Whitney U Test was conducted to determine whether there was a difference in GRAS total score and post-test scores of the five sub-dimensions of the experimental and control groups (Table 4).

Table 4

Mann Whitney U Test Results of Experimental and Control Group Post-Test Scores

Dimension	Groups	n	Total Rank	Mean Rank	U	Z	p	r/Cohen's d																																																												
Egalitarian Gender Role	Experiment	13	200.50	15.42	59.50	-1.30	.19	---																																																												
	Control	13	150.50	11.58					Female Gender Role	Experiment	13	229.50	17.65	30.50	-2.78	.00	.55	Control	13	121.50	9.35	Marriage Gender Role	Experiment	13	209.00	16.08	51.00	-1.75	.08	---	Control	13	142.00	10.92	Traditional Gender Role	Experiment	13	235.50	18.12	24.50	-3.10	.00	.61	Control	13	115.50	8.88	Male Gender Role	Experiment	13	217.00	16.69	43.00	-2.16	.03	.42	Control	13	134.00	10.31	Total Score Gender Roles Attitude	Experiment	13	229.00	17.62	31.00	-2.75	.00
Female Gender Role	Experiment	13	229.50	17.65	30.50	-2.78	.00	.55																																																												
	Control	13	121.50	9.35					Marriage Gender Role	Experiment	13	209.00	16.08	51.00	-1.75	.08	---	Control	13	142.00	10.92	Traditional Gender Role	Experiment	13	235.50	18.12	24.50	-3.10	.00	.61	Control	13	115.50	8.88	Male Gender Role	Experiment	13	217.00	16.69	43.00	-2.16	.03	.42	Control	13	134.00	10.31	Total Score Gender Roles Attitude	Experiment	13	229.00	17.62	31.00	-2.75	.00	.54	Control	13	122.00	9.38								
Marriage Gender Role	Experiment	13	209.00	16.08	51.00	-1.75	.08	---																																																												
	Control	13	142.00	10.92					Traditional Gender Role	Experiment	13	235.50	18.12	24.50	-3.10	.00	.61	Control	13	115.50	8.88	Male Gender Role	Experiment	13	217.00	16.69	43.00	-2.16	.03	.42	Control	13	134.00	10.31	Total Score Gender Roles Attitude	Experiment	13	229.00	17.62	31.00	-2.75	.00	.54	Control	13	122.00	9.38																					
Traditional Gender Role	Experiment	13	235.50	18.12	24.50	-3.10	.00	.61																																																												
	Control	13	115.50	8.88					Male Gender Role	Experiment	13	217.00	16.69	43.00	-2.16	.03	.42	Control	13	134.00	10.31	Total Score Gender Roles Attitude	Experiment	13	229.00	17.62	31.00	-2.75	.00	.54	Control	13	122.00	9.38																																		
Male Gender Role	Experiment	13	217.00	16.69	43.00	-2.16	.03	.42																																																												
	Control	13	134.00	10.31					Total Score Gender Roles Attitude	Experiment	13	229.00	17.62	31.00	-2.75	.00	.54	Control	13	122.00	9.38																																															
Total Score Gender Roles Attitude	Experiment	13	229.00	17.62	31.00	-2.75	.00	.54																																																												
	Control	13	122.00	9.38																																																																

As can be seen in Table 4, a significant difference was found in the total score [$U_{\text{Total}} = 31.00$; $p < .05$, $r = .54$], female gender role [$U_{\text{Female Gender Role}} = 30.50$; $p < .05$, $r = .55$], traditional gender [$U_{\text{Traditional Gender Role}} = 24.50$; $p < .05$, $r = .61$], and male gender role [$U_{\text{Male Gender Role}} = 43.00$; $p < .05$, $r = .42$] sub-dimensions post-test scores of the participants in favour of the experimental group. It can also be stated that the effect size is high because the female gender role and traditional gender role effect values are higher than .50 (Cohen, 2007). In terms of mean rank, it can be stated that the students who participated in the Gender Inequality Sensitivity Training Program Based on Active Learning have an egalitarian attitude compared to those who did not participate in such training. On the other hand, no significant difference was found between the groups in the post-test scores of egalitarian gender role [$U_{\text{Egalitarian Gender Role}} = 59.50$; $p > .05$] and marriage gender role [$U_{\text{Marriage Gender Role}} = 51.00$; $p > .05$] sub-dimensions.

Opinions on Gender Inequality Sensitivity Training Program

All participants in the Gender Inequality Sensitivity Training Program gained different perspectives on gender (Table 5). The views of the participants on their awareness are as follows:

I had a lot of fun at all our activities related to gender, they were all very meaningful and fun. Even though we are a small group, I think everyone has gained awareness. I learned that even many of the idioms we use unconsciously contain gender discrimination. Now that I am more knowledgeable and my awareness has increased, I will act consciously (F1).

I saw that this training added awareness to all of us. At that moment, I realized again that we were dealing with a very important subject. I saw that our activities set a very good example for us to see this inequality and provide a solution (F4).

We did great work that increased my awareness of gender equality, thank you (F8).

With the activities we have done in the context of gender so far, I have had the opportunity to look at this issue from a perspective that I have not looked at before. It turns out that this gender discrimination is intertwined with our lives (M13).

Table 5

Attainments of the Participants in the Training Program Process

Awareness of Gender in the Society	Participants
Recognizing the emphasis of gender role in cultural elements	F1, F2, F6, F7, M9, M12, M13
Understanding the need to discuss gender	F3, F4, M13
Recognizing that gender stereotypes are deeply rooted	F2, F3, F5
Recognizing the difference in gender perception between generations	F1, F3, F5
Recognizing the existence of traditional gender roles in emerging adults	M9, M12
Thinking that there is a need to increase gender equality	M12, M13
Recognizing that gender perception can be changed	F3, M11
Recognizing that gender can vary by culture and individuals	F3, F6
Recognizing that gender perception is independent of a person's socio-demographic characteristics	F2, F3
Recognizing the dynamics underlying gender issues	F3
Awareness of Female and Male Gender Roles	
Noticing that women experience more problems than men	F1 F2, F4, F5, M13
Recognizing that both men and women have difficulties	F4, M9, M12

Recognizing the need to raise men's awareness of gender equality	F1, F6, M13
Recognizing that women have a more comprehensive knowledge of gender issues	F3, F7, M13
Realizing that one's definition of one's own gender is more positive, while one's definition of the opposite gender is negative.	F6, M10
Thinking that women should be provided equal opportunities	M10
<hr/>	
Individual specific awareness	
<hr/>	
Becoming more sensitive to gender equality	F1, F2, F3, F5, F6, F7, F8, M9, M10, M12
Expanding perspective on gender	F2, F3, F4, M9, M10, M12
Realizing that individuals have their own stereotypes	F2, F4, F5, F7, M10
Recognizing that gender roles are acquired unconsciously	F2, F5, M12,
Thinking that stereotypes should be changed	F8, M11
<hr/>	

Awareness of the participants on the subject of gender is gathered under three main themes: gender in society, individual-specific, and male-female gender roles.

Participants gained prospects toward gender perception prevalent in society. They noticed the society's effect on gender and the factors and cultural elements increasing this effect. Cultural elements (lullaby, proverb, song, movie, etc.) discussed throughout the program are one of the main factors that provided this awareness. A participant's views on cultural elements are as follows:

For weeks in lullabies, songs, and movies, I became aware of things that we could not notice before about this gender inequality, which we

encounter very often out of the family. Through the interviews we had, I clearly saw people's views more closely and I really felt that my awareness increased (F3).

Another issue expressed by the students regarding the perception of gender in society is about change. Some participants stated that they observed that gender perception changed from generation to generation. Some students stated that especially the new generation is more prone to change towards maintaining gender equality and that negative perception can change more easily among them. Therefore, it can be said that there has been a change in the understanding of "That's just the way it goes," due to the training programs. It can be understood from the statements of the two participants below that it is difficult for middle-aged and older individuals to change their stereotypes in the first of the quotations, and that change is possible in emerging adults in the second quotation:

After receiving this training, my awareness of my environment increased. I have observed that there are behaviours that women and men should do separately in the environments I am in, and that when individuals do these together and cooperatively, society looks at them differently. One of the most important examples of my awareness of this situation is that elders of the family, who saw that the man helped to clean the kitchen after a family dinner, said, "Let women take care of it, and let's chat" (F2).

I realized that we are human rather than the fact that we are boys and girls, that we are equal to the opposite sex except for our gender characteristics, and that we can change stereotypical social roles and gender with our new perspectives (M11).

Another contribution is that the training program creates a change in participants' perceptions of male and female roles. During the program, they realized that both women and men experience problems based on gender inequality in society. There are participants who stated that women have more problems than men.

While making observations during the education process and in my life, I realized better that these roles make our lives more difficult most of the time and that women take on most of the burden in home life (F2).

I saw that female participants were exposed to social pressure in choosing a profession, but male participants were not (F4).

In the group, I noticed that both boys and girls were dissatisfied when their actions were associated with their gender (M12).

Finally, the training program had an impact on the participants' individual perceptions. Gender issue was an interesting topic according to participants because although they had heard of it before, they had not explored its scope. They realized that gender issue exists in every area and moment of life, and this enabled them to broaden their perspectives. The participants also observed that they had their own gender stereotypes through the drama activities in the class and peer interviews. Participants' opinions on this subject are presented below:

When I look back at what we have done in this training program, I see that no matter how much we advocate gender equality, stereotypes have a deep-rooted place in our brains. Even if we are not aware of it, we discriminate against gender. We do this and we are the ones who will solve it. This program actually raises awareness. Even though it seems like we know these things, we are having difficulties in practice and we need to put them into practice as soon as possible and raise more awareness (F5).

Even though I was somewhat conscious, I felt aware that I also acted with gender inequality in some issues due to the family I grew up in, and what I saw in terms of roles between husband and wife. I realized that it doesn't matter if others find it strange that my interest is football because I am a girl. As a result of the awareness created in this program, I also think that I will get rid of this perception I have, thank you (F6).

Discussion

The aim of this study was to test the effectiveness of the Gender Inequality Sensitivity Training Program Based on Active Learning. The analyses showed that the training program increased the total gender role attitude scores and traditional gender role scores of the experimental group participants significantly. In addition, after the experimental procedure, it was concluded that there was a significant difference in favour of the experimental group regarding the total score, female gender role, traditional gender, and male gender role sub-dimensions between the experimental and control groups, and the effect level of education was high on this difference. On the other hand, it was determined that the program was not effective on egalitarian and marriage gender role sub-dimensions.

The drama method, which is one of the active learning methods, was emphasized in the training program developed within the scope of the present study. In this respect, the results of this study are similar to the results of the studies conducted in Türkiye by using the drama method and with different groups. For example, the results of the experimental study by Altınova & Adıgüzel (2013) on housewives who were members of community centres showed that drama improved women's perceptions of gender. Ülker & Tanrıseven (2019), on the other hand, provided training to adolescents with the creative drama method and they found there was a significant difference in favour of the post-test in the total score and all sub-dimensions.

The results of the present study are also consistent with the results of studies in which active participation was ensured and effective results were found in ensuring gender equality such as real-life stories (Aydın-Avcı et al., 2021), value-based activities (Seçgin & Kurnaz, 2015), narrative (radio drama, story books, story-based activity cards) based activities (Dagadu et al., 2022), case-based presentations (Yılmaz, 2018), classroom discussions (Dhar et al., 2018; Özcan et al., 2017), writing gender-based stories (Nguyen & Tarp, 2022) and group guidance (Koçyiğit et al., 2017). The critical issue for all teaching methods and techniques to be effective may be the active participation of the

participants. This is because active learning is a teaching method that encourages critical thinking, motivates participants in education, provides the opportunity to develop and construct knowledge, and gives responsibility to the learner in the learning process (Huda et al., 2016). Studies have shown that active learning is effective in the change of attitudes on various issues (Desan et al., 2021; Kamarulzaman et al., 2018). In this context, the strength of this study is that the training program is designed based on active learning.

According to the research results, the participants showed improvement in the total attitude score towards gender roles, female gender role, traditional gender role, and male role. Including teaching materials such as proverbs, idioms, lullabies, films, and songs in the education program that draw attention to women, men and traditional gender roles (sample scale items, respectively: A woman's basic task is motherhood, Man should decide on how to use family income, Profession implemented by woman and man should be different) and discussing and evaluating the messages regarding these roles from a critical perspective with active learning methods and techniques may have led to changes in the sub-dimensions mentioned. At this point, it is important to explain the effect of the drama method as well as techniques such as discussion, critical film analysis, and debate. The drama method allows the subject to come out of the participants' lives (McCaslin, 2006). In this context, although the researchers had a pre-prepared plan for each session, the content, direction, and depth of the topics, as well as drama techniques such as role-playing and improvisation, depended on the participants. Drama involves addressing the relationships between individuals' conscious or unconscious choices and values, and this is the key to drama being an effective method (Wilson, 1996). In this study, each issue was addressed from two gender perspectives, and all participants were assigned to both male and female roles. Thus, participants had the opportunity to critically examine the relationships between their own choices and values regarding gender inequality. In addition, participants engaged in a dramatic action during the training in which they could see the perspectives of other participants. In this respect, drama, supported by other methods throughout the program, allows the development of especially

the cognitive and affective dimensions of attitude (Allport, 1935). As a result, the combined use of teaching methods based on active learning contributed to the participants' awareness of gender-related problems in life, their analysis, and their development of a broad and realistic perspective on gender inequality.

When the research findings are evaluated in terms of impact values, the impact value for male gender roles is lower than for traditional and female gender roles. The items in the scale emphasize the power and high status of men (e.g., Men should be employed in high-status professions). The fact that both of the researchers conducting the training are women can be considered as a limiting aspect in terms of activating the change towards these dimensions. Indeed, it has been reported that related similarities are effective in attitude change (Simons et al., 1970). In this program where gender is discussed, the gender of the instructors can be considered a related similarity for the participants.

The research results also showed that no improvement was achieved in the participants' egalitarian and marital gender role sub-dimensions. Scale items related to egalitarian gender roles (e.g., Equal fees should be paid to women and men in professional life) reflect the situations specified in the law and are generally accepted. Moreover, scale items related to marriage gender roles (e.g., Husband's cheating on a wife should be considered normal) mainly contain items that would not be approved by women. This is also clearly seen in the pre-intervention mean scores of the participants. Indeed, pre-intervention mean scores for egalitarian and marital gender roles are quite close to the maximum score. Therefore, there may not have been a significant change in both sub-dimensions. In addition, the lack of a significant increase in the marriage gender role scores of the participants can be explained by the fact that the marital roles are more implicit in the content of the program and that a separate period is not devoted to this subject.

Implications

Findings from the study showed that interventions based on active learning were effective in the development of gender attitudes. Interventions

regarding gender roles can enable psychological counselors to provide services in line with the principle of “not harming the client” as recommended in professional ethical codes (American Counseling Association [ACA], 2014; Turkish Guidance and Counseling Association [TGCA], 2021) and develop gender-sensitive counseling interventions, which are especially needed in patriarchal societies (Joshi, 2015). Studies have shown that there is a negative and significant relationship between violence tendencies and gender perception (Kul-Uçtu and Karahan, 2016; Özpulat, 2017), gender perceptions explain the attitude towards violence against women (Dursun, 2020), gender attitudes are associated with the possibility of violence such as dating abuse, sexual harassment (Miller et al., 2020). When these relationships are considered, the findings obtained from the present study are quite important. This study shows that although learning about gender roles takes a long time, educational interventions can encourage development in this direction. Therefore, studies aimed at improving sensitivity to gender inequality can be an important starting point to ensure fair inclusive growth (Elson & Fontana, 2019) and the egalitarian conditions explicitly asserted in international documents (United Nations [UN], 1948; 1993).

Limitations and Recommendations

The results of this study are limited to the students of the Guidance and Psychological Counselling department of a state university located in a metropolitan province in Central Anatolia. In this context, it may be suggested to plan experimental studies on gender roles with university students who are in different regions and who are attending different programs in the future. In this study, the experimental and control groups were formed from ready-made groups in the educational environment. Therefore, the research was designed in a quasi-experimental design. Scientifically stronger results can be obtained with research to be planned in a real experimental design. Also, since the experimental and control groups were formed from ready-made groups and the number of women in the Guidance and Psychological Counselling department was higher than the number of men, the balance between women and men

could not be achieved at a sufficient level. It is recommended to consider the gender balance of the participants in future studies. Finally, the fact that both researchers who implemented the program were women can be considered as a limitation for participants. For this reason, the presence of male and female trainers in future studies may eliminate this limitation. In the current study, a placebo group could not be formed due to the incompatible schedules of the two researchers and not a sufficient number of people in the accessible sample. In future studies, a placebo group can be created to examine the effectiveness of the program in more detail.

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Conflict of Interest

We have no conflicts of interest to disclose.

Data availability statement

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

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Supplementary materials

Appendix 1

Content of the Gender Roles Sensitivity Training Program Based on Active Learning

Week 1	
Learning outcome	Participants recognize the training program and its purpose. Participants can tell the content of the training program. Participants set group rules.
TMT	Lecture and question-answer
Setting	Classroom
Process	Applying the pre-test to both experimental and control group
Week 2	
Learning outcome	Participants get to know each other. Participants gain awareness about the stages of creative drama method.
TMT	
Setting	Role playing, improvisation, question-answer and discussion Drama hall
Process	The program starts with the physical warm-up of the participants. Qualified teaching of a course based on active learning depends on the participants getting to know each other well and trusting each other. For this reason, three meeting games were played during the warm-up phase of the lesson. The first two games are for both physical warm-up and for learning the names. In the last activity, the hobbies and phobias of the participants are shared through the game. After the warm-up and meeting activities, the role and responsibilities of women and men in life are evaluated with an animation called 'A day in life'. Then the roles of men and women in these animations are discussed.
Assignment	Family tree with social roles

 Week 3

Learning outcome	<p>Participants get friendly with each other.</p> <p>Participants gain awareness about the concept of gender.</p> <p>Develops participants' views on gender stereotypes</p>
TMT	Dramatic play, question-answer, lecture
Setting	Drama hall and classroom
Process	<p>Since it was the first week of the training program, two warm-up and ice breaking activities were included. Then the dramatic game "Don't you see" was played. In this game, the group becomes a circle and one person enters the middle and takes an action without speaking. A volunteer in the circle asks "what are you doing?" and after the person in the middle says "Don't you see" and after expressing an action completely different from the one he did at that moment; he replaces the person asking the question. The person who has just passed in the middle does the action that is said and the game continues in this way. The role of the person who gets in the middle in this game changes according to the instructions given by the instructors. These roles are, respectively: a seven-year-old girl, a seven-year-old boy, a teenage girl, a teenage boy, a middle-aged mother, a middle-aged father, an old woman, and an old man. While playing this game, the actions that the group tells for all roles are written on the paper. After the game is over, the actions attributed to men and women and the differences in these actions are discussed. Then the concept of gender is explained by giving definitions and examples through Power Point.</p>

 Week 4

Learning outcome	<p>Participants gain awareness of male and female body language.</p> <p>Participants list the roles attributed to women and men.</p> <p>Participants become aware of the difficulties experienced by men in society.</p>
TMT	Still image, role playing, improvisation and question-answer
Setting	Drama hall

Process	The session starts with the warm-up activity and continues with the trust exercise. Then the materials available for use in the drama studies in the classroom are shown to the participants and they are asked which objects represent men and women. Hand-fan is chosen for women, while wristwatch is chosen for men. These two objects are placed in front of the group. Participants take turns to stand up and go to the object to make sentences such as “be like that” and “don't be like that”. These sentences are written on the paper simultaneously (See Appendix 2). Participants are asked to examine the results found and their opinions are taken. Then the subject is discussed. After this discussion, the instructor recommends the participants to read Leyla Navaro's book 'Two Sizes of Small Shoes'. Then the class is divided into groups and the groups are asked to play a role about 'difficulties experienced by men'. The reason for addressing the difficulties experienced by men is to emphasize that gender inequality is not only an ongoing problem against women. The difficulties experienced by the men are discussed after the re-enactments.
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Week 5

Learning outcome	Participants express the difficulties experienced by women and men. Participants discuss the reasons for the difficulties experienced by women and men in social context.
TMT	Debate and discussion
Setting	Classroom
Process	A debate with the topic “Is it difficult to be a woman or a man?” was held. Within the scope of the program, groups were determined one week in advance. The instructor made sure that there were both male and female participants in each group. In the debate held within the scope of the program, the group advocating the view “it is difficult to be a woman” won. Then a discussion was held with the whole group about the difficulties experienced within the framework of social roles for both genders. The issues discussed during the discussion are presented in the Appendix 3.

 Week 6

Learning outcome	Participants explain the gender roles that exist in proverbs. They realize the use of language sensitive to gender equality.
TMT	Role playing and improvisation
Setting	Drama hall
Process	The session starts with physical and cognitive warm-up exercises. After the instructor tells an action, he asks them to do it first like a girl and then like a boy. Mirror exercise is performed then. In this exercise, pairs come face to face and one person becomes the mirror, while the other person becomes the one looking in the mirror. The mirror tries to make the movements of the person looking in the mirror in the same way. In this activity, the mirror is used as a metaphor and the structure of the society that shapes the behaviour of the person is discussed. Then the participants are divided into groups for the animation phase. The groups are asked to choose a proverb from the box containing the proverbs that the instructors have previously determined, and to animate them after designing a fiction about these proverbs. The proverbs chosen by the participants are as follows: "Woman's evil is equal to the devil's evil", "I gave birth to a boy, he beat me, I gave birth to a girl, she robbed me", "Ugly woman tidies the house, beautiful woman goes to the wedding", "The woman who gets up after her husband is no good", "A man like a man, a woman like woman". After watching the improvisations, poster work begins. The group is divided into new groups and each group is asked to transform the proverbs they want with new words and they are expected to design these as posters (See Appendix 4). For this event, participants are provided with materials such as magazines, brochures, scissors, coloured pencils, etc.

Assignment	Watching the movies 'Nadide Hayat' and 'Şendul Şaban'
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 Week 7

Learning outcome	Participants realize how gender roles are conveyed in the media.
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TMT	Case study (film analysis), question-answer, lecture
Setting	Classroom
Process	<p>Views of the participants are taken about gender stereotypes, examples of inequality, and the factors that cause obstacles regarding the movies <i>Nadide Hayat</i> and <i>Şendul Şaban</i>. <i>Nadide Hayat</i> is a Turkish movie produced in 2015. The lead character, Nadide, quits her university education at the request of the person she met during her university years and marries him. She has two children from this marriage and she is also a grandmother. Nadide's husband dies when she is 50 years old. After this event, her family and people in the society expect many things from Nadide. Her deceased husband expects Nadide to pray for him, her daughter expects her to take care of her child, and her son-in-law expects her to perform religious worship like her peers. However, Nadide decides to complete her education, which was interrupted 30 years ago, and the people around her oppose this decision. Despite objections and criticism, Nadide is persistent in her decision and returns to university. The film offers the opportunity to think critically about gender roles by addressing the conflict that a woman may experience between society's expectations and her own wishes.</p> <p><i>Şendul Şaban</i> is a 1985 Turkish movie. Şaban, the lead character, is married and has two children. He works as a worker in a factory. One day, he is fired. Upon this, his wife Necla and Şaban enter into a rivalry and start looking for a job together. Necla finds a job and starts working as a secretary; but her husband Şaban cannot find a job. In the face of this situation, Necla and Şaban change their roles. Necla, starts to bring home the bacon; Şaban, on the other hand, begins to take care of children and do housework. The movie steps out of the usual gender roles in the society. For this reason, it presents striking examples to the audience in terms of gender roles and lays the groundwork for the questioning and restructuring of the idea that "women do not understand" and "men cannot do". Discussion is created with the following questions about these films:</p> <ul style="list-style-type: none">• What did you notice about gender roles in this movie?

- What are the difficulties faced by women and men in society?
- What did you find about your own life in this movie?

Then, the instructor prepares the most important sections of the movies “Nadide Hayat” and “Şendul Şaban” and shows them to the class. Important issues in these sections are discussed. After discussing women’s social roles in movies, the role of women in commercials is presented via PowerPoint.

Assignment	Participants are asked to make their own analysis of a movie they want. The films that the participants reviewed in this assignment are: ‘Hush! Girls Don’t Scream’, ‘Heartache’, ‘The Stoning of Soraya M.’, ‘Persepolis’, ‘Halam Geldi [My Aunt Came]’ and ‘Oranges and Sunshine’.
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Week 8

Assignment	Participants are asked to conduct interviews about gender roles, one female and one male university student. *This assignment was given when the training program started. The interview forms of the participants were prepared by the researchers (See Appendix 5).
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Week 9

Learning outcome	Participants realize the perceptions of their peers towards men and women
TMT	Question-answer and whole group discussion
Setting	Classroom
Process	The impressions of participants about the interviews they conducted are taken. After the interviews, they are asked to write down the most striking values towards women and men on A4 papers on the desks (See Appendix 6).

Week 10

Learning outcome	Participants explain gender roles in lullabies. Participants explain gender roles in songs.
TMT	Lecture, question-answer, and conscience alley
Setting	Classroom
Process	<p>The session starts with a warm-up activity. Then it continues with the activity called 'Lullaby Alley'. Lullabies sung to girls and boys in Turkish culture are written on small papers. Participants line up like an alley. The participants on one side of the alley are given lullabies for girls, and the participants on the other side are given lullabies for boys. These lullabies are sung in turn as a male and female participant passes through this alley. When the walk in the alley is completed, the emotions of the participants are taken. After this activity, it is stated that gender roles that started with lullabies in infancy continue with songs today. Samples of songs are presented via PowerPoint.</p> <p>The examples of songs given in the session are as follows:</p> <p>Hey woman, listen to me, come to your senses, hey, I'm a man, get down on your knees right in front of me. Look, I'm getting angry, sit at home, give birth, hey, don't you have things to do, pour some hot tea ... Men don't cry, wipe your tears, Don't take your eyes off me like you're guilty Everything is law, everything is a rule, everything is strange Are you not tired of standing upright, wiping your tears away You have a burden on your back, your eyes are gazing off The child inside you is crying for you Men cry too, love your tears You cried when you were little, remember, innocent, good Men cry too, can't bear the sadness</p>

 Download your mask, look your tears suit your face

 Week 11

Learning outcome	Participants produce solutions to prevent gender inequality
TMT	Role-play, improvisation, and still image
Setting	Drama hall
Process	<p>After the warm-up, the instructor asks the questions: 'Where do we see gender inequality the most?', 'Who do you think has the biggest role in reducing gender inequality?', 'Which institution do you think has the biggest role in reducing gender inequality?' and the answers are given to the side after they are written on the papers. In this way, there are sheets of paper with answers from three different people. The class is divided into groups of three and each group draws a piece of paper. Each group is asked to create three different still images, taking into account the place, person and institution written on the papers. The still image animation of each group is discussed with all groups. Then it is said that the most effective way to ensure gender equality is domestic life, and everyone is asked to make sentences that begin with "I have built a home" for family life. For example, "I have built a home where the father is braiding his daughter's hair". The same activity continues with sentences starting with "I have founded a society" (See Appendix 7). Then participants are divided into groups again and each group composes a song by taking into account the attitudes, behaviours and institutions that will ensure gender equality (See Appendix 8). All songs are sung. A miniature tree is brought to the classroom for the closing event. Everyone is asked to write down the contribution of this lesson to them in one sentence and hang it on the tree. Then at any time, everyone takes a piece of paper from the tree and reads it. This is how the course and program ends.</p>

 Week 12

Learning outcome	Participants evaluate the education process.
Setting	Classroom
Process	Evaluation of the training program by the participants by writing their feelings and thoughts on A4 paper. Implementation of the post-test.

TMT: Teaching method and technique

Appendix 2

Be Like That, Don't Be Like This

<p style="text-align: center;">KADIN</p> <p style="text-align: center;">SSY LE OL</p> <ul style="list-style-type: none"> - Yapıcı ol - Kibar ol - Bakımlı ve güzel ol - Hanım hanımcek nam - Çalkıma evde otur - Alttan alan sen ol - Hakları savun - Kır bacağı otur - Özgür ol - Sevgi dolu ol - Yemek yap - Şefkatli ol - Giyimine dikkat et 	<p style="text-align: center;">ERKEK</p> <p style="text-align: center;">SSY LE OL</p> <ul style="list-style-type: none"> - Koruyucu ol - Ağırbaşlı ol - Ağlama - Beyefendi ol - Kibar ol - Adaletli ol - Güçlü ol - Düşünceli ol - Delikanlı ol - Sözünün arkasında dur, tutarlı ol - Sınırları kontrol et - Son sözün sen söyle - Merhametli ol - Dürüst ve anlayışlı ol - Eklemek parayı kazan
<p>WOMAN</p> <p>BE LIKE THAT</p> <p>Be constructive</p> <p>Be kind</p> <p>Be well groomed and beautiful</p> <p>Delicate as a lady</p> <p>Don't work, stay home</p> <p>Be the one who keeps on the good side</p> <p>Defend your rights</p> <p>Sit at home</p> <p>Be free</p> <p>Be full of love</p> <p>Cook</p> <p>Be passionate</p> <p>Pay attention to the way you dress</p>	<p>MAN</p> <p>BE LIKE THAT</p> <p>Be protective</p> <p>Be earnest</p> <p>Don't cry</p> <p>Be a gentleman</p> <p>Be kind</p> <p>Be fair</p> <p>Be strong</p> <p>Be thoughtful</p> <p>Be a man</p> <p>Keep your promise, be consistent</p> <p>Control your nerves</p> <p>Say the last word</p> <p>Be merciful</p> <p>Be honest and understanding</p> <p>Earn your living</p>

<p style="text-align: center;">KADIN</p> <p style="text-align: center;">BÖYLE OLMA</p> <ul style="list-style-type: none"> - Kikir kikir gelme - Makyaj yapma - Fazla aak giyinme - Ezilen taraf sen olma - Dedikodu yapma - Ölm - Çok konuşma - Dindir etme - Sigara içme - Bösenme - Güsüz olma - Susma - Elinin hamuruyla erkek işine karışma - Dışarıda sokak çığırma - Çok gezme 	<p style="text-align: center;">ERKEK</p> <p style="text-align: center;">BÖYLE OLMA</p> <ul style="list-style-type: none"> - Sıddet uygulama - Ciddiyetsiz olma - Bencil olma - Karşında kadın olduğunu unutma - Ağlama - Kadına el kaldırma - Kafretme - Dengesiz olma - Klibik olma - Zaaflarını belli etme - Bağırma - Başkalarının duygularına önem ver - Kadın gibi gelme - Kadın duygularıyla oynamama - Emir verme
<p>WOMAN</p> <p>DON'T BE LIKE THIS</p> <p>Don't giggle</p> <p>Don't make up</p> <p>Don't overdress</p> <p>Don't be the oppressed side</p> <p>Don't gossip</p> <p>Don't die</p> <p>Don't talk a lot</p> <p>Don't nag</p> <p>Don't smoke</p> <p>Don't divorce</p> <p>Don't be weak</p> <p>Don't shut up</p> <p>Don't get involved in men's business</p> <p>Don't chew gum outside</p> <p>Don't idle</p>	<p>MAN</p> <p>DON'T BE LIKE THIS</p> <p>Don't use violence</p> <p>Don't be frivolous</p> <p>Don't be selfish</p> <p>Don't forget there is a woman opposite you,</p> <p>Don't cry</p> <p>Don't raise a hand to women</p> <p>Don't be unbalanced</p> <p>Don't be henpecked</p> <p>Don't show your weaknesses</p> <p>Don't shout</p> <p>Care about other people's feelings</p> <p>Don't laugh like a woman</p> <p>Don't play with girls' feelings</p> <p>Don't give orders</p>

Appendix 3

Results of the Discussion

Issues Covered by the Group "It's Hard to Be a Woman"	Issues Covered by the Group "It's Hard to Be a Man"
Women's being despised and subjected to violence in the old times, women's employment problem, women's not taking part in politics, early marriage, the necessity of dressing for men, being confined to the house.	Men's being exposed to violence, men's burden during marriage preparations, the obligation to give alimony to women, the responsibility of starting a romantic relationship, military service, man's responsibility to be strong

Appendix 4

Poster Study for Transformed Proverbs



Proverb	Transformed Proverb
You have a daughter, you have a problem	You have a daughter, you have peace
Can five girls replace a boy?	Can a girl replace a boy can a boy replace a girl?
Sibling is the heart's flesh, wife is the shoe's lace	Sibling is the heart's flesh, wife is the heart's orchard
Plant a tree to make fruit, raise a son to bring bread	Plant a tree to make fruit, raise a child to bring joy
Husband keeps the wife, skin keeps the cheese	Home keeps the family, love keeps happiness
Girl in the cradle, dowry in the chest	Baby in the cradle, happiness on the threshold

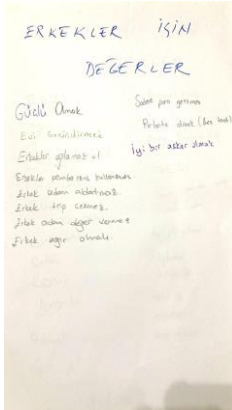
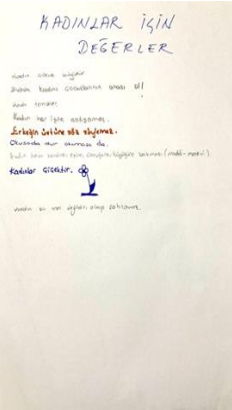
Appendix 5

Examples of Interview Questions

1. How do you define woman?
2. How do you define man?
3. What are the factors that were effective in choosing your department?
4. What are the roles that you attribute to women about working life in our society?
5. What are the roles that the society expects from you but you don't want? Why? Explain.
6. What kind of difficulties do you experience in the society as a woman/man?
7. How would you want the distribution of male-female roles in your future marriage to be? Explain in detail, considering the roles in marriage.

Appendix 6

Values for Women and Men

Activity Product	English Version	Activity Product	English Version
	<p>Being strong. Men don't cry. Men don't wear pink. Men don't cheat. Men don't stand attitudes. Men don't appreciate. Men should be serious. Only making money Buying diamond (five stones) Being a good soldier</p>		<p>Women raise kids. Be the woman of your house and the mother of your children! A Woman cleans. A woman does not work in every job. A woman cannot object a man. It is OK if a woman does not get education A woman looks after herself, her husband, her children and her elders. Women are flowers. A woman is not a property, she cannot be bought and sold.</p>

Appendix 7

Wishes for the Family and the Society

I built a home in which...	I built a society in which
the father braids his daughter's hair	women are not exposed to violence
the mother plays ball with her son	no one shouts at women in traffic
the mother goes to match with her children	colours are not separated by gender
the mother and father wash dishes together	women/men can show all their emotions
there is an equal division of labour	women can laugh as they want
the father takes care of his children	there are no pink buses
the father skips rope with his daughter	
the father takes his daughter to park	

Appendix 8

Song Lyrics by Bands

Song 1	Song 2
How beautiful is pink	Not gender but humans are free
How did I love	Every person is free from birth
You say it's a girl's colour	Laugh loudly, don't think about what
But everyone wears pink	others will say
	Laugh all the time



Research Article

The healthy, yet unhealthy choice: stereotypes about vegetarians and vegans in a meat-eating culture

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ABSTRACT

Stereotypes about vegetarians and vegans influence behaviour toward these groups and the consumption of animal products. This affects the health and well-being of humans, other animals, and the environment. We studied these stereotypes in a meat-eating culture based on content analysis of open-ended responses in contrast to the more frequently used ad-hoc scales. We also compared the positivity and contents of stereotypes between men and women and between vegetarians/vegans and meat-eaters. We found that stereotypes about vegetarians are ambivalent, while stereotypes about vegans are more clearly negative, both to a greater extent among meat-eaters and among men. The open-ended responses were most frequently related to health, then to moral values, empathy, commitment, and unfavourable social traits. References to masculinity/femininity were not prominent in the spontaneous responses, and neither was the domain of competence. While meat-eaters mainly relate vegetarianism and veganism to health, vegetarians/vegans relate these choices to empathy and moral values. We discuss the implications of the findings for cross-cultural research and shaping public communications.

Keywords: vegetarians, vegans, stereotypes, health, content analysis

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Introduction

Meat consumption habits are notoriously resistant to change (Macdiarmid et al., 2016), especially when people think that plenty of meat is necessary and normal (Piazza et al. 2015). Critical insights have been made into the issue of animal production and meat consumption in contemporary society, both ethically (Singer, 1975/2009) and for its negative environmental (Hedenus et al., 2014) and health-related impacts (Tilman & Clark, 2014). Researchers suggest that the protection of the environment is dependent upon not only technological innovation but also on changes in human beliefs and patterns of behavior related to support for animal production and meat consumption (Hedenus et al., 2014). To promote more sustainable and healthier consumption habits it is essential to better understand their psychosocial determinants. Psychological research suggests that negative views of activists can be related to a reduced willingness to adopt the behaviors promoted by activists in different domains of activism (Bashir et al., 2013). Specifically, in the domain of prospective vegetarianism and the willingness to reduce one's meat intake, one of the perceived barriers could be a negative social image of vegetarians and vegans (Lea & Worsley, 2003; Rosenfeld, 2018). For instance, Lea and Worsley (2003) established that 10% of the participants associated a negative social image with the vegetarian diet which they recognized as a barrier to choosing this diet, and this percentage was higher (25%) among men. Furthermore, research suggests that both vegetarians and vegans can be evaluated more negatively than several common prejudiced target groups and several other nutritional outgroups (MacInnis & Hodson, 2015). Vegetarians and vegans report having experienced discrimination (Torti, 2017; Twine, 2014), and a few studies suggest that their well-being can be affected (Forestell & Nezelek, 2018; Nezelek et al., 2018).

Contents of stereotypes about vegetarians and vegans

An overarching framework for studying stereotypes is offered by the stereotype content model (Fiske et al., 2002). According to this model, stereotypes about most groups include various characteristics that fall into two

underlying dimensions: warmth (social and moral characteristics) and competence (ability). These are considered two fundamental and universal dimensions defining the perception of social groups. Warmth/communion is predicted by perceived competition while competence/ability is predicted by perceived status. The specific combination of these dimensions generates specific emotions (e.g., admiration, envy, pity) and behaviors (e.g. facilitating or harmful) toward the group (Cuddy et al., 2008).

Psychological studies revealed that several characteristics are stereotypically related to one being vegetarian or vegan. Ruby and Heine (2011) revealed that profiles including information about an individual's vegetarian diet are rated as more virtuous and less masculine compared to those with omnivore diets. The lowered perception of masculinity related to vegetarian-vegan diets is a typical finding, and it could be explained by the association between meat and healthiness and strength (Lowe & Sulikowski, 2018; Rothgerber, 2013). A recent study found that hosts offering vegetarian rather than meat-based meals were rated as more health-conscious, caring about animal welfare, but also trend-conscious (as opposed to old-fashioned) and alternative (vs. bourgeois) (Funk et al., 2020). From omnivores' perspective, vegetarians are also viewed as more disciplined, moral, introverted, educated, skinnier, and more athletic, compared to omnivores, and also as less tolerant (Hartmann et al., 2018). Judge and Wilson (2015) asked their participants to envision a future in which the whole of society will be plant-based, vegetarian, or vegan. Participants expected that people would be more conscious of the environment and animal welfare, but also more communal, that is, more caring and empathetic, socially connected, and socially conscious. Some participants also perceived a higher level of moral judgment in such future societies; however, this was not recorded as one of the dominant expectations.

The existent research on stereotypes about vegetarians and/or vegans relied on more or less elaborate lists of specific traits whereas qualitative studies are quite rare. Burgess and associates (2014) asked their participants to state the characteristics they associated with vegans, vegetarians, and omnivores. They report a range of associations, for instance, vegetarians are perceived as healthy,

lacking protein, hipsters, and animal lovers, while vegans are also perceived as animal rights activists, thin, weak, and strict. However, the authors did not report the specific frequencies of these responses, so they mostly illustrate the width of the associations rather than a precise description of stereotype content. Minson and Monin (2012) elicited and recorded three-word associations to vegetarians and analyzed whether the words were food-related, descriptions of physical characteristics or psychosocial characteristics. They found that 47% or all respondents named at least one negative characteristic, mostly related to psychosocial characteristics, e.g. self-righteous, annoying, and crazy. However, the authors did not analyze the psychosocial characteristics in more detail. They found that the negativity of associations was predicted by anticipated moral reproach attributed to vegetarians, that is, the extent to which participants thought that vegetarians perceived themselves as morally superior compared to omnivores or the individual participant. De Groot and associates (2021) used a similar association task to record stereotype contents. However, they focused on the valence of the traits, while the contents were organized according to the general categories of literal (related to the label), physical, and psychosocial. They highlighted that the majority of the negative psychosocial traits attributed to vegan can be characterized as moralistic, and they further show that these traits predict less social attractiveness.

Are vegetarians perceived as different from vegans?

Although similar in terms of abstaining from at least some types of animal products, vegetarians and vegans are different groups with specific views and identities (Lund et al., 2016; Rosenfeld, 2019). The existing research suggests that vegans are perceived more negatively in terms of their health and social characteristics, in particular being judgmental (Corrin & Papadopoulos, 2017; Judge & Wilson, 2019, de Groot et al., 2021). These findings are rather unsurprising given that vegan positions are perceived as less similar to one's own, or more distant and extreme than vegetarian positions, vegetarianism being a sort of common ground between meat-eaters and vegans (Bryant, 2019). The negative perceptions of vegans are sometimes interpreted as defensive since they are a way to deal with

the cognitive dissonance arising from meat consumption (Bastian & Loughnan, 2017), as well as the anticipated moral reproach of vegetarians/vegans (Minson & Monin, 2012). This has also been supported by qualitative research, e.g. omnivores anticipated that they would be engaged in conflict by vegans, even before these adversarial interactions even happened (Guerin, 2014). Most of the omnivore participants readily cited cases of extremist vegans, perceived them as instigators of conflict, and expressed negative feelings toward any conversation about veganism.

The cross-cultural perspective

Thus far there have been few cross-cultural studies, so the current knowledge about stereotypes is limited to Western countries. Attitudes toward vegetarians were compared in four countries: Argentina, Brazil, France, and the USA (Ruby et al., 2016). Across the countries, participants expressed neutral attitudes to vegetarians, while women expressed more positive attitudes than men. There were also differences between countries, for instance, admiration of vegetarians was highest in the USA and Brazil followed by France and Argentina. On the other hand, Argentinians were least bothered by vegetarians, followed by Brazilians, the French, and Americans.

In Slovenia, Črnič (2003) revealed largely positive attitudes toward vegetarians: 47.7% of participants expressed positive, 31.4% negative attitude, while 20% were undecided. Similarly, 42.5% of the participants expressed a positive, 35.7% had a negative attitude toward vegans, and 20% were undecided. In contrast to the attitude toward the personal choice to abstain from meat or animal products for adults, choosing vegetarianism and veganism for one's children was perceived in very negative terms.

The described studies explored only the general perception of vegetarians/vegans in contrast to the actual contents of stereotypes. However, neutral attitudes could be related to ambivalent rather than neutral stereotypes. Also, some elements of the stereotypes can be hypothesized to be similar regardless of the cultural context, for instance, the perception that vegetarians and vegans care more about animals and the environment. Other negative perceptions

could be more emphasized in the local context due to the meat-based cuisine, the low prevalence of vegetarianism/veganism, and the prevalent traditional worldview (Branković, 2021). This could be the case for the perceptions related to health, that is, the impoverished health of people who abstain from meat. Also, the social awkwardness perceptions could be more pronounced in the local context, since these practices are much less present in everyday consumption compared to some Western countries.

The present studies

As psychological studies of stereotypes relied mostly on ad-hoc rating scales, we aimed to contribute toward a more systematic mapping of stereotype contents. We aimed to achieve this through a free-response format that allows mapping the domains of traits or characteristics related to being vegetarian/vegan. By applying a more differentiated set of categories to the contents of spontaneous answers, specifically the psychosocial characteristics, we will establish which characteristics are more dominantly associated with being vegetarian or vegan. This approach will allow us to compare and contrast the findings from the open-ended questions to studies that relied on ad-hoc scales.

Specifically, by soliciting traits that participants spontaneously associate with being vegetarian/vegan, we aimed to capture the contents of stereotypes comprehensively, to be able to establish:

- a. which domains of characteristics are most frequently related to being vegetarian or vegan
- b. the prevalence of positive vs. negative characteristics within stereotypes as well as potentially ambivalent views
- c. whether the contents of stereotypes differ depending on whether the individual herself is vegetarian/vegan and depending on their gender.

Method

Participants

We recruited a total of 739 participants from Serbia (age range from 17 to 60 years, $M = 25.31$, $SD = 8.69$, 81.2% female). Students from one faculty in Belgrade we recruited in waves 1 and 3 participated for extra course credit, while in the second wave, participants were recruited by applying the passive snowballing method, that is, by distributing the link through social media. We polled the data into an aggregated base to conduct the analyses. The survey was available online.

To assess meat consumption, participants chose what best described their eating habits from the following options: a. "I consume meat regularly", b. "I consume meat, but try to decrease the intake", c. "I consume meat only occasionally", d. "I consume fish, but not other types of meat", e. "I do not consume meat, but consume other animal products (dairy, eggs)", and f. "I never consume meat or any products of animal origin." The item was reverse-coded so that a higher score indicates more frequent meat consumption. We based this measure on the one used in Dhont and Hodson (2014), except that we omitted the labels (e.g., omnivore, vegetarian, vegan), as they can be understood in different ways by respondents (e.g., some people who claim to be vegetarian eat meat, and some people who do not eat meat prefer not to be called vegetarians). Most of our participants were regular meat-eaters (54.5% consume meat regularly, 17.8% consume meat, but try to decrease the intake, 18.1% consume meat occasionally, 2.6% consume fish, but not other types of meat, 5% do not consume meat, but consume other animal products, and 2% never consume meat or any other products of animal origin). Thus, we had 90.4% meat-eaters and 9.6% vegetarians and vegans.

Procedure

The study was performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and the Ethical Code of the Serbian Psychological Association. Explicit approval was not required since the institutional ethics committee was not established at the moment of data collection. Participation was voluntary and participants clicked on informed consent before

entering the survey. In the informed consent, participants could read that they would be participating in a survey about current social topics. They were told that it was not possible to give wrong answers, so they should answer honestly. Participants also were told that the findings would be used for scientific purposes only, that their answers were anonymous, and that they could discontinue their participation at any time.

Measures

Participants were asked to state three traits or characteristics that first came to mind when they thought about vegetarians (“Write down the three characteristics that first came to your mind when you think of vegetarians”). They were provided with three separate boxes for their answers. The following question was identical except that vegans were named as the target group (“Write down the three characteristics that first came to your mind when you think of vegans”). In total, we recorded 1476 and 1431 responses, for vegetarians and vegans respectively, which we used in the content analysis.

The data coding process

We applied a data-driven procedure in developing the coding scheme (Mason, 1996). To be able to map the contents of stereotypes comprehensively and objectively, we thus opted not to rely on predetermined categories for the analysis but defined the categories based on the empirical material. We defined an initial scheme based on the most common categories of traits and characteristics and then revised and refined the scheme based on the possibility of coding the responses without overlap. We opted to differentiate between positively and negatively evaluated traits, to be able to get a more informative categorization, e.g. we differentiated between good health and poor health, rather than coding all the answers as health-related.

The final scheme is presented in Table 1, illustrated with several examples of responses, that is traits and characteristics coded within the category. The traits that had very low frequency (e.g., lower than 5 in the overall sample) were coded as *Other*. This category is quite broad, reflecting mostly idiosyncratic views of the

participants, including traits such as *religious, intuitive, reflexive, spiritual, sophisticated, naive, stable, rational, or saint*. We also included the following categories: *Don't know, Refusal to answer, and Irrelevant*, which was assigned in cases when participants repeated the characteristics of the category (*doesn't eat meat*) or named persons they associated with vegetarianism/veganism (e.g. *Novak Đoković, a friend of mine, etc.*).

Table 1

The coding scheme used in content analysis

Category	Examples of participant responses
Good health	Healthy, energetic, slim (physical health); optimistic, relaxed, positive (mental health)
Poor health	Skinny, pale, anaemic, weak (physical health); tense, frustrated, unfulfilled (mental health)
Empathy	Caring, sensitive, gentle, empathetic
Moral values	Conscious, responsible, good, unselfish, humane
Care about animals	Love animals, care for animals
Commitment	Tenacious, consistent, dedicated, committed
Free-mindedness	Progressive, liberal, open to ideas, alternative
High competence	Intelligent, educated, wealthy, intellectual
Favourable social characteristics	Sociable, amicable, darling
Unfavourable social characteristics	Judgmental, pushy, pretentious, intolerant, irritant, egoistic, boring
Extreme views	Extremist, fanatical, narrow-minded
Trend following	Trend followers, hipsters, trendy
Hypocrisy	Hypocrites, false moralists, frauds
Ordinariness	Normal, just as anybody else, just a normal person

Inter-rater reliability

Two independent raters coded the answers. The inter-rater reliability was high, 89.7% of individual responses were given the same code in the case of vegetarians and 89% in the case of vegans (we note that this is the percentage of responses, which entails that some traits were repeated more

than once). The remaining responses were discussed and final codes were agreed upon. The raters agreed that some of the responses were ambiguous, and these were coded as *Other*: some words could have more than one meaning, which was impossible to discern without more context, e.g. *strict*, which could mean disciplined but also intolerant toward others, or *tough*, which could mean both muscular (physically) or resilient (as a psychological quality). However, most responses were possible to code reliably, as evidenced by the inter-rater agreement.

The index of negativity was coded by counting the number of negative characteristics mentioned by an individual participant and ranged from 0 to 3. Here we coded the negatively valenced characteristics recognized by the previous coding system, namely, poor health, unfavourable social characteristics, extremeness and hypocrisy, as well as trend following.

The index of incongruence was also coded at the individual level, 0 for congruent responses and 1 for incongruent responses. As incongruent, we coded participants who stated two opposite characteristics in their open-ended responses, more specifically, either: a. characteristics related to good and poor health, b. favourable and unfavourable social characteristics, or c. stated that vegetarians/vegans are both free-minded and extreme. We calculated two indices, one for vegetarians and one for vegans.

Results

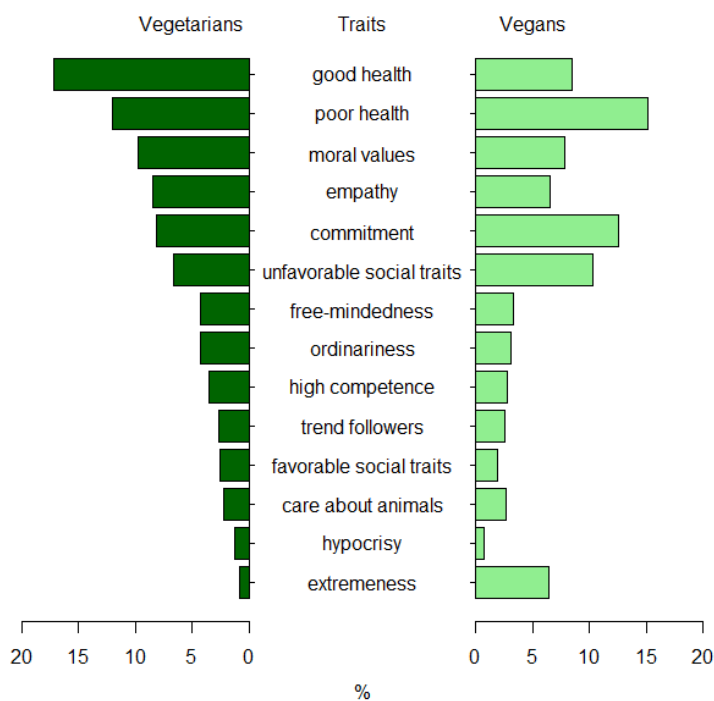
Contents of stereotypes

The percentages of responses per category of contents are presented in Figure 1. Stereotypes about vegetarians were loaded primarily with health-relevant characteristics: vegetarians were perceived both as characterized by good and poor health. Second, vegetarians are seen as conscious and good, empathetic, and sensitive, as well as committed, persistent, and dedicated. To a smaller degree, vegetarians are also perceived as free-minded, progressive, highly educated, and intellectual. On the other hand, they are sometimes perceived as exerting unfavourable social traits, such as being pretentious,

pushy, even preachy, and intolerant of those who do not share their beliefs. Also, a small number of responses reflected the perception of vegetarians as trend followers and hipsters, or hypocrites and extremists. We also recorded 0.9% of Don't know responses, 3.5% of irrelevant responses, 3.9% of refusals, and 8.1% of responses were coded as *other*.

Figure 1

Contents of stereotypes about vegetarians and vegans



As can be seen from Figure 1, the perception of poor health is somewhat more pronounced in the perceptions of vegans, while good health is ascribed to them less frequently. Unfavourable social traits emerge more frequently in association with vegans, as well as the perceptions of being extreme. Also, 2.8% of responses were irrelevant, 1.6% coded as don't know and 8% as *other*.

Additional measures: negativity and ambivalence of stereotypes

The previous description reveals that stereotypes include both positive and negative characteristics, sometimes with almost identical prevalence, as is the case with ascribing both good and poor health to vegetarians. We examined whether this entails that the same person can hold ambivalent perceptions of vegetarians and vegans. Analyses of the index of incongruence showed that 8.5% of participants stated incongruent traits when asked about vegetarians, whereas 2.4% of participants were incongruent as regards vegans. For instance, some participants stated that vegetarians or vegans are *educated but narrow*, or mentioned two quite opposite traits in their two responses about the same target group, e.g. *judgemental and nice*, *extremist and normal*, or *hypocrite and moral*.

The index of negativity measure showed that overall 38.6% of participants mentioned at least one negative trait when describing vegetarians, more specifically, 18.5% mentioned one, 8.2% mentioned two, and 11.9% mentioned three negative traits. On the other hand, 55.9% of participants mentioned at least one negative trait for vegans: 23.2% mentioned one, 14.8% mentioned two, and 17.9% mentioned three negative traits as characteristic of vegans. To summarize, our analysis suggests that stereotypes about vegetarians are mostly ambivalent, while vegans are perceived with more clearly negative stereotypes. In both cases, spontaneously mentioned traits are related mostly to health, moral values, empathy and, commitment (in a positive sense), as well as unfavourable social traits.

Stereotypes among meat-eaters and vegetarians/vegans

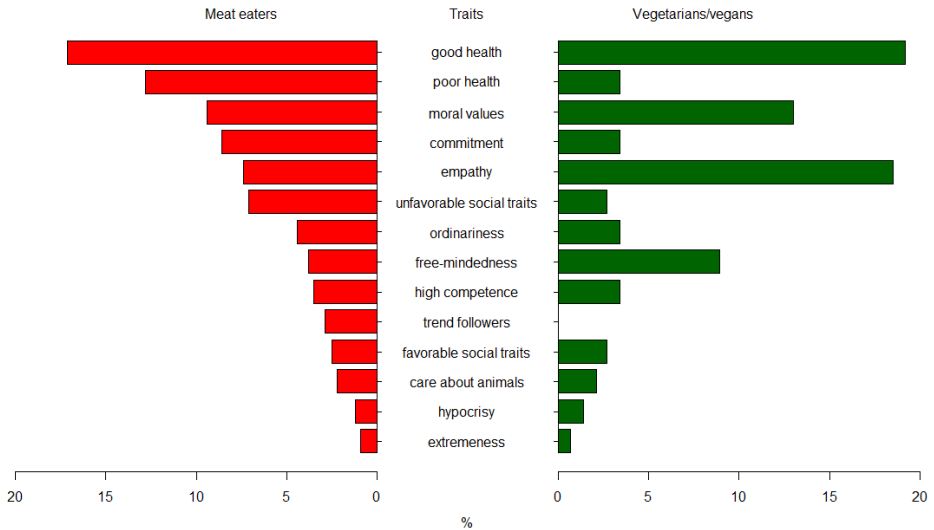
Perceptions of vegetarians/vegans presumably depend on whether the observer is an ingrouper or an outgrouter (Tajfel & Turner, 1979). We, therefore, contrasted stereotype contents between meat-eaters and non-meat-eaters (since we only managed to recruit a small number of vegans in our sample, we presented the aggregated responses of vegetarians and vegans). The significance of differences in the ratings was tested using a permutation test with 10 000 permutations, programmed in R (R Core Team, 2019). The test was

devised since observations were not independent, that is, since participants could mention trait from several of the categories. The permutation test randomly assigned group membership to participants while keeping the groups' sizes identical to the empirical groups. In this way, we generated a distribution of differences which corresponded to the null assumption of no differences between the groups (since membership is randomized). Empirical differences were then tested against this distribution and we determined critical values that corresponded to significant differences at the p level of .05.

As can be seen from Figure 2, the perceptions of vegetarians do differ between these groups in some respects. First, while both meat-eaters and vegetarians/vegans ascribe good health to vegetarians, meat-eaters also have a more prominent association of poor health with this group (diff = -.09, 95%CI [-.06, .07]). Vegetarians/vegans ascribe empathy to vegetarians to a larger extent than meat-eaters (diff = .11, 95%CI [-.04, .04]), as well as free-mindedness (diff = -.05, 95%CI [-.03, .03]). Also, meat-eaters expressed more negative associations, in that they more frequently ascribed unfavourable social traits to vegetarians (diff = -.04, 95%CI [-.04, .05]).

Figure 2

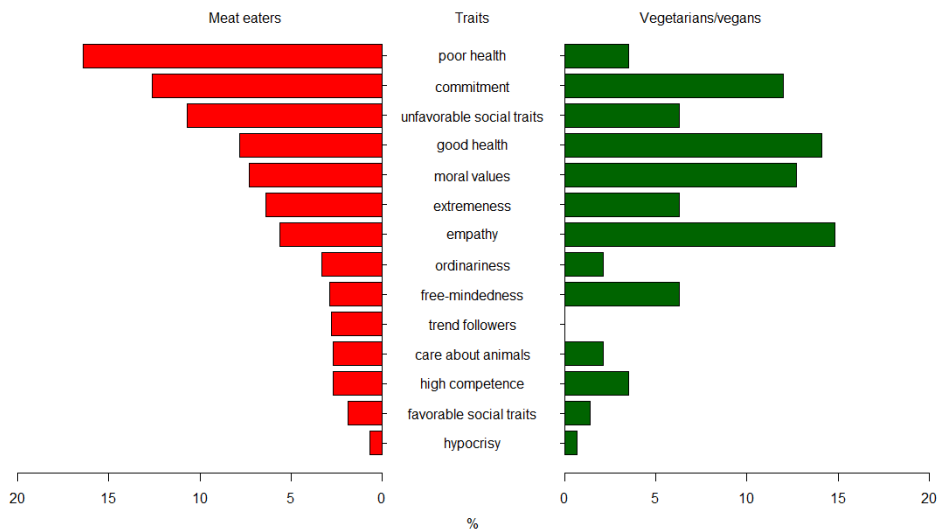
Stereotypes about vegetarians among meat-eaters and vegetarians/vegans



Perception of vegans can be said to be even more polarized between meat-eaters and vegetarians and vegans (Figure 3). There is a discrepancy both in perceptions of good and poor health, the more unfavourable perceptions being consistently expressed by meat-eaters, that is, fewer associations about good health (diff = .06, 95%CI[-.05, .05]) and more with poor health (diff = -.13, 95%CI[-.07, .07]). On the other hand, the predominant characteristic that vegetarians/vegans ascribed to vegans was empathy, more so than meat-eaters (diff = .09, 95%CI[-.04, .04]). Moral values were also more frequently mentioned by vegetarians/vegans (diff = .05, 95%CI[-.04, .04]), as well as free-mindedness as a characteristic of vegans (diff = .03, 95%CI[-.03, .03]). Interestingly, vegetarians/vegans also ascribed some negative characteristics to vegans – frequency of extremeness did not differ in comparison with meat-eaters. This is obviously because this group mostly consisted of vegetarians and not vegans. It appears that even if vegans are perceived predominantly as empathetic, in some respects, vegans can be seen as an outgroup and evaluated negatively.

Figure 3

Stereotypes about vegans among meat-eaters and vegetarians/vegans



Stereotype contents among men and women

As studies suggest that men and women differ in their perceptions of vegetarians and vegans (e.g. Ruby & Heine, 2011), we compared their differences between these two groups (they are presented in Figure 4 and 5).

Figure 4

Stereotypes about vegetarians among women and men

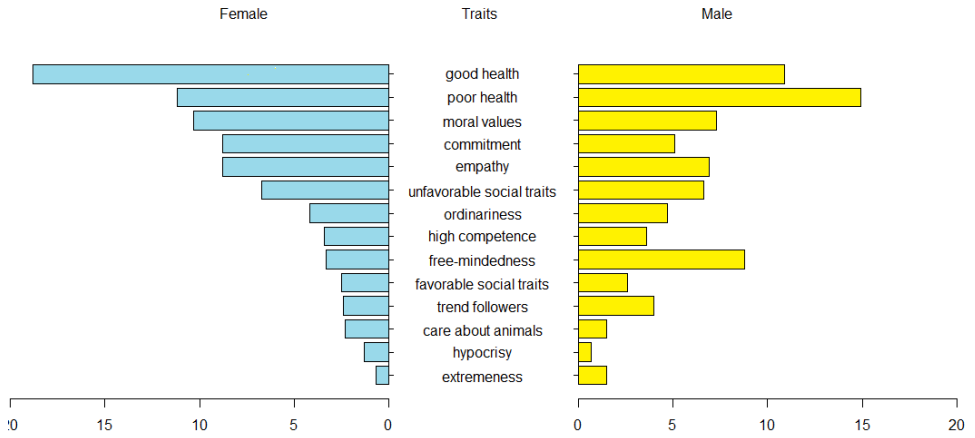
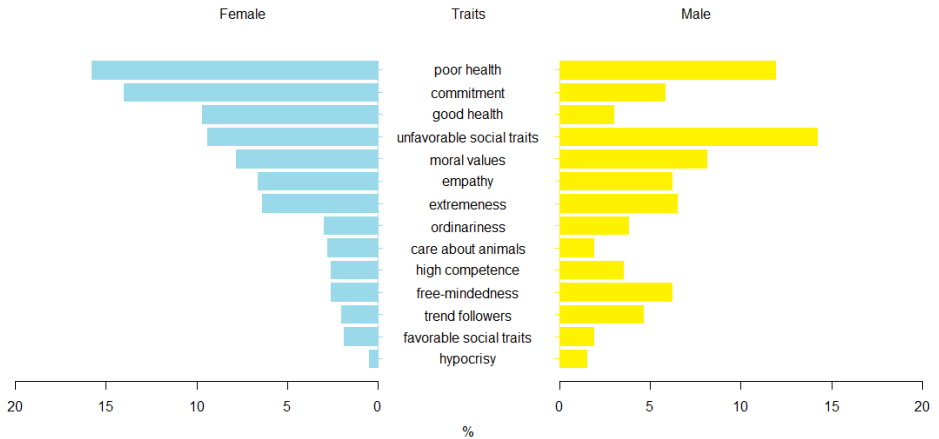


Figure 5

Stereotypes about vegans among women and men



Women ascribed good health to vegetarians to a larger extent than males (diff = .08, 95%CI [-.05, .05]); also, women associated commitment more with vegetarians (diff = .04, 95%CI [-.03, .03]). On the other hand, men ascribed free-mindedness to vegetarians to a larger extent (diff = -.05, 95%CI [-.02, .02]). Other categories were quite similarly distributed, without statistically significant differences. Notably, negative perceptions of social characteristics did not differ among men and women and neither did the perceptions of vegetarians as hypocritical or extreme, in addition to the fact that these were quite rare in both groups.

Perceptions of vegans were less concordant among men and women. Women ascribed good health to vegans, to a larger extent than men (diff = .07, 95%CI [-.04, .04]). Besides health, women perceived vegans mostly as committed, more frequently compared to men (diff = .08, 95%CI [-.05, .04]), while men perceived them as more free-minded to a larger extent than women (diff = -.03, 95%CI [-.02, .02]). On the other hand, men ascribed more negative social characteristics to vegans (diff = -.05, 95%CI [-.04, .04]). Men also related vegans more with trend following (diff = -.03, 95%CI [-.02, .02]) and hypocrisy (diff = -.01, 95%CI [-.01, .01]) compared to women. In terms of similarities, men and women perceived vegans as equally moral, and empathetic but also as equally extreme.

Discussion

In the present study, we explored the contents of stereotypes about vegetarians and vegans in a meat-eating culture. We add to the existing literature by exploring the contents based on spontaneous open-ended responses, by comparing the contents among men and women, as well as among meat-eaters and vegetarians/vegans. Since stereotypes are self-perpetuating cognitive schemes (Snyder, 1981), they are an important element of social perception and consequently, can impact how these minority groups are treated. What is more, shared perceptions of the characteristics of vegetarians and vegans can impact an individual's willingness to reduce meat

consumption, which has been shown to entail both health- and environment-related benefits (Hedenus et al., 2014; Tilman & Clark, 2014).

Our analysis revealed that both being vegetarian and being vegan is associated with a wide range of characteristics, well beyond one's caring about animals or being health-conscious (Hartmann et al., 2018). The contents were quite heavily loaded with health-related characteristics, thereafter, associated with the domain of morality, values, and ideology, also partly leaning towards personality characteristics, and thirdly, related to social characteristics. When asked about the typical characteristics of both vegetarians and vegans, participants most readily answered about what they thought were their health-related characteristics, mostly physical but to an extent also mental health. Interestingly, these associations were quite ambivalent; in the case of vegetarians, roughly equally positive and negative, whereas in the case of vegans they were slightly leaning towards perceptions of poor health, in particular among those who themselves are meat-eaters.

What concerns the domain of morality, values, and ideology, most participants did not mention caring about animals in specific but rather mentioned more generalized traits of being caring, empathetic, conscious, humane, good and committed. This latter category could also be interpreted as the one most related to personality traits, most closely conscientiousness (Costa & McCrae, 2008). In terms of valence, this broad domain includes predominantly positive or favorable traits. These traits are also consistent with a communal orientation, as suggested in the Judge and Wilson (2015) study on vegetarian future societies. Vegetarians and vegans were also ascribed high competence, however, these characteristics made a much smaller percentage of the responses.

Thirdly, the stereotypes included the domain of social characteristics. Even though both negative and positive characteristics were mentioned, the negative ones were clearly predominant, in particular in the perception of vegans (10.3% of all the traits mentioned). Vegans and vegetarians were thus described as overly moralistic, judgmental, and preachy, in short, overly concerned with their own nutritive choices and forcing other people to care

about the issues they care about. This perception also entailed that they were viewed as “difficult people”, “complicated”, or “irritant”, as well as vain and entitled, viewed as ascribing oneself the higher moral ground. This perception was more present among meat-eaters and men.

Vegetarians and vegans were also perceived as free-minded, open, curious, and liberal in terms of political orientation. These characteristics are somewhat difficult to interpret in terms of positivity – apparently, their interpretation would depend on the orientation of the observer. However, a smaller category that we termed “trend following” has a more unfavorable air, as evidenced by more elaborate responses, for instance, “filthy hipster”, or “blind trend followers”. Therefore, this category could connote that this is not an overly reflexive decision, but rather striving for a superficial social image or uncritically accepting beliefs to achieve a social image deemed favorably.

The one notable domain that did not emerge from our analysis was the perception of masculinity or femininity. Only a few of all the responses cited these characteristics explicitly. Since previous research reveals that being vegetarian or vegan is related to a lack of masculinity (Rothgerber, 2013; Ruby & Heine, 2011) we can speculate that this is an indirect perception based on the fact that other traits typically ascribed to vegetarians and vegans are more closely relatable to a feminine stereotype (for instance, in being empathetic and communal rather than competence oriented).

While vegans attract more negative perceptions, as the more extreme group (Corrin & Papadopoulos, 2017; Guerin, 2014; Judge & Wilson, 2019), stereotypes about both groups are to some extent ambivalent, including inconsistent or even opposite characteristics (e.g. both good and poor health, being free-minded and being extreme, etc.). Interestingly, the domain of health, which is most frequently mentioned, is also the one containing the most ambivalence, in that both good and poor health is attributed to vegetarians and vegans.

Further, our analysis showed that these inconsistencies can partly be explained by the differences stemming from different observer groups. Importantly, this is more the case for vegans than vegetarians, since our analysis

showed that individuals can hold quite opposite views of vegetarians. Meat-eaters hold more unfavourable perceptions of vegetarians and vegans, compared with participants who themselves are vegetarian or vegan. Also, men hold more negative perceptions compared to women. While outgroupers mostly relate vegetarianism and veganism to health, those who themselves are vegetarian or vegan most readily relate these choices to empathy and moral values, as well as free-mindedness.

Perhaps the most important insight is that the domain of health emerges as the predominant content, whereas it was typically overlooked both by the stereotype content model and in the previous studies with pre-determined rating scales (Funk et al., 2020; Hartmann et al., 2018). The emergence of this domain is not surprising since the issues of nutrition easily relate to the issues of health. Also, one of the crucial legitimizations of meat consumption is precisely the idea that meat is healthy and necessary for the survival of humans (Piazza et al., 2015). Thus, the health-related associations or stereotypes connected to vegetarianism and veganism are of special importance for prospective vegetarianism and meat reduction efforts and should therefore be better studied and understood. The particular importance of this domain for stereotype content could be a cultural specificity, however, it is unlikely that health-related perceptions are not of importance in other cultural contexts. This issue merits future study.

Future research could take into account the categories of perception that emerged from the qualitative analysis, and, for instance, include the following dimensions when assessing the positivity of stereotypes: good health, poor health, moral values, commitment, empathy, and unfavourable social traits. Using a more standard list of traits would enhance the comparability of research findings since existent studies varied in how they determined the list of traits they used in the measurement. This approach would also allow a higher level of cross-cultural comparability. Based on available data, it is quite difficult to give any conclusions regarding how stereotypes are similar or different in the context of Western Balkans. It appears that the overall representations are similar, possibly more loaded with health-related characteristics in the local

context than in the West (Burgess et al., 2014; Hartmann et al., 2018; Minson & Monin, 2012). However, since these previous studies did not include specific data on the prevalence of traits or categories, in the same way as we did in this study, it is not possible to compare the contents directly.

The conducted study contributes by comparing the stereotype contents between male and female participants, as well as between meat-eaters and non-meat eaters. With the present studies, we also contribute to the growing literature on vegetarianism (Amiot & Bastian, 2015; Rosenfeld, 2018; Ruby, 2012; Serpell, 2009) introducing a cross-cultural perspective, since the studies were conducted in a less well-studied context, that is, Serbia and the Western Balkans. Serbia is a region typically described as in-between the individualist West and the collectivist East, thus a context culturally different from both typically Western and Eastern countries (Hofstede, 2001; Muthukrishna et al., 2020).

Our findings have implications for public communications advocating for reduced meat consumption. First, since health-related concerns are predominant in the stereotype contents, public communications would benefit from both strengthening the argument about their health benefits and relieving concerns about the perceived risks. If people are generally concerned about becoming pale, weak, and non-energetic if they do not consume meat, it is not sufficient to emphasize why reducing meat consumption is good, it should also be addressed that this would not have negative impacts on one's health. Second, the pro-communal qualities of vegetarians and vegans should be emphasized, to counter the possible negative social image, especially among men (Lea & Worsley, 2003; Rosenfeld, 2018). Their commitment to moral values they share with others, as their commitment to the wellbeing of the larger community, should be emphasized instead of more narrow concerns that the majority does not necessarily recognize.

The present research has important limitations. First, our participants were predominantly recruited from the more educated and more liberal segments of society, which is frequently the case in similar studies. Although we did not have access to a nationally representative sample, we did manage to

recruit a relatively large and diverse sample of participants. We believe that these sample characteristics are adequate for providing insight into the current research problem, as stereotypes are characterized by a wide social consensus. In addition, we included relevant comparisons of stereotype contents, based on participant gender and their frequency of meat consumption.

Future research could also look at how perceived social norms in attitudes toward vegetarianism and veganism, and the respective groups, could shape individual attitudes (Tropp et al., 2016). Social norms developed around these issues provide particularly potent psychological defences, so therefore a wide endorsement of vegetarianism/veganism could be undesirable in most meat-eating cultures (Bastian & Loughnan, 2017). Also, we did not include any questions related to potential contact with vegetarians or vegans, for instance, whether participants have friends or close relatives from these groups. An interesting avenue of future research is also where the common ground in terms of values, interests, or identities could be found between the meat-eating majority and vegetarians and vegans (e.g. see Budžak & Branković, 2022).

In sum, our findings highlight the need for a more structured and cross-cultural approach to the study of the contents of stereotypes, relying on empirically extracted and validated dimensions relevant to the perception of these groups, in particular the domain of health, moral commitment and unfavourable social traits. Also, vegetarians and vegans are perceived differently depending on whether these are in- or outgroups and depending on the gender of the perceiver, so we suggest retaining these distinctions in future studies of stereotypes and attitudes. With the present studies, we hope to have contributed to understanding how vegetarians and vegans are perceived as well as of some of the important determinants of these perceptions.

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Conflict of Interest

We have no conflicts of interest to disclose.

Data availability statement

Data used in this paper are available upon a reasonable request.

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Research Article

Latent structure and measurement invariance by gender of the Embodied Image Scale

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ABSTRACT

Body image is a multidimensional construct that includes both aesthetic (how our body looks) and functional components (what our body can do physically). Our study aimed to investigate latent structure and measurement invariance (MI) by gender of the Serbian translation of Embodied Image Scale using a large sample of adults from the general population ($N = 1035$; $M = 26.33$, $SD = 9.94$; 66.7% females). The Embodied Image Scale (EIS) incorporates aesthetic and functional body image. According to the results of the confirmatory factor analysis, the following five factors described the latent structure of the EIS the best: functional investment (FI), functional values (FV), functional satisfaction (FS), aesthetic satisfaction (AS), and aesthetic values and investment (AVI). The results of the MI suggested that the EIS achieved the strict (residual) level of invariance. In addition, the convergent validity of the EIS was tested by correlating the EIS scores with positive and negative mental health indicators. The results suggested that FV, FI, FS, and AS had a positive correlation with positive affect and unconditional self-acceptance (USA), FS and AS correlated negatively with negative affect (NA), symptoms of depression (D), and conditional self-acceptance (CSA), while the AVI had a positive correlation with NA, CSA, D, and negative correlation with USA. Finally, we compared physically inactive participants, recreationists, and active athletes on the EIS scores. The results revealed that all groups differed in FV, FS,

and AS in a way that scores on these subscales increased with increased physical activity.

Keywords: embodied image scale, aesthetic body image, functional body image, measurement invariance

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Introduction

Body image refers to our perception of different aspects of our own body. Numerous authors (e.g., Brown et al., 1990; Cash et al., 2004) emphasized that body image is a multidimensional construct with three different components: affective (satisfaction), cognitive (value), and behavioral (investment). For a long period, body image was investigated in the context of psychopathology (e.g., Cohane et al., 2001; Tiwari, 2014; Pesa et al., 2000) and the focus was on the *negative body image* and its impact on mental and physical health. The association between negative body image (or its subcomponent *body dissatisfaction*) and depression (Cohane et al., 2001; Johnson & Wardle, 2005; Pesa et al., 2000), low self-esteem (Tiwari, 2014; Johnson & Wardle, 2005), and eating disorders (Peat et al., 2008; Wei et al., 2021) is well-documented in the literature.

In recent years more researchers started to investigate the concept of *positive body image* in the context of mental health. Studies showed that body appreciation had a positive association with better care about one's own body (such as healthy eating, using sunscreen, and regular medical screening) and a negative association with dieting behavior (Andrew et al., 2016a). Furthermore, positive body image was also associated with some indicators of mental health such as higher self-esteem, self-compassion, and life satisfaction and it was shown that it could be a protective factor regarding negative environmental appearance messages (Halliwell, 2013; Tylka & Wood-Barcalow, 2015). Similar results were also obtained in the teenage population. Namely, body appreciation was shown to be associated with decreased dieting behavior, smoking, and alcohol consumption in girls aged 12 to 16 (Andrew et al., 2016b).

Aesthetic vs. functional component of body image

As we previously mentioned, body image is a multidimensional construct and the growing body of literature showed that is not only important what we think about how we look but also how much we appreciate our body based on what it is capable of doing physically (Alleva et al., 2017; Cash & Smolak, 2011). Therefore, it is vital to make a distinction between two separate components of body image:

aesthetic and functional components. *The aesthetic component* of body image could be described as an evaluation based on external appearance (i.e., how our body looks) while the *functional component* refers to the evaluation of one's body based on what it is capable of achieving (i.e., how our body functions; Vally et al., 2019). Furthermore, both aesthetic and functional components consist of affective, cognitive, and behavioral domains (i.e., Abbott & Barber, 2010).

Some authors believe (e.g., Fredrickson & Roberts, 1997) that current beauty standards in Western societies emphasize different aspects of body image in males and females. While female bodies are valued based on aesthetic criteria, male bodies are evaluated regarding functionality. Therefore, it is not surprising to know that, although dissatisfaction with one's own body occurs in both genders, it is manifested differently. According to this, numerous studies showed that in women thinness-oriented dissatisfaction is more often while males showed more muscularity-oriented dissatisfaction (Finne et al., 2011; Karazsia et al., 2017; McCabe & Ricciardelli, 2003; Pritchard & Cramblitt, 2014). Vartanian's study (2009) is also suggestive of gender differences when it comes to the internalization of societal standards. According to this author, lower self-concept clarity (less clear sense of one's identity) is a significant predictor of greater internalization of body image-related social norms among women, but not among men (Vartanian, 2009). In another study, Vartanian and Dey (2013) reported that self-concept clarity was negatively correlated with thin-ideal internalization and appearance-related social comparison tendencies, but also that the relation between self-concept clarity and body dissatisfaction was mediated by thin-ideal orientation. Some studies (e.g., Lemon et al., 2009) showed that males, in general, have more positive body image than females. The higher average body dissatisfaction in females compared to males was also detected in the longitudinal study that followed participants over 15 years from adolescence to adulthood (Wang et al., 2019).

Available literature suggests that focusing on aesthetic aspects of body image might have a more negative impact on mental health. Aesthetic aspects of body image are associated with body shame, anxiety, lower body esteem, body dissatisfaction, and poor interoceptive awareness (Frederickson & Roberts, 1997; McKinley, 1998; McKinley & Hyde, 1996; Tylka & Hill, 2004). Contrarily, some studies

showed the positive impact of focusing on body functionality on feelings towards one's own body (Greenleaf et al., 2009), body appreciation, and more intuitive eating (Avalos & Tylka, 2006). Similar results were obtained also in children. For example, one study (Allen et al., 2019) showed that kids who had more positive attitudes toward physical education also had better functional body image. The same study also showed positive effects of physical activity on the behavioral component of functional body image. In another study, Abbott and Barber (2011) compared adolescent girls actively engaged in sports activities, girls that were generally physically active, and sedentary girls. Active athletes reported significantly higher functional body image (in terms of value, investment, and satisfaction) compared to the other two groups (Abbott & Barber, 2011). Additionally, while physically active girls reported higher scores on the functional investment (behavioral domain of functional body image) than sedentary girls, these two groups did not differ in the functional satisfaction domain (Abbott & Barber, 2011).

The aim of this study was to explore the latent structure of the Serbian translation of Embodied Image Scale (EIS; Abbott & Barber, 2010) using a sample from the general population. The translation and adaptation of this scale could advance current research on body image, self-esteem, body (dis)satisfaction, eating disorders, body dysmorphia, etc. This is especially important because it seems that studies of this kind are lacking in our country. To our knowledge, this is the first time that the EIS is validated in another language-speaking country. Moreover, as opposed to the original study conducted by Abbott and Barber (2010) in which the scale was validated using a sample of adolescents, the present study used a sample of adults. According to Abbott and Barber (2010), the scale was designed to measure both aesthetic and functional domains of body image. For that reason, these authors split the scale into two parts - one that contained the items they assumed belonged to the aesthetic dimension and the other that supposedly measured the functional domain of body image. Then, they conducted two principal component analyses (PCA), for each part of the scale separately. In both PCAs, Abbott and Barber (2010) chose to extract three components, based on the theory that body image is a multidimensional construct. Consequently, extracted components from the first PCA were labeled as aesthetic values (the cognitive component), aesthetic

investment (the behavioral component), and aesthetic satisfaction (the emotional component). Extracted components from the second PCA were labeled as functional values (the cognitive component), functional investment (the behavioral component), and functional satisfaction (the emotional component). However, it should be noted that there are several limitations regarding the statistical procedure that the authors originally used to identify the underlying structure of the EIS. Given that the EIS was conducted as a single scale, splitting it into two different parts beforehand and running two PCAs on these two parts separately was not justified. Next, the authors of the scale used varimax rotation even though it is less likely that the cognitive, emotional, and behavioral domains are not correlated. Moreover, while it is generally recommended that a factor has at least three indicators (i.e., Kenny, 1979), the *aesthetic values* component from the original study had two indicators. Considering all the limitations of the study mentioned above, we used the CFA approach to test the correlated six-factor model using all items from the EIS at once. These factors were defined based on the results from the original study and the only difference was in defining three functional and three aesthetic factors within the same model. We also tested and compared four levels of measurement invariance (MI; configural, metric, scalar, and residual) across gender groups, prior to testing gender differences. Besides, we tested the convergent validity by correlating EIS scores with symptoms of depression, positive affect (PA), negative affect (NA), conditional self-acceptance, and unconditional self-acceptance. We also compared active athletes, recreationists, and physically inactive individuals on EIS scores.

Method

Sample and Procedure

The sample of this study included 1035 participants from the general population in Serbia (66.7% female). The age ranged from 18-75 ($M = 26.33$, $SD = 9.94$). The link to the survey was shared online by the researchers and psychology students (e.g., on social networks such as Facebook) using the Google Forms platform from March to May 2022. The data were collected using the snowball method. Two percent of the sample had primary education, 56% had secondary

school education, and 42% had higher education (either completed higher education level or currently being a student at the moment of testing). It took approximately twenty minutes to complete the survey, and there were no missing data due to the 'required question' options. All ≥ 18 years old individuals were eligible to participate in the study. Data used in this study were part of a larger project that aimed to investigate the effects of physical activity on mental health outcomes. All participants consented to participate in the study prior to filling in the survey. Participants did not receive any compensation for their participation. The study was approved by the institutional ethical committee and complied with the Declaration of Helsinki.

Instruments

Embodied Image Scale (EIS)

Embodied Image Scale (EIS; Abbott & Barber, 2010) consists of 17 items that measure the "value of, investment in, and satisfaction with the aesthetic and functional body dimensions" (p. 24). The responses are collected using a 5-point Likert scale (1 – not at all true for me, 5 – very true for me). Originally, the scale consisted of 19 items, but researchers discarded two items based on the results of PCA (Abbott & Barber, 2010). The final version of the original scale has the following six subscales: functional values (3 items), functional behavioral investment (3 items), functional satisfaction (3 items), aesthetic values (3 items), aesthetic behavioral investment (2 items), aesthetic satisfaction (3 items). The Serbian translation of the EIS is in Appendix A.

The Depression, Anxiety, and Stress Scale (DASS-21)

The Depression, Anxiety, and Stress Scale (DASS-21; Lovibond & Lovibond, 1995; the Serbian translation of the scale was validated using a student sample [Jovanović et al., 2014], and clinical and community samples [Mihic et al., 2021]) is a scale consisting of 21 items that measure depression, anxiety, and stress (7 items per subscale). The participants are instructed to rate how frequently they experienced the symptoms over the past week prior to completing the questionnaire. Responses are collected using the 4-point Likert scale (0 – never, 4 – almost always). In the

present study, only the depression score that resembles the presence of the symptoms such as low mood, anhedonia, and worthlessness was used and its reliability was satisfactory ($\alpha = .89$).

Serbian Inventory of Affect Based on the Positive and Negative Affect Schedule-X (SIAB-PANAS)

Serbian Inventory of Affect Based on the Positive and Negative Affect Schedule-X (SIAB-PANAS; Mihić et al., 2010) is a self-report measure that has 20 items (affect descriptors) that indicate positive (PA, $\alpha = .88$, 10 items) and negative affectivity (NA, $\alpha = .90$, 10 items). It is a Serbian adaptation of Watson & Clark's PANAS-X (1994). In our study, we assessed trait-like PA and NA. Participants were asked to rate how frequently they typically experience the described affects (1 – not at all, 5 – extremely).

The Unconditional Self-Acceptance Questionnaire-short scale (USAQ)

The Unconditional Self-Acceptance Questionnaire-short scale (USAQ – short scale; Popov & Sokić, 2022). The USAQ-short scale contains 10 items of which 4 items measure unconditional self-acceptance (USA; $\alpha = .90$) and 6 items ($\alpha = .79$) measure conditional self-acceptance (CSA). The participants used a 7-point Likert scale to mark their responses to items (1 - almost always untrue, 7 - almost always true).

Self-assessment of Physical Activity

Participants were asked to describe themselves as active athletes, recreationists, or physically inactive individuals.

Data Analytic Plan

Before conducting the CFA, Mardia's multivariate test (Mardia's multivariate skew and multivariate kurtosis) and the generalized Shapiro-Wilk test were used to assess the deviation of item responses from the multivariate normality. Multivariate outliers were removed from the database (standardized Mahalanobis distance > 2). Additionally, multicollinearity among items was tested, and the Variance inflation factor (VIF) < 10 was used as a threshold (Bowerman & O'Connell, 1990; Myers, 1990).

In CFA, Maximum Likelihood with robust standard errors (MLR) was used to estimate model parameters. Robust fit indices were evaluated using the following criteria: the value of the Comparative fit index (CFI) was considered optimal if $> .95$ and acceptable if $> .90$ (Kline, 2015); the Tucker-Lewis index (TLI) was considered optimal if $> .95$ and acceptable if $> .90$ (Kline, 2015); the root mean square error of approximation (RMSEA) was considered as optimal if $< .05$ and acceptable if $< .08$ (Kline, 2015) and it should be non-significant ($p > .01$; van Zyl & Klooster, 2022); lower limit $< .05$ of the 90% confidence interval around RMSEA was indicating good model fit, while upper limit $> .10$ implied that there is a chance that model does not fit the data well (Bentler, 1990; Hu & Bentler, 1999; MacCallum et al., 1996); the standardized root mean squared residual (SRMR) was considered as optimal if < 0.08 and acceptable if < 0.10 (Hu & Bentler, 1999; Kline, 2015). Models were also compared based on the Akaike Information Criterion (AIC; which balances out model parsimony and goodness of fit) and Bayesian Information Criterion (BIC; which favors more parsimonious models). Typically, models with lower AIC and BIC are interpreted as better fitting (Kline, 2015). When it comes to indicators (individual items), standardized factor loadings should be $> .35$.

Considering MI, we tested the following models: configural MI, metric (weak factorial) MI, scalar (strong factorial) MI, and residual (strict) MI. Configural MI implies that the factor structure of the instrument is equivalent across groups (e.g., gender groups). Metric MI assumes the equivalence of factor structure and factor loadings across groups. When testing scalar MI, we check the equivalence of factor structure, factor loadings, and intercepts across groups. And finally, in the residual invariance model, apart from configuration, loadings, and intercepts, residual variances were constrained to be equal in both groups. To decide whether a certain level of MI was achieved, changes in CFA and RMSEA across levels were evaluated ($\Delta\text{CFI} < -.01$ and $\Delta\text{RMSEA} < .015$ were considered acceptable according to Chen, 2007). Given the results referring to MI, we ran series of t -tests for independent samples to test gender differences (Holm-Bonferroni sequential procedure was applied to adjust for familywise error; Holm, 1979). Finally, an analysis of variance was conducted to compare active athletes, recreationists, and physically inactive participants on EIS subscales scores. All statistical analyses were conducted in R

software (R Core Team, 2022), using *MVN* (Korkmaz et al., 2014), *mvnrmtest* (Jarek, 2022), *psych* (Revelle, 2018), *semTools* (Jorgensen et al., 2022), and *lavaan* (Rosseel, 2012) packages.

Results

Before testing CFA models, 44 multivariate outliers were removed (see Appendix B for a normal QQ plot after removing the outliers). The VIF was below 10 for all items, suggesting no multicollinearity (Appendix C). The first confirmatory model that we tested (Model 1) was a six-factor model with Aesthetic values (AV), Aesthetic satisfaction (AS), Aesthetic investment (AI), Functional values (FV), Functional satisfaction (FS), and Functional investment (FI) factors. We tested a six-factor model because we wanted to check whether the model that the authors of the original version of the scale assumed fit the data in the case of the Serbian version of the scale, too. After inspecting the fit indices of Model 1 and modification indices, we tested whether its fit could be improved after adding the covariance of residuals of items #14 and #17 (Model 2). Model 2 fitted data well. But, given that the AI factor was composed of only two items and that AI and AV factors were highly correlated ($r = .88$), we proceeded with testing a five-factor model with FV, FS, FI, AS, and Aesthetic values and investment (AVI) factors (Model 3). Finally, based on the results of Model 3, we decided to test Model 4 – a five-factor model defined as Model 3, but with the covariance of residuals of items #14 and #17 and between items #3 and #11 that we added based on model modification indices. Items #14 and #17 belonged to the FV factor and had a similar item content related to the belief that one of the most important reasons why people should take good care of their bodies is because that would allow them to be physically active. Items #3 and #11 belonged to the AVI factor and indicated the importance of how well others perceive one's appearance. Finally, we tested two more models that were plausible from the theoretical stance – one factor model (Model 5) and two-factor model comprised of Functional body image and Aesthetic body image factors (Model 6), and both models performed poorly. Fit indices for all six tested models are shown in Table 1. Although Model 2 had an acceptable fit, we chose the five-factor model with allowed covariance of residuals as the best-fitting one due to the

abovementioned limitations of the six-factor model. All standardized factor loadings of Model 4 were > .35 (Table 2) and even met stricter criteria (> .50; Hair et al., 2010).

Table 1

Fit indices from the Confirmatory Factor Analyses (CFA)

	χ^2 scaled	df scaled	p scaled	CFI robust	TLI robust	RMSEA [LCI-UCI] robust	RMSEA ρ robust	SRMR	AIC	BIC
Model 1	539.993	104	< .001	.945	.929	0.067 [0.062-0.073]	< .001	.068	45997.59	46237.63
Model 2	449.868	103	< .001	.956	.942	0.060 [0.055-0.066]	.001	.064	45904.69	46149.63
Model 3	596.468	109	< .001	.939	.923	0.070 [0.064-0.075]	< .001	.075	46051.30	46266.84
Model 4	474.675	107	< .001	.953	.941	0.061 [0.056-0.067]	.001	.070	45926.16	46151.50
Model 5	3617.535	119	< .001	.562	.499	0.178 [0.173-0.183]	< .001	.138	49253.47	49420.03
Model 6	2288.911	118	< .001	.722	.679	0.142 [0.137-0.148]	< .001	.131	47894.32	48065.78

Note. Model 1 – six-factor model with Aesthetic values (AV), Aesthetic satisfaction (AS), Aesthetic investment (AI), Functional values (FV), Functional satisfaction (FS), and Functional investment (FI) factors. Model 2 – six-factor model is defined as in Model 1 but with the covariance of residuals of items 14 and 17. Model 3 – five-factor model with FV, FS, FI, AS, and Aesthetic values and investment (AVI) factors. Model 4 – five-factor model defined as in Model 3, but with the covariance of residuals of items 14 and 17, and between items 3 and 11. Model 5 – one-factor model. Model 6 – two-factor model with Functional and Aesthetic body image factors. χ^2 – Chi-square. df – degrees of freedom. CFI – comparative fit index. TLI – Tucker-Lewis Index. RMSEA – root-mean-square error of approximation. LCI – lower confidence interval. UCI – upper confidence interval. SRMR – standardized root mean squared residual. AIC – Akaike Information Criterion. BIC – Bayesian Information Criterion.

Table 2

Standardized factor loadings of the five-factor model with correlated residuals

	FV	FI	FS	AVI	AS
#10 How good I feel about my body depends a lot on what my body can do physically.	.69 (.03)				
#14 One of the most important reasons why people should take care of their bodies is so they can be physically active.	.53 (.04)				
#17 One of the most important reasons why people should take care of their bodies is so they can feel good about their physical abilities (e.g., strength, fitness, endurance).	.52 (.04)				
#2 I do physically active things often (e.g., sports, hiking, exercise).	.87 (.01)				
#4 I always try to physically challenge myself during physical activities.	.68 (.02)				
#6 I participate in physical activities whenever I can (e.g., sports, hiking, exercise).	.88 (.01)				
#12 I feel really good about what I can do physically.			.81 (.02)		
#16 I am very happy with my performance in physical activities.			.85 (.01)		
#8 Overall, I am very satisfied with my physical abilities.			.84 (.02)		
#1 How good I feel about my body depends a lot on how I look.				.55 (.03)	
#3 How good I feel about my body depends a lot on whether people consider me good-looking.				.65 (.03)	
#7 One of the most important reasons why people should take care of their bodies is so they can look good.				.51 (.03)	
#11 I always try to look the best I can.				.56 (.04)	
#9 I wear certain things to make myself look as attractive as I can.				.68 (.03)	
#5 I feel really good about the way I look.					.87 (.01)
#13 I am very happy with the appearance of my body.					.93 (.01)
#15 Overall, I am very satisfied with my appearance.					.91 (.01)

Note. Values in brackets are standard errors. FV – Functional values. FI – Functional investment. FS – Functional satisfaction. AVI – Aesthetic values and investment. AS – Aesthetic satisfaction.

The obtained values of inter-correlations between five factors ranged from negligible to high (Table 3). Aesthetic values and investment did not correlate with AS and had a weak correlation with FS. The highest positive correlations were between AS and FS, as well as between FI and FS factors. Also, FV correlated moderately with FI, FS, and AVI.

Table 3

Correlations between the five factors from the Embodied Image Scale

	<i>M (SD)</i>	2	3	4	5
1 Functional values	10.17 (2.74)	.59***	.58***	.48***	.25***
2 Functional investment	9.62 (3.75)		.70***	.22***	.37***
3 Functional satisfaction	10.69 (3.15)			.13***	.74***
4 Aesthetic values and investment	14.83 (4.19)				.06
5 Aesthetic satisfaction	10.93 (3.11)				

Note. *** $p < .001$.

Table 4

Test of measurement invariance of the Embodied Image Scale across gender groups (N = 988)

	χ^2 scaled	df scaled	p scaled	CFI robust	TLI robust	RMSEA [LCI- UCI] robust	RMSEA p Robust	SRMR	Comparison	Δ CFI	Δ RMSEA
M1: Configural	581.229	214	< .001	.953	.940	0.061 [0.055- 0.067]	.001	.069			
M2: Metric	596.006	226	< .001	.953	.943	0.060 [0.054- 0.065]	.004	.070	M2-M1	.000	-.001
M3: Scalar	652.003	238	< .001	.947	.940	0.061 [0.056- 0.067]	.001	.072	M3-M2	-.006	.001
M4: Residual	662.168	255	< .001	.948	.944	0.059 [0.053- 0.064]	.004	.072	M4-M3	.001	-.002

Note. χ^2 – Chi-square. df – degrees of freedom. CFI – comparative fit index. TLI – Tucker-Lewis Index. RMSEA – root-mean-square error of approximation. LCI – lower confidence interval. UCI – upper confidence interval. SRMR - standardized root mean squared residual. Δ CFI – change in CFI value compared to the preceding model. Δ RMSEA – change in RMSEA value compared to the preceding model.

Finally, the results of MI testing implicated that the strict (residual) invariance was achieved (Table 4; Appendix D). This means that the EIS works in

the same way in men and women, and thus can be used for testing gender differences. Cronbach's alphas calculated in the subsample of men were as follows: functional values $\alpha = .72$, functional investment $\alpha = .84$, functional satisfaction $\alpha = .84$, aesthetic values and investment $\alpha = .77$, and aesthetic satisfaction $\alpha = .91$. In the subsample of women, alphas were slightly lower compared to the values from the subsample of men for functional values ($\alpha = .68$) and aesthetic values and investment ($\alpha = .67$), and slightly higher for functional satisfaction ($\alpha = .88$), functional investment ($\alpha = .84$), and aesthetic satisfaction ($\alpha = .94$). Statistically significant gender differences were found for functional values, $t(1, 1030) = 2.98, p = .009^1, d = 0.197$, functional investment, $t(1, 1030) = 5.91, p < .001, d = 0.391$, functional satisfaction, $t(1, 1030) = 5.85, p < .001, d = 0.387$, and aesthetic satisfaction, $t(1, 1030) = 2.31, p = .042, d = 0.153$, all in favor of men. There were no significant differences in AVI, $t(1, 1030) = -1.49, p = .135, d = -0.099$.

The validity of EIS subscales scores was further investigated by correlating them with NA ($M = 22.69, SD = 8.69$), PA ($M = 38.15, SD = 7.23$), symptoms of depression ($M = 10.03, SD = 10.72$), CSA ($M = 17.60, SD = 9.18$), and USA ($M = 21.60, SD = 5.24$)². Values of the correlation coefficient are given in Table 5. Functional values subscale score was significantly correlated positively with PA, CSA, and USA (although correlations with CSA and USA were negligible). Next, functional investment had a small positive correlation with PA and USA, and a significant negative (but very low) correlation with the symptoms of depression. In addition, functional satisfaction and aesthetic satisfaction correlated significantly with all indicators of mental health in the expected direction – negatively with NA, CSA, and depression, and positively with PA and USA. Aesthetic values and investment had a positive, small correlation with NA, symptoms of depression, and CSA, but a small negative correlation with USA. Finally, it should be noted that lower reliability of the scale scores can lead to unexpectedly lower correlations.

¹ Adjusted p values are provided after applying Holmes-Bonferroni procedure.

² Values of skewness and kurtosis for all variables were acceptable according to Tabachnick and Fidell's criterion ($< \pm 1.5$; 2007).

Table 5

Correlation of EIS subscales' scores with positive and negative indicators of mental health

	Functional values	Functional investment	Functional satisfaction	Aesthetic values and investment	Aesthetic satisfaction
	$\alpha = .68$	$\alpha = .84$	$\alpha = .85$	$\alpha = .70$	$\alpha = .92$
NA	.05	-.05	-.22***	.24***	-.29***
PA	.22***	.31***	.45***	.02	.42***
Depression	.05	-.09**	-.19***	.26***	-.23***
CSA	.07*	-.05	-.22***	.34***	-.32**
USA	.09*	.13***	.26***	-.12***	.36***

Note. NA – Negative affect. PA – Positive affect. CSA – Conditional self-acceptance. USA – Unconditional self-acceptance. *** $p < .001$. ** $p < .01$. * $p < .05$.

Lastly, we compared active athletes ($n = 173$), recreationists ($n = 545$), and physically inactive study participants ($n = 317$) in their scores on functional values, functional satisfaction, aesthetic values and investment, and aesthetic satisfaction (Table 6). We did not compare the groups on functional investment because two items from the subscale already ask participants about their engagement in physical activity (e.g., *I do physically active things often [sports, hiking, exercise]*), thus, this comparison would be redundant. The statistically significant univariate effect was found for the following dependent variables: functional values, functional satisfaction, and aesthetic satisfaction. On the other hand, active athletes, recreationists, and physically inactive participants did not differ in aesthetic values and investment.

Table 6

Differences in EIS subscales' scores due to level of physical activity

	<i>M (SD)</i>	Games-Howell post-hoc test		
		<i>M_{dif}</i>	95% CI	<i>p</i>
Functional values	0: 9.14 (2.87)	0-1	-1.78, -0.87	< .001
	1: 10.46 (2.56)	0-2	-2.58, -1.41	< .001
	2: 11.13 (2.45)	1-2	-1.18, -0.17	.008
<i>F</i> (2, 1032) = 38.90, <i>p</i> < .001, ω^2 = .068				
Functional satisfaction	0: 8.48 (3.21)	0-1	-3.21, -2.22	< .001
	1: 11.19 (2.57)	0-2	-5.21, -4.10	< .001
	2: 13.13 (1.99)	1-2	-2.38, -1.50	< .001
<i>F</i> (2, 1032) = 186.14, <i>p</i> < .001, ω^2 = .263				
Aesthetic values and investment	0: 14.45 (4.26)			
	1: 14.93 (4.13)	-	-	-
	2: 15.19 (4.24)			
<i>F</i> (2, 1032) = 2.09, <i>p</i> = .124, ω^2 = .002				
Aesthetic satisfaction	0: 9.79 (3.42)	0-1	-1.89, -0.82	< .001
	1: 11.15 (2.84)	0-2	-3.16, -1.89	< .001
	2: 12.3 (2.59)	1-2	-1.71, -0.62	< .001
<i>F</i> (2, 1032) = 42.67, <i>p</i> < .001, ω^2 = .075				

Note. 0 - physically inactive (*n* = 317). 1 - recreationists (*n* = 545). 2 - active athletes (*n* = 173). Values for partial ω^2 of value $\geq .01$ indicate small effect, $\geq .06$ indicate medium effect, and $\geq .14$ indicate large effect (Field, 2013).

Due to unequal group sizes and heteroscedasticity, the Games-Howell post hoc test with Tukey's corrected *p*-value for multiple comparisons was used. Post hoc testing revealed that all groups statistically differ from each other. Namely, physically inactive individuals scored lower than recreationists on functional values, functional satisfaction, and aesthetic satisfaction. Additionally, physically inactive scored lower than active athletes on functional values, functional satisfaction, and aesthetic satisfaction. Finally, recreationists scored lower than the active athletes on functional values, functional satisfaction, and aesthetic satisfaction.

Discussion

The aim of the present study was to evaluate the internal structure and MI by gender groups of the Serbian translation of the Embodied Image Scale (Abbott & Barber, 2010), using a sample of the general population. The Embodied Image Scale is a psychological instrument constructed to measure how people perceive their bodies, encompassing two separate body image components: physical appearance (aesthetic) and body functionality. Thus, the EIS consists of statements related to different aspects of the body, such as appearance, functionality, sensations, and body satisfaction. These items reflect one's subjective perception of their body rather than requiring an assessment of the body based on objective physical characteristics. So far, according to the theory and Abbott and Barber's study (2010), items from the scale are divided into two groups (dimensions), labeled as functional and aesthetic body image, within which the cognitive, behavioral, and affective components of body image could be assessed. The goal behind creating the EIS was to provide a quantitative measure of subjective evaluation of the body image that incorporates both aesthetic and functional dimensions. This is important especially because it seems that perception of aesthetic and body functionality correlates in opposite directions with different mental health indicators. The present study is valuable given that it represents the first validation of the EIS in a different language context. Additionally, unlike the original study by Abbott and Barber (2010), where the scale was validated using a group of adolescents, our sample comprised adults.

When it comes to examining the latent structure of the EIS, the key difference between our study and the original study was in the model setup. Even though we took into consideration the original six-factor model that came as a result of Abbott and Barber's two principal component analyses (cognitive, behavioral, and emotional aspects of the functional body image plus cognitive, behavioral, and emotional aspects of aesthetic body image; 2010), our models were defined using all items from the scale at once. On the contrary, Abbott and Barber tested separate PCA models after dividing items into two groups (aesthetic and functional) beforehand, mostly relying on the content of the

items, which is subjected to certain limitations (as mentioned in the introduction). Also, while the authors of the original scale used orthogonal rotation in both PCAs, in our models factors were allowed to correlate. In spite of these differences between the studies, the overall fit of the six-factor model was acceptable. However, due to the high correlation between AI and AV factors in the six-factor model, and because the AI had only two indicators we decided to accept the five-factor model in which AV and AI items were loaded on the same factor. Additionally, we allowed the covariance of residuals between two item pairs (one pair of items that initially loaded on the AV factor, and two items that initially loaded on the AI factor) in the five-factor model because it resulted in an improved model fit.

According to the five-factor model, the Serbian version of the EIS scale can be explained by the following dimensions: Functional values (e.g., *"How good I feel about my body depends a lot on what my body can do physically."*), Functional investment (e.g., *"I participate in physical activities whenever I can [e.g., sports, hiking, exercise]."*), Functional satisfaction (e.g., *"I am very happy with my performance in physical activities."*), Aesthetic values and investment (e.g., *"I wear certain things to make myself look as attractive as I can."*) and Aesthetic satisfaction (*"I am very happy with the appearance of my body."*). As already noted, the proposed factor structure represents the original one to a great extent. Based on the item content it seems reasonable that aesthetic values and investment belong to the same factor given that some items contain cognitive and behavioral components. For example, item #9 (*"I wear certain things to make myself look as attractive as I can."*) implies that behavioral action is intertwined with the expectations people might have on what conditions their body should meet to be valued. It should also be noted that this item although belonging to the AI component in the original study, had a significant cross-loading (.43) on the AV component (Abbott & Barber, 2010).

According to our results, all factors were significantly intercorrelated in a positive direction, except for AS and AVI. It raises the question of whether items that supposedly measure cognitive, emotional, and behavioral aspects of aesthetic body image measure only that. At the same time, if one agrees with

items such as *How good I feel about my body depends a lot on how I look* (AVI), it does not automatically mean that they would agree with items such as *I am very happy with the appearance of my body* (AS). In other words, if someone, in general, values their body based on their appearance, it does not imply neither that they will be nor that they will not be satisfied with their appearance at the moment of testing.

Correlations among factors in our study cannot be directly compared with the correlations obtained in the original study because they calculated correlation coefficients for males and females separately, without testing MI before that (Abbott & Barber, 2010). Moreover, because the Serbian EIS has residual (strict) MI, we can conclude that correlations among factors do not differ between males and females in our sample. In their study, the correlation between AV and AS in females was $-.21$, and $.10$ in males (pooled correlation was $-.07$, regardless of gender), while the correlation between AI and AS was lacking in females ($.01$) and was $.20$ in males (pooled correlation was $.10$; Abbott & Barber, 2010). If we compare pooled correlations calculated for AV-AS and AI-AS, with the correlation between AVI and AS from our study ($.06$) we can conclude that they are not essentially different. Also, it should not be neglected that Abbott and Barber conducted a study using a sample of adolescents (2010), while our study included adults.

Another novelty in our study was testing MI of the EIS across gender groups. Although Abbott and Barber reported slightly different correlations between the factors in groups of males and females (2010), our results implied that the EIS demonstrated the most stringent MI. In other words, our results suggested that the EIS has the same factor structure across gender groups (five-factor structure with covariances of residuals), the strength of the relationship between latent factors and indicators (items) is the same across gender groups, and item residual variances are the same across gender groups. Thus, it is justified to use EIS for researching gender differences in body image. The coefficients of internal consistency of the Serbian version of the instrument are satisfactory in the male subsample ($.72-.91$), while in the female sample, it is slightly lower on some dimensions ($.67-.94$). In the overall sample, values of

Cronbach's alpha coefficient ranged from .68 (FV) to .92 (AS). However, it should be kept in mind that all factors (except for the AVI) consisted of three items only which can contribute to lower alpha.

Our study provided some evidence for gender differences in functional (values, investment, and satisfaction) and aesthetic (satisfaction) components of body image measured by EIS. Precisely, male participants had significantly higher scores on these subscales compared to female participants. These results support findings from some cross-sectional (e.g., Lemon et al., 2009) and longitudinal (Wang et al., 2019) studies that showed males are, in general, more satisfied with their bodies compared to females. Abbott and Barber (2010) also reported higher functional values, functional investment, functional satisfaction, and aesthetic satisfaction in boys than in girls. In addition, taking into account masculinity-oriented narratives, it is expected that males consider functional aspects of the body as more significant for their positive body image compared to females. Finally, it is understandable that there were no gender differences in AVI scores because items from this subscale contain general ideas that are equally probable for both males and females (i.e., both males and females may want to be good-looking, but as we can see from the scores on other subscales of the EIS, they can differ in terms of whether they actually perceive themselves that way).

To check the convergent validity of the Serbian version of the EIS, we correlated the obtained scores with CSA, USA, trait PA, trait NA, and symptoms of depression. All three scores related to body functionality (FV, FI, and FS) correlated positively with PA and USA (although correlations with the USA were very small). These results are in line with some notions that focusing on body functionality positively affects feelings that people have about their bodies (e.g., Avalos & Tylka, 2006; Greenleaf et al., 2009). Positive correlations between FV, FI, and FS on the one hand, and USA on the other hand, are comparable with positive correlations that Abbott and Barber (2010) found between these body functionality domains and self-esteem given that USA and self-esteem are related constructs. The aesthetic satisfaction subscale score is also positively correlated with PA and USA, which is also aligned with theoretical expectations

- those who are generally prone to experiencing positive emotions are more likely to be satisfied with and happy about the appearance of their body, but also those who accept themselves unconditionally might be more self-compassionate when it comes to evaluating their bodies. Negative correlations that FS and AS had with NA and symptoms of depression are also expected because FS and AS items included words that describe pleasant emotions. Functional satisfaction and AS also had a negative correlation with CSA.

According to our results, it seemed that AVI was related to the mental health indicators in the opposite direction from other subscale scores. Aesthetic values and investment was positively correlated with NA, CSA, and symptoms of depression, and negatively with USA. This is also in line with the result of the previous studies (e.g., Frederickson & Roberts, 1997; McKinley, 1998; McKinley & Hyde, 1996; Tylka & Hill, 2004) that showed an association between aesthetic aspects of body image and some indicators of poorer mental health such as body shame and dissatisfaction, low body esteem, and anxiety symptoms. A positive correlation between AVI and CSA, and a negative correlation between AVI and USA is also expected, given that the AVI factor is saturated with items related to the assessment of physical appearance concerning how attractive they are to other people.

When comparing body image concerning the subjects' physical activity level, the results indicate that all three groups (physically inactive individuals, recreationists, and active athletes) significantly differed in FV, FS, and AS, but not in the AVI score. The results indicated that FV, FS, and AS scores were increasing with the increase in the physical activity level. Similar results were obtained in one earlier study with adolescent girls (Abbott & Barber, 2011) where it was shown that active athletes scored higher than recreationists and physically inactive girls on all dimensions of functional body image. Our results are also comparable with Allen et al.'s notion (2019) that children who had better functional body image also had a positive perspective toward physical education. Finally, the finding that more physically active scored higher on aesthetic satisfaction seems logical because people frequently engage in physical activities in order to look better. These findings are important because

they suggest that sports could improve at least some aspects of body image (and indirectly some aspects of mental health) in adolescents and adults, and vice versa, that having a genuinely positive attitude towards one's physical capabilities could motivate people to be more physically active. Physically inactive participants, recreationists, and active athletes did not significantly differ in AVI scores which is not surprising if we take into account the content of the items from this subscale (e.g., "*I wear certain things to make myself look as attractive as I can.*").

An important limitation of our study comes from the fact that it was an online study such that the survey link was distributed via social media networks. Thus, self-selection bias cannot be excluded (Bethlehem, 2010). In addition, potential respondents were exclusively social media network users. Furthermore, information about the sociodemographic characteristics of the participants (aside from the education level) is lacking. Finally, future studies should include a measure of motives for physical activity and test how these motives are related to different aspects of body image.

To sum up, the advantage of the present study is that it represents the first study that evaluated the psychometric properties of the translated version of the EIS in a different cultural context compared to the context where the instrument originally came from. The Serbian version of the EIS represents a satisfactory measure of aesthetic and functional body image. However, considering the lower reliability of some subscale scores some refinements of the scale are recommended (e.g., rewriting some of the existing items or adding the new ones). On a practical note, our results could initiate more studies on body image defined as a multidimensional construct, eating disorders, and similar constructs in Serbia.

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Conflict of Interest

We have no conflicts of interest to disclose.

Data availability statement

Data used in this paper are available upon a reasonable request.

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Supplementary materials

Appendix A

Serbian translation of the Embodied image scale

Pažljivo pročitajte sledeće tvrdnje i procenite u kojoj meri se odnose na Vas (zokružite broj).

Brojevi na skali znače sledeće:

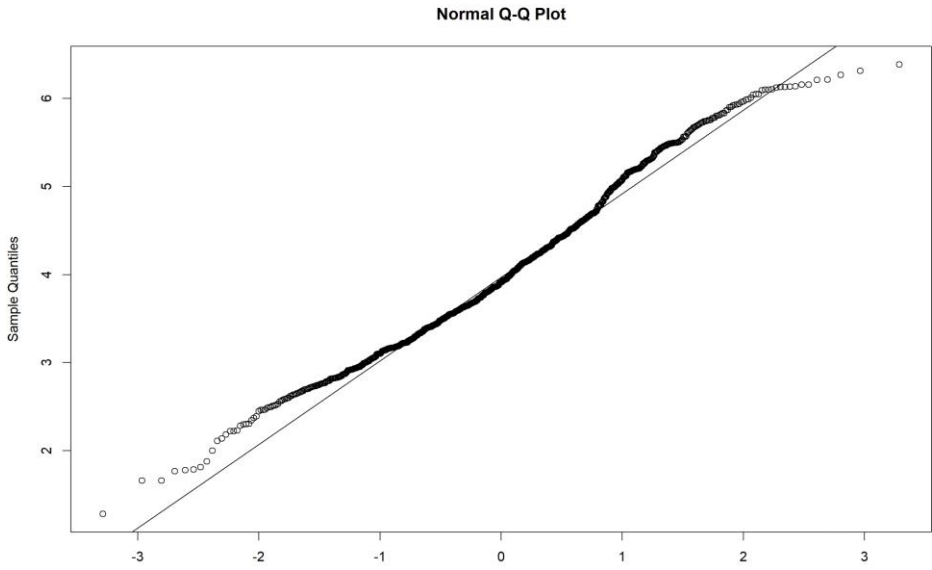
1 – uopšte se ne odnosi na mene (uopšte nije tačno)

5 – veoma se odnosi na mene (veoma tačno)

1	Koliko se dobro osećam u vezi sa svojim telom zavisi dosta od toga kako izgledam.	1	2	3	4	5
2	Često sam fizički aktivan/na (npr. sport, planinarenje, vežbanje).	1	2	3	4	5
3	Koliko se dobro osećam u vezi sa svojim telom zavisi dosta od toga da li me drugi procenjuju kao privlačnog/u.	1	2	3	4	5
4	Uvek pokušavam da postavim sebi izazov tokom fizičkog vežbanja.	1	2	3	4	5
5	Osećam se veoma dobro u vezi sa svojim izgledom.	1	2	3	4	5
6	Učestvujem u fizičkim aktivnostima kad god mogu (npr. sport, planinarenje, vežbanje).	1	2	3	4	5
7	Jedan od najbitnijih razloga zašto bi ljudi trebalo da vode računa o svom telu je da bi izgledali dobro.	1	2	3	4	5
8	Generalno, veoma sam zadovoljan/a svojim fizičkim sposobnostima.	1	2	3	4	5
9	Oblačim određene stvari da bih izgledao/la što atraktivnije mogu.	1	2	3	4	5
10	Koliko se dobro osećam u vezi sa svojim telom veoma zavisi od toga šta moje telo može fizički da uradi.	1	2	3	4	5
11	Uvek se trudim da izgledam najbolje što mogu.	1	2	3	4	5
12	Osećam se veoma dobro u vezi toga za šta sam fizički sposoban/a.	1	2	3	4	5
13	Veoma sam zadovoljan/a izgledom svog tela.	1	2	3	4	5
14	Jedan od najbitnijih razloga zašto bi ljudi trebalo da brinu o svom telu je da bi mogli da budu fizički aktivni.	1	2	3	4	5
15	Generalno, zadovoljan/a sam svojim izgledom.	1	2	3	4	5
16	Veoma sam zadovoljan/a svojim postignućem u fizičkim aktivnostima.	1	2	3	4	5
17	Jedan od najbitnijih razloga zašto bi ljudi trebalo da vode računa o svom telu je da bi se osećali dobro u vezi svojih fizičkih sposobnosti (snage, spremnosti, izdržljivosti).	1	2	3	4	5

Appendix B

Normal Q-Q plot after removing 44 multivariate outliers



Appendix C

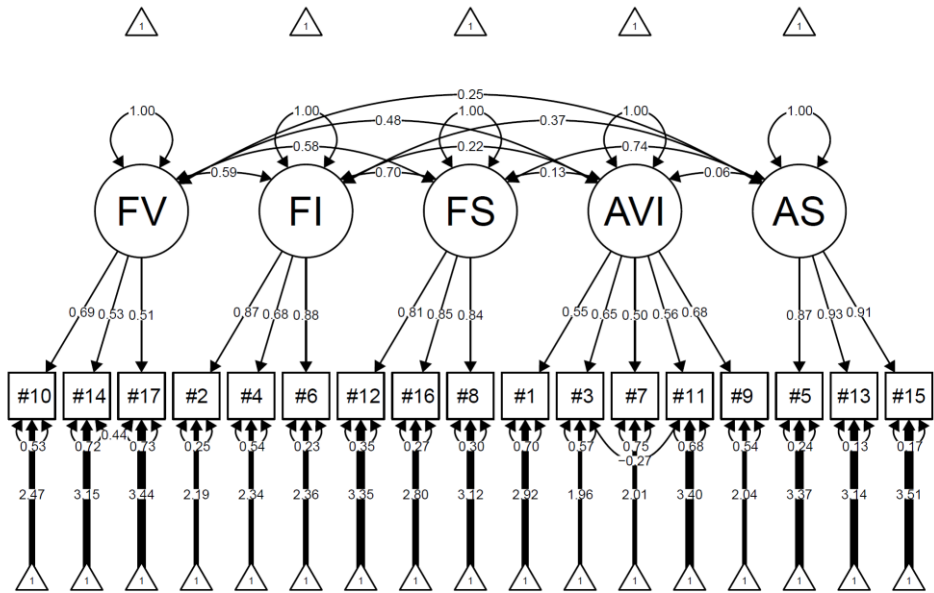
Results of testing multicollinearity among the Embodied Image Scale items

item	<i>R</i>	<i>R</i> ²	VIF
1	0.531	0.282	1.393
2	0.808	0.653	2.881
3	0.568	0.323	1.477
4	0.666	0.443	1.796
5	0.845	0.713	3.488
6	0.807	0.651	2.868
7	0.502	0.252	1.338
8	0.799	0.638	2.766
9	0.585	0.342	1.520
10	0.559	0.312	1.454
11	0.537	0.289	1.406
12	0.77	0.592	2.452
13	0.886	0.786	4.664
14	0.648	0.42	1.724
15	0.875	0.765	4.253
16	0.815	0.665	2.984
17	0.631	0.398	1.662

Note. VIF – Variance inflation factor

Appendix D



Multi-group confirmatory factor analysis model - residual invariance model





Research Article

Relacije rezilijentnosti i bazičnih osobina ličnosti sa subjektivnim blagostanjem kod starih

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SAŽETAK

Cilj ovog istraživanja bio je ispitivanje predikcije subjektivnog blagostanja u starosti na osnovu rezilijentnosti i bazičnih sedam osobina ličnosti kod korisnika gerontoloških centara, te inkrementalni doprinos bazičnih osobina ličnosti u objašnjenju blagostanja u starosti, povrh varijanse koju objašnjava rezilijentnost. Uzorak je činio 151 ispitanik (54.3% ženskog pola) prosečne starosti od 80 godina. Kao indikatori subjektivnog blagostanja korišćeni su zadovoljstvo životom, kao kognitivni aspekt, i emocionalni distres (anksioznost, depresija i stres). Rezultati pokazuju da rezilijentnost, neuroticizam (u negativnom smeru) i pozitivna valenca predviđaju zadovoljstvo životom kod starih. Ključni prediktor emocionalnog distresa je neuroticizam, dok se značajan doprinos rezilijentnosti gubi uvođenjem osobina ličnosti u model. Rezultati istraživanja pružaju potpuniju sliku o relacijama između rezilijentnosti, karakteristika ličnosti i blagostanja na uzorku starih u Srbiji, i potvrđuju važnost proučavanja ovih relacija iz razvojne perspektive.

Ključne reči: rezilijentnost, osobine ličnosti, blagostanje, distres, zadovoljstvo životom, stari

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Uvod

Podaci Svetske zdravstvene organizacije pokazuju da će do 2030. godine jedna od šest osoba biti starija od 60 godina (World Health Organization, 2022). Otuda ne čudi pojačano interesovanje naučne javnosti za boljim razumevanjem, te unapređivanjem procesa starenja. U ovom razvojnom periodu se odigravaju mnoge važne promene, od zdravstvenih promena tj. porasta broja oboljenja i zdravstvenih tegoba, smanjenja fizičke snage, opadanje kvaliteta i kapaciteta čulnih organa (Parker & Thorslund, 2007), preko kognitivnih promena u domenu bazičnih i egzekutivnih funkcija (Glisky, 2007) i promena u socijalnom funkcionisanju osobe u vidu promene društvenih uloga i zadataka, socijalnog statusa, ali i gubitka bliskih osoba (Nadler et al., 1997). Često su prisutne i psihološke promene slike o sebi (Whitbourne, 2012) i promene u vidu pada samopouzdanja (Robins & Trzesniewski, 2005).

Uprkos činjenici da broj različitih vrsta gubitaka u starosti raste, naglasak u istraživanjima se sve više stavlja na koncept uspešnog starenja, tj. na propagiranje mogućnosti da se očuvaju, ali i razvijaju različiti potencijali starih osoba. Definicija uspešnog starenja se pomerila sa biomedicinskog ka holističkom viđenju i prema više subjektivnim aspektima procesa starenja (Calasanti, 2016; Urtamo et al., 2019). Koncept uspešnog starenja obuhvata različite domene - sem odsustva bolesti i očuvanja socijalnih aktivnosti, kognitivnih i fizičkih funkcija (Rowe&Kahn, 1997), autori uključuju i prilagođenost na starost (Kim & Park, 2017), tj. uspešnu adaptaciju na promene tokom procesa starenja (Baltes & Baltes, 1990). O važnosti koncepta prilagođenosti u starom dobu govori i podatak da starije osobe mogu uspešno stariti ako su socijalno aktivne i psihološki adaptirane na starost, čak i onda kada postoji pad u kognitivnim i fiziološkim funkcijama (Kim & Park, 2017). Psihološka adaptacija svakako podrazumeva prilagođavanje svim opisanim promenama, a to zahteva fleksibilnost, širok repertoar adaptivnih strategija i razvijanje novih strategija suočavanja. Pored navedenih razvojnih promena vezanih za starost, osobe koje se odluče za život u domu za stara lica, moraju da se suoče i sa promenama socijalnog i fizičkog okruženja, dnevnih rutina i navika, što dodatno može otežati proces prilagođavanja na starost (Brownie et al., 2014).

Iako se većina istraživača slaže da su uspešno starenje, te prilagođenost na starost, dinamični i višedimenzionalni konstrukti (Mendoza-Ruvalcaba et al., 2017; von Humboldt et al., 2012), u istraživanjima se subjektivno blagostanje najčešće uzima kao relevantan indikator uspešnog starenja i adaptacije (Stock et al., 1986). Subjektivno blagostanje obuhvata kognitivnu i emocionalnu komponentu (Diener, 2000). Za procenu kognitivne komponente subjektivnog blagostanja se najčešće koriste globalne i specifične mere zadovoljstva životom koje se odnose na procenu osobe o tome kakav je njen život (Diener 2000). Afektivna komponenta subjektivnog blagostanja podrazumeva meru iskustva prijatnih emocija i nizak nivo, tj. retko doživljavanje negativnih (Arthaud-Day et al., 2005; Tinkler & Hicks, 2011). S obzirom na to da istraživanja pokazuju da ove komponente mogu imati različite relacije sa procesom starenja (Hansen & Slagsvold, 2012), u ovom istraživanju će subjektivno blagostanje kod starih biti određeno preko zadovoljstva životom i odsustva emocionalnog distresa. Dakle, biće pokriveni kognitivni aspekt subjektivnog blagostanja (zadovoljstvo životom) i afektivno-somatorni aspekt funkcionisanja (doživljavanje neprijatnih emocija i simptoma, poput anksioznosti i depresivnosti, tj. njihovog odsustva).

Prema ranim teorijama subjektivnog blagostanja, objektivne okolnosti poput zdravstvenog statusa, finansijskog stanja i širine socijalne mreže su bile viđene kao odlučujuće za nivo blagostanja osobe (Campbell et al., 1976). Kako su sve ove varijable podložne promenama kroz život, podrazumeva se da će se sa njihovom promenom menjati i nivo blagostanja. U tom smislu, mogli bismo očekivati da u starosti, kao razvojnom dobu koje nosi velike promene i gubitke na pomenutim poljima (Baltes & Mayer 1999), blagostanje opada. Međutim, rezultati istraživanja nisu jednoznačni. S jedne strane, rezultati studija pokazuju da zadovoljstvo životom (Chen, 2001; Mroczek & Spiro, 2005), ali i pozitivni afekat (Freund & Baltes, 1998; Chen, 2001) beleže trend naglijeg pada nakon 60. ili 65. godine života, što se objašnjava upravo velikim brojem gubitaka u starosti, od kojih se posebno izdvajaju gubitak zdravlja i partnera kao uzročnici pada nivoa blagostanja (Hansen & Slagsvold, 2012). Jedan broj istraživanja ukazuje na to da subjektivno blagostanje ostaje stabilno tokom srednjih godina i u starosti, i to u različitim kulturama (Diener & Suh, 1998; Hamarat et al., 2002). Međutim,

istraživači beleže i porast blagostanja u starosti (Prenda & Lachman, 2001; Blanchflower & Oswald, 2008), što je fenomen poznat pod nazivom "paradoks blagostanja" (Baltes & Baltes, 1990), koji podrazumeva porast ili stabilnost blagostanja u starosti uprkos pogoršanju objektivnih uslova života. Među objašnjenjima ovog fenomena, nailazimo na različita stanovišta. Najpre, povećanje životnog zadovoljstva u starosti se objašnjava stabilizacijom personalnih dispozicija i adaptacionih procesa (Diener & Suh, 1998), gde se sugerije da se nivo blagostanja može menjati pod uticajem objektivnih životnih okolnosti, ali se ipak nakon nekog vremena vraća na osnovni nivo koji je determinisan personalnim dispozicijama, tj. crtama ličnosti. Drugo viđenje porast blagostanja u starosti objašnjava pojačanim adaptacionim mehanizmima u starosti, tj. prilagođavanjem ciljeva, potreba i aspiracija aktuelnom stanju, te su kriterijumi za blagostanje niži (Cheng, 2004; Ryff, 1991). Treći pristup povišeno subjektivno blagostanje kod starih vidi kao posledicu bolje emocionalne regulacije (Gross et al., 1997), tj. kao efekat pojačane motivacije za maksimiziranjem pozitivnih i minimiziranjem negativnih afekata (Carstensen, 1995).

Različiti istraživački nalazi po pitanju subjektivnog blagostanja u starosti delom su posledica nacrtu istraživanja (longitudinalno ili tranferzalno), ali i socio-kultunih i uzrasnih specifičnosti uzorka starih ispitanika. Naime, neki autori smatraju da je porast nivoa blagostanja u starosti ograničen samo na uzorke mlađih starih (do 80 godina), iz bogatijih zemalja, gde je zdravstvena nega dostupnija i kvalitetnija, a penzije veće (Hansen & Slagsvold, 2012). Dodatno, u velikom broju istraživanja ignorisana je multidimenzionalnost subjektivnog blagostanja, te se porast blagostanja u starosti uglavnom odnosi na povišen nivo zadovoljstva životom, dok se manje zna o tome da li se ovaj paradoks odnosi i na emocionalnu komponentu subjektivnog zadovoljstva (Hanson & Slagsvold, 2012). Istraživanja koja uzimaju u obzir i kognitivnu i afektivnu komponentu subjektivnog blagostanja beleže da neke od njih ostaju stabilne, a neke beleže pad, ali ni ovde istraživači nisu saglasni. Dok se u nekim studijama beleži da pozitivni afekat u starosti raste, a negativni opada (Mroczek & Kolarz, 1998), u

drugima rezultati pokazuju da su i negativni i pozitivni afekat smanjeni, ali i depresivni afekat takođe beleži pad (Hanson & Slagsvold, 2012).

Jasno je da je pitanje subjektivnog blagostanja u starosti kompleksno, te da promene u kognitivnim i afektivnim komponentama blagostanja mogu biti različite, i uplivisane različitim faktorima, poput fizičkog zdravlja, socijalne podrške i osobina ličnosti (Ryan & Deci, 2001). Iako sociodemografske karakteristike predviđaju subjektivno blagostanje, procenat objašnjene varijanse je relativno nizak (Diener et al., 1999). Otuda se smatra da objektivne okolnosti mogu uticati na subjektivno blagostanje, ali indirektno, putem različitih subjektivnih procesa (Diener & Lucas 1999), poput personalnih dispozicija (Mroczek & Kolarz, 1998; Steel et al., 2008) i rezilijentnosti (Bauer & Park, 2010; Wang et al., 2023; Zafari et al., 2023) koji predstavljaju predmet interesovanja u ovom istraživanju.

Naime, rezilijentnost se smatra ključnim korelatom subjektivnog blagostanja kod starih, i to u različitim kulturama (Wang et al., 2023; Zafari et al., 2023), te najvažnijim psihološkim resursom koji utiče na adaptivne kapacitete kod starih (Carver & Buchanan, 2016), čak važnijim od zdravstvenog stanja (Salamene et al., 2021). Rezilijentnost podrazumeva sposobnost pozitivnog prilagođavanja različitim životnim izazovima i kao takva ima ključnu ulogu u adaptaciji (Fletcher & Sarkar, 2013; Spahni et al., 2015). Iako postoje različite definicije rezilijentnosti, ona se najšire određuje kao kapacitet osobe izložene negativnom događaju da održi relativno stabilan nivo psihološkog i fiziološkog funkcionisanja (Bonanno, 2004), te da fleksibilno prevladava značajne životne promene i izazove (McMahon et al., 2007). Iz razvojne perspektive, rezilijentnost se posmatra kao kapacitet za oporavak od različitih teškoća ili disfunkcionalnosti, i u tom smislu se smatra ključnom za adaptaciju na životne krize u svim fazama razvoja (Netuveli et al., 2008), a naročito važnom u starosti kao periodom života u kome se osobe bore sa različitim gubicima i stresnim događajima poput gubitka autonomije, opadanja kognitivnih funkcija, suočavanje sa smrću i slično (Ryff et al., 1998). Naučno istraživačka debata postoji između autora koji rezilijentnost posmatraju kao relativno stabilnu osobinu ličnosti koja ublažava štetne efekte stresa i promoviše oporavak i adaptaciju (Connor & Davidson,

2003; Hu et al., 2015) i onih koji je definišu kao dinamički proces koji varira u odnosu na kontekst (Luthar et al., 2000; Patel et al., 2017), što znači da ona može fluktuirati u odnosu na različite situacije i različito vreme, kako se menjaju životne okolnosti i faze. U ovom istraživanju, rezilijentnost je određena kao osobina ličnosti i biće procenjena Konor–Dejvidsonovom skalom rezilijentnosti – kratkom formom koja rezilijentnost definiše kao kapacitet oporavka i prevladavanja raznih izazova, stresnih događaja, tragedija ili trauma koji se mogu pojaviti u životu (Campbell-Sills & Stein 2007; Connor & Davidson, 2003).

Rezultati meta-analize na 60 studija pokazali su da je rezilijentnost negativno povezana sa negativnim indikatorima mentalnog zdravlja poput depresije, anksioznosti i negativnog afektiviteta, a pozitivno sa zadovoljstvom životom i drugim pozitivnim indikatorima psihološkog funkcionisanja (Hue et al., 2015). Prethodna istraživanja pokazuju da je rezilijentnost u pozitivnom, a depresivnost u negativnom smeru povezana sa samoprocenjenom uspešnošću starenja i fizičkim zdravljem (Jeste et al., 2013; Fullen et al., 2018), kao i da je rezilijentnost, pored samosaosećanja i doživljenog psihološkog i fiziološkog zdravlja, značajan prediktor uspešnosti starenja (Kunuroglu & Yuzbasi, 2021; Salamene et al., 2021). Pored toga, rezilijentnost je pozitivno povezana i sa zadovoljstvom životom (Fullen et al., 2018; Windle et al., 2010), dok neki autori navode da su upravo ove varijable najbolji prediktori uspešnog starenja (Wagnild, 2003).

Kada su u pitanju crte ličnosti, potvrđeno je da one predstavljaju važne prediktore subjektivnog blagostanja na uzorku starih (Bedaso & Han, 2021; Koorevaar et al., 2013; Melendez et al., 2019; Rossi et al., 2014), i to najpre emocionalne komponente (Steel et al., 2008), pri čemu se najčešće izdvajaju neuroticizam i ekstraverzija (Hayes & Joseph, 2003). Naime, ekstraverzija i savesnost se izdvajaju kao protektivni faktori za razvoj depresije (Koorevaar et al., 2013), dok je neuroticizam najbolji prediktor depresivnih simptoma (Olawa & Idemudia, 2020; Weber et al., 2013). Zapravo, neuroticizam se najdoslednije povezuje s negativnim ishodima funkcionisanja osobe u svim životnim dobima, pa tako i u starosti (Farina et al., 2016). Kada je u pitanju kognitivna komponenta subjektivnog blagostanja, istraživanja pokazuju da je zadovoljstvo životom u

negativnoj korelaciji sa neuroticizmom, a u pozitivnoj sa ekstraverzijom, savesnošću i saradljivošću (Hansson et al., 2020; Kahlbaugh & Huffman, 2017; Lucas & Diener, 2015; Melendez et al., 2019; Zhang & Howell, 2011). Tipološki pristup u ispitivanju osobina ličnosti pruža mogućnost izdvajanja tzv. rezilijentnog tipa (nizak neuroticizam, visoka ekstraverzija i savesnost) i ovaj tip na uzorku starih pokazuje najveći broj pozitivnih ishoda (Steca et al., 2010). Što su izraženiji ovi zaštitni faktori ličnosti, to će osobe biti snažnije predisponirane za doživljaj blagostanja.

Ipak, nema radova koji dovode u vezu i rezilijentnost i bazične osobine ličnosti u ispitivanju subjektivnog blagostanja u starosti. Stoga smo kao osnovni problem istraživanja postavili ispitivanje predikcije kognitivnih i emocionalno-somatorskih aspekata blagostanja (zadovoljstvo životom i emocionalni distres) na osnovu rezilijentnosti i bazičnih osobina ličnosti kod korisnika gerontoloških centara. Relacije dimenzija modela Velikih pet i različitih aspekata subjektivnog blagostanja su ispitivane u prethodnim istraživanjima (npr. Baek et al., 2016; Hansson et al., 2020; Kahlbaugh & Huffman, 2017; Koorevaar et al., 2013), dok nema istraživanja koja dovode u vezu samoevaluativne dimenzije ličnosti (pozitivna i negativna valenca). Budući da ove dimenzije odražavaju self-koncept, čini se važnim ispitati i njihove relacije sa blagostanjem kod starih, jer prethodna istraživanja ukazuju na značaj pozitivne slike o sebi na npr. zadovoljstvo životom (Bai et al., 2012; 2018; Hansson et al., 2020). Kako se rezilijentnost ističe kao dominantni prediktor prilagođenosti na starost (Bauer & Park, 2010; Wang et al., 2023; Zafari et al., 2023), u ovom istraživanju će se ispitivati inkrementalni doprinos osobina ličnosti u objašnjenju indikatora subjektivnog blagostanja, povrh varijanse koju objašnjava rezilijentnost. Očekujemo da rezilijentnost bude dominantni prediktor blagostanja kod starih, ali i da osobine ličnosti, posebno neuroticizam u negativnom i ekstraverzija u pozitivnom smeru (npr. Farina et al., 2016; Koorevaar et al., 2013; Olawa & Idemudia, 2020; Weber et al., 2013), takođe ostvaruju značajne doprinose predikciji, povrh varijanse koju objašnjava rezilijentnost.

Metod

Uzorak i procedura

Uzorak je bio prigodan i činilo ga je 151 ispitanika, od toga 82 (54.3%) ženskog pola. Starost ispitanika se kretala u rasponu od 65 do 98 godina, sa prosečnom vrednošću od 80.52 ($SD = 7.90$). Prema stepenu obrazovanja, najveći broj ispitanika imao je završeno osnovno obrazovanje (28.5%), 17.2% ispitanika je završilo trogodišnju srednju školu, 13.9% četvorogodišnju srednju školu, 16.6% višu školu, dok je 23.8% ispitanika imao završen fakultet, magistraturu ili doktorske studije. U pogledu bračnog statusa, većinu uzorka činili su udovci/udovice (70.9%), 12.6% ispitanika bili su razvedeni, 7.9% njih je bilo u braku, a 8.6% se izjasnilo kao ostalo (u okviru ove grupe bilo je najviše neoženjenih – oni su činili 4% celokupnog uzorka, 2.6% ispitanika su činile neudate, 1.3% u vanbračnoj zajednici i 0.7% samostalni). Post-hoc analiza statističke snage za uzorak od 151 ispitanika, 7 prediktora, odn. 8 prediktora ukupno, za veličinu efekta srednje veličine, $f^2 = 0.15$, iznosi 0.95.

Ispitivanje je sprovedeno u skladu sa etičkim kodeksom Svetskog medicinskog udruženja (Helsinška deklaracija) za ispitivanja na ljudima. Ispitivanje je sprovedeno u tri objekta Gerontološkog centra u Novom Sadu. Nakon dobijanja dozvole direktorke centra pristupilo se ispitivanju korisnika centra, uz prethodno dobijenu pisanu informišuću saglasnost od ispitanika. Ispitivanje je obavljeno uživo i individualno, putem papir-olovka metoda. Podaci su prikupljeni od decembra 2019. do aprila 2020. godine. U ispitivanju su učestvovali korisnici Gerontološkog centra stariji od 65 godina koji nisu imali simptome demencije, drugih kognitivnih oštećenja ili mentalnih poremećaja, a koji su pri tome bili dovoljno očuvanog vida i mogli su se samostalno služiti rukama.

Instrumenti

Konor–Dejvidsonova skala rezilijentnosti – kraća verzija (The Connor–Davidson Resilience Scale – CD-RISC-10)

Konor–Dejvidsonova skala rezilijentnosti – kraća verzija (The Connor–Davidson Resilience Scale – CD-RISC-10; Campbell-Sills & Stein 2007, adaptirao na srpski Milovanović, 2019) je kratka verzija originalne skale CD RISC i sastoji se od 10 ajtema koji opisuju sposobnost tolerisanja iskustava kao što su bolna osećanja, pritisak, bolest, promena ili neuspeh (primeri ajtema su “Suočavanje sa stresom me čini jačim.”, “Sposoban sam da se prilagodim kada dođe do nekih promena.”). Za odgovaranje korišćena je skala Likertovog tipa, sa rasponom od 0 = *nikad* do 4 = *skoro uvek*. Autori sugerišu da verzija od 10 ajtema obuhvata sržne karakteristike rezilijentnosti (korelacija sa rezultatima sa originalnom verzijom je $r = .92$) i u odnosu na originalnu verziju, ima stabilnu jednofaktorsku strukturu. Skala ima odlične psihometrijske karakteristike na različitim uzorcima, uključujući uzorke starih (Goins et al., 2013; Tourunen et al., 2021), preporučuje se kao jedna od najboljih mera na uzorku starih osoba zbog lake administracije (Cosco et al., 2016) i svrstana je u jednu od najboljih mera rezilijentnosti (Windle et al., 2011).

Inventar Velikih pet plus dva – verzija za stare (VP+2 – verzija za stare)

Inventar Velikih pet plus dva – verzija za stare (VP+2 – verzija za stare; Golušin et al., 2015) je verzija inventara VP+2 nastala iz potrebe za procenom ličnosti kod starih, koja uzima u obzir specifične karakteristike ove populacije. Sastoji se od 49 stavki (7 ajtema za svaku dimenziju) i meri sedam bazičnih dimenzija ličnosti: neuroticizam (“Često osećam teskobu.”), ekstraverziju (“Veoma sam društven.”), agresivnost (“Često se posvađam sa drugima.”), savesnost (“Veoma sam marljiv i vredan.”), otvorenost (“Voleo bih da isprobam što više stvari u životu.”), pozitivnu valencu (“Ja sam važna osoba.”) i negativnu valencu (“Uživam da me se drugi plaše.”). Za razliku od standardne verzije inventara, primenjena je trostepena skala Likertovog tipa za odgovaranje (od 1 = *ne slažem se* do 3 = *slažem se*).

Skala zadovoljstva životom (Satisfaction With Life Scale - SWLS)

Skala zadovoljstva životom (Satisfaction With Life Scale - SWLS; Diener et al., 1985, adaptirali na srpski Vasić i sar., 2011) sadrži 5 stavki koje mere kognitivnu komponentu subjektivnog blagostanja ("Kada bih mogao ponovo da živim svoj život, ne bih menjao skoro ništa."). Ispitanici su odgovarali pomoću sedmostepene Likertove skale (od 1 = *u potpunosti se ne slažem* do 7 = *u potpunosti se slažem*).

Skala depresivnosti, anksioznosti i stresa – kraća verzija (Depression Anxiety Stress Scale – DASS-12)

Skala depresivnosti, anksioznosti i stresa – kraća verzija (Depression Anxiety Stress Scale – DASS-12); Henry & Crawford, 2005, adaptirao na srpski Protulipac, videti <http://www2.psy.unsw.edu.au/dass/Serbian/Serbian.htm>) je kraća verzija Skale depresivnosti, anksioznosti i stresa koja obuhvata 12 ajtema i uključuje tri supskale (od po 4 stavki): depresivnost ("Osećao sam se tužno i jadno."), anksioznost ("Primetio sam da mi se suše usta.") i stres ("Bilo mi je teško da se smirim.") i u prethodnim istraživanjima je njena validnost potvrđena na uzorku starih (npr. Wood et al., 2010). Stavke za srpsku adaptaciju su odabrane na osnovu zvanične adaptacije skale na srpski jezik koja je dostupna na zvaničnoj internet stranici skale. Za odgovaranje korišćena je četvorostepena skala Likertovog tipa, sa rasponom od 0 = *ni malo* do 3 = *skoro uvek*, a ispitanici su procenjivali učestalost određenih simptoma u poslednjih nedelju dana. S obzirom na to da tri supskale međusobno umereno do visoko koreliraju (od .49 do .61) u radu će biti korišćen ukupni skor kao mera emocionalnog distresa.

Alfa koeficijenti pouzdanosti za sve instrumente prikazani su u Tabeli 1.

Rezultati

Deskriptivni podaci i korelacije

Rezilijentnost ostvaruje značajne pozitivne korelacije sa zadovoljstvom životom, a negativne sa emocionalnim distresom (Tabela 1). Od osobina ličnosti,

neuroticizam ostvaruje najviše korelacije i to negativne sa zadovoljstvom životom i pozitivne sa emocionalnim distresom. Pored neuroticizma, sa zadovoljstvom životom značajne i pozitivne korelacije ostvaruju ekstraverzija, pozitivna valenca i otvorenost, a sa emocionalnim distresom značajnu pozitivnu korelaciju ostvaruje agresivnost, a negativnu ekstraverzija. Rezilijentnost značajno negativno korelira sa neuroticizmom i agresivnošću, a pozitivno sa ekstraverzijom i otvorenošću, dok ostale korelacije sa osobinama ličnosti nisu značajne.

Tabela 1

Korelacije između rezilijentnosti, bazičnih crta ličnosti i aspekata subjektivnog blagostanja

	1	2	3	4	5	6	7	8	9	10
1 Rezilijentnost	1									
2 Neuroticizam	-.46***	1								
3 Ekstraverzija	.39***	-.24**	1							
4 Agresivnost	-.29***	.40***	-.16	1						
5 Savesnost	.14	-.02	.06	.04	1					
6 Otvorenost	.38***	-.13	.42***	-.18*	.15	1				
7 Pozitivna valenca	.13	-.02	.36***	.04	.09	.38***	1			
8 Negativna valenca	-.10	.07	.12	.22**	-.17*	.11	.11	1		
9 Zadovoljstvo životom	.40***	-.40***	.30***	-.12	.11	.19*	.32***	-.02	1	
10 Emoc. distres	-.35***	.61***	-.20**	.26***	-.07	-.04	-.02	.12	-.46***	1
<i>AS</i>	2.78	1.90	2.43	1.49	2.45	2.13	1.78	1.13	4.67	0.88
<i>SD</i>	0.69	0.63	0.44	0.45	0.37	0.51	0.57	0.22	1.27	0.63
α	.76	.83	.70	.76	.73	.70	.81	.49	.78	.84

Napomena: Raspon skorova za skalu rezilijentnosti je od 0 do 4, za osobine ličnosti je od 1 do 5, za zadovoljstvo životom je od 1 do 7 i za opšti distres je od 0 do 3.

*** $p < .001$, ** $p < .01$, * $p < .05$.

Predikcija subjektivnog blagostanja na osnovu rezilijentnosti i bazičnih crta ličnosti

Kako bi se ispitao inkrementalni doprinos bazičnih osobina ličnosti povrh doprinosa rezilijentnosti u predikciji aspekata subjektivnog blagostanja, sprovedene su dve hijerarhijske regresione analize u kojima je u prvom koraku uvedena rezilijentnost kao osnovni prediktor, a u drugom koraku osobine ličnosti. Analize su rađene odvojeno za kriterijume zadovoljstvo životom i emocionalni distres³. Rezultati pokazuju da oba bloka prediktora ostvaruju značajnu predikciju (Tabela 2). U slučaju predikcije zadovoljstva životom, rezilijentnost i osobine ličnosti relativno podjednako doprinose predikciji (16% i 15%), pri čemu od osobina ličnosti značajne inkrementalne doprinose ostvaruju neuroticizam u negativnom i pozitivna valenca u pozitivnom smeru. U slučaju predikcije emocionalnog distresa, uvođenjem osobina ličnosti se značajan doprinos rezilijentnosti gubi, a osobine ličnosti ostvaruju veći doprinos predikciji, pri čemu značajni doprinos ima samo neuroticizam, u pozitivnom smeru.

³ Preliminarno smo uradili hijerarhijsku regresionu analizu s depresivnošću, anksioznošću i stresom kao zasebnim kriterijumima, ali dobijeni doprinosi su isti kao kada se koristi ukupni skor, te smo zadržali prikaz rezultata samo na ukupnom skoru.

Tabela 2

Parcijalni doprinosi bazičnih crta i crta rezilijentnosti u predikciji aspekata subjektivnog blagostanja

	Zadovoljstvo životom	Opšti distres
Rezilijentnost	.40***	-.34***
R^2	.16***	.12***
1. korak - rezilijentnost	.23**	-.08
2. korak - osobine ličnosti		
Neuroticizam	-.31***	.56***
Ekstraverzija	.07	-.08
Agresivnost	.07	.01
Savesnost	.07	-.04
Otvorenost	-.05	.10
Pozitivna valenca	.27***	-.01
Negativna valenca	-.01	.06
2. korak ΔR^2	.15***	.27***
Ukupno R^2	.31***	.39***

*** $p < .001$.

Diskusija

Osnovni cilj ovog istraživanja bio je ispitivanje predikcije aspekata subjektivnog blagostanja na osnovu rezilijentnosti i bazičnih osobina ličnosti kod korisnika gerontoloških centara, te inkrementalni doprinos bazičnih osobina ličnosti u objašnjenju subjektivnog blagostanja, povrh varijanse koju objašnjava rezilijentnost. Kao indikatori subjektivnog blagostanja korišćeni su stepen zadovoljstva životom, kao kognitivni aspekt, i stepen emocionalnog distresa (odn. odsustvo anksioznosti, depresije i stresa).

Rezultati najpre pokazuju da rezilijentnost ostvaruje značajne pozitivne korelacije sa zadovoljstvom životom, a negativne sa emocionalnim distresom. Ovi nalazi su u skladu sa velikim brojem istraživanja u kojima se potvrđuje pozitivna povezanost rezilijentnosti i zadovoljstva životom (npr. Fullen et al., 2018; Windle et al., 2010). Naime, rezilijentnost se smatra ključnim korelatom subjektivnog blagostanja kod starih, i to u različitim kulturama (Bauer & Park, 2010; Wang et al., 2023; Zafari et al., 2023). Dalje, negativna povezanost

rezilijentnosti i emocionalnog distresa je, takođe, očekivana, jer rezilijentnost podrazumeva sposobnost pojedinca da se efikasno prilagodi stresnim situacijama (Fletcher & Sarkar, 2013). Ovaj rezultat je u skladu sa drugim studijama koje potvrđuju da rezilijentnost ima ulogu protektivnog faktora od stresa i nepovoljnih životnih okolnosti (Langer, 2004; Lee & Chan, 2009).

Kada su u pitanju relacije osobina ličnosti i ispitivanih aspekata subjektivnog blagostanja, očekivali smo da se neuroticizam i ekstraverzija izdvoje kao najbolji prediktori zadovoljstva životom. Neuroticizam se i jeste pokazao kao značajan prediktor, i to povrh rezilijentnosti, ali je interesantno da ekstraverzija, iako ostvaruje značajnu pozitivnu korelaciju sa zadovoljstvom životom, ne ostvaruje značajnu predikciju. Umesto toga, značajan inkrementalni doprinos iz prostora Velikih pet plus dva ostvarila je pozitivna valenca. Ova dimenzija ličnosti predstavlja dimenziju samoevaluacije i odnosi se na visoko samopouzdanje i spremnost da se otvoreno izrazi mišljenje o sopstvenoj vrednosti (Smederevac i sar., 2010). Razlike na ovoj dimenziji mogu se kretati od izrazitog doživljaja superiornosti, egocentričnosti i narcizma do nedostatka samopoštovanja, snishodljivosti i samoumanjivanja. Još je davno sugerisano da zadovoljstvo životom kod starih podrazumeva održanje pozitivnog self-koncepta u procesu adaptacije na aktuelne uslove života i odricanja od prošlih ideala (Havighurst, 1968). Novija istraživanja potvrđuju povezanost zadovoljstva životom kod starih i pozitivne slike o sebi (Bai et al., 2012; 2018; Hansson et al., 2020). Naime, različite forme gubitaka u starosti, kao i povećana spremnost da se priznaju sopstvena ograničenja, dovode do toga da se umanjuje potreba za sopstvenom prezentacijom u pozitivnom svetlu, te je očekivano da samopouzdanje (Robins & Trzesniewski, 2005), kao i narcizam (Andrews et al., 2022) opadaju sa starošću. Čini se da upravo specifičan kapacitet kod starih, koji uspevaju da se snažnije odupru padu samopouzdanja i zadrže pozitivnu sliku o sebi u starosti, najbolje predviđa zadovoljstvo životom.

Kada je u pitanju emocionalni distres, utvrđena je pozitivna povezanost sa neuroticizmom i agresivnošću, a negativna sa ekstraverzijom, ali u regresionom modelu samo se neuroticizam izdvojio kao značajan prediktor. Pritom, uvođenje osobina ličnosti u model čini da rezilijentnost nije više značajan

prediktor, već samo neuroticizam. Neuroticizam se dosledno izdvaja kao najbolji prediktor depresivnih simptoma u opštoj populaciji (Olawa & Idemudia, 2020; Weber et al., 2013). Takođe, prethodna istraživanja sugerišu da je neuroticizam pouzdaniji prediktor negativnih indikatora psihološkog funkcionisanja, u odnosu na pozitivne (Anglim et al., 2020; Jackson & Schneider, 2014). Naime, istraživanja potvrđuju da osobe sa visokim stepenom neuroticizma izveštavaju o većem broju negativnih životnih događaja i opštem, emocionalnom distresu jer su pojačano orijentisane na percepciju negativnih aspekata događaja (npr. Suls et al., 1998). Kao osnovni mehanizam veze između neuroticizma i emocionalnog distresa navodi se sklonost ka negativnom afektu, što dalje snažno modifikuje kognitivnu procenu stresne situacije i vodi negativnim ishodima (Anglim et al., 2020). Iako su navedena istraživanja rađena na mlađim uzorcima od našeg, možemo zaključiti da se isti obrazac veze neuroticizma i distresa može naći i na uzorku starih osoba.

Premda se u nekim istraživanjima tvrdi da rezilijentnost ima jednaku ulogu u izbegavanju negativnih i postizanju pozitivnih ishoda (Ryff & Singer, 2000), naši rezultati sugerišu da rezilijentnost ipak bolje predviđa pozitivne ishode, tj. zadovoljstvo životom, u odnosu na emocionalni distres kod starih. Gubitak značajnosti rezilijentnosti kada se uvede neuroticizam može se objasniti zajedničkom varijansom koju dele ove varijable. Naime, pojačana vulnerabilnost na stres i jeste jedan od aspekata neuroticizma, pa je otud i očekivano da su osobe koje imaju visoke skorove na neuroticizmu - u manjem stepenu rezilijentne (Campbell et al., 2006). Iako bi se teorijski moglo prepostaviti da je rezilijentnost dominantni prediktor, najpre zbog svoje dinamične prirode (Bonanno, 2004), na osnovu naših rezultata može se zaključiti da neuroticizam prikladnije objašnjava emocionalni distres kod starih. Jedan od razloga svakako jeste i primenjena DASS-12 skala u ovom istraživanju koja meri simptome depresije, anksioznosti i stresa, a za sva tri konstrukta je dokazano da se preklapaju sa neuroticizmom (Lahey, 2009). S obzirom na to da je ustanovljena očekivana povezanost između rezilijentnosti i emocionalnog distresa, jer rezilijentnost ima odbrambenu ulogu kada su u pitanju depresija, anksioznost i stres (Lee & Chan, 2009; Langer, 2004), bilo bi značajno ispitati mehanizme ove

povezanosti, u prvom redu kognitivnu procenu i mehanizme prevladavanja kod starih.

Postoji nekoliko ograničenja rada. Prvo, uzorak čine korisnici gerontološkog centra u specifičnom geografskom području, te se rezultati ne mogu uopštiti na populaciju starih ljudi u Srbiji. Drugo, odlazak starih ljudi u dom se često vidi kao izuzetno stresan, jer se percipira kroz različite gubitke - socijalnih uloga, životnog stila, autonomije, te otežava adaptaciju na novo okruženje (Brownie et al., 2014; Lee et al., 2002) koje se povezuje sa anksioznošću, osećanjem nemoći i padom samopouzdanja (Hersch et al., 2003). Iz naših podataka se ne može zaključiti o načinu na koji ispitanici vide svoj život u domu, što bi moglo znatno da utiče na životno zadovoljstvo i distres. Treće, pouzdanost skale negativne valence je upadljivo niska u odnosu na pouzdanosti ostalih skala, te je moguće da je to uticalo na rezultate u vezi s ovom skalom.

Uprkos navedenim ograničenjima, rezultati ovog istraživanja pružaju potpuniju sliku o relacijama između rezilijentnosti, karakteristika ličnosti i subjektivnog blagostanja u starosti. Osnovni rezultat ovog istraživanja je da rezilijentnost i osobine ličnosti, pre svega neuroticizam u negativnom i pozitivna valenca u pozitivnom smeru, jednako doprinose kognitivnoj komponenti subjektivnog blagostanja, tj. zadovoljstvu životom; dok kad je u pitanju afektivna komponenta, tj. emocionalni distres - nju bolje predviđaju osobine ličnosti, tačnije neuroticizam. Rezultate možemo delom tumačiti u svetlu modela razvoja identiteta (Whitbourne et al., 2002), po kome se stari suočavaju sa promenama vezanim za godine uz pomoć procesa asimilacije i akomodacije, gde se balans ovih procesa, tj. balans identiteta, smatra najboljim ishodom procesa prilagođavanja. Ove osobe imaju visoko samopoštovanje (Westerhof et al., 2012) i dobro mentalno zdravlje (Klimstra & Denissen, 2017). Možemo reći da deo starih osoba iz našeg uzorka koji su bolje prilagođeni na starost zapravo uspešno balansira između stabilnog identiteta (karakteristike ličnosti) i fleksibilnog prilagođavanja neophodnim promenama (rezilijentnost).

Rezultati dalje potvrđuju važnost proučavanja ovih relacija iz razvojne perspektive u cilju unapređenja znanja i kreiranja modela uspešnog starenja koji odgovaraju specifičnostima socijalnog i kulturnog podneblja. Imajući u vidu

ulogu personalnih dispozicija u predviđanju subjektivnog blagostanja, a naročito ulogu neuroticizma u predikciji opšteg distresa kod starih, stručni timovi koji rade sa starima bi trebalo da obrate pažnju na ove karakteristike prilikom dizajniranja preventivnih ili interventnih programa namenjenih starima u cilju promovisanja bolje adaptacije i uspešnog starenja. Kao praktične smernice dobijenih rezultata možemo istaći da bi bilo potrebno obratiti pažnju na stare osobe sa visokim neuroticizmom jer su posebno vulnerabilne i sklonije adaptacionim problemima. Otuda možemo pretpostaviti da bi ublažavanje karakterističnih stavova kod starih ljudi sa visokim neuroticizmom, tehnike promene i unapređenja raspoloženja, te redukovanja negativnih afekata mogle da budu od pomoći za prevenciju anksioznih i depresivnih simptoma kod starih. U te svrhe, često se pominje terapija reminiscencije koja predstavlja intervenciju primenjivu upravo na starijim osobama (Melendez Moral et al., 2015). Uz to, u skladu sa rezultatima koji govore o prediktorima zadovoljstva životom, čini se da bi promocijom osobina ekstraverzije i otvorenosti, tačnije promocijom socijalne podrške i pozitivnog afekta, te ojačavanjem kognitivne fleksibilnosti i pozitivne slike o sebi podstakli razvoj rezilijentnosti, a time indirektno i većem stepenu zadovoljstva životom kod korisnika gerontoloških centara.

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The effects of resilience and basic personality traits on subjective well-being in elderly

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ABSTRACT

The aim of this research was to examine the prediction of aspects of subjective well-being based on resilience and seven basic personality traits in users of gerontological centers, and the incremental contribution of basic personality traits in explaining adaptation to old age, beyond the variance explained by resilience. The sample consisted of 151 participants (54.3% female) with an average age of 80 years. Satisfaction with life, as cognitive indicator, and emotional distress (anxiety, depression, and stress) were used as indicators of subjective well-being. The results showed that resilience, neuroticism (in the negative direction) and positive valence predicted life satisfaction in the elderly. In predicting emotional distress, neuroticism stood out as a key predictor, while the significant contribution of resilience is diminished by introducing personality traits into the model. The results provide a more complete picture of the relationships between resilience, personality traits, and subjective well-being in a sample of the elderly in Serbia, and confirm the importance of studying these relationships from a developmental perspective.

Keywords: resilience, personality traits, subjective well-being, distress, life satisfaction, elderly