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PLENARNA PREDAVANJA

PLENARY LECTURES

Ingo Zettler

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Kratak uvid u individualne i situacione faktore povezane s anti- i prosocijalnim ponašanjem

Ljudi učestvuju u različitim oblicima anti- i prosocijalnog ponašanja, uključujući saradnju, pomaganje i deljenje, ali i agresiju, korupciju i nepoštenje. S obzirom na to da antisocijalno ponašanje obično ima značajne negativne ekonomske, psihološke i društvene posledice, dok prosocijalno ponašanje najčešće ima pozitivne efekte, istraživanja u različitim disciplinama, unutar i izvan psihologije, nastoje da rasvetle njihove uzroke, korelate i posledice.

U ovom predavanju ću dati pregled važnih individualnih i situacionih faktora povezanih s anti- i prosocijalnim ponašanjem. Između ostalog, predstaviću nalaze o ulozi bazičnih dimenzija ličnosti, D faktora ličnosti, socijalnih normi i nadzora (odnosno uočljivosti) ponašanja. Tom prilikom ilustrovaću kako kombinovanje različitih podataka, istraživačkih dizajna i metoda – kao što su eksperimenti, metaanalize, registarski podaci, anketna istraživanja, tematske analize i međudruštvena (međudržavna) poređenja – doprinosi sveobuhvatnijem razumevanju psiholoških odnosa uopšteno, a posebno anti- i prosocijalnog ponašanja.

A Glimpse Into Person and Situation Factors Related to Anti- and Prosocial Behaviour

Humans engage in various kinds of anti- and prosocial behaviour, spanning cooperation, helping, and sharing, as well as aggression, corruption, and dishonesty. Given that antisocial behaviour typically entails important negative economic, psychological, and societal consequences, and that prosocial behaviour typically entails positive ones, research across various disciplines within and outside psychology has aimed to shed light on their antecedents, correlates, and consequences.

In this talk, I provide an overview of important person and situation factors related to anti- and prosocial behaviour. Among other factors, I present evidence concerning the role of basic personality dimensions, the D-Factor of Personality, social norms, and the monitoring (or observability) of behaviour. At this juncture, I illustrate how combining different data, designs, and methods—such as experiments, meta-analyses, register data, surveys, thematic analyses, and cross-societal (cross-country) comparisons—contributes to a more comprehensive understanding of psychological relations in general and of anti- and prosocial behaviour in particular.



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Povezivanje krhkosti identiteta i političke nestabilnosti kroz psihološku perspektivu

Politička nestabilnost, koja se odlikuje niskim nivoom društvene kohezije i poverenja, nedostatkom solidarnosti među građanima i nesposobnošću da se odoli destabilizaciji, predstavlja široko rasprostranjeno iskustvo za ljude širom sveta, posebno u ovim turbulentnim vremenima. Nacionalizam, homofobija, predrasude prema autohtonim i migrantskim zajednicama, kao i rast populističkih, autoritarnih i neliberalnih politika koje eksploatišu ove podele, ključne su karakteristike savremenih društava. Politička nestabilnost može biti i uzrok i posledica ranjivih kolektivnih identiteta. Ovi identiteti proizilaze iz individualnih i kolektivnih istorijskih iskustava sukoba, strukturnih nejednakosti i

nemogućnosti da se pomirimo s teškim kolektivnim sećanjima. Oni su vođeni potrebom za kontrolom u nepredvidivim društvenim, političkim i ekonomskim kontekstima. Kao takvi, krhki identiteti igraju ključnu ulogu u podsticanju društvenih tenzija i međugrupnih sukoba.

Ovo izlaganje će istražiti uticaj društvenih, političkih i istorijskih konteksta, kao i krhkih identiteta, na međugrupne odnose, uključujući stavove, sklonost ka pomirenju, kolektivnu akciju i solidarnost. Biće predstavljena istraživanja koja se bave strukturnom opresijom Roma u Evropi, međugrupnim sukobima u postkolonijalnim društvima i uslovljenom solidarnošću s izbeglicama u kontekstima političke nestabilnosti. Ova istraživanja naglašavaju potencijal socijalnopsiholoških studija koje uzimaju u obzir normativne i kontekstualne dimenzije međugrupnih odnosa, umesto da se fokusiraju na individualistička rešenja kolektivnih problema.

Connecting Identity Fragility and Political Instability Through a Psychological Lens

Political instability—characterised by low social cohesion and trust, a lack of solidarity among citizens, and an inability to resist destabilisation—is a widespread experience for people living in many parts of the world, especially in these turbulent times. Nationalism, homophobia, prejudice against indigenous and immigrant communities, and the rise of populist, authoritarian, and illiberal politics that exploit these divisions are defining features of contemporary societies. Political instability can both result from and contribute to vulnerable collective identities. These identities arise from individual and collective historical experiences of conflict, structural inequalities, and the inability to reconcile with difficult collective memories. They are driven by a need for control in unpredictable social, political, and economic contexts. As such, fragile identities play a critical role in fuelling societal tensions and intergroup conflicts.

This talk will explore the impact of social, political, and historical contexts, as well as fragile identities, on intergroup relations, including attitudes, conciliatory preferences, collective action, and solidarity. It will draw on studies investigating the structural oppression of Roma people in Europe, intergroup conflicts in postcolonial societies, and the conditionality of solidarity with refugees in contexts marked by political instability. These studies highlight the potential of social psychological research that considers the normative and contextual dimensions of intergroup relations, rather than focusing on individualistic solutions to collective problems.



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Izgubljeni u prevodu: problemi, implicitne pretpostavke i posledice kroskulturnih istraživanja sreće

Rangiranje zemalja prema nivou sreće njihovih građana privlači veliku pažnju istraživača poslednjih dvadesetak godina, a rezultati kroskulturnih istraživanja sreće predstavljaju pravu poslasticu za medije, laike i popularizatore nauke. Nalazi se često posmatraju kao spektakularni (npr. „Mladi u Srbiji treći na listi najsrećnijih na svetu“), prihvataju se nekritički, uz ushićenje i tvrdnju da nam govore o najboljim i najgorim mestima za život na našoj planeti. Međutim, ovakva istraživanja u sebi kriju niz problema, kako metodoloških (npr. da li su i u kojoj meri koncepti sreće uporedivi kroskulturno), tako i ideoloških (npr. kakvu predstavu dobrog života i poželjnih subjektivnih stanja podstiču) i političkih (npr. šta nam govore o idealnom društvu). Pošto se ti problemi uglavnom prenebregavaju u popularnonaučnim i medijskim izveštajima i ostaju skrajnuti na marginama naučne literature, ovo predavanje će se baviti njima.

Na početku će biti razmotreno složeno i osetljivo pitanje istovetnosti značenja pojmova kojima se opisuje dobar život u različitim jezicima i kulturama i biće kritikovano zapadnocentrično shvatanje sreće dominantno u velikim međunarodnim studijama. Nakon toga će biti preispitani korisnost, dometi, posledice i implicitne pretpostavke kroskulturnih istraživanja koja u fokus stavljaju rangiranje zemalja prema nivou sreće. Ponudiću argumente da ovakva istraživanja manje doprinose unapređenju blagostanja ljudi i osmišljavanju javnih politika usmerenih na poboljšanje kvaliteta života, a više održavanju društvenog statusa kvo i promovisanju problematične pretpostavke srećnog društva kao idealnog, potkrepljivanjem predstave selfa ukorenjene u neoliberalnim vrednostima.

Lost in Translation: Problems, Implicit Assumptions, and Consequences of Cross-Cultural Research on Happiness

Over the past two decades, the ranking of countries according to the happiness levels of their citizens has attracted considerable attention from researchers, while the findings of cross-cultural happiness studies have become particularly appealing to the media, lay audiences, and popular science communicators. Such results are often presented as spectacular—for example, headlines proclaiming that “Young people in Serbia rank third among the happiest in the world”—and are frequently accepted uncritically, accompanied by enthusiasm and the claim that they reveal the best and worst places to live on our planet. However, this line of research entails a range of problems, including methodological issues (such as whether and to what extent concepts of happiness are cross-culturally comparable), as well as ideological concerns (for instance, which notions of the good life and desirable subjective states are implicitly promoted) and political implications (such as what these findings suggest about the ideal society). Because these problems are largely overlooked in popular science accounts and media reporting, and remain marginal within the academic literature, this lecture aims to address them explicitly.

The lecture will begin by examining the complex and sensitive issue of the equivalence in the meaning of concepts used to describe the good life across different languages and cultures, followed by a critique of the Western-centric conception of happiness that dominates large international studies. It will then reassess the usefulness, scope, consequences, and implicit assumptions of cross-cultural research focused on ranking countries by levels of happiness. I will argue that such studies contribute less to the improvement of human well-being and the development of public policies aimed at enhancing quality of life, and more to the maintenance of the social status quo and the promotion of a problematic notion of the “happy society” as an ideal, by reinforcing a conception of the self rooted in neoliberal values.



SIMPOZIJUMI

SYMPOSIA

Ćutanje nije zlato: psihologija reproduktivnog zdravlja

Silence is Not Golden: Psychology of Reproductive Health

Voditeljka / Moderator: Jelena Opsenica Kostić



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Između biologije, psihologije i društva: psihologija reproduktivnog zdravlja

Reproduktivni događaji imaju svoju biološku osnovu i neretko su povezani s različitim oblicima zdravstvene zaštite. Istovremeno, oni su praćeni psihološkim doživljavanjem i odvijaju se u konkretnom društvenom i kulturnom kontekstu. Tu, na raskršću biologije, medicine, psihologije i društvenih očekivanja, nalazi se psihologija reproduktivnog zdravlja – važna interdisciplinarna oblast koja je u Republici Srbiji još uvek nedovoljno razvijena i vidljiva.

U okviru ove discipline reproduktivni događaji posmatraju se kao složena životna iskustva oblikovana biološkim, psihološkim i socijalnim faktorima. Njene teme obuhvataju pubertet i menstruaciju, reproduktivno odlučivanje, neplodnost i medicinski potpomognuto oplođenje, trudnoću, porođaj i postpartalni period, reproduktivne gubitke, kao i menopauzu i reproduktivno starenje. Savremeni pristupi reproduktivnom zdravlju sve više naglašavaju perspektivu životnog toka, prema kojoj su reproduktivna iskustva međusobno povezana i predstavljaju važne razvojne tranzicije koje mogu oblikovati identitet, partnerske odnose, psihološko blagostanje i kvalitet života. Naučna istraživanja ukazuju na to da su nepovoljni reproduktivni događaji poput neplodnosti, spontanog pobačaja i negativnih porođajnih iskustava među emocionalno najintenzivnijim događajima u životu osobe. Uprkos tome, ovi fenomeni često ostaju nedovoljno vidljivi u javnom prostoru, zdravstvenoj praksi i psihološkim istraživanjima.

Psiholozi mogu značajno doprineti boljem razumevanju i većoj vidljivosti psiholoških aspekata povoljnih i nepovoljnih reproduktivnih iskustava, kao i njihovog značaja za funkcionisanje pojedinaca, parova i porodica. Integrisanje psiholoških znanja u oblast reproduktivne zdravstvene zaštite predstavlja važan preduslov za unapređenje prevencije, procene i podrške osobama koje se tokom životnog toka suočavaju s različitim reproduktivnim izazovima.

Ključne reči: psihologija reproduktivnog zdravlja, reproduktivna iskustva, životni tok, reproduktivni događaji, biopsihosocijalni pristup

Between Biology, Psychology, and Society: Reproductive Health Psychology

Reproductive events have a biological basis and are often associated with various forms of healthcare. At the same time, they are accompanied by psychological experiences and unfold within specific social and cultural contexts. It is at the intersection of biology, medicine, psychology, and societal expectations that reproductive health psychology emerges—an important interdisciplinary field that remains insufficiently developed and visible in the Republic of Serbia.

Within this discipline, reproductive events are viewed as complex life experiences shaped by biological, psychological, and social factors. Its scope encompasses topics such as puberty and menstruation, reproductive decision-making, infertility and medically assisted reproduction, pregnancy, childbirth and the postpartum period, reproductive losses, as well as menopause and reproductive ageing.

Contemporary approaches to reproductive health increasingly emphasise a life-course perspective, according to which reproductive experiences are interconnected and represent important developmental transitions that may shape identity, partner relationships, psychological well-being, and quality of life. Research findings indicate that adverse reproductive events, such as infertility, miscarriage, and negative childbirth experiences, are among the most emotionally intense events in a person's life. Despite this, these phenomena often remain insufficiently visible in public discourse, healthcare practice, and psychological research.

Psychologists can make a significant contribution to a better understanding and greater visibility of the psychological aspects of both favourable and adverse reproductive experiences, as well as their importance for the functioning of individuals, couples, and families. Integrating psychological knowledge into reproductive healthcare represents an important prerequisite for improving prevention, assessment, and support for individuals facing various reproductive challenges across the life course.

Keywords: *reproductive health psychology, reproductive experiences, life course, reproductive events, biopsychosocial approach*



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Institucionalno oblikovanje porođajnog iskustva: strukturno nasilje u srpskim porodilištima

Psihološka istraživanja porođaja najčešće su oblikovana individualističkom perspektivom i dominantno usmerena na patologizujuće ishode porođajnog iskustva, poput posttraumatskog stresnog poremećaja i postnatalne depresije. Iako su ovakva istraživanja važna, ona često zanemaruju institucionalni i društveni kontekst u kome se porođaj odvija, kao i načine na koje sama organizacija zdravstvenog sistema proizvodi iskustva bola, nemoći i gubitka autonomije. Ovo izlaganje polazi od pretpostavke da se negativna, a često i traumatična, iskustva žena tokom porođaja ne mogu adekvatno razumeti ukoliko se svedu na individualnu psihološku reakciju ili izolovane incidente, već ih je potrebno analizirati u okviru šire organizacije akušerske nege. Prethodne studije u srpskom kontekstu su već ukazale na izrazito medikalizovan i depersonalizovan model akušerske nege koji podrazumeva neadekvatnu socijalnu podršku, narušen kontinuitet nege i narušavanje agencnosti i autonomije žena tokom porođaja, što vodi nizu negativnih posledica.

Izlaganje će predstaviti rezultate kvalitativnog istraživanja iskustava porođaja u javnim porodilištima u Srbiji, sprovedenog kroz šest fokus grupa s dvadeset i devet žena koje su se porodile između 2020. i 2023. godine u devet državnih porodilišta s različitih nivoa zdravstvene zaštite, i to u pet gradova: Beogradu, Novom Sadu, Nišu, Novom Pazaru i Čačku. Sprovedena tematska analiza bila je vođena konceptom strukturnog nasilja (Farmer, 2004), koji omogućava da se pažnja pomeri s individualnih propusta zdravstvenih radnika na rutinizovane institucionalne prakse i organizacione obrasce koji sistematski proizvode negativne posledice po iskustvo i agencnost žena koje se porođaju.

Analizom su izdvojene četiri glavne teme koje pokrivaju sledeće međusobno povezane aspekte porođajnog iskustva žena i koje na značajan način ukazuju na prisustvo strukturnog nasilja: a) odsustvo kontinuirane podrške i komunikacije tokom porođaja, b) narušavanje telesnog integriteta kroz procedure sprovedene bez adekvatnog informisanja i pristanka, c) proizvodnja nepotrebnog bola i patnje kroz rutinizovane intervencije i neujednačen pristup analgeziji, kao i d) podrivanje dostojanstva i privatnosti kroz prostornu organizaciju porodilišta i svakodnevne kliničke prakse. Iskustva učesnica

sugerišu da se problem ne može objasniti isključivo neprimerenim ponašanjem pojedinačnih zdravstvenih radnika, već da proizlazi iz institucionalne organizacije porođaja i načina na koji se njime upravlja. Ovi nalazi doprinose razumevanju reproduktivnog zdravlja žena iz perspektive koja prevazilazi individualizaciju i patologizaciju ženskog iskustva i otvara prostor za razmišljanje o psihološkim posledicama institucionalnih uslova u kojima se porođaj odvija.

Ključne reči: porođajno iskustvo, strukturno nasilje, reproduktivno zdravlje, akušerska nega, kvalitativno istraživanje

Institutional Shaping of Childbirth Experience: Structural Violence in Serbian Maternity Hospitals

Psychological research on childbirth has commonly been shaped by an individualistic perspective and focused on pathologising outcomes of childbirth experience, such as post-traumatic stress disorder and postnatal depression. Although such research is important, it often overlooks the institutional and social context in which childbirth takes place, as well as the ways in which the healthcare system produces experiences of pain, helplessness, and loss of autonomy. This presentation starts from the assumption that women's often traumatic childbirth experiences cannot be adequately understood if reduced to individual psychological reactions or isolated incidents, but instead need to be analysed within the broader organisation of maternity care. Previous studies in Serbia have already pointed to a highly medicalised and depersonalised model of maternity care characterised by inadequate social support, disrupted continuity of care, and the undermining of women's agency and autonomy, leading to negative consequences.

The presentation will discuss findings from a qualitative study of childbirth experiences in Serbian public maternity hospitals, conducted through six focus groups with 29 women who gave birth between 2020 and 2023 in nine public maternity hospitals in five cities: Belgrade, Novi Sad, Niš, Novi Pazar, and Čačak. The thematic analysis was guided by the concept of structural violence (Farmer, 2004), which shifts attention from individual failures of healthcare professionals towards routinised institutional practices and organisational patterns that systematically produce negative consequences for women's childbirth experiences and agency.

The analysis identified four major themes encompassing interconnected aspects of women's childbirth experiences that strongly indicate the presence of structural violence: (a) the absence of continuous support and communication, (b) violations of bodily integrity through procedures performed without adequate information and consent, (c) the production of unnecessary pain and suffering through routinised interventions and unequal access to analgesia, and (d) the undermining of dignity and privacy through the spatial organisation of maternity wards and everyday clinical practices. Participants' experiences suggest these problems cannot be explained solely by the inappropriate behaviour of individual healthcare professionals, but rather emerge from the ways in which childbirth is institutionally organised and managed. These findings contribute to the understanding of women's reproductive health from a perspective that moves beyond the individualisation and pathologisation of women's experiences and opens space for considering the psychological consequences of the institutional conditions under which childbirth takes place.

Keywords: childbirth experience, structural violence, reproductive health, maternity care, qualitative research



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Percipirana podrška partnera i majčina depresivnost tokom prenatalnog i postpartalnog perioda

Postpartalna depresivnost predstavlja ozbiljan javnozdravstveni problem s potencijalno dugoročnim poslasticama po majku, dete i porodičnu dinamiku. Sve više istraživanja ukazuje na značaj psihosocijalnih faktora u njenom razvoju, uključujući ne samo individualne predispozicije majke, već i kvalitet partnerskog odnosa i percipiranu podršku od strane partnera. Uloga očeva i partnera u postpartalnom periodu pokazuje se kao značajna ne samo za emocionalno stanje majke, već i za uspešnu tranziciju ka roditeljskoj ulozi. Cilj ove studije jeste da ispita na koji način prenatalna depresivnost i percipirana podrška partnera utiču na razvoj postpartalne depresivnosti, uz uvažavanje relevantnih sociodemografskih faktora. Uzorak je obuhvatio 147 trudnica praćenih tokom trećeg trimestra trudnoće i do šest meseci nakon porođaja. Tokom trudnoće, učesnice su ispunjavale sociodemografski upitnik i Edinburšku skalu postpartalne depresije, dok su nakon porođaja ponovo testirane istom skalom, uz dodatak Skale percipirane podrške partnera. Rezultati istraživanja su pokazali da žene čiji partneri imaju viši nivo obrazovanja ($\chi^2(6)=14.18$; $p=.028$) i koje su zadovoljnije materijalnim statusom ($\chi^2(4)=16.04$; $p=.003$) ređe ispoljavaju simptome postpartalne depresije. Rezultati analize traga ukazuju na odlično uklapanje modela ($GFI=1.00$; $CFI=1.00$; $SRMR=.000$). Prenatalna depresivnost značajno negativno predviđa percepciju partnerske podrške ($\beta=-0.501$, $p<.001$), a istovremeno direktno i pozitivno predviđa nivo postpartalne depresivnosti ($\beta=0.659$, $p<.001$). S druge strane, percipirana partnerska podrška značajno negativno predviđa postpartalnu depresivnost ($\beta=-0.260$, $p<.001$). Osim direktnih efekata, utvrđen je i značajan indirektan efekat prenatalne depresivnosti na postpartalnu depresivnost preko percipirane podrške partnera ($\beta=0.130$). Nalazi ove studije ističu značaj sistematskog praćenja simptoma prenatalne depresivnosti i evaluacije partnerskog odnosa kao integralnog dela perinatalne zdravstvene zaštite. Ovo istraživanje sugerše da postoji potreba za strukturisanim uključivanjem partnera u psihosocijalne i preventivne programe tokom trudnoće, čime se ciljano unapređuje mentalno zdravlje žena u postpartalnom periodu i doprinosi celokupnoj porodičnoj adaptaciji.

Ključne reči: prenatalna depresivnost, postpartalna depresivnost, uloga oca, percipirana podrška partnera

Perceived Partner Support and Maternal Depression During the Prenatal and Postnatal Periods

Postpartum depression represents a significant public health concern with potentially long-term consequences for the mother, the child, and overall family functioning. A growing body of research highlights the importance of psychosocial factors in its development, including not only maternal individual predispositions but also the quality of the partner relationship and perceived partner support. The role of fathers and partners during the postpartum period has proven to be important not only for the mother's emotional well-being but also for a successful transition to parenthood.

The aim of this study was to examine the extent to which prenatal depression and perceived partner support contribute to the development of postpartum depression, while accounting for relevant sociodemographic factors. The sample consisted of 147 pregnant women who were followed during the third trimester of pregnancy and up to six months postpartum. During pregnancy, participants completed a sociodemographic questionnaire and the Edinburgh Postnatal Depression Scale. Following childbirth, they were reassessed using the same scale, along with the Perceived Partner Support Scale.

The results indicated that women whose partners had higher levels of education ($\chi^2(6)=14.18$; $p=.028$) and who reported greater satisfaction with their material status ($\chi^2(4)=16.04$; $p=.003$) were less likely to exhibit symptoms of postpartum depression. Path analysis results demonstrated excellent model fit (GFI=1.00; CFI=1.00; SRMR=.000). Prenatal depression was found to be a significant negative predictor of perceived partner support ($\beta = -0.501$, $p < .001$), while also directly and positively predicting levels of postpartum depression ($\beta = 0.659$, $p < .001$). Conversely, perceived partner support significantly and negatively predicted postpartum depression ($\beta = -0.260$, $p < .001$). In addition to direct effects, a significant indirect effect of prenatal depression on postpartum depression through perceived partner support was identified ($\beta = 0.130$).

The findings underscore the importance of systematic monitoring of prenatal depressive symptoms and the evaluation of partner relationships as integral components of perinatal healthcare. This study suggests a need for the structured inclusion of partners in psychosocial and preventive programmes during pregnancy, with the aim of improving maternal mental health in the postpartum period and facilitating overall family adaptation.

Keywords: *prenatal depression, postpartum depression, father's role, perceived partner support*



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Uloga psihologa u multidisciplinarnom timu klinike za vantelesnu oplodnju (IVF): značaj integrisanog pristupa lečenju infertiliteta

Vantelesna oplodnja (IVF) predstavlja kompleksan medicinski postupak koji, pored bioloških i tehničkih aspekata, uključuje značajne psihološke i socijalne izazove za pacijente i parove. Infertilitet se danas ne posmatra isključivo kao medicinski problem, već kao biopsihosocijalno stanje koje može uticati na emocionalno funkcionisanje, partnerske odnose i subjektivni doživljaj identiteta. U tom kontekstu, uključivanje psihologa u multidisciplinarne IVF timove predstavlja važan element integrisanog pristupa lečenju.

Cilj ovog preglednog stručnog rada je da analizira značaj uključivanja psihologa u multidisciplinarne timove klinika za vantelesnu oplodnju i prikaže doprinos psihološke podrške u različitim fazama procesa asistiranog reprodukcije. Rad predstavlja pregled relevantne stručne i naučne literature iz oblasti psihologije zdravlja, reproduktivne medicine i psihosocijalnih aspekata infertiliteta.

Psiholog kao član multidisciplinarnog IVF tima sarađuje sa ginekolozima, embriolozima, medicinskim sestrama i drugim zdravstvenim profesionalcima, pružajući podršku pacijentima tokom različitih faza tretmana – od inicijalne konsultacije, pripreme za aspiraciju oocita i embriotransfer, do psihološke podrške nakon neuspešnog ishoda postupka. Psihološke intervencije usmerene su na emocionalnu regulaciju, smanjenje anksioznosti i stresa, razvoj adaptivnih strategija suočavanja, unapređenje komunikacije u partnerskom odnosu i uspostavljanje realnih očekivanja u vezi s tokom lečenja.

Poseban značaj ima psihološka podrška muškarcima uključenim u androloške procedure, uključujući mikrotese (micro-TESE), gde se mogu javiti specifični psihološki izazovi povezani s identitetom, doživljajem muškosti, stresom, osećajem krivice i partnerskom dinamikom. Individualni i partnerski pristup omogućava adekvatno sagledavanje potreba oba partnera tokom procesa asistiranog reprodukcije.

Pregled dosadašnjih istraživanja ukazuje na to da psihološka podrška u okviru IVF tretmana može doprineti smanjenju emocionalnog distresa, unapređenju načina suočavanja s izazovima lečenja i

poboljšanju ukupnog iskustva pacijenata. Integracija psihologa u IVF protokol doprinosi humanizaciji medicinskog tretmana, kvalitetnijoj komunikaciji između pacijenata i zdravstvenog tima i razvoju sveobuhvatnog pristupa lečenju infertiliteta koji uvažava medicinske, emocionalne i socijalne dimenzije ovog iskustva.

Ključne reči: IVF, psiholog, multidisciplinarni tim, infertilitet, psihološka podrška

The Role of Psychologists in a Multidisciplinary In Vitro Fertilisation (IVF) Clinic Team: The Importance of an Integrated Approach to Infertility Treatment

In vitro fertilisation (IVF) represents a complex medical procedure that, in addition to biological and technical aspects, involves significant psychological and social challenges for patients and couples. Infertility is no longer considered exclusively a medical problem, but rather a biopsychosocial condition that may affect emotional functioning, partner relationships, and the subjective experience of identity. In this context, the inclusion of psychologists in multidisciplinary IVF teams represents an important element of an integrated approach to infertility treatment.

The aim of this professional review paper is to analyse the importance of including psychologists in multidisciplinary IVF clinic teams and to present the contribution of psychological support throughout different stages of the assisted reproduction process. This paper provides a review of relevant professional and scientific literature from the fields of health psychology, reproductive medicine, and the psychosocial aspects of infertility.

As members of multidisciplinary IVF teams, psychologists collaborate with gynaecologists, embryologists, nurses, and other healthcare professionals, providing support to patients throughout various stages of treatment—from the initial consultation, preparation for oocyte retrieval, and embryo transfer, to psychological support following unsuccessful treatment outcomes. Psychological interventions focus on regulating emotions, reducing anxiety and stress, developing adaptive coping strategies, improving communication within the couple, and establishing realistic expectations regarding the course of treatment.

Psychological support for men undergoing andrological procedures, including micro-TESE (microsurgical testicular sperm extraction), represents a particularly important area of intervention. Such procedures may involve specific psychological challenges related to identity, perceptions of masculinity, stress, feelings of guilt, and partner dynamics. An individual- and couple-based approach enables a more comprehensive understanding of the needs of both partners during the assisted reproduction process.

A review of previous research indicates that psychological support within IVF treatment may contribute to reducing emotional distress, improving coping strategies, and enhancing patients' overall experience of infertility treatment. The integration of psychologists into IVF protocols contributes to the humanisation of medical care, more effective communication between patients and healthcare professionals, and the development of a comprehensive approach to infertility treatment that recognises the medical, emotional, and social dimensions of this experience.

Keywords: IVF, psychologist, multidisciplinary team, infertility, psychological support



Genske i evolutivne perspektive ljudskog ponašanja

Genetic and Evolutionary Perspectives on Human Behaviour

Voditeljka / Moderator: Snežana Smederevac



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Hungarian Twin Registry: A Population-Based Resource of Clinical Twin Studies

The Hungarian Twin Registry (HTR) represents a rapidly expanding, population-based research infrastructure established at Semmelweis University in Budapest, providing a unique platform for clinical and translational twin studies in Central and Eastern Europe. Since its reorganisation in 2021, the HTR has undergone substantial development, including the implementation of advanced data management systems, biobanking capabilities, and nationwide recruitment strategies. By December 2025, the registry had enrolled 12,676 individuals, including adult twins and parents or guardians of minors, making it the largest population-based twin registry in the region.

The registry enables comprehensive phenotypic characterisation through standardised and validated questionnaires and cognitive assessments, and it supports longitudinal, multidisciplinary research across a wide range of medical fields. Notably, Hungarian twin studies have contributed to understanding breast cancer by disentangling genetic and environmental influences, highlighting the value of twin-based approaches in cancer epidemiology. Psychological investigations within the HTR include standardised assessments of cognitive function, executive functioning, attention, and depressive symptoms using instruments such as the Montreal Cognitive Assessment (MoCA), Addenbrooke's Cognitive Examination, Trail Making Test, Stroop Test, Beck Depression Inventory, Zung Self-Rating Depression Scale, and Geriatric Depression Scale. In addition, HTR studies have examined the heritability of depressive and anxiety symptoms, perceived stress, well-being, personality traits, health-related quality of life, health behaviours, smoking-related characteristics, and other behavioural phenotypes, emphasising the complex interplay between genetic predisposition and environmental factors.

Beyond oncology and psychology, the HTR supports diverse research areas, including cardiovascular, metabolic, and musculoskeletal diseases, as well as imaging and radiomics-based investigations. Previous findings from Hungarian twin research have advanced knowledge of heritability, disease concordance, and risk factor interactions across multiple conditions.

The HTR thus serves as a powerful resource for multidisciplinary research, enabling high-quality population-based studies with international relevance. Ongoing and future collaborations aim to further expand its scientific impact through integration with advanced imaging, artificial intelligence, and international twin research networks.

Keywords: twin registry, heritability, population-based research, multidisciplinary studies, genetic and environmental factors

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Comparing Twin and Family Designs as Tools for Understanding Individual Differences: A Case of Prejudice

Twin studies and family studies are two established but powerful methods used to assess the genetic and environmental contributions to individual differences in various phenotypes. Theoretically, these methods should converge towards similar conclusions about quantitative genetic parameters. However, in practice, the research results obtained by these methods often differ.

The aim of this study is to compare the results of research conducted using these two methods and to show, using prejudice as an example, how twin and family designs can complement each other to achieve a deeper understanding of the aetiology of individual differences than either method alone.

Prejudice is an unfavourable opinion or feeling towards members of other groups prior to, or not based on, actual experience. Although mapping prejudice is currently a prominent research topic, it seems that prejudices towards very different groups tend to correlate, leading to the concept of generalised prejudice. In this study, we conducted a comparative behavioural genetic analysis using a twin and family design on prejudice against three groups: atheists, homosexuals, and immigrants, as well as a generalised prejudice factor derived from them.

The data are part of an ongoing study that uses two methods. First, twin data were collected from a sample of 830 twins, while family data were collected from a sample of 1035 family members. In both cases, data collection is ongoing, and the sample size will increase substantially. Additionally, these studies were planned as part of the same larger project and therefore used identical measures of prejudice. Data from both studies were analysed to estimate quantitative genetic parameters and family-based aggregation of additive genetic and shared environmental influences.

The results indicate significant genetic and shared environmental influences for all three measures, as well as for the generalised prejudice factor. However, the aggregation of these two sources of individual differences was greater in the twin study. Information on assortative mating available in family designs has significantly changed the heritability estimates from twin studies. In addition, the validity of the concept of general prejudice has been demonstrated by data from both twin and family designs, which indicates compelling evidence of a common aetiology of prejudice against members of different groups.

Keywords: behavioural genetics, twin studies, family studies, assortative mating, generalised prejudice, heritability

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HEXACO Personality Traits, Environment, and Fertility: Implications for Evolutionary Personality Ecology

Phenotypic studies of behavioural evolution typically examine associations between behavioural traits and fertility as a core component of evolutionary fitness. Furthermore, behavioural traits may be subject to balancing selection driven by environmental heterogeneity, as the adaptive potential of specific traits may vary across different socio-ecologies. Drawing on the conceptual framework of evolutionary personality ecology, we analysed the associations between HEXACO personality traits, adverse and beneficial childhood environments, and fertility (number of children) in a representative sample of Serbian participants ($N = 2505$; $Mage = 38.72$ [$SD = 14.24$]; 57.7% female).

A negative binomial regression model ($AIC = 5904$; $R^2 = .44$) revealed that Extraversion ($B = 0.08$; $p = .02$) and beneficial childhood experiences ($B = 0.06$; $p < .001$) positively predicted fertility, while Openness to Experience ($B = -0.11$; $p < .001$) was a negative predictor. Participants' sex ($B = -0.21$; $p < .001$, indicating higher fertility in males) and age ($B = 0.04$; $p < .001$) were also significant predictors. Furthermore, two personality-environment interactions emerged: Conscientiousness was positively associated with fertility in high-adversity environments but negatively associated in low-adversity environments ($B = 0.14$; $p = .01$). Additionally, Openness negatively predicted fertility only in environments marked by high adversity ($B = -0.08$; $p = .04$).

These results align with existing data on personality-fertility associations and extend the current knowledge to the HEXACO model, which is rarely examined in this context; findings suggest positive directional selection on Extraversion with negative selection on Openness. The environmental links support the "silver spoon" hypothesis, suggesting that favourable environments facilitate higher fertility. Finally, the data suggest that high Conscientiousness and low Openness may be adaptive in harsh environments; specifically, behavioural control, cautiousness, and restraint may enhance fitness under adverse conditions. We conclude by noting that these results are based solely on phenotypic data; genetic data remain essential for drawing evolutionary inferences. Future research should prioritise integrative behavioural-ecological-genetic designs to further explore the mechanisms of behavioural evolution.

Keywords: natural selection, HEXACO personality traits, childhood environment, fertility, evolutionary behavioural ecology



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Little Evidence of Shared Genetic and Environmental Influences Between Psychopathy Traits and Cognitive Functioning: A Twin Study

Although the association between psychopathy and intelligence remains controversial, meta-analytic evidence suggests that the overall relationship is weak or nonsignificant and varies across psychopathy dimensions, with secondary psychopathy (the lifestyle and antisocial facets) showing a small negative association with intelligence, whereas primary psychopathy (the interpersonal and affective facets) is generally unrelated to cognitive ability. This study aimed to explore the aetiology of the relationships between psychopathy traits and various cognitive domains, including executive functions and fluid

intelligence. The Psychopathy Assessment Questionnaire, the Wisconsin Card Sorting Test (WCST), the Trail Making Test (TMT-A and TMT-B), the Verbal Fluency Test, and Raven's Progressive Matrices were administered to a sample of 156 twin pairs from the Serbian Twin Advanced Registry (98 monozygotic pairs). Among the phenotypic correlations, only the association between the antisocial facet and mental flexibility and divided attention (TMT-B) was statistically significant and negative. Genetic correlations between psychopathy facets and cognitive measures were generally low ($|r_A| < .30$). The only moderate genetic correlation was observed between the antisocial facet and verbal and semantic fluency ($r_A = .52$), whereas small genetic correlations were found between the affect facet and two aspects of cognitive flexibility assessed by the WCST: categorising efficiency ($r_A = .22$) and nonperseverative errors ($r_A = -.27$). Nonshared environmental correlations were very low across all variable combinations ($|r_E| < .20$), indicating little evidence of a common environmental basis underlying psychopathy and cognitive functioning. Notably, the discrepancy between phenotypic and genetic correlations may reflect the partial cancellation of positive genetic covariance by negative nonshared environmental covariance. Furthermore, although common pathway multivariate models provided the best fit for verbal and semantic fluency, phonemic fluency, fluid intelligence, and mental flexibility and divided attention, the cognitive variables exhibited negligible loadings on the latent factor shared with the psychopathy facets, indicating trivial shared genetic and environmental influences. Overall, the findings suggest substantial genetic overlap among psychopathy facets but only limited shared genetic influences between psychopathic traits and cognitive functioning. These findings should be interpreted in light of the study's limitations, particularly the relatively small sample size and the use of a non-clinical twin sample.

Keywords: psychopathy, cognitive functioning, intelligence, executive functions, twin study



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Mapping the Genetic and Environmental Links Between Personality and Social Attitudes: Evidence From a Twin Study

Previous research has consistently demonstrated significant genetic and environmental contributions to various clusters of social attitudes, such as right-wing authoritarianism (RWA) and social dominance orientation (SDO). The present study examined shared genetic and environmental influences underlying personality traits and social attitudes. The sample consisted of 154 monozygotic and 198 dizygotic twin pairs (M age = 25.28, range = 16–68; 33.3% males). Personality traits were assessed using the BFI-2, while social attitudes were measured with a comprehensive attitudes questionnaire. Analyses of the nomological network revealed four higher-order clusters of social attitudes: RWA, SDO, Liberal–Progressive Humanism (LPH), and Populism–System Distrust (PSD). Multivariate biometric modelling indicated that an independent pathway AE model provided the best fit to the data. Openness shared substantial genetic variance with social attitudes ($A_c = .475$), whereas Neuroticism showed notable shared environmental contributions ($E_c = .476$). Regarding social attitudes, RWA, SDO, and LPH were primarily influenced by shared genetic factors ($A_c = .302$, $.667$, and $.733$, respectively), while unique environmental effects accounted for additional variance. In contrast, the PSD cluster appeared relatively independent of other social attitudes at both phenotypic and genetic levels. This pattern suggests that system distrust may represent a distinct dimension more closely related to dissatisfaction with institutions and elites across ideological groups. Overall, the findings reveal a complex interplay between personality traits and social attitudes, highlighting both shared genetic foundations and domain-specific environmental influences.

Keywords: personality traits, social attitudes, behavioural genetics, twin study, RWA, SDO, system distrust

Orijentacije identiteta i mentalno zdravlje adolescenata

Identity Orientations and Adolescent Mental Health

Voditeljka / Moderator: Milica Lazić



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Orijentacije identiteta u adolescenciji i individualizam–kolektivism: kroskulturalna studija u 30 zemalja

Načini na koje adolescenti razumeju i definišu sebe ukorenjeni su u specifičnim sociokulturnim kontekstima, ali su psihološke teorije selfa i identiteta često razvijane i proveravane u ograničenom broju pretežno zapadnih društava. Kroskulturalna perspektiva je zato važna za razumevanje toga da li se adolescenti, kada definišu ko su, oslanjaju na slične ili različite aspekte selfa. Cilj ovog istraživanja bio je da se ispituju kroskulturalne sličnosti i razlike u orijentacijama identiteta adolescenata, kao i njihove povezanosti s individualizmom–kolektivismom na nivou zemlje. Istraživanje se oslanja na tetrapartitni model selfa, koji razlikuje četiri orijentacije identiteta: personalna orijentacija identiteta odnosi se na značaj individualnih karakteristika; relaciona orijentacija identiteta odražava značaj bliskih interpersonalnih odnosa; kolektivna orijentacija identiteta odnosi se na značaj pripadnosti širim grupama i kolektivnih karakteristika; dok javna orijentacija identiteta obuhvata značaj društvene reputacije, statusa i utiska koji osoba ostavlja na druge. Početni uzorak obuhvatio je 17.489 adolescenata iz 32 zemlje s pet kontinenata. Orijentacije identiteta procenjene su pomoću upitnika Aspects of Identity Questionnaire-IV. Pre sprovođenja glavnih analiza ispitana su kroskulturalna merna svojstva upitnika. Četvorofaktorska ESEM struktura potvrđena je u različitim zemljama, a aproksimativna merna invarijantnost ustanovljena je primenom postupka alajmenta. Nakon ovih analiza, dve zemlje su isključene zbog problema u vezi s validnošću podataka, tako da su kroskulturalna poređenja i analize koje uključuju individualizam–kolektivism na nivou zemlje sprovedene na podacima 16.795 adolescenata iz 30 zemalja. Rezultati su pokazali da su personalna i relaciona orijentacija identiteta najizraženiji izvori samorazumevanja adolescenata u većini zemalja, dok su kolektivna i javna orijentacija uglavnom bile manje izražene. Utvrđene su i jasne kroskulturalne razlike. Personalna i relaciona orijentacija bile su najniže u nekoliko azijskih zemalja, a najviše u nekoliko evropskih zemalja, posebno u bivšim jugoslovenskim republikama, Španiji i Portugaliji. Kolektivna orijentacija identiteta bila je najizraženija u nekoliko bivših jugoslovenskih i azijskih zemalja, ali relativno niska u mnogim latinoameričkim i karipskim zemljama, uprkos njihovim tradicionalno kolektivističkim kulturnim profilima. Pored toga, viši kolektivism bio je pozitivno povezan sa kolektivnom orijentacijom identiteta, ali negativno povezan sa relacionom orijentacijom identiteta. Ovi nalazi ukazuju na to da se individualizam–kolektivism ne preslikava direktno na orijentacije identiteta adolescenata. Razmotriće se teorijske implikacije ovih nalaza za razumevanje orijentacija identiteta kao kulturno ukorenjenih aspekata samopoimanja.

Ključne reči: orijentacije identiteta, samopoimanje, adolescencija, individualizam–kolektivism, tetrapartitni model selfa

Zahvalnica: Istraživanje je sprovedeno uz podršku Fonda za nauku Republike Srbije, projekat broj 1520, Identity orientations and mental health in adolescence: Examining the roles of basic psychological needs and culture.

Adolescents' Identity Orientations and Individualism–Collectivism: A 30-Country Cross-Cultural Study

The ways in which adolescents understand and define themselves are embedded in specific sociocultural contexts, yet psychological theories of self and identity have often been developed and tested in a limited number of predominantly Western societies. A cross-cultural perspective is therefore important for understanding whether adolescents rely on similar or different aspects of the self when defining who they are. The aim of this study was to examine cross-cultural similarities and differences in adolescents' identity orientations, as well as their associations with country-level individualism–collectivism. The study relied on the Tetrapartite Model of the Self, which distinguishes four identity orientations: personal identity orientation refers to the importance of individual attributes; relational identity orientation reflects the importance of close interpersonal relationships; collective identity orientation refers to the importance of broader group memberships and collective attributes; and public identity orientation captures the importance of social reputation, status, and the impression one leaves on others. The initial sample included 17,489 adolescents from 32 countries across five continents. Identity orientations were assessed using the Aspects of Identity Questionnaire-IV. Before substantive analyses, the cross-cultural measurement properties of the questionnaire were examined. The four-factor ESEM structure was supported across countries, and approximate measurement invariance was established using the alignment procedure. Following these analyses, two countries were excluded due to data-validity considerations, so cross-cultural comparisons and analyses involving country-level individualism–collectivism were conducted on data from 16,795 adolescents from 30 countries. The results showed that personal and relational identity orientations were the most salient sources of adolescents' self-understanding in most countries, whereas collective and public orientations were generally less pronounced. Clear cross-cultural differences also emerged. Personal and relational orientations were lowest in several Asian countries and highest in several European countries, especially in the former Yugoslav republics, Spain, and Portugal. Collective identity orientation was most pronounced in several former Yugoslav and Asian countries, but relatively low in many Latin American and Caribbean countries, despite their traditionally collectivistic cultural profiles. In addition, higher collectivism was positively associated with collective identity orientation but negatively associated with relational identity orientation. These findings suggest that individualism–collectivism does not translate directly into adolescents' identity orientations. The theoretical implications of these findings for understanding identity orientations as culturally embedded aspects of self-construal will be discussed.

Keywords: *identity orientations, self-construal, adolescence, individualism–collectivism, tetrapartite model of the self*

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Orijentacije identiteta adolescenata: mrežni pristup

Izučavanje razvoja različitih aspekata identiteta posebno je značajno u periodu adolescencije. Sprovedeno istraživanje se oslanja na tetrapartitni model identiteta koji meri četiri orijentacije identiteta: ličnu (npr. lične vrednosti, ciljevi), relaciju (npr. prijateljstva, intimne veze), javnu (npr. status u društvu, socijalna evaluacija) i kolektivnu (npr. pripadnost različitim grupama). Cilj ovog

istraživanja bila je longitudinalna analiza strukture identiteta, kao i ispitivanje povezanosti sociodemografskih faktora s različitim orijentacijama identiteta. Podaci su prikupljeni tokom dve školske godine u tri vremenske tačke (2023/2024. i 2024/2025; početak školske godine – T1, druga polovina školske godine – T2 i početak naredne školske godine – T3). U istraživanju je učestvovalo 1053 srednjoškolca/ke iz Srbije (62,9% devojaka), raspona starosti od 16 do 19 godina ($M = 16,64$, $SD = 0,49$). Korišćeni su: Upitnik za procenu orijentacija identiteta (AIQ-IV), osnovni demografski podaci (pol, uzrast), samoprocena finansijskog statusa porodice i odgovori o obrazovnom nivou oba roditelja. Za obradu podataka korišćeni su: metoda mrežne analize – eksplorativna graf analiza (EGA), t-test i ANOVA. Mrežnom analizom (EGA) identifikovana su četiri stabilna klastera (lična, relaciona, javna i kolektivna orijentacija identiteta). Zabeležene su pojedine promene unutar i između dimenzija kroz vreme. Između druge i treće tačke merenja primetno je jačanje veza unutar lične orijentacije identiteta, kao i pojedine oscilacije kod javne i relacione orijentacije. U kontekstu polnih razlika zabeležena je pojava viših skorova kod devojaka na ličnoj i relacionoj orijentaciji identiteta, a kod mladića su registrovani viši skorovi na kolektivnoj orijentaciji. Adolescenti koji izveštavaju o finansijskoj stabilnosti porodice ostvaruju više skorove na kolektivnoj i ličnoj orijentaciji identiteta. Viši skorovi na relacionoj i javnoj orijentaciji identiteta povezani su s višim nivoom obrazovanja majke, dok je nešto izraženija javna orijentacija identiteta povezana s nezavršenim ili završenim višim obrazovanjem očeva. Sprovođenjem mrežne analize u ovom istraživanju potvrđena je tetrapartitna struktura identiteta, uz primetne suptilne razvojne obrasce i značajan uticaj porodičnog konteksta. Dobijeni nalazi ukazuju na značajan razvoj praktičnih intervencija usmerenih na podršku razvoju identiteta u adolescenciji.

Ključne reči: mrežni pristup, adolescencija, orijentacije identiteta, tetrapartitni model

Zahvalnica: Istraživanje je sprovedeno uz podršku Fonda za nauku Republike Srbije, projekat broj 1520, Identity orientations and mental health in adolescence: Examining the roles of basic psychological needs and Culture

Adolescents' Identity Orientations: A Network Approach

The study of the development of different aspects of identity is particularly important during adolescence. The present study is based on the Tetrapartite Model of the Self, which distinguishes four identity orientations: personal (e.g., personal values and goals), relational (e.g., friendships and intimate relationships), public (e.g., social status and social evaluation), and collective (e.g., belonging to different social groups). The aim of this study was to conduct a longitudinal analysis of identity structure and to examine the associations between sociodemographic factors and different identity orientations. Data were collected over two school years at three time points (2023/2024 and 2024/2025; beginning of the school year—T1, second half of the school year – T2, and beginning of the following school year—T3). The sample consisted of 1,053 high school students from Serbia (62.9% girls), aged 16 to 19 years ($M = 16.64$, $SD = 0.49$). The following measures were used: the Aspects of Identity Questionnaire-IV (AIQ-IV), basic demographic information (gender and age), self-assessment of family financial status, and parental educational attainment. Data were analysed using network analysis through Exploratory Graph Analysis (EGA), as well as t-tests and ANOVA. The network analysis (EGA) identified four stable clusters corresponding to the personal, relational, public, and collective identity orientations. Certain changes within and between dimensions were observed over time. Between the second and third measurement points, stronger connections within the personal identity orientation emerged, along with some fluctuations in the public and relational orientations. Regarding gender differences, girls showed higher scores on personal and relational identity orientations, whereas boys scored higher on collective identity orientation. Adolescents who reported greater family financial stability achieved higher scores on collective and personal identity orientations. Higher scores on relational and public identity orientations were associated with higher maternal educational attainment, while a somewhat stronger public identity orientation was associated with fathers having incomplete or completed higher education. The application of network analysis in the present study confirmed the tetrapartite structure of identity, revealing subtle developmental patterns and a

significant influence of the family context. These findings highlight the importance of developing practical interventions aimed at supporting identity development during adolescence.

Keywords: *network approach, adolescence, identity orientations, tetrapartite model*

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Ja, mi i drugi: Orijentacije identiteta i blagostanje adolescenata

Iako je proučavanju procesa formiranja identiteta poklonjena značajna pažnja, uloga sadržaja identiteta u mentalnom zdravlju adolescenata ostala je znatno manje istražena. Cilj ovde prikazanog istraživanja bio je da se ispita zastupljenost različitih orijentacija identiteta prema osnovnim sociodemografskim obeležjima i njihova povezanost s indikatorima subjektivnog blagostanja kod adolescenata u Srbiji. Teorijsko polazište je tetrapartitni model, u okviru koga se razlikuju četiri moguće orijentacije identiteta: personalna, relaciona, kolektivna i javna (Cheek & Cheek, 2018). U istraživanju je učestvovalo 1.956 učenika uzrasta od 14 do 19 godina (61% devojaka) iz 37 državnih gimnazija i srednjih stručnih škola. Primenjeni su Upitnik za ispitivanje aspekata identiteta (AIQ-IV), Skala pozitivnih i negativnih iskustava (SPANE) i Skala zadovoljstva životom (SWLS-3). Podaci su analizirani primenom deskriptivne statistike, korelacione i hijerarhijske regresione analize. Na nivou celog uzorka najizraženije su bile relaciona i personalna orijentacija identiteta, zatim kolektivna, dok je javna orijentacija bila najmanje izražena. Korelacije orijentacija identiteta s indikatorima subjektivnog blagostanja bile su male do umerene ($r = 0,14-0,24$). Hijerarhijske regresione analize pokazale su da orijentacije identiteta ostvaruju mali, ali statistički značajan dodatni doprinos predviđanju zadovoljstva životom, pozitivnog i negativnog afekta nakon kontrole sociodemografskih karakteristika ($\Delta R^2 = 0,05-0,08$). Rezultati upućuju na dva obrasca vezana za javnu i kolektivnu orijentaciju identiteta: javna orijentacija izdvaja se kao negativan, a kolektivna kao pozitivan prediktor svih ispitivanih indikatora subjektivnog blagostanja. Personalna i relaciona orijentacija identiteta bile su značajni prediktori samo pojedinih indikatora blagostanja. Rezultati ukazuju na to da orijentacije identiteta ostvaruju nezavisan doprinos objašnjenju subjektivnog blagostanja adolescenata i podržavaju njihovo uključivanje u modele istraživanja mentalnog zdravlja mladih. U okviru prezentacije će se diskutovati o teorijskom značaju dobijenih rezultata, posebno u kontekstu hipoteze o usklađivanju ličnih i kulturnih vrednosti, kao i o njihovim implikacijama za praksu.

Ključne reči: *orijentacije identiteta, subjektivno blagostanje, adolescencija*

Zahvalnica: *Istraživanje je sprovedeno uz podršku Fonda za nauku Republike Srbije, projekat broj 1520, Identity orientations and mental health in adolescence: Examining the roles of basic psychological needs and culture*

Me, Us, and Others: Identity Orientations and Adolescent Well-Being

Although research on identity formation processes has received considerable attention, the role of identity content in adolescent mental health has been far less explored. The aim of this study was to examine the prevalence of different identity orientations across basic sociodemographic groups and their associations with indicators of subjective well-being among adolescents in Serbia. The theoretical framework is the Tetrapartite Model, which distinguishes four identity orientations: personal, relational, collective, and public (Cheek & Cheek, 2018). The sample comprised 1,956 students aged 14 to 19 years (61% girls) from 37 public grammar and vocational secondary schools. Data were collected

using the Aspects of Identity Questionnaire (AIQ-IV), the Scale of Positive and Negative Experience (SPANE), and the Satisfaction with Life Scale (SWLS-3). Data were analysed using descriptive statistics, correlation analysis, and hierarchical regression analysis. At the overall sample level, relational and personal identity orientations were the most pronounced, followed by collective identity orientation, whereas public identity orientation was the least pronounced. Correlations between identity orientations and indicators of subjective well-being were small to moderate ($r = .14-.24$). Hierarchical regression analyses showed that identity orientations made a small but statistically significant incremental contribution to the prediction of life satisfaction, positive affect, and negative affect after controlling for sociodemographic characteristics ($\Delta R^2 = .05-.08$). The findings revealed two distinct patterns related to public and collective identity orientations: public identity orientation emerged as a negative predictor, whereas collective identity orientation emerged as a positive predictor of all examined indicators of subjective well-being. Personal and relational identity orientations were significant predictors only of specific well-being indicators. The findings indicate that identity orientations make an independent contribution to explaining adolescents' subjective well-being and support their inclusion in models of adolescent mental health. The presentation will discuss the theoretical significance of the findings, particularly in the context of the person–culture fit hypothesis, as well as their implications for practice.

Keywords: *identity orientations, subjective well-being, adolescence*

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Bazične psihološke potrebe adolescenata: stabilnost i povezanost s orijentacijama identiteta

Adolescencija predstavlja period intenzivnih razvojnih promena tokom kojeg zadovoljenje i osujećenje bazičnih psiholoških potreba mogu imati značajnu ulogu u formiranju identiteta i psihološkoj adaptaciji. Polazeći od Teorije samoodređenja (Self-Determination Theory; SDT), prema kojoj zadovoljenje potreba za autonomijom, kompetencijom i povezanošću predstavlja osnovu optimalnog psihološkog funkcionisanja, i tetrapartitnog modela orijentacija identiteta, koji razlikuje personalnu, relacionu, kolektivnu i javnu orijentaciju, cilj ovog longitudinalnog istraživanja bio je da se ispituju promene u zadovoljenju i osujećenju bazičnih psiholoških potreba tokom adolescencije, njihova povezanost s orijentacijama identiteta, kao i polne razlike u njihovoj izraženosti. U istraživanju je učestvovao 1051 srednjoškolac iz Srbije (62,9% devojaka), uzrasta od 15 do 17 godina ($M = 15,64$), praćen kroz tri talasa merenja tokom jedne godine. Korišćeni su Upitnik za merenje zadovoljenja i osujećenja bazičnih psiholoških potreba (BPNSFS) i Upitnik za merenje orijentacija identiteta (AIQ-IV). Podaci su analizirani primenom t-testova za nezavisne uzorke, analize varijanse za ponovljena merenja i Pirsonovih koeficijenata korelacije. Rezultati pokazuju da adolescenti ostvaruju više skorove na zadovoljenju nego na osujećenju bazičnih psiholoških potreba, pri čemu je najizraženije zadovoljenje potrebe za povezanošću. Devojke su u sva tri talasa ostvarivale više skorove na zadovoljenju povezanosti, kao i na osujećenju kompetencije. Analiza varijanse za ponovljena merenja pokazala je značajne promene u zadovoljenju autonomije, $F(2, 987) = 29.34$, $p < .001$, $\eta^2p = .06$, zadovoljenju povezanosti, $F(2, 974) = 12.64$, $p < .001$, $\eta^2p = .03$, zadovoljenju kompetencije, $F(2, 978) = 6.31$, $p < .001$, $\eta^2p = .01$, osujećenju autonomije, $F(2, 986) = 18.85$, $p < .001$, $\eta^2p = .04$, i osujećenju kompetencije, $F(2, 984) = 8.25$, $p < .001$, $\eta^2p = .02$. Promena u osujećenju povezanosti nije bila statistički značajna, $F(2, 969) = 1.00$, $p = .37$, $\eta^2p =$

.00. Korelacione analize pokazale su stabilan obrazac povezanosti zadovoljenja bazičnih psiholoških potreba s personalnom, relacionom i kolektivnom orijentacijom identiteta, dok je osujećenje potreba uglavnom bilo povezano s javnom orijentacijom. Najizraženija povezanost utvrđena je između zadovoljenja povezanosti i relacione orijentacije identiteta ($r = .43-.50, p < .01$) kroz sva tri talasa. Nalazi ukazuju na to da su bazične psihološke potrebe razvojno osetljiv aspekt funkcionisanja adolescenata i da su njihovo zadovoljenje i osujećenje povezani s različitim orijentacijama identiteta.

Ključne reči: bazične psihološke potrebe, adolescencija, identitet, longitudinalno istraživanje, teorija samoodređenja

Zahvalnica: Istraživanje je sprovedeno uz podršku Fonda za nauku Republike Srbije, projekat broj 1520, Identity orientations and mental health in adolescence: Examining the roles of basic psychological needs and culture

Adolescents' Basic Psychological Needs: Stability and Associations With Identity Orientations

Adolescence represents a period of intensive developmental changes during which the satisfaction and frustration of basic psychological needs may play an important role in identity formation and psychological adjustment. Drawing on Self-Determination Theory (SDT), according to which the satisfaction of the needs for autonomy, competence, and relatedness provides a basis for optimal psychological functioning, and the Tetrapartite Model of the Self, which distinguishes personal, relational, collective, and public identity orientations, the aim of this longitudinal study was to examine changes in the satisfaction and frustration of basic psychological needs during adolescence, their associations with identity orientations, and sex differences in their levels. The study included 1,051 high school students from Serbia (62.9% girls), aged 15 to 17 years ($M = 15.64$), who were followed across three waves of measurement over a one-year period. The Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) and the Aspects of Identity Questionnaire-IV (AIQ-IV) were administered. Data were analysed using independent-samples t-tests, repeated-measures analyses of variance, and Pearson correlation coefficients. The results showed that adolescents reported higher levels of basic psychological need satisfaction than need frustration, with relatedness satisfaction being the most pronounced. Across all three waves, girls reported higher relatedness satisfaction as well as higher competence frustration. Repeated-measures analyses of variance showed significant changes in autonomy satisfaction, $F(2, 987) = 29.34, p < .001, \eta^2p = .06$, relatedness satisfaction, $F(2, 974) = 12.64, p < .001, \eta^2p = .03$, competence satisfaction, $F(2, 978) = 6.31, p < .001, \eta^2p = .01$, autonomy frustration, $F(2, 986) = 18.85, p < .001, \eta^2p = .04$, and competence frustration, $F(2, 984) = 8.25, p < .001, \eta^2p = .02$. Change in relatedness frustration was not statistically significant, $F(2, 969) = 1.00, p = .37, \eta^2p = .00$. Correlational analyses showed a stable pattern of associations between basic psychological need satisfaction and personal, relational, and collective identity orientations, whereas need frustration was predominantly associated with public identity orientation. The strongest association was found between relatedness satisfaction and relational identity orientation ($r = .43-.50, p < .01$) across all three waves. The findings indicate that basic psychological needs represent a developmentally sensitive aspect of adolescent functioning and that their satisfaction and frustration are associated with different identity orientations.

Keywords: basic psychological needs, adolescence, identity, longitudinal study, self-determination theory

Acknowledgement: This research was supported by the Science Fund of the Republic of Serbia, Grant No. 1520, Identity Orientations and Mental Health in Adolescence: Examining the Roles of Basic Psychological Needs and Culture.

Interakcije ljudi i životinja – koraci ka zajedničkoj dobrobiti

Human-Animal Interactions: Towards Understanding the Links Between the Well-Being of Humans and Other Animals

Voditeljka / Moderator: Marija Branković



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Dolphin-Assisted Therapy and Dolphinariums: A Narrative Review of Methodological and Ethical Evidence

Animals play a significant role in everyday human life, potentially providing physical and mental health benefits, and are therefore included in therapeutic processes aimed at alleviating difficulties across different domains of functioning in children, adults, and the elderly. Animal-assisted programmes represent a specific form of therapeutic relationship conducted and monitored in a systematic, structured, and controlled manner by professionals trained to work with both humans and animals. Given the limited number of studies evaluating dolphin-assisted therapy (DAT), we decided to use a narrative review approach on a convenience sample of selected empirical studies and meta-analyses. The aim was to synthesise findings highlighting methodological limitations and inconsistent results in research on DAT, as well as ethical concerns related to the welfare of dolphins and the clients involved in DAT. From a methodological perspective, many studies on DAT lack control groups that would allow for comparison of dolphin interactions with other therapeutic approaches (e.g., dog-assisted therapy). Participant samples are typically very small (10–15 individuals), limiting generalisability and reliability of conclusions. Reported outcomes are often presented descriptively, without rigorous statistical analysis, and rely heavily on parental, therapist, or instructor observations. The focus is placed on short-term positive effects (small-to-moderate improvements in attention, vocalisation, or motivation) that lack longitudinal consistency, while negative aspects and long-term outcomes are rarely examined. Ethical concerns are equally significant, as dolphins are often kept in artificial conditions: small pools that fail to meet their complex biological and spatial needs, while maintaining proper saline water quality poses challenges for their health. As wild animals, dolphins may experience high levels of stress and behavioural problems when interacting with humans in controlled environments. Furthermore, within our local context, another ethical concern is the lack of adequately trained personnel to care for these dolphins and to professionally implement support programmes involving children with developmental difficulties, a particularly sensitive group. The clients of DAT face potential safety risks because of using therapy methods without robust evidence-based support and interacting with animals under stress. This problem is especially relevant in our country, where dolphinarium construction is underway despite bans in many other countries (e.g., Canada, Croatia, Slovenia). The contribution of this paper lies in emphasising both the benefits and limitations of human–animal interactions, critically appraising DAT research, and underscoring the importance of ethical considerations regarding the welfare of dolphins and users of dolphin-assisted therapies.

Keywords: *dolphin-assisted therapy, dolphinarium, human-animal relations, methodological and ethical problems*



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Trends in Research Related to Violence Against Animals: A Bibliometric Analysis

The aim of this study was to investigate trends in research on violence against animals using a bibliometric analysis of the Scopus database. Five main clusters, based on 143 author keywords, were identified: (1) animal abuse and cruelty, together with keywords related to interpersonal and domestic violence; (2) animal welfare and protection, along with keywords related to animal hoarding and various subdomains of forensic and veterinary sciences; (3) zoophilia, bestiality, paraphilia, and keywords related to sexual abuse; (4) animal rights, law, ethics, and green criminology, together with vegetarianism and speciesism; and (5) empathy, human–animal interaction, and anthropomorphism. The fourth cluster captures the most recent research trends, although these also appear to some extent in other clusters, except for the third. Keywords characteristic of more recent studies include human–animal interaction, link theory, speciesism, and one welfare. An analysis of 676 indexed keywords revealed four clusters with a similar structure but consisting of more general terms (e.g., article, questionnaire, female, and male). In this case, the animal rights cluster identified in the author keywords was not clearly distinguished and instead merged with the animal welfare cluster.

Keywords: violence against animals, animal abuse, animal harm, cruelty to animals, bibliometric analysis



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Who Owns What and Why? Differences in Attachment and Personality Among Pet Owners

Relationships and emotional bonds with companion animals are becoming a growing focus of interest among researchers. Pets can contribute to a higher level of empathy and prosocial behaviour, a higher level of self-esteem, a reduction of anxiety, perceived stress and feelings of loneliness. There are also some studies that indicate that pets, especially dogs, can compensate for some deficiencies in attachment relationships with parents. Previous research suggests that the selection of a pet type can be related to individual differences in personality. Dog owners are often described as more extraverted and conscientious, while cat owners tend to be more open and introverted. Building on this, the present study examines differences in attachment to pets and personality traits across three groups: dog owners, cat owners, and individuals who own both.

The study involved 722 participants ($M = 39.24$, $SD = 11$; 90.4% female), of whom 251 were cat owners, 254 were dog owners, and 217 were owners of both species. Each participant completed the Brief Lexington Attachment to Pets Scale (B-LAPS; Nartova-Bochaver et al., 2025) and the Big Five Inventory 20 (BFI 20; Tucaković & Nedeljković, 2023).

An ANCOVA was performed to analyse the differences among the three groups of owners regarding pet attachment and personality traits. Due to the large difference between the genders of the respondents, this categorical variable was used as a covariate in the statistical analysis. Results showed there was a statistically significant difference among owners' levels of pet attachment ($F(2, 718) =$

11.827, $p = .000$, $\eta^2 = .032$). Post hoc tests revealed lower levels of pet attachment in cat owners compared with dog owners and owners of both species. Further results showed differences in extraversion ($F(2, 718) = 7.725$; $p = .000$, $\eta^2 = .021$), neuroticism ($F(2, 718) = 3.217$; $p = .041$, $\eta^2 = .009$), and conscientiousness ($F(2, 718) = 5.214$; $p = .006$, $\eta^2 = .014$). Post hoc tests revealed higher levels of extraversion in dog owners and owners of both species compared with cat owners, as well as higher conscientiousness in both species' owners compared with cat owners. However, post hoc comparisons did not reveal statistically significant differences among specific groups in neuroticism. This suggests that, although group differences exist at the overall level, they are small and not clearly distinguishable in pairwise comparisons. Overall, findings indicate that owners of different types of companion animals differ in pet attachment and in some personality traits. Although statistically significant differences were identified, the observed effect sizes were generally small, suggesting that pet ownership type accounts for only a limited proportion of the variance in attachment and personality traits. These findings indicate that attachment to companion animals is likely influenced not only by personality traits but also by multiple individual and contextual factors beyond the type of pet alone.

Keywords: pet attachment, dog and cat owners, personality traits, human-animal bond



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Traditionally Vegan Dishes: A Potential Bridge Between Tradition and Modern Nutritional Choices

What we choose to eat means much more than just food. Food choices, as well as food dislikes, are related to specific worldviews and identities. In traditionalist societies, opting for meat reduction, let alone a vegan diet, can entail a sense of threat to traditional identities, particularly ethnic or religious, or both. Despite this fact, a large part of the traditional cuisine is plant-based, and our region follows a tradition of fasting, especially before large religious holidays. This situation offers an interesting applicative context for social identity theory, the study of identity threat, and the potential for bridging conflicting identities. We sought to investigate preferences for a selection of traditionally vegan dishes as a possible nutritional "gateway" between tradition and contemporary plant-based choices. We expected them to be evaluated more positively when labelled as Lenten than when labelled vegan, as Lenten is a label related to a valued traditional identity. In a preregistered between-subjects experiment ($N = 273$), we attached the label to the product description, which included a verbal description and a product photo, for ten traditional plant-based dishes (such as baked sauerkraut, "podvarak", or Balkan baked beans, "prebranac"). Each product was rated on semantic differential-type scales anchored at the following attributes: tasty – tasteless, attractive – repulsive, pleasant – unpleasant, nutritious – not nutritious, healthy – not healthy. Results indicated that the mean preference score in the vegan label condition ($M_{veg} = 6.89$, $SD = 1.67$) did not differ significantly from the mean score in the Lenten label condition ($M_{len} = 6.74$, $SD = 1.50$), $t(271) = -.76$, $p = .45$. The preference for traditional vegan dishes was positively correlated with non-reflexive religiosity ($r = .15$, $p < .05$), less meat consumption ($r = .155$, $p < .05$), more experience with plant-based products ($r = .23$, $p < .01$), and the practice of fasting ($r = .23$, $p < .01$). Our findings suggest an overall high preference for traditionally vegan dishes, irrespective of how they are labelled (i.e., as vegan or Lenten). We suggest that high familiarity with the dishes and established preferences were more potent than experimental inductions. However, the findings also show no negative effects of the vegan label, and the profile of correlates suggests that these dishes can appeal to both traditionally and non-traditionally inclined individuals. The findings are consistent with the proposition that traditional plant-based dishes may bridge the gap between two conflicting worldviews and identities (traditional and novel) through their



dual-identity appeal. The findings are important for studying applications of a dual-identity approach in furthering intergroup relations, especially in promoting plant-based diets.

Keywords: traditional dishes, vegan, Lenten, food preference, dual identity

Istraživanje semantike: Različite psiholingvističke perspektive

Exploring Semantics: Diverse Psycholinguistic Perspectives

Voditeljka / Moderator: Milica Popović Stijačić



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Modelling Polysemous Sense Uncertainty Effect: A Discrimination Learning Account

Polysemous words are words with multiple related senses. When presented in isolation, the increase in the number of senses and the balance of sense probabilities lead to a decrease in processing time (Filipović Đurđević & Kostić, 2023), called the sense uncertainty effect.

The main goal of this research is to explore the emergence of this effect within a cognitively plausible framework, rooting the effect in general psychological processes such as learning. We opt for the discrimination learning approach, where inputs are discriminated based on how reliably they predict the output (Ramscar, 2023). This discrimination comes primarily with language usage.

Within this framework, the Discriminative Lexicon Model (DLM; Heitmeier et al., 2025) assumes that learning form-meaning relationships drives psycholinguistic effects, bypassing the need for separate language-specific processes, and is almost fully driven by input and output, practically without any hyperparameters. DLM includes two variants using two-layer networks to map sublexical input n-grams to output meanings: Naive Discriminative Learning (NDL; Milin et al., 2017) and Linear Discriminative Learning (LDL; Baayen et al., 2019). The divergence point between the two models lies in their word meaning representations. Due to the computational constraints of the time, NDL relied on discrete and orthogonal one-hot encoded representations of meaning. LDL, on the other hand, relies on real-valued semantic embeddings from distributional semantic models. Numerous psycholinguistic effects were explained using DLM variants; however, few studies have focused on semantic effects, such as lexical ambiguity effects.

Previous simulations of the sense uncertainty effect (Filipović Đurđević & Kostić, 2023) revealed that when disambiguating context was introduced at the outcome level as discrete units (NDL), the model predicted human behaviour in a lexical decision task. In this study, we manipulated two aspects: (1) the role of the context (input/output) and (2) discrete or continuous sense representations (NDL/LDL). This gave us four main learning simulations: (a) NDL with context at the output level, (b) NDL with context at the input level, (c) LDL with context at the output level, and (d) LDL with context at the input level. Additionally, we ran (e) another LDL simulation with context at both levels. Each simulation was run on nouns, verbs, and adjectives. The only network configuration that was successful in predicting behaviour was (a) NDL with context at the output level (fit improvement over baseline regression model: 5.61–12.64; others: (b) 0.03 – 0.66, (c) ambiguity variation not learned, (d) accuracy too low, (e) 0.03–1.97). In the talk, we will discuss the importance of different learning dynamics for modelling polysemy and the methodological and theoretical implications of why discrete representations of the word senses may be more suitable when relying on such simple algorithms as employed within DLM.

Keywords: polysemy, discrimination learning, NDL, LDL, contextual embeddings

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The Effect of Sensory Priming in Polysemy and Homonymy Processing

Words with multiple related senses, i.e., polysemous words (e.g., a letter), have so far mostly shown a stronger facilitatory priming effect among senses (e.g., a sealed letter – an italic letter) compared to words with multiple unrelated senses, i.e., homonyms (e.g., a bank). Although these effects are somewhat inconsistent, the prevailing explanation for the difference lies in the concept of overlapping mental representations that are a feature of polysemous words but not of homonyms. To inspect this difference more closely, we relied on the framework of embodied cognition and proposed sensorimotor (SM) features as constituents of the shared core. We propose that SM features that are shared, i.e., common for both senses (e.g., seeing a sealed letter and an italic letter), should be represented in the shared core. On the other hand, features related to only one sense, i.e., unique to one sense (e.g., touching a sealed letter but not an italic letter), should be represented uniquely in that sense. Our hypothesis is that boosting the shared features, i.e., the core's activation, should strengthen the priming effect compared to boosting the unique features. To test this, we conducted two experiments with the same design—on polysemy, where we expect the facilitatory effect of boosting the shared core, and on homonymy, which we take as a control situation. In both experiments, we created prime-target pairs of three-word phrases. In Experiment 1 ($N = 112$), we selected 42 pairs of polysemous senses (e.g., a sealed letter – an italic letter). The targets were kept constant (e.g., an italic letter), and the primes were presented in three cases: without any verb (control situation, e.g., a sealed letter), with a verb denoting a shared sensory modality (e.g., to see a sealed letter – an italic letter), or with a verb denoting a modality unique to the prime (e.g., to touch a sealed letter – an italic letter). Additionally, we included 42 prime-target pairs of unrelated words (e.g., a park bench – a natural light), manipulated in the same way. In Experiment 2 ($N = 87$), we entirely replicated the design with 21 homonyms (e.g., a cave bat – a baseball bat; both are visible, but only the first one is audible) and 21 unrelated pairs. In both experiments, both for primes and targets, participants completed a sensicality judgement task by indicating whether the phrase was semantically plausible. Linear mixed-effects regression revealed significant facilitatory sense priming for polysemous senses preceded by shared modality primes ($\beta = -0.04$, $t(65.38) = 3.34$, $p < .01$), but not unique modality primes in Experiment 1. At the same time, in Experiment 2, we observed no priming effects. In alignment with our prediction, the results speak in favour of the models that posit the shared core in the representation of the related senses (polysemy) and separate representations for unrelated meanings (homonymy), while also confirming that SM information partly constitutes those representations.

Keywords: word ambiguity, polysemy, embodied cognition, sensory modality, priming paradigm

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Promena emocionalnog doživljaja reči: uloga lokalnog konteksta i kognitivne kontrole

Savremeni psiholingvistički pristupi semantici sve više naglašavaju da značenje reči nije određeno samo njenim jezičkim sadržajem, već i iskustvima aktiviranim tokom obrade. Iz perspektive utelovljene kognicije, značajan aspekt značenja reči je i emocionalni doživljaj reči, definisan kroz emocionalnu valencu (EV) i pobuđenost (P), odnosno osećaj prijetnosti/neprijatnosti i stepen pobuđenosti/smirenosti koji reč izaziva. Iako se ove dimenzije najčešće smatraju stabilnim, noviji nalazi ukazuju na to da se mogu menjati pod uticajem emocionalnog konteksta, otvarajući pitanje da li emocionalni doživljaj reči proizilazi iz reprezentacije reči ili se oblikuje pod uticajem trenutnog iskustva i konteksta. Ova linija istraživanja ispitivala je da li suptilnije manipulacije valencom konteksta menjaju emocionalni doživljaj reči, koristeći različite metodologije i mere. Pored toga, polazeći od mogućeg preklapanja emocionalne i kognitivne kontrole, ispitano je da li veće angažovanje kognitivne kontrole (KK) smanjuje uticaj konteksta, što bi ukazivalo na veću kontrolu nad emocionalnom procenom reči. Prethodna studija pokazala je da lokalni emocionalni kontekst, indukovano pojedinačnim emodžijem prikazanim iznad reči, može da dovede do promena u emocionalnom doživljaju reči ($N=291$; $EV:F(2, 98.79) = 31.04, p<.001$; $P:F(2, 12.78) = 7.99, p<.001$). Međutim, efekat indukovane KK na stabilnost ovog doživljaja nije demonstriran, što ukazuje na to da kontrola emocionalnog doživljaja reči putem KK možda zahteva drugačije uslove ili snažniju manipulaciju. Polazeći od ovih nalaza, ispitali smo da li se efekat lokalnog konteksta može replicirati kada je reč okružena većim brojem ponovljenih emodžija iste valence. U dve studije, ispitanici ($N=284$) su procenjivali EV i P reči ($N=108$) prikazanih u pozitivnom, negativnom i neutralnom kontekstu, pri čemu su korišćena dva tipa zadatka: procena na skali i zadatak kategorizacije. Analize mešovitenih efekata pokazale su da lokalni kontekst dovodi do promena na dimenzijama emocionalnog doživljaja reči, kako u zadatku procene ($EV:F(2, 7802.9) = 28.87, p<.001$; $P:F(2, 5712.5) = 7.16, p<.001$), tako i u zadatku kategorizacije ($EV:F(2, 107.2) = 99.69, p<.001$; $P:F(4, 6288.7) = 2.48, p<.05$). Time je efekat lokalnog konteksta repliciran i metodološki proširen na situaciju u kojoj je reč okružena većim brojem emocionalnih znakova. Nalazi pokazuju da je emocionalni doživljaj reči osetljiv na valencu lokalnog konteksta i da suptilni emocionalni znaci mogu menjati procene EV i P. Uspešnost ove manipulacije pruža metodološku osnovu za dalja istraživanja odnosa emocionalne i kognitivne kontrole, odnosno uslova pod kojima se kontekstualni uticaj može smanjiti ili regulisati. U širem smislu, nalazi doprinose pristupima zasnovanim na utelovljenoj kogniciji, ukazujući na povezanost značenja reči, emocionalnog iskustva i neposrednog konteksta obrade.

Ključne reči: emocionalni doživljaj reči, indukcija emocionalnog konteksta, emocionalna kontrola, kognitivna kontrola

Changing the Emotional Experience of Words: The Role of Local Context and Cognitive Control

Contemporary psycholinguistic approaches to semantics increasingly emphasise that word meaning is determined not only by linguistic content but also by experiences activated during processing. From the perspective of embodied cognition, an important component of word meaning is its emotional experience, defined through emotional valence (EV) and arousal (A), that is, the degree of pleasantness or unpleasantness, and activation or calmness elicited by a word. Although these dimensions are typically considered stable, recent findings suggest that they may change under the influence of an emotional context. This raises the question of whether the emotional experience of words is inherent in lexical representations or shaped by immediate experience and context. This line

of research examined whether subtle manipulations of contextual valence alter the emotional experience of words using different methodologies and measures. In addition, based on the proposed overlap between emotional and cognitive control (CC), we tested whether greater engagement of CC reduces contextual effects, indicating stronger control over emotional word evaluation. A previous study showed that a local emotional context, induced by a single emoji presented above a word, changed its emotional experience ($N=291$; EV: $F(2,98.79) = 31.04$, $p < .001$; A: $F(2,12.78) = 7.99$, $p < .001$). However, induced CC did not increase the stability of these evaluations, suggesting that controlling emotional word experience through CC may require different conditions or a stronger manipulation. Building on these findings, we tested whether the local-context effect could be replicated when words were surrounded by multiple repeated emojis of the same valence. Across two studies, participants ($N=284$) evaluated the EV and A of words ($N=108$) presented in positive, negative, and neutral contexts using either rating scales or a categorisation task. Mixed-effects analyses showed that the local context altered both dimensions in the rating task (EV: $F(2,7802.9) = 28.87$, $p < .001$; A: $F(2,5712.5) = 7.16$, $p < .001$) and in the categorisation task (EV: $F(2,107.2) = 99.69$, $p < .001$; A: $F(4,6288.7) = 2.48$, $p < .05$). The local-context effect was therefore replicated and methodologically extended to situations in which words were surrounded by multiple emotional cues. The findings demonstrate that the emotional experience of words is sensitive to local contextual valence and that even subtle emotional cues can alter EV and A judgements. This successful manipulation provides a methodological basis for further research on the relationship between emotional and cognitive control and on the conditions under which contextual influences can be reduced or regulated. More broadly, these findings contribute to embodied approaches to semantics by highlighting the link between word meaning, emotional experience, and the immediate context of word processing.

Keywords: *emotional experience of words, emotional context induction, emotion control, cognitive control*



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Nastanak ortografskih reprezentacija novih reči u dva pisma

Prethodna istraživanja pokazuju da govornici mogu automatski generisati preliminarne ortografske reprezentacije novih reči na osnovu njihovog izgovora, čak i kada nisu videli zapis reči. Ovi nalazi ukazuju na to da se informacije o rečima pohranjuju odvojeno, što omogućava govornicima da nove reči nauče u jednom modalitetu (npr. auditivnom), a da mogu da ih prepoznaju u drugim modalitetima (npr. pisanom). Međutim, ovaj proces još uvek nije bio istraživao u jeziku u kom se može koristiti više pisama. Cilj ovog istraživanja je bio testiranje prepoznavanja zapisa novih reči u bialfabetском kontekstu, što je karakteristika srpskog jezika. Konkretnije, istraživano je da li je moguće prepoznavanje varijanti zapisa reči koje nisu bile eksplicitno u iskustvu govornika. Eksperiment se sastojao od zadatka učenja pseudoreči i zadatka čitanja sopstvenim tempom radi provere učestalosti prepoznavanja. Učesnici su pratili izlaganja zapisa novih reči (pseudoreči), koje su se dosledno izlagale s njihovim izgovorom i jednom nasumično dodeljenom slikom nepoznatog objekta. Polovina pseudoreči je bila izlagana tokom obe faze (učene pseudoreči), dok je druga polovina prvi put bila izložena tokom faze provere. U fazi provere, polovina pseudoreči je bila izlagana na ćirilici, a druga polovina na latinici. Za grupu učenih pseudoreči, alfabet je mogao biti isti kao tokom učenja, ili promenjen. Takođe, testirano je da li aktivacija jezičke kontrole i očekivanja učesnika imaju efekta na učenje, te su učesnici bili podeljeni u dve grupe prema kontekstu učenja. Jedna grupa je učila sve pseudoreči na jednom od alfabeta, a drugoj grupi je tokom izlaganja bilo mešanja alfabeta, tako da jedna pseudoreč bude uvek prikazivana na istom alfabetu. Za analizu podataka korišćena je analiza linearnih mešovitenih efekata kako bi se poredila vremena čitanja pseudoreči za nove i učene reči, kao i

za reči koje su izložene na istom ili na drugom alfabetu. Preliminarne analize ukazuju na postojanje statističkog trenda za reči mete i značajne efekte za narednu reč. Iako postoji ubrzanje tokom čitanja učenih reči ($b = -0.014$, $SE = 0.003$, $t(131.52) = -4.017$, $p < .001$), nisu dobijene razlike između dve grupe učenih reči ($b = -0.004$, $SE = 0.003$, $t(379.10) = -1.111$, $p = .267$). Ovi nalazi sugerišu da govornici srpskog jezika mogu da prepoznaju obe moguće varijante zapisa novih reči, ali postoji više objašnjenja za mehanizme u osnovi tog procesa. Iako je moguće da su govornici kreirali ortografske reprezentacije, prepoznavanje bi bilo moguće i na osnovu fonološke sličnosti. Nije bilo značajne interakcije s kontekstom učenja, što govori u prilog tome da aktivacija jezičke kontrole ne pospešuje ovaj proces.

Ključne reči: učenje reči, ortografske reprezentacije, fonologija, bialfabetizam, kontekst učenja

The Emergence of Orthographic Representations for Novel Words in Two Scripts

Previous research has shown that speakers generate preliminary orthographic representations for novel words based on their pronunciation, even when they have not seen their written form. These results imply that information about words is represented separately, which allows speakers to learn new words in one modality (e.g., spoken) and to recognise them in the other (e.g., written). However, this process has yet to be tested in a language that can be written using multiple scripts. The aim of this study is to research the recognition of written novel words in a bialphabetic context, which is a characteristic of the Serbian language. More specifically, the goal is to test whether recognition is possible for the forms of these words that were not explicitly encountered previously. The experiment consisted of a pseudoword learning task and a self-paced reading task for the assessment of recognition efficacy. Participants were presented with written novel words (pseudowords) consistently mapped onto their pronunciation and a randomly assigned picture of an unknown object. Half of the pseudowords were presented in both the learning stage and the assessment stage (learnt pseudowords), and the other half were presented in the assessment stage for the first time. In the assessment stage, half of the pseudowords were presented in Cyrillic, and the other half were presented in the Roman alphabet. Within the group of learnt pseudowords, the alphabet was either repeated or switched compared with the learning phase. In order to test whether language control and speakers' expectations had an effect on learning, participants were divided into two groups based on the learning context. One group learnt all pseudowords in one of the alphabets, and the second group was presented with both alphabets (albeit for different pseudowords). We applied linear mixed-effects regression to compare self-paced reading latencies of novel and learnt pseudowords, as well as pseudowords learnt in the same or different alphabets. Preliminary analyses revealed a numerical trend for the target items and a significant effect in the spillover region. Although the observed advantage of the learnt pseudowords compared with the novel pseudowords was significant ($b = -0.014$, $SE = 0.003$, $t(131.52) = -4.017$, $p < .001$), no difference was observed between the two groups of learnt pseudowords ($b = -0.004$, $SE = 0.003$, $t(379.10) = -1.111$, $p = .267$). These results indicate that Serbian speakers recognise both possible written forms of new words; however, there are multiple explanations for the underlying mechanisms. Although speakers could have generated orthographic representations, recognition could have been possible based on phonological familiarity. There were no significant interactions with the learning context, which indicates that this process is not amplified by language control activation.

Keywords: word learning, orthographic representation, phonology, bialphabetism, learning context



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Effects of Colour-Word Congruency on Lexical Decision Times

In recent years, a growing number of studies have demonstrated that participants form systematic associations between colours and words, regardless of whether those words are concrete or abstract. These findings are usually discussed within contemporary theories of embodied cognition, which conceptualise knowledge as distributed, modality-specific patterns of activation rather than as amodal symbolic structures (Barsalou, 1999). In this study, we aimed to explore the cognitive relevance of colour-word associations using a colour priming paradigm in a lexical decision task.

We tested 343 psychology students, 146 in the laboratory and 197 online. The stimuli consisted of 40 abstract Serbian words, 40 concrete Serbian words, and 80 pseudowords. Each word category included 10 concepts associated with the colours green, blue, red, and black. Two experimental versions were created: in the first, half of the words were presented in a matching font colour (congruent condition), whereas the remaining words were presented in a mismatching font colour (incongruent condition). In the second, the congruency assignment was reversed. Participants were randomly assigned to one of the experimental versions. Word groups were matched on word length, frequency, context availability, familiarity, age of acquisition, emotional valence, and arousal.

We applied a linear mixed-effects model with random intercepts for participants and items, and study mode (SM), concreteness, congruency, and colour as fixed effects. Word length, frequency, emotional valence, and arousal were included as control variables. Only correct responses to words were included in the RT analyses, and inverse RT transformations were applied.

Concreteness did not reach significance and was excluded from the final model. The final model included the main effect of SM, the interaction between congruency and colour, and the control variables. The model explained 43.1% of the variance when both fixed and random effects were considered (conditional R^2), whereas fixed effects alone accounted for 13.1% of the variance (marginal R^2). Participants had longer RTs in the online condition, $F(1, 314.7) = 96.90$, $p < .001$, $\eta^2 = .24$, and overall faster responses in the congruent condition, $F(1, 22563.3) = 5.98$, $p = .014$, $\eta^2 = .001$. Although the main effect of colour was not significant, colour significantly interacted with congruency, $F(3, 22555.3) = 8.11$, $p < .001$, $\eta^2 = .001$. Congruent colour presentation facilitated processing for all word categories except words associated with red, for which the opposite pattern was observed. All control variables significantly influenced processing in the expected direction: higher frequency, more positive valence, and higher arousal were associated with faster RTs, whereas greater word length was associated with slower processing.

The findings suggest that colour associations contribute to word processing and may form part of semantic word representations, consistent with embodied cognition theories.

Keywords: colour priming, embodied cognition, lexical decision, word representations

Acknowledgement: Note. Preliminary findings from this study were presented at the XXXI International Scientific Conference Empirical Studies in Psychology, held in 2025 at the Faculty of Philosophy, University of Belgrade.

Izazovi i perspektive u istraživanjima matematičke anksioznosti

Challenges And Perspectives In Mathematics Anxiety Research

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High Achievement, Fragile Identity: Mathematics Anxiety During the Transition to Subject Teaching

Mathematics anxiety (MA) may arise across different levels of mathematics competence (MC), depending on students' motivational and emotional characteristics. Consequently, person-centred approaches are often preferred over variable-centred approaches in MA research, as different student profiles may face distinct developmental pathways and emotional challenges. One group that may be especially vulnerable comprises high-achieving students with a fragile mathematics identity (MI). The current study examines changes in MA during the transition from class-based to subject-based mathematics instruction and compares trajectories of students with different MC-MI profiles. It also investigates differences in perceived parental and teacher support across profiles.

The study encompasses 1031 students whose longitudinal data were collected at the end of 4th and 5th grade. Measures included: a 6-item MI scale, a 12-item MA scale, a 12-task TIMSS MC test, reported practices on teachers' (11 items) and parents' (2 scales, 15 items) support. All measures demonstrated satisfactory psychometric properties ($\alpha=.751-.930$). Hierarchical cluster analysis (HCA) with the Ward method was used to identify different types of students based on their MC and MI. The one-year change in MA was estimated using residual scores from a regression of Grade 5 MA on Grade 4 MA. A series of ANOVAs with Gabriel post hoc tests was conducted to examine cluster differences. A chi-square test was used to investigate the distribution of clusters across different classes or teachers.

Four clusters were chosen by considering the dendrogram and the interpretability of HCA solutions: high MC-high MI (C1, 33%), high MC-low MI (C2, 11%), medium MC-medium MI (C3, 36%), and low MC-low MI (C4, 20%). Clusters differed in MA change ($F=19.262$, $p<.001$), with C2 and C4 showing the highest increase in MA. Thus, students with high MC but fragile MI were as vulnerable to increasing MA as students with low MC and low MI. Further analyses showed that C4 reported the lowest amount of parental scaffolding, although the difference from C2 was marginally significant ($p=.072$). Clusters did not differ in parental controlling practices ($F=2.079$, $p=.102$). However, both C2 and C4 reported the lowest levels of teachers' constructivist practices ($p<.05$). The distribution of clusters across classes differed significantly from a uniform distribution ($\chi^2(159)=233.666$, $p<.001$), showing that C2 is present in only 41% of classes, while in some classes over 30% of students belonged to C2.

The findings suggest that reducing MA requires moving beyond competence development towards creating classroom environments in which students perceive themselves as legitimate and valued participants in mathematical activity. As it seems that co-construction through classroom experiences has a substantial influence on students' MI, constructivist-oriented teaching may play a particularly important role in mitigating MA during the transition to subject-based mathematics instruction.

Keywords: *mathematics anxiety, mathematics competence, mathematics identity, parent support, teacher support*

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Mapping Math Anxiety Research: Insights From Structural Topic Modelling and Multidimensional Scaling

The current study aims to gain profound insight into the conceptual foundations of a fast-growing line of psychological research focused on mathematical anxiety. To accomplish this, we examined the topical structure underlying a corpus of scientific articles representative of the field. The corpus comprised $N = 1,592$ peer-reviewed journal articles indexed in Scopus, retrieved via a math-anxiety-related search string and restricted to the Article document type. Publications spanned 1970–2026, with a pronounced concentration in the last decade ($\approx 73\%$ published 2016–2026), reflecting the field's rapid growth. Articles were drawn from 632 distinct source journals, and all records included a non-missing abstract (100% coverage), used as input text for topic modelling. Abstracts (and, where available, author/index keywords) were preprocessed (lowercasing, stop-word removal, stemming/lemmatisation). To describe the broader conceptual organisation of the examined field, we applied classical multidimensional scaling (MDS) set to two dimensions for visualisation and hierarchical agglomerative clustering (Ward's method) to explore "hard" topical groupings. The latter two analyses were based on topic-topic distances (derived from the topic-word distributions).

STM revealed twelve "specific" latent topics, defined by the stems (respectively): scale/ factor/ measur*/, educ*/ support/ experi*/, learn/ use/ design/, children/ skill/ parent/, task/ problem/ work/, achiev*/ student/ self-efficaci*/, anxieti*/ level/ differ*/, perform/ anxieti*/ emot*/, student/ cours*/ scienc*/, mathemat*/ anxieti*/ teacher*/, group/ individu*/ high/, and math*/ anxieti*/ relat*. Math- and anxiety-related stems recur across topics and were treated as an expected feature of this corpus rather than a source of ambiguity in topic interpretation. The second-order structure (HAC) pointed to four clusters, tentatively named "affective and contextual factors", "assessment" (particularly in elementary education), "programme outlining and course implementation", and "cognitive topics and experimental research". Separately, the two MDS dimensions were interpreted as exam context versus knowledge acquisition and problem-solving support versus emotional response.

The distribution of topics over time indicates key conceptual development in the field since 2000, suggesting that the core research foundations were established in the early 2000s and have been extensively explored since. Researchers in this stream have been dedicated in a fairly balanced way to affect-related issues (mostly among younger students), methodological issues, and applied research in higher education. Considering the distributions and development trends of both specific and broad topics, one may tentatively conclude that the field is conceptually stabilising and that future theoretical developments will likely build on the foundational issues highlighted in the early 21st century.

Keywords: *math anxiety, structural topic modelling, multidimensional scaling*



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Strah od evaluacije, matematička anksioznost i analitičko mišljenje: kroskulturalna studija na uzorku studenata

Matematička anksioznost predstavlja specifičan oblik emocionalne nelagodnosti koji se javlja u situacijama učenja, primene i evaluacije matematičkih znanja, a može imati posledice po akademsko funkcionisanje i obrazovne izbore studenata. Polazeći od pretpostavke da se emocionalne reakcije u matematičkom kontekstu sve češće razmatraju u socijalno-evaluativnom i kroskulturalnom okviru, cilj ovog istraživanja bio je da se ispita odnos između straha od negativne evaluacije, analitičkog mišljenja i tri dimenzije matematičke anksioznosti: ispitne, numeričke i anksioznosti u vezi s pohađanjem kursa iz matematike tokom studiranja. Posebna pažnja posvećena je proveru medijacione uloge analitičkog mišljenja i ispitivanju razlika između individualističkih i kolektivističkih kultura. Istraživanje je sprovedeno na uzorku od 8.024 studenata sa 100 univerziteta iz 35 država, koristeći otvorene podatke šire sprovedene kroskulturalne studije. U uzorku su bile zastupljenije studentkinje (66%), a kao instrumenti korišćeni su Skala straha od negativne evaluacije, Test kognitivne refleksije kao mera analitičkog mišljenja i Revidirana skala matematičke anksioznosti sa tri dimenzije: ispitna matematička anksioznost, numerička anksioznost i anksioznost u vezi sa pohađanjem kursa iz matematike. Na osnovu Hofstedeovog indeksa individualizma, države uključene u širu studiju su svrstane u dve kategorije: individualistička i kolektivistička društva. Rezultati analize medijacije ukazali su na to da u kolektivističkim kulturama analitičko mišljenje ima značajan parcijalni efekat u odnosu između straha od negativne evaluacije i ispitne matematičke anksioznosti ($a = .07$, $b = -.21$, $c = .27$, $c' = .29$, za sve $p < .01$, $ab = -.02$; CI95% [-0.03/-0.01]), numeričke anksioznosti ($a = .07$, $b = -.26$, $c = .16$, $c' = .18$, za sve $p < .01$, $ab = -.02$; CI95% [-0.03/-0.01]) i anksioznosti u vezi s pohađanjem kursa iz matematike ($a = .07$, $b = -.23$, $c = .20$, $c' = .22$, za sve $p < .01$, $ab = -.02$; CI95% [-0.03/-0.01]), dok u individualističkim kulturama ovaj efekat nije utvrđen. Ovakav obrazac sugerise da u kolektivističkim sredinama strah od negativne evaluacije može doprinositi višoj matematičkoj anksioznosti, ali i aktivirati analitičko procesiranje koje delimično menja prirodu tog odnosa. U individualističkim kulturama strah od negativne evaluacije pre deluje kao faktor koji kompromituje analitičko mišljenje, nego kao podsticaj za analitičku obradu informacija. Nalazi potvrđuju značaj kroskulturalnog pristupa u razumevanju matematičke anksioznosti i ukazuju na potrebu za intervencijama koje uvažavaju kulturni kontekst i kognitivne resurse studenata

Ključne reči: matematička anksioznost, analitičko mišljenje, strah od evaluacije, kroskulturalna studija, studenti

Zahvalnica: Istraživanje je sprovedeno u sklopu izrade master rada.

Fear of Evaluation, Math Anxiety, and Analytical Thinking: A Cross-Cultural Study on a Student Sample

Math anxiety represents a specific form of emotional discomfort that occurs in situations involving the learning, application, and evaluation of mathematical knowledge and may have consequences for students' academic functioning and educational choices. Starting from the assumption that emotional reactions in math contexts are increasingly considered within a socio-evaluative and cross-cultural framework, the aim of this study was to examine the relationship between fear of negative evaluation, analytical thinking, and three dimensions of mathematics anxiety: test anxiety, numerical anxiety, and anxiety related to attending a mathematics course during studies. Special attention was given to testing the mediating role of analytical thinking and examining differences between individualistic and collectivistic cultures. The study was conducted on a sample of 8,024 students from 100 universities in 35 countries, using open data from a broader cross-cultural study. Female students comprised 66% of the sample. The instruments used were the Fear of Negative Evaluation Scale, the Cognitive Reflection

Test as a measure of analytical thinking, and the Revised Mathematics Anxiety Scale with three dimensions: mathematics test anxiety, numerical anxiety, and anxiety related to attending a mathematics course. Based on Hofstede's Individualism Index, the countries included in the broader study were classified into two categories: individualistic and collectivistic cultures. The results of the mediation analysis indicated that, in collectivistic cultures, analytical thinking had a significant partial effect in the relationship between fear of negative evaluation and mathematics test anxiety ($a = .07$, $b = -.21$, $c = .27$, $c' = .29$, all $p < .01$, $ab = -.02$; 95% CI $[-0.03, -0.01]$), numerical anxiety ($a = .07$, $b = -.26$, $c = .16$, $c' = .18$, all $p < .01$, $ab = -.02$; 95% CI $[-0.03, -0.01]$), and anxiety related to attending a mathematics course ($a = .07$, $b = -.23$, $c = .20$, $c' = .22$, all $p < .01$, $ab = -.02$; 95% CI $[-0.03, -0.01]$), whereas this effect was not found in individualistic cultures. This pattern suggests that, in collectivistic contexts, fear of negative evaluation may contribute to higher mathematics anxiety, while also activating analytical processing that partially changes the nature of this relationship. In individualistic cultures, fear of negative evaluation appears to act more as a factor that compromises analytical thinking than as a stimulus for analytical information processing. The findings confirm the importance of a cross-cultural approach to understanding mathematics anxiety and point to the need for interventions that take into account students' cultural context and cognitive resources.

Keywords: *math anxiety, analytical thinking, fear of evaluation, cross-cultural study, students*

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Motivacioni i samoregulatorni aspekti učenja matematike na univerzitetskom nivou

Učenje matematike na univerzitetskom nivou predstavlja složen proces na koji utiču brojni motivacioni, emocionalni i kognitivni faktori. Pekrunova teorija kontrole i vrednosti ukazuje na značaj procene kontrole i vrednosti za motivaciju i emocije povezane s postignućem, dok Cimermanov model samoregulisano učenja naglašava aktivnu ulogu studenta u planiranju, praćenju i regulisanju sopstvenog učenja. Cilj istraživanja bio je ispitivanje motivacionih i samoregulatornih aspekata učenja matematike kod studenata prve godine, s posebnim osvrtom na povezanost motivacionih uverenja i strategija učenja, kao i njihove razlike u odnosu na pojedine akademske karakteristike studenata.

U istraživanju je učestvovalo 79 studenata prve godine Fakulteta informacionih tehnologija Univerziteta Metropolitan. Studenti su dobrovoljno i anonimno popunili standardizovani SRL-O upitnik, koji obuhvata četiri dimenzije motivacionih uverenja, kao i šest dimenzija strategija učenja. Interna konzistentnost podskala bila je zadovoljavajuća do odlična (Kronbahovo $\alpha = .720-.923$). Nakon provere pretpostavki za primenu parametrijskih postupaka, podaci su analizirani u programu SPSS primenom Pirsonovog koeficijenta korelacije, t-testa za nezavisne uzorke i jednofaktorske analize varijanse (ANOVA), uz Takijev HSD post hoc test.

Rezultati su pokazali snažnu pozitivnu povezanost unutrašnje motivacije s regulacijom napora ($r = .794$, $p < .001$), strategijama rada s gradivom ($r = .701$, $p < .001$) i metakognicijom ($r = .660$, $p < .001$), dok je akademska samoefikasnost bila pozitivno povezana s regulacijom napora ($r = .611$, $p < .001$) i negativno s negativnim emocijama povezanim s postignućem ($r = -.382$, $p = .001$). Utvrđene su razlike prema željenom nivou postignuća (osnovni, srednji i napredni) u motivacionim uverenjima, $F(2,76) = 10.733$, $p < .001$, $\eta^2 = .220$, i strategijama učenja, $F(2,76) = 6.944$, $p = .002$, $\eta^2 = .155$. Post hoc analiza pokazala je razlike u motivacionim uverenjima između sva tri nivoa, dok su u strategijama učenja studenti koji teže osnovnom nivou ostvarili niže skorove od studenata koji teže srednjem i naprednom nivou. Studenti kojima je važna visoka ocena imali su više skorove motivacionih uverenja ($M = 3.60$ prema $M = 2.95$),

$t(77) = 3.685$, $p < .001$, $d = .95$, kao i strategija učenja ($M = 3.98$ prema $M = 3.55$), $t(77) = 2.232$, $p = .029$, $d = .58$.

Nalazi ukazuju na statistički značajne povezanosti između motivacionih i samoregulatornih aspekata učenja matematike, pri čemu se posebno izdvajaju unutrašnja motivacija i akademska samoeфикаsnost u njihovoj povezanosti sa strategijama učenja. Utvrđene razlike između studenata koji teže različitim nivoima postignuća, kao i u odnosu na važnost koju pridaju visokoj oceni, dodatno ukazuju na značaj motivacije u iskustvu učenja matematike na univerzitetskom nivou. Dobijeni rezultati mogu doprineti boljem razumevanju faktora koji oblikuju iskustvo učenja matematike na univerzitetskom nivou i pružiti smernice za unapređenje nastavne prakse i podrške studentima.

Ključne reči: motivacija, akademska samoeфикаsnost, samoregulisano učenje, univerzitetska matematika

Motivational and Self-Regulatory Aspects of Learning Mathematics at the University Level

Learning mathematics at the university level is a complex process influenced by numerous motivational, emotional, and cognitive factors. Pekrun's control-value theory highlights the importance of control and value appraisals for motivation and achievement-related emotions, while Zimmerman's model of self-regulated learning emphasises students' active role in planning, monitoring, and regulating their own learning. The aim of this study was to examine motivational and self-regulatory aspects of mathematics learning among first-year students, focusing on relationships between motivational beliefs and learning strategies, and differences related to selected academic characteristics.

The study included 79 first-year students from the Faculty of Information Technologies at Metropolitan University. Students voluntarily and anonymously completed the standardised SRL-O questionnaire, comprising four dimensions of motivational beliefs and six dimensions of learning strategies. Internal consistency of the subscales ranged from acceptable to excellent (Cronbach's $\alpha = .720-.923$). After checking parametric assumptions, data were analysed in SPSS using Pearson's correlation coefficient, independent-samples t-tests, and one-way analysis of variance (ANOVA) with Tukey HSD post hoc tests.

The results showed strong positive correlations between intrinsic motivation and effort regulation ($r = .794$, $p < .001$), strategies for learning course material ($r = .701$, $p < .001$), and metacognition ($r = .660$, $p < .001$). Academic self-efficacy was positively correlated with effort regulation ($r = .611$, $p < .001$) and negatively correlated with negative achievement emotions ($r = -.382$, $p = .001$). Significant differences according to desired achievement level (basic, intermediate, and advanced) were found in motivational beliefs, $F(2,76) = 10.733$, $p < .001$, $\eta^2 = .220$, and learning strategies, $F(2,76) = 6.944$, $p = .002$, $\eta^2 = .155$. Post hoc analysis revealed differences in motivational beliefs across all three levels, while students aiming for the basic level scored lower on learning strategies than those aiming for the intermediate and advanced levels. Students who valued a high grade scored higher on motivational beliefs ($M = 3.60$ vs. $M = 2.95$), $t(77) = 3.685$, $p < .001$, $d = .95$, and learning strategies ($M = 3.98$ vs. $M = 3.55$), $t(77) = 2.232$, $p = .029$, $d = .58$.

The findings indicate statistically significant associations between motivational and self-regulatory aspects of mathematics learning, with intrinsic motivation and academic self-efficacy particularly standing out in their associations with learning strategies. Differences related to desired achievement levels and the importance of high grades further highlight the role of motivation in university mathematics learning. The findings may contribute to a better understanding of students' mathematics learning and inform teaching practices and student support.

Keywords: motivation, academic self-efficacy, self-regulated learning, university mathematics



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Learning and Evaluation-Related Mathematics Anxiety Predict General but Not Mathematics Achievement at the End of Primary Education

Mathematics anxiety is usually treated as a domain-specific risk factor for mathematics achievement, but its incremental role beyond broader predictors of school performance remains insufficiently tested. This issue is especially relevant at the end of primary education, when grade-point average affects secondary-school enrolment and mathematics is a central source of academic pressure. Because students typically receive their lowest grades in mathematics, mathematics-related anxiety may become particularly consequential. This study examined whether two dimensions of mathematics anxiety predict achievement beyond gender, cognitive ability, Big Five traits, and dispositional test anxiety. The sample included 302 students from the final two grades of primary school in the Republic of Srpska (mean age=13.95, SD=0.76; 51% boys). Mathematics anxiety was assessed as learning mathematics anxiety (LMA) and mathematics evaluation anxiety (MEA). Three criteria were analysed: mathematics achievement, general school achievement, and general achievement with mathematics achievement statistically removed. The key finding was contrary to expectation: mathematics anxiety did not incrementally predict mathematics achievement. The baseline model explained 39.6% of mathematics achievement variance, but adding LMA and MEA did not improve prediction ($\Delta R^2=.004$, $p=.361$). However, mathematics anxiety significantly improved the prediction of general school achievement ($\Delta R^2=.051$, $p<.001$) and even more strongly predicted achievement unrelated to mathematics grades ($\Delta R^2=.096$, $p<.001$). Across these broader criteria, anxiety about learning mathematics predicted lower achievement, whereas anxiety about mathematics evaluation predicted higher achievement. Dispositional test anxiety was not an independent predictor. These results suggest that mathematics anxiety at the end of primary school may affect other subjects more than mathematics grades. Students who are anxious about mathematics may eventually secure their mathematics grades, but the effort and concern invested in "solving" mathematics may come at a cost for other subjects. We hypothesise that learning-related mathematics anxiety captures this disruptive burden: mathematics becomes an affective and motivational drain, drawing attention and effort away from the rest of the curriculum. In contrast, evaluation-related mathematics anxiety may reflect performance-oriented tension, grade concern, or adaptive investment that can support general achievement. Mathematics anxiety may therefore act as a broader marker of effort, tension, and academic priority redistribution, rather than a narrow predictor of mathematics performance alone.

Keywords: *mathematics anxiety, learning mathematics anxiety, mathematics evaluation anxiety, school achievement, primary education*



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Beyond Math Anxiety: Topic Modelling and Sentiment Analysis of Serbian-Language Discourse on Mathematics

Research on negative experiences of mathematics has been dominated by the construct of mathematics anxiety, which has become the central framework for understanding avoidance, discomfort, and underachievement in mathematical domains. However, it remains unclear whether anxiety also dominates naturally occurring public discourse about mathematics, or whether

mathematics is discussed through broader emotional, motivational, educational, and cultural meanings. This question is particularly relevant for under-resourced languages such as Serbian, where large-scale computational analyses of mathematics-related discourse are scarce. Accordingly, the present study uses topic modelling and sentiment analysis to examine how mathematics is represented in Serbian-language online discourse, moving beyond the assumption that mathematics-related negativity is reducible to anxiety. The dataset consisted of 10,000 Serbian-language text segments extracted from the srWaC corpus, composed mainly of blog texts from .rs websites. After preprocessing, BERTopic identified latent thematic structures, while sentiment classification was performed using the transformer-based BERTiC model. Topic modelling revealed thematic diversity in mathematics-related discourse. Educational discourse represented the dominant thematic cluster (53.4% of the corpus), but mathematics also appeared in contexts related to politics, economics, higher education, culture, and public institutions. The initial 190 topics were automatically reduced to 41 semantically coherent clusters, indicating that mathematics is discussed across diverse societal domains rather than exclusively within educational settings. Sentiment analysis showed a highly imbalanced distribution, with neutral sentiment accounting for almost 99% of all texts, while positive and negative evaluations were comparatively rare. Correspondingly, the classifier achieved high performance for the neutral class (precision = .94, recall = 1.00), whereas both the positive and negative classes had precision and recall values of .00. The findings suggest that mathematics in Serbian web discourse is predominantly framed through informational and institutional language, with explicit emotional evaluation occurring infrequently. Methodologically, the dominance of neutral texts substantially limits transformer-based sentiment models in detecting minority positive and negative evaluations, even when class-balancing techniques are applied during training. Overall, the study demonstrates that combining embedding-based topic modelling and transformer-based sentiment analysis provides a useful framework for examining evaluative discourse surrounding mathematics in naturally occurring language data. Future studies could extend this approach by exploring embedding-based semantic representations (e.g., BERTiC embeddings) to examine the local semantic neighbourhood of #matematika, revealing implicit associations beyond sentence-level sentiment analysis.

Keywords: mathematics, sentiment analysis, topic modelling, Serbian language, natural language processing (NLP)

Izgaranje u savremenim radnim kontekstima: višestruke psihološke perspektive

Burnout In Contemporary Workplace: Multiple Psychological Perspectives

Voditeljka / Moderator: Dragana Jelić



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The Burnout Assessment Tool Across Professional Contexts in Serbia: A New Theoretical and Practical Perspective on Burnout

The Burnout Assessment Tool (BAT) was developed to address some limitations of the Maslach Burnout Inventory (MBI), considered the gold standard for measuring employee burnout. The BAT defines burnout as a syndrome encompassing four core dimensions (BAT-C): exhaustion, mental distance, cognitive impairment, and emotional impairment, and two secondary symptom dimensions (BAT-S): psychological distress and psychosomatic complaints. Relying on Edward Thorndike's theoretical approach to fatigue, the BAT sees burnout as both an inability and an unwillingness to invest effort at work. Accordingly, exhaustion, cognitive impairment, and emotional impairment reflect an inability to invest energy in work, while mental distance reflects an unwillingness to invest energy. Furthermore, unlike the MBI, the BAT provides the practitioners with an overall burnout score with empirically derived cut-off values, facilitating the identification of burnout consistent with WHO's (ICD-11) recognition of burnout as an occupational phenomenon. This paper integrates and discusses findings from a series of psychometric evaluations of the Serbian BAT version across different occupational contexts. It integrates results from two already published studies (Vukelić et al., 2022; Vukelić et al., in press) and a third unpublished study. Validation was conducted on three independent Serbian samples: 450 employees from diverse occupational sectors; 521 teachers from elementary and high schools, kindergartens, and special education schools; and 150 medical doctors. Across the three studies, CFA supported the presumed BAT structure. A bifactor model provided the best fit, indicating a strong general burnout factor alongside four specific dimensions. BAT-C and BAT-S demonstrated high internal consistency, Rasch analyses confirmed satisfactory properties, and strong associations between core and secondary symptoms further supported the presumed BAT model. The findings provide robust evidence for the reliability, validity, and practical applicability of the Serbian version of the BAT as well as its strong theoretical grounding, which will be further discussed.

Keywords: Serbian BAT version, different occupational contexts, theoretical and practical implications



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Who Burns Out? Basic Psychological Need Satisfaction and Frustration Profiles Among Managers

Burnout among managers represents a significant occupational health concern, yet less is known about how configurations of basic psychological need satisfaction and frustration relate to burnout. Drawing on Self-Determination Theory, this study used a person-centred approach to identify

motivational profiles among managers and examine differences in burnout across profiles. Participants were 503 managers (55.0% female; 62.2% private sector), with a mean age of 37.59 years ($SD = 11.66$) and tenure of 8.60 years ($SD = 8.69$). The sample included first-line (62.2%), middle (19.5%), and senior managers (18.3%). A confirmatory factor analysis supported a six-factor structure of the Basic Psychological Need Satisfaction and Frustration at Work Scale, and the resulting standardised factor scores were used as indicators in latent profile analysis. Prior to LPA, multivariate outliers were identified using Mahalanobis distance, and 18 cases exceeding the critical threshold ($\chi^2(6) = 22.46$, $p < .001$) were excluded, resulting in a final sample of 485 managers. Latent profile solutions were compared using BIC, entropy, class sizes, and interpretability. The five-profile solution was selected as the best balance of fit and parsimony, with better fit than the four-profile solution ($\Delta BIC = 37$), good classification quality (entropy = .84), and adequate class sizes. The six-profile solution was rejected due to lower interpretability and minimal added value. The five profiles were: Balanced ($n = 193$, 39.8%), with average levels across dimensions; Autonomous ($n = 133$, 27.4%), characterised by high satisfaction and low frustration; Moderately Frustrated ($n = 79$, 16.3%), showing elevated frustration and reduced satisfaction; Controlled ($n = 50$, 10.3%), marked by elevated autonomy frustration with moderate satisfaction; and Highly Frustrated ($n = 30$, 6.2%), characterised by high frustration and low satisfaction across needs. A one-way ANOVA showed significant differences in burnout across profiles ($F(4, 480) = 69.37$, $p < .001$, $\eta^2 = .37$). Burnout was highest in the Highly Frustrated ($M = 3.47$), Controlled ($M = 3.31$), and Moderately Frustrated ($M = 3.29$) profiles, intermediate in the Balanced profile ($M = 2.62$), and lowest in the Autonomous profile ($M = 2.02$). Post hoc Tukey comparisons indicated that the Autonomous profile differed significantly from all others, while the Balanced Profile differed from each remaining group. No significant differences were found among the Highly Frustrated, Controlled, and Moderately Frustrated profiles. The findings indicate that managers' burnout is strongly associated with need-based motivational profiles. Notably, profiles characterised by elevated need frustration showed similarly high levels of burnout despite differences in their levels of need satisfaction. This pattern further supports the value of a person-centred approach for understanding burnout among managers.

Keywords: burnout, managers, basic psychological needs, latent profile analysis



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Client-Related Burnout in Mental Health Professionals: The Role of Job Demands and Job Resources (an Ongoing Study)

Mental health professionals are at increased risk of burnout, with meta-analytic studies showing approximately 40% of them experience significant emotional exhaustion—a key component of burnout. While emotional exhaustion is often attributed to the emotionally demanding nature of the job itself, the specific features that contribute to burnout, and specifically to client-related burnout (i.e., the degree to which exhaustion is perceived as related to working with clients), are still understudied.

Relying on the Job Demands–Resources (JD-R) model, which posits that job strain, including burnout, depends on two broad categories of factors—job demands and resources—the present study aims to examine the specific factors that contribute to the risk of burnout in mental health professionals, as well as factors that may help reduce it. As job demands may vary across occupations, we focus specifically on demands we reasoned may be highly relevant for mental health professionals, including caseload and number of difficult cases (e.g., clients at high suicide risk). Regarding resources, our study focuses on the role of supervision, the meaning professionals find in their work, and the perceived support (or lack thereof) from the broader healthcare system. We hypothesise that higher job

demands and greater resources are associated with higher and lower burnout levels, respectively. Additionally, resources are expected to buffer (moderate) the positive relationship between job demands and burnout. While not a job demand or resource per se, we will also examine the role of workaholism, as previous studies have found it to be a risk factor for burnout across occupations; however, no previous study has examined it in relation to burnout specifically among mental health professionals. Drawing on the JD-R, workaholism may contribute to burnout directly and indirectly through fostering self-generated job demands. Thus, we propose that job demands mediate the relationship between workaholism and burnout.

Data collection is ongoing; our sample is expected to include at least 200 mental health professionals who directly support clients. Participants are expected to complete an online survey composed of the Copenhagen Burnout Inventory (Kristensen et al., 2005), the Dutch Workaholism Scale (Schaufeli et al., 2009), the Work and Meaning Inventory (Steger et al., 2012), an item assessing the frequency of supervision in the past six months, and an item assessing the level of perceived support from the broader system. The data will be analysed using hierarchical linear regression, with job demands entered in the first step, job resources in the second, and workaholism in the third. Moderation analyses will be used to examine whether each resource moderates the relationship between job demands and burnout. Finally, mediation analysis will be used to examine whether workaholism contributes to burnout through increased job demands (specifically, through increased caseload).

Keywords: burnout, mental health professionals, workaholism, job demands, resources



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Beyond Job Characteristics: Different Pathways to Burnout

Work burnout is one of the most extensively studied indicators of impaired occupational well-being and is predominantly explained within the Job Demands–Resources (JD-R) framework as a consequence of high job demands and insufficient job resources (Bakker & Demerouti, 2017). However, employees exposed to comparable working conditions often experience different levels of burnout, suggesting that job characteristics alone may not fully explain individual vulnerability. While the JD-R model primarily emphasises characteristics of the work environment, less attention has been devoted to employees' work-related psychological functioning, despite evidence that individuals differ in how they relate to and invest themselves in their work. Building on this perspective, the present study examined whether work engagement and workaholism explain burnout beyond job demands and job resources.

Participants were 505 Serbian employees (55.6% women; Mage = 37.20 years) from a broad range of occupational sectors. Burnout was assessed using the Serbian version of the Work Burnout Scale (Berat et al., 2016). Job demands and job resources were measured using the Job Characteristics Questionnaire (Popov et al., 2025), work engagement using the Utrecht Work Engagement Scale (UWES-9; Schaufeli et al., 2006), and workaholism using the Dutch Work Addiction Scale (DUWAS; Schaufeli et al., 2009). Hierarchical regression analyses showed that job demands and job resources explained a substantial proportion of burnout variance ($R^2 = .36$, $F(6, 498) = 47.55$, $p < .001$). Adding work engagement, together with working excessively and working compulsively, significantly improved the model ($\Delta R^2 = .19$, $\Delta F(3, 495) = 69.10$, $p < .001$), increasing the explained variance to 55.2%. In the final model, work engagement emerged as the strongest predictor of burnout ($\beta = -.47$, $p < .001$), while supervisor support ($\beta = -.15$, $p < .001$) and job control ($\beta = -.12$, $p = .001$) remained the strongest contextual protective factors. Both working excessively ($\beta = .14$, $p = .008$) and working compulsively ($\beta = .11$, $p = .030$) explained unique variance in burnout beyond job characteristics.

The findings are consistent with the view that burnout is shaped by complementary work-related processes encompassing both characteristics of the work environment and employees' relationships with their work. Specifically, work engagement and workaholism explained substantial additional variance in burnout beyond the traditional JD-R model, highlighting that employees' relationship with their work contributes to understanding burnout over and above job characteristics. By integrating work engagement and workaholism within the JD-R framework, the present study extends current burnout research and demonstrates that employees' relationship with their work represents an important complement to job characteristics in explaining burnout.

Keywords: work burnout, Job Demands–Resources model, work engagement, workaholism, work-related psychological functioning



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Facades of Conformity at Work: Burnout, Job Satisfaction, and Turnover Intention Among Croatian Employees

Facades of conformity refer to employees' tendency to suppress their authentic values, beliefs, and attitudes in order to fit perceived organisational norms (Hewlin, 2009). Although such behaviour may facilitate social acceptance, it may also undermine employee well-being and work-related outcomes. This study examined the relationships between workplace facades of conformity, burnout, job satisfaction, and turnover intention among Croatian employees. A total of 518 employees (58.9% women; aged 18–66 years) completed an online survey including the Conformity Scale, the Burnout Assessment Tool, the Job Satisfaction Survey, and the Intention to Leave Scale. Correlation analyses indicated that facades of conformity were positively associated with primary burnout symptoms ($r = .48, p < .001$), secondary burnout symptoms ($r = .45, p < .001$), and turnover intention ($r = .28, p < .001$), while being negatively associated with job satisfaction ($r = -.35, p < .001$). Men reported significantly higher job satisfaction, $t(515) = 2.89, p < .01$, and lower emotional exhaustion, $t(516) = -4.23, p < .001$, than women. Hierarchical regression analysis showed that burnout ($\beta = .25, p < .001$), job satisfaction ($\beta = -.44, p < .001$), and age ($\beta = -.19, p < .001$) explained 40% of the variance in turnover intention ($R^2 = .40$). However, facades of conformity did not explain additional variance beyond burnout and job satisfaction ($\beta = .01, p = .83$). Similarly, burnout was the strongest predictor of job satisfaction ($\beta = -.56, p < .001$), whereas facades of conformity did not make a unique contribution. The findings suggest that employees who maintain stronger facades of conformity experience poorer well-being and less favourable work attitudes, although these associations appear to be largely accounted for by burnout. From an organisational perspective, the findings highlight the importance of fostering work environments in which employees can express their values and perspectives without pressure to conform. Such environments may contribute to reducing burnout, enhancing job satisfaction, and ultimately improving employee retention. Future research should examine the mechanisms through which facades of conformity influence employee outcomes, including potential mediating and moderating processes.

Keywords: facades of conformity, burnout, job satisfaction, turnover intention, organisational conformity

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Psihologija zločina, zakona i reda

Psychology of Crime, Law, and Order

Voditeljka / Moderator: Irena Bošković



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Short Psychopathy Rating Scale: Construct and Predictive Validity in a Sample of Prisoners

Recently, the Short Psychopathy Rating Scale (SPRS), a novel observer-based instrument, was developed to measure three psychopathic traits: Deceitfulness, Emotional Coldness, and Recklessness. While initial validation suggested the scale's potential for psychopathy assessment, the present research aimed to test its psychometric properties within a prison population ($N = 290$; $M_{age} = 40.22$ [$SD = 10.41$]) as part of the PrisonLIFE project. Raters consisted of treatment service staff across the five largest Serbian prisons. We also assessed Dark Tetrad traits (using the Dirty Dozen and Comprehensive Assessment of Sadistic Tendencies scales) and various indicators of criminal behaviour to explore discriminative and predictive validity.

Confirmatory factor analysis demonstrated an excellent fit for the expected three-factor model: $\chi^2(296) = 401.99$; $p < .01$; $CFI = .989$; $TLI = .988$; $RMSEA = .035$; $SRMR = .069$. All scales showed high internal consistency: $\alpha = .86$ for Deceitfulness, $\alpha = .89$ for Emotional Coldness, and $\alpha = .91$ for Recklessness. Kolmogorov–Smirnov tests were non-significant, suggesting normal distributions within the sample. Psychopathy traits were moderately intercorrelated. Furthermore, systematic positive associations (with low effect sizes) were found between the SPRS and Dark Tetrad traits: Machiavellianism and psychopathy correlated most strongly with Emotional Coldness ($r = .19$; $p < .01$; $r = .14$; $p < .05$, respectively), Narcissism with Recklessness ($r = .14$; $p < .05$), and Sadism with both Emotional Coldness and Recklessness ($r = .24$; $p < .01$ in both cases). Finally, psychopathy traits significantly predicted criminal behaviour after controlling for sex, age, and education. Emotional Coldness positively predicted sentence length, penal recidivism, risk assessment score, and (marginally) violent offences, while negatively predicting the age of first offence. Recklessness positively predicted earlier age of first offence and risk assessment.

Despite the modest sample size, these results support the construct validity, reliability, discriminativeness, and predictive utility of the SPRS, supporting its use in forensic settings. Furthermore, beyond the psychometric considerations, the findings provide insights into personality dispositions for criminal behaviour. In contrast with previous studies with similar scales, our data pinpoint Emotional Coldness (lack of empathy, fear, guilt, and anxiety) as a primary source of criminal conduct. Recklessness contributed to the explanation of early onset of criminal behaviour, suggesting that this psychopathy trait may be particularly important for understanding the early start of offending. Finally, Deceitfulness was largely unassociated with offending, suggesting that it may contain adaptive potentials, at least in the context of criminal behaviour.

Keywords: *psychopathy, Short Psychopathy Rating Scale, criminal behaviour, validity, reliability*

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Dynamic Risk in Forensic Psychiatric Patients: Group and Individual Change on the STABLE-2007 in Flemish High-Security Settings

STABLE-2007 is a well-validated structured professional judgement instrument designed to assess changeable criminogenic needs among individuals convicted of sexual offences. It evaluates five domains relevant to sexual recidivism risk: significant social influences, intimacy and relationship deficits, general self-regulation, sexual self-regulation, and cooperation with supervision. In clinical practice, it is frequently used alongside Static-99R, which assesses relatively stable, rather than changeable, risk factors associated with sexual recidivism. Although STABLE-2007 is increasingly used in forensic practice, it remains unclear whether it is sufficiently sensitive to detect clinically meaningful change over time in forensic psychiatric populations and whether static risk factors influence the extent or direction of such change. This study addressed these gaps by examining changes in STABLE-2007 scores across three annual assessment points (T1–T3) in 127 male inpatients (M age = 44.90 years, SD = 13.72) residing in high-security forensic psychiatric institutions in Flanders, Belgium. It also examined whether baseline Static-99R scores predicted subsequent changes in STABLE-2007 scores. At the group level, latent growth curve analyses revealed a small but statistically significant decline in STABLE-2007 scores over time. Higher baseline Static-99R scores were associated with higher initial STABLE-2007 scores but did not predict the rate of change over time. At the individual level, however, Reliable Change Index analyses revealed a markedly different pattern: across the full monitoring period, only 13.1% of patients showed clinically meaningful reliable change, while most remained unchanged and some deteriorated. Static-99R scores likewise failed to predict individual-level change. Overall, while STABLE-2007 scores showed a modest average reduction over time, this group-level effect translated into little reliable individual-level change within the sample. The findings therefore underscore the importance of interpreting small group-level reductions with caution and reinforce the need for individualised approaches to assessing change in dynamic risk factors within forensic psychiatric practice.

Keywords: STABLE-2007, Static-99R, forensic psychiatric patients, sexual offences, latent growth curve analysis, reliable change index

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Mental Health Outcomes During Student and Citizen Protests in Serbia: The Role of Police and Parapolice Violence Exposure

Since November 2024, Serbia has experienced sustained civic and student mobilisation that has unfolded in a context characterised by political polarisation, social uncertainty, and repeated exposure to police and parapolice violence. This study examines mental health within this context, exploring how exposure to police and parapolice violence relates to both psychological vulnerability and resilience. Data were collected through a cross-sectional online survey conducted between January and February 2026 among Serbian citizens residing in Serbia and the diaspora. The final sample comprised 652 participants aged 16 to 76 years ($M = 41.36$), of whom 76.2% were women. The study assessed direct and indirect exposure to police and parapolice violence, including personal experiences, exposure affecting close others, witnessing incidents, and media exposure. Mental health outcomes included symptoms of depression (PHQ-9), anxiety (GAD-7), post-traumatic stress (PCL-5), positive and negative affect (PANAS), and post-traumatic growth (PTGI-3). Preliminary analyses indicated that greater overall exposure to violence was associated with higher levels of negative affect ($r = .13$, $p < .001$), anxiety symptoms ($r = .10$, $p = .014$), and post-traumatic stress symptoms ($r = .08$, $p = .032$). At the same time, overall exposure was positively associated with positive affect ($r = .09$, $p = .024$). Exposure affecting close others was associated with post-traumatic growth ($r = .13$, $p = .001$), while media exposure was linked to negative affect, depressive symptoms, anxiety, and post-traumatic stress symptoms. Protest participation itself was associated with higher levels of post-traumatic growth ($r = .26$, $p < .001$) and positive affect ($r = .25$, $p < .001$). Multiple linear regression analyses indicated that socioeconomic vulnerability and previous traumatic experiences were associated with poorer mental health outcomes, whereas social support and, for selected outcomes, professional psychological support and support related to protest participation were associated with more favourable mental health outcomes. Findings suggest that even in contexts characterised by police and parapolice violence, collective engagement may serve as a source of resilience and growth.

Keywords: collective action, police violence, mental health, resilience, social movement



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Psihološki efekti političkog aktivizma u Srbiji

Teorijska osnova: U ovoj studiji evaluirani su različiti aspekti političkog aktivizma u kontekstu društveno-političkih protesta tokom 2024. i 2025. godine u Srbiji. Konkretno, ispitani su oblici aktivizma, doživljeni pritisci i sudsko gonjenje, kao i psihološki profili učesnika.

Metod: Finalni (prigodan) uzorak činilo je 368 aktivista, od kojih je većina bila ženskog pola ($n = 273$, 74.2%) i prosečne starosti 39.51 godina ($SD = 13.10$), sa završenim fakultetom. Svi učesnici su odgovarali na demografska pitanja, stavke koje se odnose na aktivizam i standardizovane psihološke merne instrumente za procenu traume (PCL-5), distresa (DASS), somatskog zdravlja (PHQ-15), mentalnog poraza (MDQ) i posttraumatskog rasta (PTGI).

Rezultati: Aktivizam se najčešće manifestovao kroz priključivanje organizovanim događajima, davanje donacija i učestvovanje u organizaciji događaja. Prijavljen je visok nivo sistemskog pritiska: 73% ($n = 269$) suočilo se s direktnim ili indirektnim ucenama na radnom mestu, otkazom ili napadima; 14% je bilo na informativnom razgovoru u policiji, dok je 11.4% bilo sudski procesuirano. Uprkos ovim stresorima, opšte psihološko zdravlje aktivista odgovaralo je bazičnim vrednostima opšte populacije, sem nivoa posttraumatskih simptoma koji je uočljivo povišen. Naše analize nisu pokazale značajne razlike u psihološkom blagostanju između procesuiranih ($n = 42$) i neprocesuiranih ($n = 326$) učesnika ($ps > .30$). Međutim, organizatori događaja ($n = 178$) postigli su značajno više skorove na meri posttraumatskog rasta u odnosu na ostale aktiviste ($n = 190$; $t = 2.47$, $p = .01$, $d = .26$), mada uz blagi trend ka višim nivoima simptoma traume ($p = .08$, $d = .18$).

Zaključak: Uprkos tome što se aktivisti u Srbiji suočavaju s ozbiljnim pravnim i socioekonomskim sankcijama, oni pokazuju visoku psihološku rezilijentnost. Iako se čini da uloge na prvim linijama organizacije podstiču pozitivne promene, one takođe zahtevaju visok nivo psihološke podrške usled pojačane izloženosti potencijalno traumatičnim iskustvima.

Ključne reči: aktivizam, procesuiranje, pritisak, psihološko blagostanje

Psychological Effects of Political Activism in Serbia

Background: In this study, we evaluated different aspects of political activism within the context of socio-political protests in Serbia during 2024 and 2025. Namely, we inspected forms of activism, experienced pressure and prosecution, as well as psychological profiles.

Method: The final (convenience) sample comprised 368 activists, the majority of whom were female ($n=273$, 74.2%) with an average age of 39.51 years ($SD = 13.10$) holding a university diploma. All participants responded to demographic questions, items regarding activism, and standardised psychological measures assessing trauma (PCL-5), distress (DASS), somatic health (PHQ-15), mental defeat (MDQ), and post-traumatic growth (PTGI).

Results: Activism was mostly expressed through joining organised events, making donations, and participating in event organisation. High systemic pressure was reported: 73% ($n=269$) faced direct or indirect workplace blackmail, termination, or attacks; 14% were interviewed by the police; and 11.4% underwent court prosecution. Despite these stressors, the general psychological health of activists matched general population baselines, except for trauma symptoms, which were noticeably elevated. Our analyses revealed no significant differences in psychological well-being between prosecuted ($n=42$) and non-prosecuted ($n=326$) participants ($ps > .30$). However, event organisers ($n=178$) obtained significantly higher post-traumatic growth scores than other activists ($n=190$; $t = 2.47$, $p = .01$, $d = .26$), albeit with slightly higher levels of trauma symptoms as well ($p = .08$, $d = .18$).

Conclusion: Although activists in Serbia face severe legal and socio-economic sanctions, they demonstrate high psychological resilience. While frontline organisational roles appear to foster positive psychological changes, they also necessitate dedicated psychological support due to heightened exposure to potentially traumatic experiences.

Keywords: Activism, pressure, prosecution, psychological well-being



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The Dark Tetrad at Work: Social Relations and Psychological Distress Among Prison Correctional Officers

The Dark Tetrad personality traits (i.e., narcissism, psychopathy, Machiavellianism, and sadism) are linked to malevolent workplace behaviour and distress indicators, and the research on these traits among prison correctional officers is limited. Thus, we examined associations between the Dark Tetrad traits, workplace social relations, and distress indicators: occupational stress, burnout, and reported need for psychological support in a sample of prison correctional officers (N=513, 87% male; Mage = 42.91, SDage = 9.95). Data were collected within the larger PRISCLIM project across all penal institutions in Croatia. The Dark Tetrad traits were assessed with the Short Dark Tetrad. At the same time, social relations were operationalised as relations with prisoners, peers and managerial support, and experiencing different types of bullying from prisoners (victimisation). Regression analyses indicated that Machiavellianism and psychopathy positively predicted stress and burnout, narcissism negatively predicted them, and only sadism positively predicted the need for psychological support. Workplace relations contributed more substantially to all distress indicators than the Dark Tetrad traits did. Interpersonal relations were negatively associated with stress and burnout, whereas victimisation was positively associated. The need for psychological support was positively predicted by victimisation and negatively by managerial support. Workplace relations significantly mediated the relationships between DT traits and distress indicators, with psychopathy showing positive and narcissism showing negative indirect effects, as measured by a single latent variable in a structural model. These findings enhance understanding of the maladaptive features of the Dark Tetrad traits and offer practical implications for improving coping strategies among prison correctional officers.

Keywords: Dark Tetrad, workplace social relations, distress, prison correctional officers

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Efekti i procesi u psihoterapiji: savremeni istraživački pristupi

Effects and Processes in Psychotherapy: Contemporary Research

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Body, Self, and Behaviour: How Self-Acceptance Transforms the Link Between Body Image and Health Habits

Physical activity is a significant protective factor for both physical and mental health. However, despite its numerous benefits, physical activity is not always associated with positive health outcomes. Individuals with eating disorders often engage in compulsive exercise as a compensatory mechanism aimed at burning calories and reducing body weight. To better understand maladaptive patterns related to nutrition and physical activity, body image and unconditional self-acceptance emerge as key constructs. Body image refers to perceptions, attitudes, and emotions regarding one's body, while unconditional self-acceptance, a construct rooted in Rational-Emotive and Cognitive-Behavioural Therapy (RE&CBT), reflects a realistic, accepting, and non-judgemental attitude toward one's strengths and limitations. This study aimed to examine whether unconditional self-acceptance mediates the relationship between body image and maladaptive exercise, and eating patterns.

The study included 939 participants (32.8% male, 66.9% female), with a mean age of 26.47 years ($SD = 10.28$). The Serbian short form of the Unconditional Self-Acceptance Questionnaire (USAQ-Short; Popov & Sokić, 2022) was used to assess conditional self-acceptance (CSA) and unconditional self-acceptance (USA). The Embodied Image Scale (EIS; Volarov et al., 2024) measured aesthetic (ABI) and functional body image (FBI), while attitudes towards nutrition and physical activity were assessed using a questionnaire developed for this study.

Maladaptive engagement in physical activity showed positive correlations with ABI ($r = .22, p < .001$), FBI ($r = .25, p < .001$), and CSA ($r = .19, p < .001$), and a negative correlation with USA ($r = -.10, p < .01$). Maladaptive eating behaviours were positively associated with CSA ($r = .36, p < .001$), and negatively associated with USA ($r = -.24, p < .001$) and FBI ($r = -.12, p < .001$).

A series of multiple regression analyses tested the parallel mediation effects of conditional and unconditional self-acceptance in the relationship between body image and maladaptive attitudes towards nutrition and physical activity. A partial mediation effect of CSA was detected in the relationship between ABI and maladaptive attitudes ($\beta = .02, 95\% CI [.00, .04]$), as well as between FBI and maladaptive attitudes ($\beta = -.02, 95\% CI [-.03, -.01]$). In both models, USA did not demonstrate a significant mediating role.

Our findings suggest that interventions aimed at cultivating unconditional self-acceptance may help reduce maladaptive exercise and eating patterns by weakening the psychological processes linking body image and unhealthy behaviours.

Keywords: body image, unconditional self-acceptance, nutrition, physical activity

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Bihevioralna aktivacija, izbegavanje i njihovi indirektni uticaji na regulaciju spavanja putem stanja relaksacije, kod nezaposlenih studenata

Bihevioralna aktivacija i izbegavanje su transdijagnostički procesi koji se odnose na prirodu i nivo kontakta individue s potkrepljivačima. Navedeni procesi imaju značajnu ulogu u razumevanju zdravih rutina i konstruktivnih navika, nivoa fokusa i aktivnosti jedinke u domenima koji su važni za mentalno zdravlje, funkcionalnost i ispunjavajući život. U okviru trećeg talasa kognitivno-bihevioralnih terapija intervencije usmerene na povećanje aktivacije i smanjenje izbegavanja dokazano dovode do pozitivnih promena u tretmanu depresije, anksioznosti, problema sa zavisnošću i dr. Pretpostavljeno je da ovi procesi imaju i važnu ulogu u regulaciji relaksacionog odgovora i procesa spavanja, ali ne postoji dovoljno podataka o potencijalnom mehanizmu. U cilju utvrđivanja indirektnog efekta Bihevioralne aktivacije i izbegavanja na procese spavanja putem stanja relaksacije sprovedeno je kros-sekciono istraživanje na 268 nezaposlenih studenata (N=268, prosečnog uzrasta $\bar{x}$ =20.34; SD=2.32, Nmuški=24.4% i Nženski=75.6%). Dobijeni su prihvatljivi i visoki nivoi pouzdanosti skala i adekvatni parametri podesnosti testiranog modela. Ključni podaci govore da Bihevioralna aktivacija ostvaruje značajan uticaj putem Opšte opuštenosti na Pospanost i zamor (β =-.06; p =.001; 95% CI [-.10, -.02]). Uočeno je i da Bihevioralno izbegavanje ostvaruje značajne indirektno uticaje putem Opšte opuštenosti na Pospanost i zamor (β =.07; p =.001; 95% CI [.03, .12]), kao i putem Kardiovaskularne opuštenosti na Loše spavanje i distres (β =.08; p =.001; 95% CI [.03, .13]). Bihevioralno izbegavanje takođe ostvaruje značajan uticaj putem Kompenzatornog spavanja na Pospanost i zamor (β =.13; p =.001; 95% CI [.07, .18]) i na Loše spavanje i distres (β =.08; p =.001; 95% CI [.04, .12]). Bihevioralna aktivacija i Bihevioralno izbegavanje ostvaruju potencijalno važan doprinos poteškoćama sa spavanjem putem stanja relaksacije i kompenzatornog spavanja, ali nije moguće utvrditi smer i dinamiku efekta tokom vremena. Preporučuje se sprovođenje daljih longitudinalnih i randomizovano kontrolisanih istraživanja radi dodatnog razumevanja njihovih uloga u regulaciji spavanja i relaksacionog odgovora.

Ključne reči: bihevioralna aktivacija, izbegavanje, relaksacija, spavanje

Behavioural Activation, Avoidance, and Their Indirect Effects on Sleep Regulation Through Relaxation States in Unemployed Students

Behavioural activation and avoidance are transdiagnostic processes that concern the nature and level of an individual's contact with sources of reinforcement. These processes play a significant role in understanding healthy routines and constructive habits, as well as the level of focus and engagement in domains that are important for mental health, functioning, and a fulfilling life. Within the framework of third-wave cognitive-behavioural therapies, interventions aimed at increasing behavioural activation and reducing avoidance have been shown to produce positive changes in the treatment of depression, anxiety, addictive behaviours, and other psychological difficulties. It has been hypothesised that these processes may also play an important role in the regulation of the relaxation response and sleep processes; however, insufficient evidence is available regarding the underlying mechanisms. To examine the indirect effects of behavioural activation and avoidance on sleep processes through states of relaxation, a cross-sectional study was conducted with 268 unemployed university students (N = 268; mean age = 20.34 years, SD = 2.32; 24.4% male and 75.6% female). The scales demonstrated acceptable to high levels of reliability, and the tested model showed adequate fit indices. The key findings indicated that behavioural activation exerted a significant indirect effect on sleepiness and

fatigue through general relaxation ($\beta = -.06$, $p = .001$, 95% CI $[-.10, -.02]$). Behavioural avoidance was also found to exert significant indirect effects on sleepiness and fatigue through general relaxation ($\beta = .07$, $p = .001$, 95% CI $[.03, .12]$), as well as an indirect effect on poor sleep and distress through cardiovascular relaxation ($\beta = .08$, $p = .001$, 95% CI $[.03, .13]$). Furthermore, behavioural avoidance exerted a significant indirect effect on sleepiness and fatigue through compensatory sleep ($\beta = .13$, $p = .001$, 95% CI $[.07, .18]$) and on poor sleep and distress through compensatory sleep ($\beta = .08$, $p = .001$, 95% CI $[.04, .12]$). Behavioural activation and behavioural avoidance may make an important contribution to sleep difficulties through states of relaxation and compensatory sleep. However, the directionality and temporal dynamics of these effects cannot be established based on the cross-sectional design. Further longitudinal and randomised controlled studies are recommended to provide a more comprehensive understanding of the roles of behavioural activation and avoidance in the regulation of sleep and the relaxation response.

Keywords: *behavioural activation, avoidance, relaxation, sleep*



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Understanding Problematic Pornography Use: The Contribution of Emotion Regulation, Sexual Satisfaction, and Impulse Control

The use of pornography has been very frequent in recent decades, largely due to its high availability and anonymity. Although it can have positive effects on sexual functioning, in some cases problematic pornography use can develop, leading to numerous negative consequences for sexual functioning. Problematic pornography use is recognised as one of the symptoms of compulsive sexual behaviour disorder, according to ICD-11.

The aim of the study was to examine whether difficulties in emotion regulation, impulse control, and global sexual satisfaction contribute to problematic pornography use, as well as to explore its associations with pornography use characteristics (e.g., frequency, lifetime duration, masturbation).

Data were collected online through social media from adults via Google Forms in June 2023. The study applied the Problematic Pornography Consumption Scale-6, the Brief version of the Difficulties in Emotion Regulation Scale, the Impulse Control Scale and the Global Measure of Sexual Satisfaction.

The majority (90,4%) out of 1413 participants (52.9% male; $M_{age} = 24.96$, $SD = 4.46$), predominantly heterosexual (89.1%), having completed high school (48.4%), with first exposure to pornographic content at ages 14-15 (36.2%), with long-term use (>10 years; 45.4%), frequent use in the past 6 months (>1 a week; 31.4%), primarily alone (91.2%), masturbating several times a week (40.2%), sometimes (52.9%) with pornographic content, had scores below the recommended cut-off for probable problematic pornography use (PPU) ($M = 11.46$, $SD = 4.86$, cut-off ≥ 19). PPU was positively associated with the frequency of pornography use ($p = .502$, $p < .001$), lifetime pornography use ($p = .256$, $p < .001$), the frequency of masturbation ($p = .429$, $p < .001$), masturbation during pornography use ($p = .462$, $p < .001$) and negatively with the pornography use pattern ($p = -.073$, $p = .008$) indicating a tendency towards more solitary use. Regression analysis indicated that emotion regulation ($\beta = .165$, $p < .001$), sexual satisfaction ($\beta = -.132$, $p < .001$), and impulse control ($\beta = -.170$, $p < .001$) significantly predicted PPU, explaining 11.9% of variance.

Findings highlight emotional dysregulation and impulse control as significant factors, while sexual satisfaction appears protective, supporting a multifactorial model of PPU. The obtained results contribute to a better understanding of problematic pornography use, which is important for interventions aimed at preventing problematic pornography use.

Keywords: *pornography use, problematic pornography use, sexual satisfaction, impulse control, emotion regulation*



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Irrational Beliefs as a Mechanism of Change in an Unconditional Self-Acceptance Psychoeducational Programme: Traditional and Network-Based Evaluation of Psychological Functioning in Adolescents

Background. Unconditional self-acceptance is a core construct of Rational Emotive Behaviour Therapy and an important protective factor for mental health. To foster a more constructive self-attitude among adolescents, a psychoeducational programme grounded in the philosophy of unconditional self-acceptance was developed. The programme consists of ten 90-minute group workshops focused on identifying and disputing irrational beliefs, understanding the relationships among thoughts, emotions, and behaviours, and promoting healthier emotional responses. The aim of the present study was to examine programme outcomes and potential mechanisms of change using both traditional statistical procedures and contemporary network-based approaches.

Method. The sample comprised 82 adolescents aged 18–19 years, including 37 participants in the intervention group and 45 participants in the control group. Assessments were conducted before and after the intervention. Measures included unconditional self-acceptance, anxiety, subjective well-being, positive affect, negative affect, rational beliefs, and irrational beliefs. Programme effects were examined using repeated-measures analyses and change-score comparisons. Potential mechanisms of change were explored through path analyses, while psychological networks were estimated separately for the intervention and control groups at both assessment points and compared using the Network Comparison Test.

Results. Multivariate analyses did not reveal a significant overall programme effect across the entire set of outcome variables. However, significant increases in unconditional self-acceptance and significant reductions in irrational beliefs were observed within the intervention group. Across analytical approaches, irrational beliefs emerged as the variable most consistently associated with programme-related change. Network analyses suggested relative stability of the overall psychological system while revealing structural differences between networks before and after the intervention. Exploratory path analyses further indicated that programme effects may be transmitted through changes in irrational beliefs, which appeared to function as a central mechanism linking participation in the programme to broader psychological outcomes.

Conclusions. The findings provide preliminary support for the effectiveness of the unconditional self-acceptance programme and suggest that its effects operate primarily through changes in irrational beliefs rather than through broad and uniform changes across all domains of psychological functioning. The study further highlights the value of integrating traditional and network-based approaches in the investigation of mechanisms of change in psychological interventions.

Keywords: *unconditional self-acceptance, adolescents, psychoeducation, psychological networks, mechanisms of change*

Savremene perspektive starenja: psihološki izazovi, adaptacija i uspešno starenje

Contemporary Perspectives on Ageing: Psychological Challenges, Adaptation, and Successful Ageing

Voditeljka / Moderator: Jelica Petrović



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Koliko godina zapravo imamo? Između hronološkog, biološkog, subjektivnog i socijalnog uzrasta

Savremena istraživanja ukazuju na to da starenje predstavlja višedimenzionalni proces koji se ne može svesti na broj godina proteklih od rođenja. Pored hronološkog uzrasta, koji se tradicionalno koristi kao osnovni pokazatelj životne dobi, sve veću pažnju privlače biološki, subjektivni i socijalni uzrast. Biološki uzrast odnosi se na stanje organizma i brzinu fiziološkog starenja, subjektivni uzrast na to koliko se osećamo starim ili mladim, dok socijalni uzrast odražava društvena očekivanja o tome kada je „pravo vreme“ za određene životne uloge, tranzicije i postignuća. Predmet razmatranja su međusobni odnosi i (ne)usklađenost hronološkog, biološkog, subjektivnog i socijalnog uzrasta, kao i njihov značaj za savremeno iskustvo starenja i psihološku adaptaciju.

Savremene društvene promene dovele su do značajnog pomeranja granica životnih faza. Produženo obrazovanje, kasnije stupanje u partnerske odnose i roditeljstvo, produžen radni vek i kultura mladosti menjaju socijalni sat i način na koji ljudi tumače sopstveni razvojni položaj. U takvim okolnostima ljudi sve češće istovremeno žive u nekoliko različitih uzrasta. Osoba može imati pedeset godina, osećati se kao da ima četrdeset, posedovati biološke karakteristike tipične za stariji uzrast i istovremeno živeti životnim stilom koji je nekada bio povezivan sa znatno mlađim uzrastom.

Istraživanja pokazuju da subjektivni uzrast predstavlja važan pokazatelj psihološkog funkcionisanja i blagostanja, a za pojedine njihove aspekte može biti značajniji od hronološkog uzrasta. Istovremeno, subjektivni osećaj starosti povezan je s biološkim procesima, ali i s društvenim normama, stereotipima i očekivanjima vezanim za starenje. Stoga različite dimenzije uzrasta ne predstavljaju samo pokazatelje životne dobi, već aktivno oblikuju ponašanje, identitet i iskustvo starenja.

Razumevanje odnosa između hronološkog, biološkog, subjektivnog i socijalnog uzrasta omogućava da se starenje sagleda kao složen biopsihosocijalni proces u kojem se prepliću objektivne promene organizma, subjektivno iskustvo vremena i društveno konstruisana značenja životnih faza. Savremeni čovek ne stari unutar jedinstvenog vremenskog okvira, a upravo se u raskoraku između biologije, subjektivnog iskustva i društvenih očekivanja oblikuje savremeno iskustvo starenja. Način na koji pojedinci razumeju i prihvataju različite dimenzije sopstvenog uzrasta i nose se s njihovom neusklađenošću može imati značajnu ulogu u psihološkoj adaptaciji tokom procesa starenja.

Ključne reči: starenje, subjektivni uzrast, biološki uzrast, socijalni sat, psihološka adaptacija

How Old Are We Really? Between Chronological, Biological, Subjective, and Social Age

Contemporary research indicates that ageing is a multidimensional process that cannot be reduced to the number of years elapsed since birth. In addition to chronological age, which has traditionally been

used as the primary indicator of a person's stage in the life course, increasing attention is being paid to biological, subjective, and social age. Biological age refers to the condition of the organism and the rate of physiological ageing; subjective age refers to how old or young individuals feel, while social age reflects societal expectations regarding the "right time" for particular life roles, transitions, and achievements. The focus is on the interrelationships and (mis)alignment among chronological, biological, subjective, and social age, as well as their significance for the contemporary experience of ageing and psychological adaptation.

Contemporary social changes have substantially shifted the boundaries between life stages. Prolonged education, later entry into intimate relationships and parenthood, extended working lives, and the culture of youth are altering the social clock and the ways in which individuals interpret their own developmental position. Under such circumstances, people increasingly experience several different ages simultaneously. A person may be fifty years old, feel as though they were forty, exhibit biological characteristics typical of an older age, and at the same time follow a lifestyle once associated with a considerably younger age.

Research shows that subjective age is an important indicator of psychological functioning and well-being and, for certain aspects of these outcomes, may be more significant than chronological age. At the same time, the subjective sense of age is associated not only with biological processes but also with social norms, stereotypes, and expectations related to ageing. Thus, the different dimensions of age do not merely indicate a person's stage in the life course; they actively shape behaviour, identity, and the experience of ageing.

Understanding the relationships among chronological, biological, subjective, and social age allows ageing to be viewed as a complex biopsychosocial process in which objective changes in the organism, the subjective experience of time, and socially constructed meanings of life stages are intertwined. Contemporary individuals do not age within a single temporal framework; rather, the contemporary experience of ageing is shaped precisely by the discrepancies among biology, subjective experience, and social expectations. How individuals understand and accept the different dimensions of their own age and cope with their misalignment may play a significant role in psychological adaptation throughout the ageing process.

Keywords: ageing, subjective age, biological age, social clock, psychological adaptation



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Anatomija uspešnog starenja: ka razumevanju uloge psihosocijalnih resursa

Uspešno starenje se tradicionalno definiše očuvanim zdravljem, funkcionalnom samostalnošću i socijalnom angažovanošću. Noviji pristupi, međutim, sve više naglašavaju značaj psiholoških resursa i subjektivnog doživljaja starenja. Cilj ovog istraživanja bio je da identifikuje različite profile uspešnog starenja i ispita koji indikatori ih najbolje razlikuju.

Uzorak su činile 293 osobe starosti 65 i više godina. Fizičko, socijalno, kognitivno i psihološko funkcionisanje procenjivano je korišćenjem indikatora zdravstvenog stanja i standardizovanih instrumenata za procenu funkcionalnih ograničenja (GARQ), socijalne mreže (LSNS), socijalne povezanosti (De Jong Gierveld skala usamljenosti), zadovoljstva životom (SWLS-3), pozitivnog i negativnog afekta, depresivnih simptoma (DASS-21), smisla života, rezilijentnosti (BRS) i teškoća radne memorije (ADEXI). Analizom latentnih profila identifikovana su dva profila: profil uspešnog starenja i profil otežanog starenja. Profili su se razlikovali na većini ispitivanih indikatora, dok teškoće radne

memorije nisu značajno doprinosile njihovom razlikovanju. Binarna logistička regresija pokazala je da su zadovoljstvo životom, smisao života i rezilijentnost značajni pozitivni prediktori pripadnosti profilu uspešnog starenja, dok su negativni afekat i depresivni simptomi predstavljali značajne negativne prediktore.

Dobijeni nalazi u skladu su sa savremenim psihosocijalnim modelima koji uspešno starenje posmatraju kao proces adaptacije na promene i gubitke povezane sa starošću. Rezultati ukazuju na značaj psiholoških resursa i subjektivnog blagostanja u razlikovanju profila uspešnog starenja i potvrđuju potrebu za daljim istraživanjima njihove uloge u razumevanju adaptacije i kvaliteta života u starosti.

Ključne reči: uspešno starenje, psihološka adaptacija, rezilijentnost, smisao života, subjektivno blagostanje

The Anatomy of Successful Ageing: Understanding the Role of Psychosocial Resources

Successful ageing has traditionally been defined in terms of preserved health, functional independence, and social engagement. More recent approaches, however, increasingly emphasise psychological resources and the subjective experience of ageing. The aim of this study was to examine which indicators differentiate patterns of successful ageing among older adults.

The sample consisted of 293 adults aged 65 years and older. Physical, social, cognitive, and psychological functioning were assessed using health indicators and established measures of activity limitations (GARQ), social networks (LSNS), social connectedness (De Jong Gierveld Loneliness Scale), life satisfaction (SWLS-3), affect, depressive symptoms (DASS-21), meaning in life, resilience (BRS), and working memory difficulties (ADEXI). Latent profile analysis identified two distinct profiles: a Successful Ageing profile and a Challenging Ageing profile. The profiles differed across most indicators, whereas working memory difficulties showed limited differentiation. Binary logistic regression showed that life satisfaction, meaning in life, and resilience were significant positive predictors of membership in the Successful Ageing profile, whereas negative affect and depressive symptoms were significant negative predictors.

The findings are consistent with contemporary psychosocial models that conceptualise successful ageing as a process of adaptation to age-related changes and losses. They highlight the importance of psychological resources and subjective well-being in differentiating successful ageing profiles and point to the need for further research on their role in promoting adaptation and quality of life in later adulthood.

Keywords: successful ageing, psychological adaptation, resilience, meaning in life, subjective well-being



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Lifestyle Factors and Psychosocial Resources as Predictors of Some Aspects of Successful Ageing

Successful ageing (SA) is a complex, multidimensional construct encompassing physical, psychological, and social domains, as well as both objective and subjective dimensions. Numerous theoretical conceptualisations of successful ageing have been proposed. One of the most prominent is the Two-Factor Model, which distinguishes between objective and subjective components. The objective

component refers to the prevalence of chronic diseases, functional ability, and pain assessment, whereas the subjective component includes the subjective assessment of SA as an outcome at a specific point in time, the subjective assessment of ageing well as an ongoing process, and life satisfaction. A wide range of predictors of SA has been examined in previous research, including various lifestyle factors and psychosocial characteristics and resources. However, comparing the contributions of different predictors to specific components of the complex SA construct remains an important area of research. The aim of the present study was to examine the predictive contributions of physical activity and sedentary behaviour as lifestyle factors, together with the psychosocial resources of optimism, resilience, and social support, to both objective and subjective aspects of SA, according to the Two-Factor Model. The study was conducted on a sample of 790 community-dwelling older adults aged between 65 and 98 years ($M = 73.97$, $SD = 6.58$), including 460 women. All relevant constructs were assessed using appropriate validated instruments. Correlation analyses showed that all examined potential predictors of SA were significantly associated with the examined objective and subjective aspects of SA, with the exception of the non-significant correlations between physical activity and chronic conditions, and between social support and functional ability ($p > .05$). The results of the regression analyses indicated that sedentary behaviour ($\beta = 0.15$, $p < .001$) and resilience ($\beta = -0.18$, $p < .001$) were significant predictors of the number of chronic conditions. Significant predictors of functional ability were physical activity ($\beta = 0.09$, $p < .01$), sedentary behaviour ($\beta = -0.25$, $p < .001$), optimism ($\beta = 0.14$, $p < .001$), and resilience ($\beta = 0.09$, $p < .01$). Significant predictors of self-rated SA as an outcome were sedentary behaviour ($\beta = -0.08$, $p < .05$), social support ($\beta = 0.07$, $p < .05$), optimism ($\beta = 0.26$, $p < .001$), and resilience ($\beta = 0.17$, $p < .001$). Significant predictors of self-rated ageing well as a process were sedentary behaviour ($\beta = -0.11$, $p < .01$), optimism ($\beta = 0.28$, $p < .001$), and resilience ($\beta = 0.16$, $p < .001$). Finally, social support ($\beta = 0.13$, $p < .001$), optimism ($\beta = 0.31$, $p < .001$), and resilience ($\beta = 0.23$, $p < .001$) emerged as significant predictors of life satisfaction. It can be concluded that both lifestyle factors and psychosocial resources play a significant role in explaining SA, although their contributions vary depending on the specific aspect of SA being assessed.

Keywords: successful ageing, lifestyle, optimism, resilience, social support, older adults

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Living the Life That Matters: Older Adults’ Meaning in Life and Plans for the Future

In psychological research, meaning in life (MIL) is commonly understood as a person’s subjective sense of life significance, purpose, and coherence. In older adulthood, MIL may become especially important as individuals increasingly reflect on their lives and the awareness of life’s finiteness. Due to the limited amount of research on MIL in later life, we conducted interviews with a convenience sample of 50 community-dwelling older adults aged 61 to 92 years ($M = 74.8$, $SD = 7.59$). The study aimed to explore the main sources of meaning in participants’ past and present lives, as well as their future plans as indicators of purpose in future life. The thematic analysis of the interviews highlighted multiple pathways through which older adults experience MIL, including social relationships, activity, generative behaviour, reflection on and integration of past experiences, personal growth and inner resources, maintained health and independence, and religiosity and faith. At the same time, participants consistently emphasised the importance of close social ties, positive family relationships,

work, and meaningful activities as central sources of meaning in both earlier and present life. The findings also suggest that older adults often express their future plans through hopes and wishes rather than specific actions, while some no longer engage in future planning at all. Their priorities appear to shift from long-term towards short-term goals and enjoyment of the present. A better understanding of how older adults perceive meaning in their past and present lives, as well as how they approach their limited future time perspective, may contribute to further conceptualisations of older adults' MIL. In addition, these findings may support the development of interventions aimed at strengthening MIL in old age, including life review, social involvement, participation in meaningful activities, and the enhancement of resilience, self-efficacy, and other personal strengths.

Keywords: meaning in life, purpose, plans, older adults, qualitative analysis



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Aktivno starenje korisnika domova za smeštaj i negu starih lica

Uvod

Starenje populacije predstavlja jedan od najznačajnijih javnozdravstvenih i socijalnih izazova savremenog društva. Koncept aktivnog starenja podrazumeva očuvanje funkcionalne sposobnosti, socijalne uključenosti i kvaliteta života u starijem životnom dobu, čak i u uslovima života u domu za smeštaj i negu starih lica. Cilj ovog istraživanja bio je da se ispita nivo aktivnog starenja među korisnicima domova za stare, kao i da se identifikuju sociodemografski, psihološki i zdravstveni faktori povezani s aktivnim starenjem u ovoj populaciji.

Metode

Istraživanje je sprovedeno kao studija preseka među korisnicima domova za stare. U istraživanje su uključene osobe stare ≥ 60 godina s očuvanim kognitivnim funkcionisanjem (MMSE ≥ 25). Korišćeni su standardizovani instrumenti za procenu aktivnog starenja (UJACAS), socijalne participacije (MSPP), depresivnosti (GDS), funkcionalne nezavisnosti (ADL), socijalne mreže (LSNS-6), osećaja kontrole nad životom (Pearlin Mastery Scale), samopercepcije starenja (SLO) i zadovoljstva negom (NHRSS). Iz medicinske dokumentacije prikupljeni su zdravstveni i anamnestički podaci relevantni za proveru kriterijuma za uključivanje i isključivanje, uključujući podatke o aktuelnim malignim i psihijatrijskim oboljenjima, teškim oštećenjima vida, sluha i govorno-jezičkih funkcija, kao i opštem zdravstvenom stanju. Podaci o prisustvu hroničnih bolesti, invaliditeta i istoriji malignih bolesti prikupljeni iz medicinske dokumentacije uključeni su u analize kao zdravstvene varijable.

Rezultati

U istraživanju je učestvovalo 200 starijih osoba smeštenih u domovima za stare. Rezultati su pokazali da viši nivo aktivnog starenja ostvaruju mlađi i obrazovaniji ispitanici, osobe s boljom finansijskom stabilnošću, nižim nivoom depresivnosti, očuvanijim kognitivnim funkcijama, izraženijom proaktivnošću u brizi o sopstvenom zdravlju i učestalijim socijalnim interakcijama. S druge strane, niži nivo aktivnog starenja zabeležen je kod starijih korisnika, žena i osoba koje potiču iz ruralnih sredina.

Zaključak

Nalazi istraživanja ukazuju na to da aktivno starenje u institucionalnim uslovima predstavlja multidimenzionalan fenomen na koji utiču zdravstveni, psihološki, socijalni i socioekonomski faktori.

Dobijeni rezultati naglašavaju potrebu za razvojem individualizovanih i interdisciplinarnih programa podrške usmerenih ka očuvanju mentalnog zdravlja, kognitivnih funkcija, socijalne participacije i samostalnosti korisnika domova za stare. Praktične implikacije istraživanja odnose se na unapređenje gerontološke nege, kreiranje politika zdravog starenja i razvoj intervencija koje podstiču aktivno uključivanje starijih osoba u svakodnevne aktivnosti i društveni život unutar institucionalnog okruženja.

Ključne reči: aktivno starenje, domovi za stare, starije osobe, socijalna participacija, institucionalna nega

Active Ageing Among Residents of Nursing Homes

Introduction

Population ageing represents one of the most significant public health and social challenges of contemporary society. The concept of active ageing refers to the preservation of functional capacity, social inclusion, and quality of life in older age, even within institutional care settings such as nursing homes. This study aimed to examine the level of active ageing among nursing home residents and to identify sociodemographic, psychological, and health-related factors associated with active ageing in this population.

Methods

The study was conducted as a cross-sectional study among nursing home residents. Individuals aged ≥ 60 years with preserved cognitive functioning (MMSE ≥ 25) were included. Standardised instruments were used to assess active ageing (UJACAS), social participation (MSPP), depressive symptoms (GDS), functional independence (ADL), social networks (LSNS-6), sense of control over life (Pearlin Mastery Scale), self-perception of ageing (SLO), and satisfaction with care (NHRSS). Health-related and anamnestic data relevant to verifying the inclusion and exclusion criteria were collected from medical records, including information on current malignant and psychiatric diseases, severe visual, hearing, and speech-language impairments, as well as general health status. Data on the presence of chronic diseases, disability, and history of malignant diseases obtained from medical records were included in the analyses as health-related variables.

Results

The study included 200 older adults residing in nursing homes. The findings demonstrated that higher levels of active ageing were observed among younger and more educated participants, individuals with greater financial stability, lower levels of depressive symptoms, better preserved cognitive functioning, greater proactivity in self-care, and more frequent social interactions. Conversely, lower levels of active ageing were identified among older residents, women, and individuals from rural areas.

Conclusion

The findings indicate that active ageing in institutional settings is a multidimensional phenomenon influenced by health-related, psychological, social, and socioeconomic factors. The results highlight the importance of developing individualised and interdisciplinary support programmes aimed at preserving mental health, cognitive functioning, social participation, and independence among nursing home residents. Practical implications of the study include improving gerontological care, shaping healthy ageing policies, and designing interventions that promote the active engagement of older adults in daily activities and social life within institutional environments.

Keywords: active ageing, nursing homes, older adults, social participation, institutional care

Virtuelna (ne)normalnost – Primena virtuelne realnosti u psihologiji

Virtual (In)Sanity – Virtual Reality Applications in Psychology

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When the Bridge Collapses: Individual Differences in Behavioural, Physiological, and Affective Responses to Virtual Threat

The study draws on the Big Five model of personality (Costa & McCrae) and the two-dimensional model of affect (Watson & Clark) to examine how trait-level individual differences are associated with behavioural and physiological responses to simulated threat. A custom virtual reality (VR) game was used in which 52 university students (19 males, 33 females, age $M = 23.6$, $SD = 7.8$) navigated a path with twenty bifurcations, choosing between a ground path and a potentially risky bridge crossing while collecting points. Participants encountered an unexpected negative event in the form of a bridge collapse, providing a simulated threat experience. Behavioural measures (decision time, movement pace, and progression speed) and physiological signals (heart rate, skin conductance, respiration) were recorded with special focus on time points immediately before and after the event. Personality (NEO-FFI) and trait and state affect (PANAS) were assessed via self-report. Data were analysed using paired-samples t-tests and Spearman rank-order correlations.

Analyses indicate a behavioural shift following the threat: participants moved faster, made quicker decisions, and progressed more rapidly afterwards (all $p < .001$). Skin conductance level and respiratory amplitude increased significantly, while heart rate remained stable. Within the Big Five framework, Openness was associated with longer engagement at a risky decision point before the collapse, while Conscientiousness was associated with longer deliberation at the threat event itself, suggesting that planful individuals deliberate longer when stakes are highest. Extraversion was associated with elevated heart rate throughout, and Neuroticism with higher skin conductance, consistent with its role in anxiety and arousal regulation.

Affect data showed that state negative affect was substantially lower than trait levels, while state positive affect was higher, indicating that the VR experience was evaluated positively overall. The magnitude of this affective shift was associated with post-event movement pace, linking emotional reactivity to behavioural adjustment. Real-world risk behaviour was also associated with faster post-event decision-making, supporting the ecological relevance of the paradigm.

These findings indicate that responses to virtual threat are associated with personality traits, physiological reactivity, and affective dynamics, with different traits linked to distinct facets of the response. However, the increase in positive affect and the absence of heart rate changes suggest that the paradigm may not have provoked a full stress response, raising questions about its effectiveness as a threat context. Future work should address the ecological validity of the threat manipulation. These results extend prior work and demonstrate both the promise and current limitations of VR for capturing individual-differences-sensitive responses to risk and threat.

Keywords: virtual reality, threat response, risk-taking, personality traits, physiological reactivity, individual differences



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Iza maske: uvidi virtualne stvarnosti u psihopatske osobine i probleme u ponašanju u djetinjstvu

Djeca s problemima u ponašanju i psihopatskim osobinama mogu pokazivati teškoće u regulaciji emocija, prosocijalnom ponašanju i kontroli vlastitog ponašanja. Međutim, te se karakteristike najčešće procjenjuju upitnicima ili laboratorijskim zadacima koji ne uspijevaju uvijek u potpunosti obuhvatiti dječje ponašanje u socijalno relevantnim situacijama. Virtualna stvarnost (VR) predstavlja obećavajuću metodu za proučavanje takvih ponašanja u uranjajućem, ali istodobno kontroliranom okruženju.

U istraživanju su korišteni podaci 175 djece uključene u longitudinalni projekt ECLAT (Mdob = 10,29 godina; SD = 1,89). Na temelju granične vrijednosti od 0,5 standardne devijacije sudionici su razvrstani u tri skupine: djeca s povišenim problemima u ponašanju, ali bez povišenih psihopatskih osobina (CP-only, n = 24), djeca s povišenim psihopatskim osobinama, ali bez izraženih problema u ponašanju (PP-only, n = 19) te djeca s povišenim razinama i problema u ponašanju i psihopatskih osobina (CPPP, n = 33).

U zadatku virtualne stvarnosti djeca su sudjelovala u simuliranoj situaciji igre s psom prikazanim pomoću jednostavne grafike u blizini litice. Njihov je zadatak bio bacati lopticu ili štap psu koji se kretao u neposrednoj blizini ruba litice, čime je stvoren kontekst umjerenog rizika. Pritom su opažana dječja ponašanja s posebnim naglaskom na rizične odluke i pokazatelje brige za sigurnost psa.

Rezultati su pokazali da su djeca iz skupina CP-only i CPPP češće iskazivala rizična ponašanja, primjerice bacanjem predmeta preko ruba litice, čime su ugrožavala sigurnost virtualnog psa. Nasuprot tome, djeca iz skupine PP-only pokazivala su suzdržanije i kontroliranije ponašanje. Ovi nalazi upućuju na to da su problemi u ponašanju, osobito kada su udruženi s psihopatskim osobinama, povezani s impulzivnim preuzimanjem rizika u emocionalno relevantnim situacijama, dok psihopatske osobine same po sebi mogu biti povezane s promišljenijim obrascima ponašanja.

Dobiveni rezultati potvrđuju vrijednost virtualne stvarnosti kao metode za procjenu obrazaca ponašanja koje je teško zahvatiti tradicionalnim istraživačkim pristupima. Uranjajući virtualni zadaci mogu pridonijeti ranom prepoznavanju rizičnih razvojnih obrazaca te unaprijediti razvoj preventivnih i intervencijskih programa namijenjenih djeci s problemima u ponašanju i psihopatskim osobinama.

Ključne reči: virtualna stvarnost, problemi u ponašanju, psihopatske osobine, djeca, preuzimanje rizika, impulzivnost, prosocijalno ponašanje, regulacija emocija, ekološka valjanost, projekt ECLAT
Zahvalnica: Hrvatska zaklada za znanost (HRZZ-IP-2016-06-3917)

Beyond the Mask: VR Insights Into Psychopathic Traits and Childhood Behavioural Challenges

Children with conduct problems and psychopathic traits may show difficulties in emotion regulation, prosocial responding, and behavioural control. However, these characteristics are often assessed using questionnaires or laboratory tasks that may not fully capture children's behaviour in socially meaningful situations. Virtual reality (VR) offers a promising method for examining such behaviour in an immersive yet controlled environment.

This study used data from 175 children from the longitudinal ECLAT project (Mage = 10.29 years, SD = 1.89). Children were classified into three groups using a 0.5 SD cut-off: children with elevated conduct

problems only (CP-only, $n = 24$), children with elevated psychopathic traits only (PP-only, $n = 19$), and children with elevated levels of both conduct problems and psychopathic traits (CPPP, $n = 33$).

In a VR task, children interacted with a stick-figure dog in a simulated play situation near a cliff. They were asked to throw a ball or stick for the dog while the dog moved close to the edge, creating a low-intensity risk context. Children's behaviour was observed with particular attention to risky choices and indications of concern for the dog's safety.

Results showed that children in the CP-only and CPPP groups were more likely to behave riskily, for example, by throwing objects over the cliff and thereby endangering the virtual dog. In contrast, children in the PP-only group showed more restrained and controlled behaviour. These findings suggest that conduct problems, particularly when combined with psychopathic traits, may be associated with impulsive risk-taking in emotionally relevant situations, whereas psychopathic traits alone may be linked to more calculated responding.

Overall, the study supports the value of VR for assessing behavioural patterns that are difficult to capture with traditional methods. Immersive tasks may help identify early risk profiles and inform prevention and intervention approaches for children with conduct problems and psychopathic traits.

Keywords: virtual reality, conduct problems, psychopathic traits, children, risk-taking, impulsivity, prosocial behaviour, emotion regulation, ecological validity, ECLAT project

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Istraživanje emocionalnih stanja straha i anksioznosti pomoću virtuelne stvarnosti

Izučavanje emocija straha i anksioznosti u laboratorijskim uvjetima predstavlja značajan metodološki izazov. Ključno je osmisliti podražaje koji istodobno postižu visoku unutarnju valjanost (kontrolu eksperimentalnih uvjeta) i vanjsku valjanost (sličnost stvarnim životnim iskustvima). Tradicionalni računalni zadaci, poput Stroop testa, omogućuju preciznu kontrolu varijabli i pouzdano mjerenje kognitivnih procesa, no njihova sposobnost induciranja autentičnih emocionalnih stanja, osobito anksioznosti, ostaje ograničena. Drugim riječima, upitno je u kojoj mjeri takvi zadaci reproduciraju subjektivni doživljaj straha i anksioznosti kakav se javlja u svakodnevnim situacijama. S druge strane, istraživanja provedena u prirodnim uvjetima suočavaju se s nizom nekontroliranih i često nesistematskih čimbenika koji mogu utjecati na emocionalni odgovor, čime se smanjuje unutarnja valjanost i otežava interpretacija rezultata. U tom kontekstu, virtualna realnost (VR) pojavljuje se kao obećavajući metodološki alat koji omogućuje uravnoteženje ovih zahtjeva. VR okruženja pružaju visok stupanj eksperimentalne kontrole uz istovremeno stvaranje uranjajućih i realističnih iskustava koja mogu pouzdano inducirati emocionalne reakcije. U ovom izlaganju bit će predstavljena VR animacija razvijena s ciljem izazivanja straha i anksioznosti u kontroliranim uvjetima. Poseban naglasak stavlja se na dizajn podražaja, razinu uronjenosti te validaciju emocionalnih reakcija putem subjektivnih i fizioloških mjera. Rezultati dosadašnjih istraživanja ukazuju na to da VR uspješno inducira realistične razine straha i anksioznosti, čime predstavlja vrijedan alat za buduća eksperimentalna i primijenjena istraživanja u području istraživanja emocija.

Ključne reči: strah, anksioznost, virtualna realnost

Zahvalnica: Institucionalni istraživački projekt „Kognitivna otpornost“, financiran iz Nacionalnog plana oporavka i otpornosti 2021.–2026. (NPOO)

Exploring Fear and Anxiety-Related Emotional States Through Virtual Reality

The study of fear and anxiety in laboratory settings represents a significant methodological challenge. It is crucial to design stimuli that simultaneously achieve high internal validity (control of experimental conditions) and external validity (similarity to real-life experiences). Traditional computer-based tasks, such as the Stroop test, allow for precise control of variables and reliable measurement of cognitive processes; however, their ability to induce authentic emotional states, particularly anxiety, remains limited. In other words, it is questionable to what extent such tasks can reproduce the subjective experience of fear and anxiety as it occurs in everyday situations. On the other hand, research conducted in natural settings faces numerous uncontrolled and often unsystematic factors that may influence emotional responses, thereby reducing internal validity and complicating the interpretation of results. In this context, virtual reality (VR) emerges as a promising methodological tool that enables a balance between these demands. VR environments provide a high level of experimental control while simultaneously creating immersive and realistic experiences capable of reliably eliciting emotional reactions. This presentation introduces a VR animation developed with the aim of inducing fear and anxiety under controlled conditions. Particular emphasis is placed on stimulus design, the level of immersiveness, and the validation of emotional responses through both subjective and physiological measures. Findings from previous studies indicate that VR successfully induces realistic levels of fear and anxiety, making it a valuable tool for future experimental and applied research in the field of emotional psychology.

Keywords: *fear, anxiety, virtual reality*

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When Reality Matters: Comparing the Experience of Real and Virtual Architectural Objects

Virtual environments are increasingly used in psychological and aesthetic research; however, subjective responses to objects are often examined through static two-dimensional representations, such as photographs displayed on computer screens. This raises an important question: does the subjective experience of an object differ when it is perceived as a real three-dimensional object compared to a two-dimensional or virtual representation? The present study investigated whether different modes of presentation influence the subjective experience of architectural forms.

A sample of 46 psychology students evaluated 10 objects presented in four different formats. Subjective experience was measured using 12 bipolar adjective scales grouped into four dimensions: attractiveness, regularity, arousal, and calmness. In addition, three unipolar scales were used to assess aesthetic experience. The stimuli consisted of architectural objects designed and constructed by architecture students as part of their educational activities. The original objects were three-dimensional models approximately 20 × 20 × 20 cm in size. For each object, corresponding two-dimensional drawings were created using four viewing perspectives. The same viewing angles were then used to produce photographs of the objects and virtual reality versions developed in Unity software and presented through an Oculus Rift headset.

Consequently, four presentation conditions were compared: real 3D objects, drawings, photographs, and virtual reality representations. Results demonstrated significant differences between presentation formats on all dimensions of subjective experience: attractiveness, $F(3, 135) = 6.95$, $p < .001$; arousal, $F(3, 135) = 8.76$, $p < .001$; calmness, $F(3, 135) = 5.21$, $p = .002$; and regularity, $F(3, 135) = 12.68$, $p < .001$. In contrast, presentation format had no significant effect on aesthetic experience, $F(3, 135) = 1.78$, $p = .154$.

Real 3D objects were rated as more attractive and calming than all other presentation types, whereas drawings, photographs, and virtual reality representations showed similar evaluations. Virtual reality presentations reduced arousal compared with the remaining conditions. Regarding regularity, real objects and virtual reality objects received comparable evaluations and were perceived as more regular than drawings and photographs.

These findings indicate that the mode of presentation substantially affects several dimensions of subjective experience, while aesthetic experience itself remains stable across different presentation formats. The results suggest that although virtual and two-dimensional representations may preserve aesthetic impressions, they do not fully reproduce the broader experiential qualities associated with direct interaction with real objects.

Keywords: virtual reality objects, real 3D objects, object drawings, subjective experience, aesthetic experience



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Unbound Beauty: Ecological Validity of Art Experience in VR

The increasing availability of immersive virtual reality (VR) technologies has created new opportunities not only for the presentation of visual art but also for the investigation of art experience under conditions that more closely resemble real-world art-related contexts. One of the major challenges in empirical aesthetics is balancing experimental control with ecological validity. While laboratory studies typically rely on digital reproductions of artworks presented on computer screens, such conditions differ substantially from the contexts in which visual art is usually encountered. Immersive VR technologies offer a potential solution by enabling experimentally controlled yet relatively realistic art-viewing environments. Two studies were conducted to examine the ecological validity of VR galleries/museums as contexts for experiencing art. Across the studies, a total of 83 psychology students experienced paintings spanning a wide range of historical epochs and artistic styles, including contemporary artworks. Both studies employed mixed repeated-measures designs with a counterbalanced order of contexts. Participants rated their experience of each painting on 10 aesthetic and affective scales, and the data were analysed using mixed-design ANOVAs and qualitative content analysis. In the first study, aesthetic and affective responses to artworks displayed in a fully immersive VR gallery that replicated the physical gallery were compared with responses to the same artworks viewed in the physical gallery setting. In the second study, art experience in VR was compared with conventional laboratory presentations, where artworks were presented as digital images on computer screens. The results indicated that VR-based exhibition environments evoke patterns and intensities of aesthetic and emotional experience that closely approximate those observed in real galleries. Furthermore, immersive VR art-related contexts produced richer and more engaging aesthetic and affective experiences than standard screen-based presentations, being associated with greater liking of artworks, stronger impressions, and increased motivation to learn more about them. Qualitative content analysis further suggested that participants experienced VR galleries as interesting and pleasant, perceived them as realistic, and frequently described them as a viable alternative to physical gallery experiences. Some of the positive effects of VR may, however, be partly attributable to

increased arousal associated with the novelty and interestingness of the VR environment. Future research should examine whether these effects persist among experienced, long-term VR users. Taken together, these findings support the use of VR galleries/museums as ecologically valid environments for experiencing art and highlight their potential as a valuable methodological tool for future empirical aesthetics research.

Keywords: virtual reality (VR), ecological validity, empirical aesthetics, art experience, aesthetic experience



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From Reality to Virtuality: Distance, Depth Cues, and Emotion in Perceived Distance Anisotropy

Human perception of spatial distance is not isotropic. Distances directed towards the zenith are often perceived as greater than physically equivalent distances in the horizontal direction, a phenomenon known as perceived distance anisotropy. One explanation suggests that perception is calibrated to anticipated action costs: movement in the vertical direction generally requires greater effort because it opposes gravity, and perceptual distortions may reflect these action-related constraints. The present research examined perceived distance anisotropy in virtual reality and explored whether it is influenced by depth information, object meaning, and viewing distance.

Across a series of virtual reality experiments conducted with the Oculus Rift DK2, participants performed distance-matching tasks in which they adjusted or compared distances between objects presented horizontally (in front of them) and vertically (above them). Different experiments involved samples ranging from 17 to 19 participants. Virtual stimuli included simple red spheres, emotionally meaningful objects (cakes as appetitive stimuli and snakes as aversive stimuli), and objects presented at varying egocentric distances. In one experiment, additional depth cues were introduced through a structured background environment to examine whether increased depth information alters anisotropy. Another experiment manipulated stimulus meaning by comparing appetitive and aversive objects, while a third investigated anisotropy across distances ranging from 5 to 50 metres.

Results consistently demonstrated a significant effect of viewing direction: physically shorter vertical distances were matched to longer horizontal distances, indicating that vertical distances were perceived as larger. Additional depth cues did not modify anisotropy, suggesting that increasing available spatial information did not substantially influence this perceptual bias. Similarly, emotionally meaningful stimuli failed to affect anisotropy, as no differences were observed between appetitive and aversive objects. However, egocentric distance significantly altered the magnitude of the effect. Anisotropy was strongest at shorter distances and gradually decreased as viewing distance increased. Distance ratios changed from 0.72 at 5 metres to 0.91 at 50 metres, with both linear and exponential models providing a good description of this change.

Taken together, the findings demonstrate that perceived distance anisotropy robustly persists in virtual environments and appears relatively resistant to manipulations of visual depth information and emotional stimulus content. However, its systematic reduction at larger distances supports the notion that anisotropy may reflect adaptive relationships between perception and anticipated movement effort.

Keywords: perceived distance anisotropy, movement effort, perception-action relationship, appetitive and aversive stimuli



SEKCIJE USMENIH IZLAGANJA
ORAL SECTIONS

Klinička psihologija 1

Clinical Psychology 1

Voditeljka / Moderator: Mina Velimirović

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Effects of Self-Uncertainty on the Simulation of Life Journey Endings ("Final Scenes")

Background. Future thinking (FT) is often conceptualised as a matrix of multiple alternatives. Mental representations of one's own death and dying ("final scenes") are an important part of these mental future projections. Awareness of anticipated endings has been associated with well-being and specific behavioural change. It has also been shown that imagining one's death can enhance self-integrity and other adaptive aspects of the self. Yet, little is known about how identity processes influence the construction of these "final scenes". This question is relevant for understanding and treating disorders characterised by impaired identity, FT, and impulsive behaviours, including addictions and personality disorders.

Goal. To examine the effect of self-uncertainty priming on death simulation.

Methods. Data were drawn from a larger controlled cross-sectional study conducted in Russia between October 2021 and February 2022 among Master's and PhD students. The analysed sample included 66 adults: 36 participants in the self-uncertainty priming group (mean age = 28.42 years, SD = 7.24; 47% women) and 30 in the non-primed group (mean age = 28.37 years, SD = 10.00; 60% women). Following psychological screening (AUDIT, Hospital Anxiety and Depression Scale, and a verbal fluency task), participants completed either an uncertainty-priming or a neutral writing task. They then participated in a semi-structured interview assessing anticipated "final scenes". Narratives were transcribed and analysed using thematic content analysis, expert ratings, and the TEMPau specificity scale.

Results. The groups did not differ in sociodemographic characteristics or psychological symptoms. In line with our hypothesis that self-uncertainty would impair death-related FT, participants in the self-uncertainty condition showed qualitative differences in death reflection. Primed participants more frequently anticipated dying at a younger age ($Z = -2.57$, $p = .01$) and from non-natural causes ($\chi^2 = 4.49$, $p = .034$). Fewer primed participants identified natural death as their primary anticipated ending (Fisher test, $p = 0.038$). In addition, "final scene" narratives in the primed group were less specific and lacked phenomenological richness, indicating overgeneralisation (TEMPau $Z = -2.83$, $p = .005$).

Discussion. Self-uncertainty altered the quality of death-related FT by constraining self-projection through overgeneralised and less detailed mental representations. This may reflect a defensive strategy with individuals abstracting future events to reduce emotional distress. Consequently, anticipated endings become less detailed, limiting evaluation of the long-term consequences of life choices. Similar FT specificity deficits have been observed in clinical populations, including individuals with addictive disorders and suicidal behaviour.

Keywords: self-uncertainty, self-projection, future thinking, autobiographical memory, death reflection



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Light Triad, Affective Balance, and Spirituality in Predicting Life Satisfaction Among Chronically Ill Adults

Chronic illness is associated with ongoing physical, emotional, and existential demands that can compromise subjective well-being. While risk factors for reduced life satisfaction in this population are widely studied, fewer studies have addressed protective resources, particularly benevolent personality traits and spirituality. The Light Triad (Kaufman et al., 2019), comprising Faith in Humanity, Humanism, and Kantianism, has been linked to life satisfaction in general populations, but its relevance for chronically ill individuals remains underexplored. Spirituality, conceptualised as a sense of meaning, peace, and faith in illness (Peterman et al., 2002), together with affective balance, may function as a coping resource in this population, yet their combined contribution to life satisfaction has rarely been examined. This study investigated the incremental prediction of life satisfaction from Light Triad traits, affective balance, and spirituality in chronic illness.

Participants were 225 adults (90.2% female, $M = 39.27$, $SD = 13.58$) with various chronic conditions who completed the Light Triad Scale, the Scale of Positive and Negative Experience (SPANE), the FACIT-Sp-12 (Peterman et al., 2002), and the Satisfaction With Life Scale (SWLS). Affective balance was computed as SPANE-B (Positive minus Negative experience). A three-step hierarchical regression followed a dispositional-to-experiential logic: stable personality traits were entered first as the broadest foundation of well-being, affective balance second as the immediate emotional channel through which personality expresses itself, and spirituality last as an existential coping resource uniquely activated by chronic illness.

The full model significantly predicted life satisfaction, $F(7, 217) = 30.01$, $p < .001$, accounting for 49.2% of variance (adjusted $R^2 = .475$). Light Triad traits alone explained 6.3% of variance, $\Delta F(3, 221) = 4.98$, $p = .002$, with Humanism as the only significant predictor ($\beta = .20$, $p = .007$). Adding affective balance substantially increased explained variance, $\Delta R^2 = .335$, $\Delta F(1, 220) = 122.34$, $p < .001$ ($\beta = .60$, $p < .001$). Spirituality contributed an additional 9.4%, $\Delta F(3, 217) = 13.35$, $p < .001$; SPANE-B ($\beta = .39$, $p < .001$) and Meaning ($\beta = .24$, $p < .001$) remained significant, while Peace ($\beta = .14$, $p = .052$) and Faith ($\beta = .09$, $p = .109$) did not reach significance, and Humanism dropped to marginal significance ($\beta = .11$, $p = .050$).

These findings suggest that affective balance and meaning contribute most strongly to life satisfaction in chronic illness, while benevolent personality traits and the faith and peace dimensions of spirituality play a more limited role once affective and existential resources are accounted for. Implications for psychosocial interventions are discussed.

Keywords: life satisfaction, chronic illness, Light Triad, spirituality, affective balance



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Overcoming Barriers to Peripartum Depression Screening: A Novel Pathway in a Gynaecology and Obstetrics Hospital

Peripartum depression represents a major public health challenge, yet nationwide screening remains largely unimplemented across most of Europe, including Serbia, where a national strategy is still absent. Where programmes do exist, adherence is often hindered by procedural obstacles, such as the requirement for separate appointments. These barriers, along with administrative friction and social stigma, drive screening rates down to between 2% and 34%. To address these challenges, we developed a pathway that embeds screening into routine obstetric care. During second and third trimester visits, patients are provided with educational leaflets, consent forms, and the Edinburgh Postnatal Depression Scale (EPDS) by nursing staff. By utilising waiting room time and opting for printed materials, which avoid the technical and maintenance hurdles associated with electronic devices, we streamlined the process. When the questionnaires are collected, they are anonymised. The lead researcher maintains a separate, secure archive for personal identifiers, monitors the scores and alerts treating physicians while the students enter the de-identified questionnaire scores into the study database. For patients scoring above established thresholds (above 9 and above 12), specific clinical next steps are documented directly into the hospital's Heliant health information system. Immediate psychiatric referral is triggered for any positive response to Question 10 (acute risk). For general scores, a two-tiered triage takes place within 2–3 days: scores above 12 require a psychiatric diagnostic evaluation; scores 10–12 require a 1-month re-test; scores 9 or below indicate no elevated symptoms. The protocol received the Institutional Ethics Committee's approval. We assessed 1,098 women, of whom 6% scored between 10 and 12, and 4% scored above 12. Seven cases required immediate referral to a psychiatrist, and two women were hospitalised. This integrated approach successfully raised compliance to over 50% of the eligible population over a six-month period. Our findings demonstrate that integrating mental health screening into routine obstetric wait-times bypasses the logistical and stigma-related barriers inherent in traditional standalone appointments. Rather than requiring hospitals to employ more personnel, this pathway demonstrates how collaboration with psychology departments can offer a sustainable framework for universal peripartum mental health care.

Keywords: pregnancy, depression screening, pathway

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Towards Mandatory Peripartum Screening: Assessing Depression and Anxiety Symptoms Among Pregnant Women in Serbia

Characterised by significant biological, psychological, and social transitions, the perinatal period represents a critical developmental window associated with an increased risk of mental health difficulties. This cross-sectional study provides preliminary screening data on depressive and anxiety symptoms within a tertiary clinical setting in Serbia, ultimately seeking to support healthcare optimisation through the introduction of mandatory perinatal screening. The study was conducted in collaboration with the Hospital for Gynaecology and Obstetrics and included a sample of $N = 765$ participants ($M = 30.7$; $SD = 4.94$ $Min = 19$; $Max = 46$) of pregnant women in the second and third trimesters. Depressive symptoms were assessed using the standardised Edinburgh Postnatal Depression Scale (EPDS), while anxiety symptoms were measured using the Generalised Anxiety Disorder-7 (GAD-7) questionnaire. When it comes to the EPDS, scores ranged from 0 to 18 ($M = 4.61$; $Md = 4$; $SD = 3.79$), showing slight positive skewness ($Sk = 0.86$) and satisfactory internal consistency (Cronbach's $\alpha = .78$). While the majority of pregnant women (87.8%) did not exhibit elevated depressive symptoms ($EPDS < 10$), 12.2% showed elevated symptoms ($EPDS \geq 10$), a rate consistent with global prevalence statistics. On the GAD-7, scores ranged from 0 to 16 ($M = 2.80$; $Md = 2$; $SD = 2.73$), with more pronounced positive skewness ($Sk = 1.51$) and good internal consistency (Cronbach's $\alpha = .80$). Response frequencies indicate anxiety patterns consistent with international data, particularly regarding clinically relevant scores: 79.8% of women reported minimal anxiety, 17% mild anxiety, 3% moderate anxiety, and 0.3% severe anxiety. These preliminary findings underscore the critical need for systemic healthcare reform in Serbia, highlighting mandatory perinatal screening as an essential step towards safeguarding maternal well-being.

Keywords: pregnancy, depression, anxiety



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Neuroinkluzija na radnom mestu: mapiranje organizacijskih kapaciteta i praksi u Bosni i Hercegovini

Neurodiverzitet se posljednjih godina sve intenzivnije razmatra u okviru organizacijske psihologije i upravljanja ljudskim resursima, posebno u kontekstu razvoja inkluzivnih radnih okruženja. Uprkos tome, u Bosni i Hercegovini (BiH) nedostaju empirijski podaci o organizacijskim kapacitetima i praksama usmjerenim na podršku neurodivergentnim zaposlenicima. Cilj ovog istraživanja bio je procijeniti postojeće organizacijske kapacitete za podršku neurodivergentnim zaposlenicima te identificirati stavove, prepreke i prilike za unapređenje neuroinkluzije u okviru postojećih DEI (diversity, equity and inclusion) praksi.

Istraživanje je provedeno na uzorku od 99 organizacija u BiH, pri čemu je u svakoj organizaciji učestvovao po jedan predstavnik upoznat s politikama i praksama iz područja ljudskih resursa, DEI ili srodnih funkcija. Podaci su prikupljeni putem strukturiranog online upitnika koji je obuhvatao pitanja o postojećim DEI praksama, organizacijskoj spremnosti za podršku neurodivergentnim zaposlenicima, radnim prilagodbama i obilježjima organizacije.

Rezultati pokazuju da 39,4% organizacija u određenoj mjeri implementira DEI aktivnosti, 23,2% iskazuje interes za njihov razvoj, dok je 37,4% neaktivno u ovoj oblasti. U poduzorku organizacija koje provode DEI aktivnosti (N = 39), neurodiverzitet je najčešće djelimično integriran u postojeće DEI okvire (48,7%), dok 30,8% organizacija primarno usmjerava DEI prakse na druge dimenzije različitosti, a samo 20,5% u potpunosti uključuje neurodiverzitet u svoje aktivnosti. Istovremeno, više od polovine organizacija (N = 52) navodi da provodi određene radne prilagodbe, pri čemu su najzastupljenije fleksibilno radno vrijeme (78,8%), mentorstvo (61,5%) i prilagodba zadataka ili procesa rada (51,9%), dok su tiši radni prostori (25%) i asistivna tehnologija (15,4%) znatno rjeđe zastupljeni. Većina učesnika procjenjuje postojeće prilagodbe uglavnom uspješnim (61,5%), a čak 90% smatra da bi podrška neurodivergentnim zaposlenicima mogla imati umjeren do izuzetno veliki doprinos radnoj atmosferi, produktivnosti i zadovoljstvu zaposlenika. Najznačajnije prepreke uključuju nedostatak specifičnih znanja i edukacije (63,6%), percepcija prilagodbi kao potencijalne povlastice (49,5%), zakonske i administrativne procedure (41,4%) te finansijski troškovi (37,4%).

Nalazi sugeriraju da u organizacijama u BiH postoji veća spremnost za neuroinkluziju nego što postoji formalizirana organizacijska infrastruktura za njenu provedbu. Istovremeno, činjenica da dio organizacija provodi pojedine oblike podrške i bez eksplicitno razvijenih DEI politika ukazuje na postojanje neformalnih neuroinkluzivnih praksi koje predstavljaju važan, ali nedovoljno istražen organizacijski resurs. Rezultati ukazuju na potrebu za sistematskom edukacijom, razvojem organizacijskih smjernica i integracijom neurodiverziteta u postojeće HR i DEI politike te predstavljaju jedno od prvih sistematskih mapiranja neuroinkluzivnih organizacijskih praksi u BiH.

Ključne reči: neurodiverzitet, neuroinkluzija, neurodivergentni zaposlenici, DEI prakse, organizacijski kapaciteti

Neuroinclusion in the Workplace: Mapping Organisational Capacities and Practices in Bosnia and Herzegovina

In recent years, neurodiversity has received increasing attention within organisational psychology and human resource management, particularly in the context of developing inclusive work environments. However, empirical evidence on organisational capacities and practices aimed at supporting neurodivergent employees remains scarce in Bosnia and Herzegovina (BiH). The aim of this study was to assess existing organisational capacities for supporting neurodivergent employees and to identify attitudes, barriers, and opportunities for advancing neuroinclusion within existing diversity, equity, and inclusion (DEI) frameworks.

The study was conducted on a sample of 99 organisations in BiH, each represented by one participant familiar with human resources, DEI, or related organisational practices. Data were collected through a structured online questionnaire covering existing DEI practices, organisational readiness to support neurodivergent employees, workplace accommodations, and organisational characteristics.

The results indicate that 39.4% of organisations implement DEI activities to some extent, 23.2% express interest in developing such initiatives, while 37.4% remain inactive in this area. Among organisations that implement DEI activities (N = 39), neurodiversity is most often partially integrated into existing DEI frameworks (48.7%), while 30.8% focus primarily on other diversity dimensions, and only 20.5% fully incorporate neurodiversity into their activities. Concurrently, more than half of the organisations (N = 52) reported providing workplace accommodations, most commonly flexible working hours (78.8%), mentoring (61.5%), and task or process adjustments (51.9%). In contrast, quiet workspaces (25%) and

assistive technologies (15.4%) were considerably less common. Most respondents evaluated existing accommodations as generally successful (61.5%), while as many as 90% believed that supporting neurodivergent employees could moderately to substantially improve workplace climate, productivity, and employee satisfaction. The most frequently reported barriers included a lack of specific knowledge and training (63.6%), concerns that accommodations might be perceived as preferential treatment (49.5%), legal and administrative procedures (41.4%), and financial costs (37.4%).

The findings suggest that organisations in BiH demonstrate greater readiness for neuroinclusion than is reflected in their formal organisational infrastructure. At the same time, the fact that some organisations provide support without explicitly developed DEI policies points to the existence of informal neuroinclusive practices that represent an important yet underexplored organisational resource. The results highlight the need for systematic education, the development of organisational guidelines, and the integration of neurodiversity into existing HR and DEI policies, while providing one of the first systematic mappings of neuroinclusive organisational practices in BiH.

Keywords: neurodiversity, neuroinclusion, neurodivergent employees, DEI practices, organisational capacity

Klinička psihologija 2

Clinical Psychology 2

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Uloga perfekcionizma i kontekstualnih čimbenika u objašnjenju rizika za poremećaje hranjenja

Cilj ovog rada bio je ispitati ulogu perfekcionizma i nekih kontekstualnih čimbenika (internalizacija ideala mršavosti, sociokulturni pritisak ka mršavosti i očekivanja od mršavosti) u objašnjenju rizika od poremećaja hranjenja (mjerenoj odstupajućim navikama hranjenja i brigama oko težine). Istraživanje je provedeno putem interneta na uzorku od 213 sudionica dobi od 18 do 30 godina, koje su ispunjavale Burnsovu skalu perfekcionizma, Skalu stereotipa o idealnom tijelu, Skalu percipiranog sociokulturnog pritiska, Skalu percipirane koristi od mršavosti, Upitnik navika hranjenja i Skalu zabrinutosti za težinu. Korelacijska je analiza pokazala da su perfekcionizam, internalizacija ideala mršavosti, sociokulturni pritisak ka mršavosti i očekivanja od mršavosti pozitivno povezani s odstupajućim navikama hranjenja i brigama zbog težine. Hijerarhijskom regresijskom analizom utvrđeno je da je perfekcionizam značajan prediktor rizika od poremećaja hranjenja. Nakon kontrole perfekcionizma, sociokulturni pritisak ka mršavosti i očekivanja od mršavosti bili su pozitivni prediktori odstupajućih navika od hranjenja, dok internalizacija ideala mršavosti nije imala značajnih učinaka niti na jednu kriterijsku varijablu. Konačno, medijacijske analize pokazale su da sociokulturni pritisak ka mršavosti i očekivanja od mršavosti djelomično posreduju u odnosu perfekcionizma s odstupajućim navikama hranjenja i brigama oko težine. Drugim riječima, djevojke i mlade žene, s višim razinama perfekcionizma, u većem su riziku od razvoja poremećaja hranjenja, djelomično zbog toga što percipiraju veći pritisak ka mršavosti u svojoj okolini i imaju pozitivnija očekivanja od mršavosti. Rezultati ukazuju na značajnu ulogu perfekcionizma, ali i kontekstualnih čimbenika u riziku od poremećaja hranjenja, što može imati značajne implikacije za prevenciju, ali i unaprijediti opcije tretmana.

Ključne reči: poremećaji hranjenja, perfekcionizam, internalizacija ideala mršavosti, socio-kulturni pritisak, očekivanja od mršavosti

The Role of Perfectionism and Contextual Factors in Explaining the Risk for Eating Disorders

The aim of this study was to examine the role of perfectionism and several contextual factors (internalisation of the thin-ideal, perceived sociocultural pressure towards thinness, and expectations of thinness) in explaining the risk for eating disorders, as measured by disordered eating attitudes and weight concerns. The study was conducted online in a sample of 213 female participants aged 18 to 30 years. Participants completed the Burns Perfectionism Scale, the Ideal Body Stereotype Scale, the Perceived Sociocultural Pressure Scale, the Perceived Benefits of Thinness Scale, the Eating Attitudes Test, and the Weight Concerns Scale. Correlation analyses revealed that perfectionism, internalisation of the thin-ideal, sociocultural pressure towards thinness, and thinness expectancies were all positively associated with disordered eating attitudes and weight concerns. Hierarchical regression analyses indicated that perfectionism was a significant predictor of risk for eating disorders. After controlling for perfectionism, sociocultural pressure towards thinness and expectations of thinness emerged as positive predictors of risk for eating disorders, whereas internalisation of the thin-ideal did not have significant effects on either criterion variable. Finally, mediation analyses demonstrated that

sociocultural pressure towards thinness and expectations of thinness partially mediated the relationship between perfectionism and both disordered eating attitudes and weight concerns. In other words, adolescent girls and young women with higher levels of perfectionism were at greater risk for developing eating disorders, partly because they perceived greater pressure toward thinness in their social environment and held more positive expectations regarding the benefits of being thin.

The findings highlight the significant role of perfectionism, as well as contextual factors, in the risk for eating disorders. These results may have important implications for prevention efforts and may contribute to the development of more effective treatment approaches.

Keywords: *eating disorders, perfectionism, internalisation of the thin-ideal, sociocultural pressure, expectations of thinness*



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Anxiety Symptoms and Perceived Situational Characteristics: A Daily Diary Study

The interpretation of situations we usually encounter is related to momentary affective states and personality, but the relationship between those interpretations and other psychological phenomena has been studied to a lesser extent. The aim of the current study was to examine the relationship between daily anxiety symptoms with baseline anxiety level and perceived characteristics of everyday situations using a daily diary method. Data were collected as part of a larger research project, and the sample consisted of 161 psychology students, predominantly female (91.3%), aged 19 years ($M = 21.0$, $SD = 2.12$). Data on baseline characteristics of participants, which included demographic characteristics and psychological measures, were collected online, while daily diary data were collected via a mobile phone application over seven consecutive days. Anxiety measured at the daily level exhibited greater variability within participants than between participants, and it was significantly positively associated with baseline anxiety level. The situational characteristic of negativity was associated with anxiety symptoms at both the between- and within-person levels. While situational characteristics describing mating were related to anxiety only at the between-person level, characteristics of duty and positivity were related to it only at the within-person level. These results indicate that daily variability in anxiety symptoms can be explained not only by baseline anxiety, but that interpretation of situations also plays a meaningful role.

Keywords: *anxiety symptoms, perceived characteristics of situations, daily diary*

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Do Interpersonal Templates or Psychological Defences Matter? Defence Mechanisms and Attachment Predict Internalising and Externalising Symptoms in Everyday Life

Attachment styles provide a foundational relational template for interpersonal functioning, while defence mechanisms serve as dynamic daily coping strategies. Although both are important for healthy psychological functioning, their independent contributions remain unclear. This study used experience sampling to examine how these constructs predict internalising and externalising problems. Participants ($N = 206$) completed baseline assessments, including the Adult Self Report, the Experience in Close Relationships Questionnaire (ECRQ), and the Defense Style Questionnaire-40. Additionally, participants were categorised as securely or insecurely attached to their family and friends based on their responses to the ECRQ. They then collected data five times daily for seven days, using a shortened Defense Style Questionnaire to track internalising and externalising symptoms. Analyses utilised hierarchical multilevel models, predicting daily internalising and externalising problems from family (insecure vs. secure) and friends' attachment (insecure vs. secure) style as Level 1 variables, and daily use of adaptive and nonadaptive defence mechanisms as Level 2 variables (separated into within- and between-participants scores), while controlling for baseline severity of internalising and externalising symptoms. Results indicate that nonadaptive defence mechanisms were the primary predictors of maladjustment. Internalizing problems were significantly predicted by nonadaptive defence mechanisms at the within-participant level ($\beta = 0.37$, $t = 25.11$, $p < .001$) and between-participant level ($\beta = 0.37$, $t = 19.09$, $p < .001$), as well as by within-participant adaptive defence mechanisms ($\beta = -0.07$, $t = -5.47$, $p < .001$) and family attachment style ($\beta = 0.06$, $t = 2.31$, $p = .021$). Similarly, externalising problems were predicted by nonadaptive defence mechanisms at the within-participant level ($\beta = 0.31$, $t = 18.63$, $p < .001$) and between-participant level ($\beta = 0.53$, $t = 16.83$, $p < .001$), alongside a smaller contribution from within-participant adaptive mechanisms ($\beta = -0.02$, $t = 2.34$, $p < .001$). These findings reveal that attachment styles shape subjective distress, but daily engagement with nonadaptive defence mechanisms is a stronger predictor of maladjustment. Consequently, clinical interventions could use attachment-focused work to address subjective distress, while implementing strategies that directly target daily maladaptive coping might help to reduce overt behavioural symptoms.

Keywords: defence mechanisms, attachment styles, internalising and externalising symptoms, experience sampling method (ESM)



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Posreduje li ruminacija između osobina ličnosti i simptoma anksioznosti i depresivnosti? Podaci iz dnevničke studije.

Prethodna istraživanja ukazuju na to da bi ruminacija mogla posredovati u odnosu između osobina ličnosti te anksioznosti i depresivnosti, potvrđujući tako teorijske pretpostavke. Ipak, ta su istraživanja bila kros-sekcijska, što onemogućuje donošenje zaključaka o medijacijskim procesima. Cilj ovog istraživanja bio je proučiti posreduje li ruminacija odnos između Big Five osobina ličnosti i anksioznosti/depresivnosti korištenjem metodologije dnevničke studije. Podaci su prikupljeni na $N=163$ studenta psihologije ($\bar{X}=149$, $M_{dob}=21.0$, $SD_{dob}=2.12$) koji su ispunili početni BFI-2 upitnik s osobinama ličnosti kao i upitnike ruminacije, depresivnosti i anksioznosti svakodnevno kroz 7 dana istraživanja.

Analize su provedene korištenjem višerazinskog bayesovskog modeliranja. Rezultati ukazuju na to da su sudionici na one dane kad više ruminiraju, skloniji izvještavati o povišenim simptomima depresivnosti ($\beta = 0.30$, 95% CI [0.24, 0.36]) i anksioznosti ($\beta = 0.34$, 95% CI [0.27, 0.39]), a takve povezanosti dobivene su i na razini prosječnih rezultata. Također, sudionici koji su imali povišen rezultat na negativnoj emocionalnosti u početnom upitniku imali su povišene rezultate na depresivnosti ($\beta = 0.32$, 95% CI [0.15, 0.48]) i anksioznosti ($\beta = 0.42$, 95% CI [0.26, 0.57]) u dnevničkom dijelu istraživanja, a za ekstraverziju i depresivnost je dobivena negativna povezanost ($\beta = -0.23$, 95% CI [-0.39, -0.07]). Indirektni medijacijski putevi od negativne emocionalnosti, preko ruminacije, do depresivnosti i anksioznosti su se također pokazali kredibilnima. Ipak, radi se o relativno malim indirektnim efektima za depresivnost ($b = 0.014$, 95% CI [0.006, 0.025]) i anksioznost ($b = 0.014$, 95% CI [0.006, 0.026]). Dobiveni rezultati ukazuju na to da je medijacijski efekt ruminacije u odnosu između osobina ličnosti te depresivnosti i anksioznosti ograničen na osobinu negativne emocionalnosti.

Ključne reči: osobine ličnosti, ruminacija, depresivnost, anksioznost, dnevnička studija

Zahvalnica: Ovo istraživanje provedeno je u sklopu projekta Dnevni stres u kasnoj adolescenciji i nastupajućoj odrasloj dobi (DISTRESS) koji financira Europska unija – NextGeneration EU (01/08-73/23-2519-12).

Does Rumination Mediate the Relationship Between Personality Traits and Symptoms of Anxiety and Depression? Evidence From a Daily Diary Study

Previous research suggests that rumination may mediate the relationship between personality traits and anxiety and depression, thereby supporting theoretical assumptions. However, these studies were cross-sectional, which precludes conclusions about mediation processes. The aim of the present study was to examine whether rumination mediates the relationship between Big Five personality traits and anxiety and depression using a daily diary study design. Data were collected from $N = 163$ psychology students (149 women, $M_{age} = 21.0$, $SD_{age} = 2.12$), who completed an initial BFI-2 questionnaire assessing personality traits, as well as daily measures of rumination, depression, and anxiety over the course of seven days. Analyses were conducted using multilevel Bayesian modelling. The results indicate that, on days when participants ruminated more, they were more likely to report elevated symptoms of depression ($\beta = 0.30$, 95% CI [0.24, 0.36]) and anxiety ($\beta = 0.34$, 95% CI [0.27, 0.39]). Similar associations were also found at the level of average scores. In addition, participants who scored higher on negative emotionality in the initial questionnaire showed elevated levels of depression ($\beta = 0.32$, 95% CI [0.15, 0.48]) and anxiety ($\beta = 0.42$, 95% CI [0.26, 0.57]) in the diary part of the study, while a negative association was found between extraversion and depression ($\beta = -0.23$, 95% CI [-0.39, -0.07]). The indirect mediation paths from negative emotionality, through rumination, to depression and anxiety were also credible. However, these effects were relatively small for both depression ($b = 0.014$, 95% CI [0.006, 0.025]) and anxiety ($b = 0.014$, 95% CI [0.006, 0.026]). These findings indicate that the mediating effect of rumination in the relationship between personality traits and depression and anxiety is limited to the trait of negative emotionality.

Keywords: personality traits, rumination, depression, anxiety, daily diary study

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Odnos primarnih emocionalnih sistema i crta afektivnog temperamenta – preliminarna studija na kliničkom uzorku

Osnovni cilj ovog rada je da ispita mogućnost predikcije crta afektivnih temperamenata, koje je u svom modelu definisao Hagop Akiskal, na osnovu primarnih emocija postuliranih u okviru afektivne neuronauke Jaka Panksepa. Podaci su prikupljeni uz pomoć srpske verzije skale TEMPS-A (Temperament Evaluation of the Memphis, Pisa, Paris and San Diego-Autoquestionnaire; Ristić-Ignjatović et al., 2014) i srpske verzije ANPS 2.4 (Affective Neuroscience Personality Scales; Montag et al., 2019). Uzorak čini 119 ispitanika iz kliničke populacije, a kriterijum uključivanja u uzorak je bio da ispitanik ima zvanično određenu dijagnozu od strane psihijatra. Od ukupnog broja ispitanika 83 (69.7%) su muškarci i 36 (30.3%) žene. Njih 107 je testirano u psihijatrijskim ustanovama, a 12 je ispitano putem interneta. Rezultati regresionih analiza pokazuju da STRAH ostvaruje pozitivni, a BRIGA negativni prediktorski doprinos depresivnom temperamentu. STRAH i LJUTNJA su pozitivni prediktori ciklotimnog temperamenta, dok predikciji hipertimnog pozitivno doprinose TRAGANJE i IGRA. Emocija LJUTNJE ostvaruje pozitivan prediktorski doprinos iritabilnom temperamentu, a STRAH anksiozno-kognitivnom i anksiozno-somatskom. Procenti objašnjenih varijansi kriterijumskih varijabli u modelima se kreću između 26.5% i 32.8%. Dobijeni rezultati ukazuju na statističku povezanost individualnih razlika u primarnim emocionalnim sistemima i crta afektivnog temperamenta, pri čemu se različiti temperamenti odlikuju delimično specifičnim obrascima emocionalnih korelata. Nalazi mogu doprineti preciznijem određivanju nomološke mreže afektivnih temperamenata i predstavljati osnovu za dalja istraživanja njihovih odnosa s primarnim emocionalnim sistemima u kliničkoj populaciji. S obzirom na korelacioni nacrt, preliminarni karakter analiza i primenu instrumenata samoprocene, rezultati ne omogućavaju zaključivanje o kauzalnim niti neposrednim neurobiološkim odnosima između ispitivanih konstrukata.

Ključne reči: primarne emocije, afektivni temperamenti, afektivna neuronauka, emocionalni sistemi

The Relationship Between Primary Emotional Systems and Affective Temperament Traits: A Preliminary Study in a Clinical Sample

The aim of this study was to examine whether affective temperament traits, as defined in Hagop Akiskal's model, can be predicted on the basis of the primary emotions postulated within Jaak Panksepp's affective neuroscience framework. Data were collected using the Serbian version of the TEMPS-A scale (Temperament Evaluation of Memphis, Pisa, Paris and San Diego Autoquestionnaire; Ristić-Ignjatović et al., 2014) and the Serbian version of the ANPS 2.4 (Affective Neuroscience Personality Scales; Montag et al., 2019). The sample comprised 119 participants from a clinical population, with the inclusion criterion being a formally established psychiatric diagnosis made by a psychiatrist. Of the total sample, 83 participants (69.7%) were men and 36 (30.3%) were women. A total of 107 participants were assessed in psychiatric institutions, whereas 12 completed the assessment online. The regression analyses showed that FEAR made a positive unique contribution and CARE a negative unique contribution to the prediction of depressive temperament. FEAR and ANGER were positive predictors of cyclothymic temperament, whereas SEEKING and PLAY positively predicted hyperthymic temperament. ANGER made a positive unique contribution to the prediction of irritable temperament, while FEAR positively predicted both anxious-cognitive and anxious-somatic temperaments. Across the models, the predictors accounted for between 26.5% and 32.8% of the variance in the criterion variables. The findings indicate statistically significant associations between individual differences in primary emotional systems and affective temperament traits, with different temperaments exhibiting partially distinct patterns of emotional correlates. These findings may

contribute to a more precise delineation of the nomological network of affective temperaments and provide a basis for further research into their relationships with primary emotional systems in clinical populations. Given the correlational design, the preliminary nature of the analyses, and the use of self-report measures, the findings do not permit conclusions regarding causal or direct neurobiological relationships between the constructs examined.

Keywords: *primary emotions, affective temperaments, affective neuroscience, emotional systems*



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Doživljaj bolesti i atribucije uzroka nastanka kod odraslih osoba s astmom: kombinovano istraživanje primenom Brief IPQ

Doživljaj bolesti predstavlja važan psihološki okvir kroz koji osobe razumeju i regulišu hronična zdravstvena stanja. Cilj istraživanja bio je da se ispita odnos između doživljaja bolesti, kontrole astme i atribucija uzroka nastanka kod odraslih osoba s astmom.

U istraživanju je učestvovalo 95 odraslih osoba s astmom ($M = 52$ godine, $SD = 14.15$), lečenih u Institutu za plućne bolesti Vojvodine tokom decembra 2024. godine. Primenjeni su Kratak upitnik percepcije bolesti (Brief Illness Perception Questionnaire; B-IPQ) i Test kontrole astme (Asthma Control Test; ACT), a analize su sprovedene u statističkom okruženju R. Prosečan ACT skor iznosio je 21.44 ($SD = 3.77$), što ukazuje na dobru kontrolu astme u uzorku.

Deskriptivni pokazatelji B-IPQ ukazuju na to da ispitanici procenjuju da astma ima umeren uticaj na svakodnevni život (posledice: $M = 3.51$) i relativno nisku izraženost simptoma ($M = 3.37$), dok je bolest doživljena kao dugotrajna (trajanje: $M = 7.66$). Istovremeno su prisutni visok osećaj lične kontrole ($M = 7.93$), poverenje u terapijsku kontrolu ($M = 9.00$) i dobro razumevanje bolesti ($M = 7.97$), dok su briga ($M = 3.61$) i emocionalna pogođenost bolešću ($M = 3.45$) slabije izražene.

Analiza sadržaja otvorenih odgovora o opaženim uzrocima astme pokazala je da su najčešće navođeni alergeni (27%), stres i emocionalni faktori (22%), respiratorne infekcije (22%), genetski i porodični faktori (20%), zagađenje i profesionalna izloženost (14%), životni stil (15%) i neadekvatno lečenje (8%).

Faktorski skorovi predstavljaju standardizovane vrednosti koje ukazuju na relativni položaj ispitanika na svakoj dimenziji doživljaja bolesti, pri čemu više vrednosti označavaju izraženiji emocionalni teret, percepciju simptoma ili osećaj kontrole.

Radi poređenja kvantitativnih pokazatelja između grupa, ispitanici su razvrstani prema kategoriji opaženog uzroka astme. Kvantitativne analize nisu pokazale statistički značajne razlike u kontroli astme između ovih grupa ($p > .40$). Ipak, deskriptivni podaci ukazuju na to da su najniži ACT skorovi prisutni kod ispitanika koji astmu pripisuju životnom stilu ($M = 19.0$) i neadekvatnom lečenju ($M = 19.9$), pri čemu je u potonjoj grupi uočen i izraženiji emocionalni teret bolesti ($F_1 \approx 0.63$).

Rezultati ukazuju na to da su razlike u kontroli astme između grupa definisanih atribucijama uzroka minimalne, dok pojedine atribucije koje impliciraju ličnu odgovornost ili neadekvatno lečenje mogu biti povezane s nepovoljnijim subjektivnim doživljajem bolesti.

Ključne reči: *doživljaj bolesti, atribucije uzroka nastanka, astma, kontrola astme, B-IPQ, kombinovana analiza*

Illness Perceptions and Attributions of Asthma Onset in Adults: A Mixed-Methods Analysis

Illness perception represents an important psychological framework through which individuals understand and regulate chronic health conditions. The aim of this study was to examine the relationship between illness perceptions, asthma control, and attributions of asthma onset in adults with asthma.

The sample comprised 95 adults with asthma ($M = 52$ years, $SD = 14.15$), treated at the Institute for Pulmonary Diseases of Vojvodina in December 2024. The Brief Illness Perception Questionnaire (B-IPQ) and the Asthma Control Test (ACT) were administered, and analyses were conducted using the R statistical environment. The mean ACT score was 21.44 ($SD = 3.77$), indicating good asthma control in the sample.

Descriptive B-IPQ indicators suggest that participants perceived asthma as having a moderate impact on daily life (consequences: $M = 3.51$) and relatively low symptom severity ($M = 3.37$), while the condition was viewed as long-lasting (timeline: $M = 7.66$). At the same time, participants reported a high sense of personal control ($M = 7.93$), strong belief in treatment effectiveness ($M = 9.00$), and good understanding of the illness ($M = 7.97$), whereas concern ($M = 3.61$) and emotional impact ($M = 3.45$) were less pronounced.

Content analysis of open-ended responses regarding perceived causes of asthma showed that the most frequently reported causes were allergens (27%), stress and emotional factors (22%), respiratory infections (22%), genetic and familial factors (20%), environmental pollution and occupational exposure (14%), lifestyle factors (15%), and inadequate treatment (8%).

Factor scores represent standardised values indicating participants' relative standing on each illness perception dimension, with higher scores reflecting greater emotional burden, symptom perception, or perceived control. For comparisons of quantitative outcomes across groups, participants were classified according to their perceived cause of asthma. Quantitative analyses revealed no statistically significant differences in asthma control between these groups ($p > .40$). Nevertheless, descriptive data indicated the lowest ACT scores among participants who attributed their asthma to lifestyle factors ($M = 19.0$) and inadequate treatment ($M = 19.9$), with the latter group also showing a higher emotional burden of illness ($F_1 \approx 0.63$).

The findings suggest that differences in asthma control between groups defined by causal attributions were minimal. However, attributions implying personal responsibility or inadequate treatment may be associated with a less favourable subjective perception of illness.

Keywords: *illness perception, causal attributions of asthma onset, asthma, asthma control, B-IPQ, mixed-methods analysis*

Psihologija ličnosti 1

Personality Psychology 1

Voditeljka / Moderator: Selka Sadiković



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Personality Facets and Involvement in Activities Among Croatian Older Adults

The world population is constantly getting older, and as more people find themselves spending more years in retirement age, it becomes increasingly important to understand how people in old age spend their time and how they choose their activities. Although personality traits have been associated with interest and participation in different types of activities, studies so far have mainly investigated a limited number of activities and associations with personality factors. The aim of this study is to gather information from older adults in Croatia about the activities they are involved in during old age, the frequency of performing each activity during the past year, as well as to examine the associations with selected personality facets. Participants will be presented with 46 different activities for which they will have to indicate whether they were involved in them during the past year, and if so, whether it was every day, a few times a week, once a week, a few times a month, once a month, or a few times a year. In addition, the participants will fill in questions from the Croatian translation of the FacetMap items measuring the following personality facets: depression, intellectual curiosity, introspection, novelty-seeking, perseverance and sociability. Data collection is currently ongoing, and the planned sample size is 150 participants older than 65 years. We will examine which activities participants are involved in, and their associations with personality facets. It is expected that different personality facets will predict involvement in different types of activities (e.g. perseverance with activities for which more time and dedication are needed such as learning to play an instrument or sociability with involvement in social activities such as dancing or playing board games).

Keywords: *older adults, personality facets, involvement in activities*

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Creative and Mad? Testing the Mad Genius Stereotype

In public discourse, the “mad genius” myth persistently appears, an attitude that holds creative people tend to have psychopathological characteristics (Schlesinger, 2009). Although authors often hypothesise that the real link between creativity and psychopathological traits is more complex than previously thought, the negative attitude seems to persist (Simonton, 2019). We aimed to examine whether perceived psychopathological traits varied as a function of a person’s creativity and gender, and whether these evaluations differed by participants’ gender. Firstly, we conducted a pilot study ($N = 43$, 48.8% male) in which participants rated each person’s creativity using 10 biographies we created, written in a gender-free manner, and nothing in them reflected the psychopathology of the described person. Based on the creativity score, we selected three biographies: noncreative, moderately creative, and extremely creative. We then implemented gender variations, resulting in six biographies in total, and used them in the main study. As a control variable (Hagen et al., 2026), we added the Openness scale from the HEXACO-PI-R (Ashton & Lee, 2009). In the final study, 584 participants were included (48.1% male, $M = 35.93$, $SD = 14.65$). Eight participants who did not report their gender were excluded from the analysis. Each participant was randomly presented with one biography and rated the described person on a 7-point Likert scale using a newly developed 29-item mental illness stereotype scale covering clinical symptoms, eccentricity, magical thinking, and social-interpersonal dysfunction. Demographic data were also collected for age, gender, and education. We hypothesised that scores on the mental illness stereotype scale would vary as a function of the level of the person’s creativity reflected in the biographies: highly creative biographies would display higher scores on the scale than moderately creative and non-creative biographies. We used a three-way analysis of covariance, controlling for openness to experience. We found significant main effects for all three factors on the mental illness stereotype scale. Males gave higher stereotype ratings than females, $F(1, 571) = 10.744$, $p = .001$, $\eta^2 = .018$, and male persons were evaluated more stereotypically than female persons, $F(1, 571) = 7.096$, $p = .008$, $\eta^2 = .012$. Findings suggest that mental illness stereotyping may differ depending on both the gender of the evaluator and the gender of the evaluated person. Furthermore, a significant main effect of a person’s creativity level was observed, $F(2, 571) = 28.274$, $p < .001$, $\eta^2 = .090$. Contrast analysis confirmed that stereotyping scores significantly increased across all creativity levels (low, medium, and high). Although overall scores remained low, reflecting the non-pathological nature of the stimuli, the results confirm that ‘mad genius’ stereotyping varies systematically based on gender and creativity.

Keywords: creativity, mental illness stereotypes, mad genius hypothesis, openness



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Dark Tetrad Traits and Moral Disengagement Mechanisms as Predictors of Moral Judgement on Factual Dilemmas

Existing research indicated that Dark Tetrad traits predict utilitarian judgements on trolley-type dilemmas. Those types of dilemmas often rely on low realism that confounds moral principles and could not be generalised to real-world reasoning. Factual dilemmas grounded in historical events, proposed by A. Körner and R. Deutsch, offer higher ecological validity but remain unexplored in relation to dark personality. Additionally, moral disengagement mechanisms, particularly the attribution of blame, are associated with the moral acceptance of harm to the victim as psychological pathways through which dark personality traits relate to utilitarian responses. This study addresses the gap by testing whether traits such as the Dark Tetrad traits and moral disengagement predict responses across factual dilemmas. Objectives: (1) determine whether Dark Tetrad traits predict utilitarian and deontological responding across factual dilemmas; (2) test moral disengagement (MD) mechanisms as incremental predictors; (3) determine the ranked contribution of Dark Tetrad traits and MD mechanisms to explain variance in utilitarian and deontological responding.

Method: The convenience sample includes 867 participants (86.4% females; $M = 23.7$, $SD = 8.80$). The following questionnaires were used: the Short Dark Tetrad, the Mechanisms of Moral Disengagement Scale, and the Factual Dilemmas paradigm.

Results: The hierarchical regression model for utilitarianism explained 9.5% of the variance with Machiavellianism, narcissism, and sadism as significant predictors. Among MD mechanisms, only diffusion of responsibility reached significance in the negative direction. The model for deontology explained 2.9% of the variance, with only Machiavellianism emerging as a negative and distortion of consequences as a positive predictor. Dominance analysis revealed that Dark Tetrad traits contributed 78% and MD mechanisms 22% of the variance explained by the model ($R^2 = .085$) for utilitarianism and 55% and 45%, respectively ($R^2 = .050$) for deontology. Although models explained modest variance (9.5% and 2.9%), Dark Tetrad traits predicted both outcomes differently. Utilitarian responding was associated with dark traits, whereas deontological responding was uniquely and negatively linked to Machiavellianism. Two MD mechanisms explained the judgements in the factual dilemmas – the first describing the tendency to minimise the consequences of one's actions associated with higher deontological responding and the second describing the lowering of personal responsibility for one's actions related to lower utilitarian responding. Attribution of blame did not significantly predict any responses to factual dilemmas, in contrast to findings using conventional dilemmas, suggesting that this mechanism may be stimulus-dependent and attenuates when dilemmas are grounded in recognisable historical events.

Keywords: Dark Tetrad, moral disengagement, utilitarian judgement, factual dilemmas, deontological judgement

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Differential Associations of Vanity Components With Self-Esteem and Contingencies of Self-Worth

Even after years of research, the psychological meaning of vanity as a personality trait is still not clear. Netemeyer's Vanity Scale (1995) comprises four subscales: physical concern and achievement concern (anxious preoccupation with appearance and achievement, respectively) and physical view and achievement view (confident self-appraisal in these domains). Drawing on Crocker & Park's (2004) framework of contingent self-esteem pursuit, we argue that these components reflect different psychological phenomena: concern indexes vulnerability and domain-contingent self-worth, whereas positive view indexes stable, non-contingent self-esteem. The objective of this study is to examine differential associations of vanity subscales with domains of contingent self-worth and global self-esteem, to evaluate whether the concern/view distinction maps onto the contingent/non-contingent self-esteem framework.

Method: The sample includes 451 university students (85.4% females; age range 18–27). The following measures were used: the Vanity Scale, comprising four subscales — physical concern, achievement concern, physical view, and achievement view; the Contingencies of Self-Worth Scale, covering seven domains; and the Rosenberg Self-Esteem Scale as a measure of global self-esteem. Vanity subscales were entered simultaneously as predictors in separate multiple linear regression models for global self-esteem and seven contingent self-worth domains.

Results: Vanity subscales demonstrated distinct patterns of association with global self-esteem and contingent self-worth domains. All reported associations were statistically significant at $p < .05$. Concern subscales positively predicted contingent self-worth across appearance ($\beta = .54$), competition ($\beta = .49$), others' approval ($\beta = .36$), academic achievement ($\beta = .36$), and family support ($\beta = .15$), with explained variance ranging from 5% to 28%. Positive view subscales showed positive associations with global self-esteem and negative or null associations with contingent self-worth domains. Specifically, physical view significantly and negatively predicted appearance- ($\beta = -.15$), academic- ($\beta = -.29$), and others' approval-contingent self-worth ($\beta = -.36$), while associations with the remaining domains (competition, family support, moral virtue, and love) were non-significant. Physical and achievement view subscales positively predicted global self-esteem ($\beta = .375$ and $\beta = .430$, respectively), with the full model explaining 42% of its variance.

In sum, the results showed that the associations between the concern and positive view components of vanity and contingent and non-contingent self-esteem differed systematically, suggesting that they may reflect specific psychological meanings and could be investigated further.

Keywords: *vanity, contingencies of self-worth, self-esteem, personality traits*

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Validacija i evaluacija skale animizma i antropomorfizma

Animizam (pogrešno pripisivanje života ili duše) i antropomorfizam (pogrešno pripisivanje ljudskih mentalnih osobina) postaju relevantniji konstrukti s obzirom na promene u tehnologiji. Ipak, literatura nudi više pitanja nego odgovora. Glavna otvorena pitanja su: da li je reč o jednoj dispoziciji ili o dva konstrukta, da li jaki oblici (recimo eksplicitno zauzimanje animističkih stavova) i slabi (recimo ponašanje i osećaj „kao da“ predmeti imaju agensnost) pripadaju istoj tendenciji. Odgovori izostaju jer postojeći instrumenti ne mogu empirijski da raščlane ove opcije, te smo iz tog razloga konstruisali skalu animizma i antropomorfizma (AAS), čiji ajtemi sistematski variraju target pripisivanja, tip atributa i intenzitet manifestacije, i zadali je uz postojeće mere istih fenomena (IDAQ, ASA) i uz srodne konstrukte (ontološke konfuzije, dezintegracija, empatija, sistematizacija, usamljenost, specizam, SDO) na uzorku od $N = 284$. Strukturu smo ispitali analizom ajtema, EFA i konfirmativnim bifaktorskim modelom na polihoričnim korelacijama, a odnose sa drugim merama parcijalnim korelacijama. Konfirmativni bifaktorski model na verziji od 36 ajtema dobro pristaje podacima ($CFI = .92$), s dominantnim opštim faktorom ($ECV = .82$, $\omega_h = .91$) koji visoko konvergira s postojećim instrumentima ($ASA r = .77$, $IDAQ r = .65$). Od tri ugrađene ose samo je target rekonstruisan kao strukturna dimenzija (Kramerovo $V = .51$). Intenzitet i tip atributa ne obrazuju zasebne faktore, dok se animistički (živi entiteti, priroda) i antropomorfistički (predmeti, tehnologija) subfaktor razdvajaju. Na tom razdvajanju razilaze se i validacione mere: uz kontrolu opšteg faktora animistički subfaktor zadržava vezu s empatijom ($pr = .20$) i ontološkim konfuzijama ($pr = .22$), a antropomorfistički sa dezintegracijom ($pr = .27$) i usamljenošću ($pr = .20$). Animizam i antropomorfizam jesu jedna dispozicija, ali target unutar nje stvara dva razdvojiva kanala, dok se jaki i slabi oblici psihometrijski ne razdvajaju. Kako svaki kanal ima svoje korelate, objašnjenja koja su se pojavljivala u literaturi nisu zapravo konkurentna nego komplementarna.

Ključne reči: antropomorfizam, animizam, validacija skale, pripisivanje agensnosti, ontološke konfuzije, interakcija čovek–životinja, interakcija čovek–robot

Validation and Evaluation of the Animism-Anthropomorphism Scale

Animism (the wrong attribution of life and soul) and anthropomorphism (the wrong attribution of human mental characteristics) are becoming more relevant constructs given ongoing changes in technology. The literature, however, offers more questions than answers. The main open questions are whether this is a single disposition or two constructs, and whether strong forms (such as explicitly held animistic beliefs) and weak forms (such as behaving and feeling "as if" objects had agency) belong to the same tendency. Answers are lacking because existing instruments cannot empirically disentangle these options. We therefore constructed the Animism and Anthropomorphism Scale (AAS), whose items systematically vary the target of attribution, the type of attribute, and the intensity of manifestation, and administered it alongside existing measures of the same phenomena (IDAQ, ASA) and adjacent constructs (ontological confusions, disintegration, empathy, systemising, loneliness, speciesism, SDO) in a sample of $N = 284$. Structure was examined through item analysis, EFA, and a confirmatory bifactor model on polychoric correlations, and relations with other measures through partial correlations. The confirmatory bifactor model on the 36-item version fits the data well ($CFI = .92$), with a dominant general factor ($ECV = .82$, $\omega_h = .91$) that converges strongly with existing instruments ($ASA r = .77$, $IDAQ r = .65$). Of the three axes built into the instrument, only the target was recovered as a structural dimension (Cramér's $V = .51$). Intensity and attribute type do not form separate factors, while the animistic (living entities, nature) and anthropomorphic (objects, technology) sub-factors do separate. The validation measures diverge along the same split: controlling for the general factor, the animistic sub-factor retains its association with empathy ($pr = .20$) and



ontological confusions ($pr = .22$), and the anthropomorphic sub-factor with disintegration ($pr = .27$) and loneliness ($pr = .20$). Animism and anthropomorphism are a single disposition, but target creates two separable channels within it, while strong and weak forms do not separate psychometrically. Since each channel has its own correlates, the explanations that have appeared in the literature are not in fact competing but complementary.

Keywords: anthropomorphism, animism, scale validation, agency attribution, ontological confusions, human-animal interaction, human-robot interaction

Psihologija ličnosti 2

Personality Psychology 2

Voditelj / Moderator: Petar Čolović



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Test Your Morality Against My Steel: Moral Foundations and Metal Music Subgenre Preferences

Prior research suggests that musical and lyrical preferences partly reflect listeners' moral values, identities, and worldviews. Moral Foundations Theory frames moral concerns through individualising foundations, Harm and Fairness, and binding foundations, Ingroup, Authority, and Purity, allowing genre preferences to be examined in relation to care/fairness versus loyalty, hierarchy, and sanctity concerns. Previous music-related studies indicate that moral values are reflected in genre preferences, preferred artists, and lyrical content, with binding or hierarchy/tradition-related dimensions often showing clearer associations than empathy/equality dimensions. Because metal music has often been culturally framed as "morally problematic", while also comprising heterogeneous subgenres with distinct sonic, symbolic, and lyrical profiles, this study examined whether metal music subgenre preferences show a specific moral-foundation pattern. Non-metal genres were included as comparators to test whether any observed correlational trends were metal-specific or part of a broader genre-preference structure. The convenience sample included 586 participants ($M=28$ years; 69% women). Participants completed the 30-item Moral Foundations Questionnaire ($\alpha=.74-.77$) and rated preferences for eight metal subgenres and 20 non-metal genres, using an eight-point scale, where 0 indicated insufficient familiarity, 1 strong dislike, and 7 strong liking; responses coded as 0 were treated as missing. Polyserial correlations were computed between MFQ scores and genre-preference ratings. Metal music subgenre preferences showed a consistent moral-foundation correlational profile. They were negatively associated with binding foundations, especially Authority ($r=-.23$ to $-.17$) and Purity ($r=-.21$ to $-.14$), and less so with Ingroup ($r=-.17$ to $-.08$). Fairness was essentially unrelated to metal preferences, whereas Harm showed only selective weak negative associations. Thus, metal preference was not associated with lower moral concern in general, but with weaker endorsement of authority, purity, and group-binding concerns. The comparison with non-metal genres showed that this pattern was not unique to metal: punk/hardcore punk, ska punk/pop punk, rap/hip-hop, R&B/soul/funk, and reggae showed similar lower-binding profiles, whereas local traditional music and gospel/religious music showed the opposite pattern, with positive associations with Ingroup, Authority, and Purity. These findings suggest that music preferences map onto moral-worldview differences in a structured way. Metal preferences appear closest to a broader countercultural or lower-binding genre cluster, rather than to a "morally deficient" profile. The results extend prior evidence that musical and lyrical preferences reflect listeners' values and moral reasoning, while showing that the moral signal in metal is concentrated primarily in binding foundations.

Keywords: metal music, countercultural music, genre preferences, moral foundations, binding morality



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Doprinos vremena provedenog na društvenim mrežama i neuroticizma u predikciji subjektivnog blagostanja

Savremena istraživanja u oblasti sajberpsihologije i psihologije ličnosti naglašavaju potrebu za integriranjem stabilnih bazičnih dispozicija i specifičnih digitalnih ponašanja kako bi se preciznije objasnile individualne razlike u mentalnom zdravlju. U tom kontekstu, onlajn aktivnost može funkcionisati kao specifičan bihevioralni resurs, ali i kao prostor za nefunkcionalnu regulaciju distresa. Cilj ovog istraživanja bio je ispitivanje jedinstvenog doprinosa vremena provedenog na društvenim mrežama i bazične dispozicije crte neuroticizma u predikciji ukupnog subjektivnog blagostanja, uz simultanu statističku kontrolu pola i starosti ispitanika, kao i proveru njihovog potencijalnog interakcionog efekta. Ovakav nacrt omogućio je ispitivanje inkrementalnog doprinosa vremena provedenog na društvenim mrežama nakon kontrole bazičnih osobina ličnosti i demografskih faktora.

Istraživanje je transversalnog karaktera i sprovedeno je na uzorku od $N = 746$ ispitanika iz opšte populacije (71.1% žena, raspon starosti od 18 do 80 godina, $M = 34.66$, $SD = 12.52$). Primenjene su skraćena verzija Upitnika Velikih pet plus dva (podskala Neuroticizma) i Kratka skala subjektivnog blagostanja (KSB). Aktivnost na društvenim mrežama procenjena je prosečnim brojem sati provedenih na društvenim mrežama na nedeljnom nivou ($M = 8.37$, $SD = 11.69$). Podaci su analizirani metodom hijerarhijske linearne regresije.

Rezultati pokazuju da aditivni model objašnjava značajan procenat varijanse ukupnog subjektivnog blagostanja ($F(4, 741) = 81.10$, $p < .001$, $R^2 = .304$). Uvidom u pojedinačne parcijalne doprinose, neuroticizam se očekivano izdvojio kao najsnažniji negativni prediktor blagostanja ($\beta = -.53$, $t(741) = -17.09$, $p < .001$). Statistički značajne jedinstvene doprinose ostvarili su i pol ($\beta = .13$, $t(741) = 4.16$, $p < .001$) i starost ($\beta = -.13$, $t(741) = -3.95$, $p < .001$). Ključni nalaz istraživanja ukazuje na to da je vreme provedeno na društvenim mrežama zadržalo statistički značajan, pozitivan jedinstveni doprinos subjektivnom blagostanju ($\beta = .07$, $t(741) = 2.05$, $p = .041$), što svedoči o tome da je više provedenog vremena povezano s višim nivoom blagostanja, iako je veličina ovog efekta mala, a samim tim i ograničenog praktičnog značaja. Naknadno uvođenje interakcionog člana (neuroticizam $\times$ vreme provedeno na društvenim mrežama) u drugom koraku nije dovelo do statistički značajnog povećanja objašnjene varijanse ($\beta = -.11$, $F(1, 740) = 2.82$, $p = .094$, $\Delta R^2 = .003$).

Nalazi ukazuju na to da vreme provedeno na društvenim mrežama ostvaruje mali, ali statistički značajan inkrementalni doprinos objašnjenju subjektivnog blagostanja, nezavisno od neuroticizma, pola i starosti. Ovi rezultati sugerišu da bihevioralni aspekti digitalnog ponašanja mogu imati samostalan udeo u predikciji indikatora pozitivnog mentalnog zdravlja, što ukazuje na potrebu za daljim ispitivanjem specifičnih modaliteta onlajn aktivnosti.

Ključne reči: subjektivno blagostanje, društvene mreže, neuroticizam, digitalno ponašanje

The Contribution of Time Spent on Social Networks and Neuroticism in the Prediction of Subjective Well-Being

Contemporary research in cyberpsychology and personality psychology emphasises the need to integrate stable basic dispositions and specific digital behaviours to more accurately explain individual differences in mental health. In this context, online activity can function as a specific behavioural resource, but also as a space for dysfunctional distress regulation. The aim of this study was to examine the unique contribution of time spent on social networks and the core dispositional trait of neuroticism in predicting overall subjective well-being, while simultaneously controlling for the participants' sex

and age, as well as testing their potential interaction effect. This multivariate design allowed for testing the incremental validity of time spent on social networks beyond the contribution of basic personality traits and demographic factors.

The study employed a cross-sectional design on a sample of $N = 746$ participants from the general population (71.1% female, age range 18–80, $M = 34.66$, $SD = 12.52$). The shortened version of the Big Five Plus Two Questionnaire (Neuroticism subscale) and the Short Subjective Well-Being Scale (SSWBS) were administered. Social network activity was assessed via the average number of hours spent on social networks weekly ($M = 8.37$, $SD = 11.69$). Data were analysed using hierarchical linear regression.

The results indicate that the additive model explained a significant proportion of the variance in subjective well-being ($F(4, 741) = 81.10$, $p < .001$, $R^2 = .304$). Looking at individual partial contributions, neuroticism emerged as the strongest negative predictor of well-being ($\beta = -.53$, $t(741) = -17.09$, $p < .001$). Significant unique contributions were also demonstrated for sex ($\beta = .13$, $t(741) = 4.16$, $p < .001$) and age ($\beta = -.13$, $t(741) = -3.95$, $p < .001$). The key finding indicates that time spent on social networks maintained a statistically significant, positive unique contribution to subjective well-being ($\beta = .07$, $t(741) = 2.05$, $p = .041$), demonstrating that more time spent is associated with a higher level of well-being, although the effect size is small and therefore of limited practical significance. The subsequent inclusion of the interaction term (neuroticism $\times$ time spent on social networks) in the second step did not yield a statistically significant increase in explained variance ($\beta = -.11$, $F(1, 740) = 2.82$, $p = .094$, $\Delta R^2 = .003$).

The findings indicate that time spent on social networks makes a small but statistically significant incremental contribution to explaining subjective well-being, independently of neuroticism, sex, and age. These results suggest that behavioural aspects of digital behaviour can have an autonomous role in predicting indicators of positive mental health, highlighting the need for further exploration of specific modalities of online activity.

Keywords: *subjective well-being, social networks, neuroticism, digital behaviour*



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Personality Prototypes Revisited: Machine Learning Clustering of BFI-2 Facets in a Continuous Personality Space

A longstanding question in personality psychology is whether personality is best conceptualised as discrete types or continuous trait dimensions. Using unsupervised machine learning, the present study investigated whether latent personality profiles emerge from BFI-2 personality facets and whether the resulting structure supports a typological or dimensional conceptualisation of personality. Clustering was performed on 15 BFI-2 facets obtained from a sample of 1,016 participants (Smederevac et al., 2024). Following preprocessing, five domain-level scores were excluded because they represented exact arithmetic averages of their corresponding facets, resulting in singularity of the correlation matrix. Principal component analysis (PCA), K-means, hierarchical Ward clustering, spectral clustering, Gaussian mixture modelling (GMM/LPA), DBSCAN, HDBSCAN, and consensus clustering were applied. Cluster validity was evaluated using Silhouette, Calinski–Harabasz, Davies–Bouldin, and Bayesian Information Criterion (BIC) indices. Across partition-based methods, the optimal solution consistently indicated two clusters (K-means: Silhouette = 0.185, Calinski–Harabasz = 268.61, Davies–Bouldin = 1.875), while GMM showed the lowest BIC within the evaluated range ($K = 2$ –10). Partition-based methods consistently favoured a two-cluster solution, although agreement in cluster assignments was only moderate across algorithms. The first profile (47.8%) was characterised by high Extraversion,

Conscientiousness, Emotional stability, and Openness to experience, combined with markedly low Agreeableness, particularly low Trust and Respectfulness. The second profile (52.2%) showed more moderate trait levels and higher Compassion and Cooperativeness. Agreeableness facets showed large between-cluster differences (Compassion: $d = 1.27$, $\eta^2 = .29$; Respectfulness: $d = 1.46$, $\eta^2 = .35$; Trust: $d = 1.40$, $\eta^2 = .33$) and uniquely contrasted with the direction of the remaining personality domains. In contrast, density-based approaches (DBSCAN and HDBSCAN), which detect naturally separated regions rather than imposing a partition, failed to identify stable clusters in the original multidimensional personality space (DBSCAN identified a single dense cluster comprising 99.5% of participants, whereas HDBSCAN identified no stable clusters). Although UMAP+HDBSCAN detected several local density islands in two-dimensional projections, validation indices suggested that these structures reflected dimensionality-reduction artefacts rather than stable psychological types. Because partition-based methods always yield an optimal split whereas density-based methods test for genuinely separated groups, these findings support the interpretation of personality structure as continuous rather than discretely typological. Methodologically, the study highlights the importance of combining consensus clustering and probabilistic approaches when examining latent personality profiles in high-dimensional trait data.

Keywords: Big Five personality traits, BFI-2, personality structure, personality profiles, consensus clustering, unsupervised machine learning



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Differences Between the General Population and Violent and Non-Violent Offenders in Basic and Dark Personality Traits

Differences between prison and general populations, and between violent and non-violent offenders, are a key issue in the psychology of criminal behaviour. This study examined differences between the general population and violent and non-violent offenders in basic and dark personality traits.

The sample comprised 1,452 participants: 1,079 from the general population (60.3% male), 230 convicted of non-violent offences (87.0% male), and 143 convicted of violent offences (86.7% male). Basic traits were assessed with the short Big Five Plus Two questionnaire (VP+2), and dark traits with the Short Dark Triad (SD-3) and Short Sadistic Impulse Scale (SSIS).

The groups were compared using analysis of covariance (ANCOVA), with group and sex as factors and age and education as covariates. Group comparisons were Bonferroni-adjusted.

Violent and non-violent offenders did not differ significantly on any dimension (all $p > .05$). The general population had higher narcissism ($M = 24.43$; $SD = 5.16$) than non-violent offenders ($M = 22.91$; $SD = 4.83$), $F(2, 1446) = 8.46$, $p < .001$. A significant overall group effect was found for psychopathy, $F(2, 1446) = 3.29$, $p = .038$: general population ($M = 17.16$; $SD = 5.00$), non-violent ($M = 18.81$; $SD = 5.31$), and violent offenders ($M = 18.90$; $SD = 5.78$), but no group comparison remained significant after correction. Sadism (SSIS) was less pronounced in the general population ($M = .53$; $SD = .84$) than in non-violent ($M = .80$; $SD = .98$) and violent offenders ($M = .92$; $SD = 1.11$), $F(2, 1446) = 8.76$, $p < .001$. The general population was more aggressive ($M = 24.76$; $SD = 7.78$) than non-violent ($M = 20.70$; $SD = 7.45$) and violent offenders ($M = 21.96$; $SD = 8.45$), $F(2, 1446) = 33.62$, $p < .001$. Non-violent offenders were more extraverted ($M = 39.89$; $SD = 5.89$) than the general population ($M = 38.46$; $SD = 6.02$), $F(2, 1446) = 7.06$, $p = .001$. The general population had higher negative valence ($M = 16.25$; $SD = 5.23$) than non-violent ($M = 14.77$; $SD = 4.93$) and violent offenders ($M = 14.71$; $SD = 5.46$), $F(2, 1446) = 19.64$, $p < .001$. Openness was lower in the general population ($M = 37.49$; $SD = 6.32$) than in non-violent ($M = 39.50$; $SD = 6.53$) and violent offenders ($M = 39.13$; $SD = 5.82$), $F(2, 1446) = 19.54$, $p < .001$. The same pattern

was found for conscientiousness: general population ($M = 37.94$; $SD = 7.41$), non-violent ($M = 40.98$; $SD = 6.81$), and violent offenders ($M = 41.72$; $SD = 6.15$), $F(2, 1446) = 43.18$, $p < .001$.

The differences primarily concerned the general and prison populations, while violent and non-violent offenders did not differ. The unexpected direction of differences in basic traits precludes a straightforward interpretation of the offender profile and requires consideration of alternative explanations.

Keywords: *basic personality traits, Dark Tetrad, prison population, violent offences*



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Risk Sensitivity and Risk Minimisation in Student Views on Generative AI: Profiles and Psychological Correlates

Evidence on generative artificial intelligence (GAI) benefits/harms is emerging, but problematic use has been linked to lower honesty and conscientiousness, poorer emotional regulation, and lower reasoning. This study examined correlates and latent profiles of risk-centric AI-use views: risky use, overreliance, dishonesty, threats, and harm minimisation. Participants were 451 university students (70% women; 89% Republic of Srpska). Measures included brief HEXACO, very brief verbal/numerical reasoning tests, and 20 GAI risk-sensitivity/minimisation statements, correlated polyserially with personality/reasoning. Latent class analysis (LCA) identified AI-use profiles. Effects were small but coherent. Emotionality correlated with threat/harm concerns: existential threat, loss of control, misuse concern, and job loss fear ($r = .17$ to $.21$). Openness correlated with epistemic/social risk recognition: fake news/deepfakes, disinformation, psychological harm, the view that GAI can sound convincing even when wrong ($r = .19$ to $.27$), and lower endorsement that "GAI dangers are overstated" ($r = -.13$). Lower Conscientiousness was linked to overreliance ($r = -.22$), devaluing learning, the "AI is just a new calculator" view, and cognitive weakening ($r = -.10$ to $-.11$). Lower Honesty-Humility related to devaluing learning, overreliance, inability to study without GAI, and the "AI is just a new calculator" view ($r = -.10$ to $-.15$). Verbal reasoning showed small links with higher risk recognition (misuse concern, disinformation risk, cheating-related trust erosion, academic dishonesty, recognising that GAI can present guesses as facts), lower endorsement of "GAI dangers are overstated", and lower overreliance ($|r| = .11$ to $.15$). Numerical reasoning correlated more narrowly than Verbal reasoning, mainly with higher misuse concern, fake news/deepfakes concern, and academic dishonesty ($r = .12$ to $.16$). Three latent profiles emerged: #1 risk-sensitive (40.58%), #2 intermediate (39.02%), and #3 risk-minimising (20.40%). #1 showed highest concern about misuse, fake news/deepfakes, cheating-related trust erosion, loss of control, and GAI regulation, while #3 showed the lowest risk/harm endorsement and strongest belief that GAI dangers are overstated. Differences were strongest for Emotionality: $\eta^2 = .035$, $p < .001$ (#1/#2 > #3), and Openness: $\eta^2 = .032$, $p < .001$ (#1 > #2), with smaller Numerical reasoning effects: $\eta^2 = .015$, $p = .037$ (#1 > #3). Overall, AI-risk judgements appear partly shaped by individual differences: Emotionality and Openness were the main markers of a broader risk-sensitivity orientation, while reasoning contributed more modestly and selectively to misuse, misinformation, and integrity-risk recognition. This suggests that, e.g., risk education may benefit from differentiated emphases: affective/value-sensitive framing for threat- and openness-linked concerns, and analytic framing when risk engagement depends more on reasoning.

Keywords: *generative artificial intelligence (GAI), GAI risk sensitivity and minimisation, HEXACO personality, reasoning ability, latent class analysis (LCA)*

Razvojna psihologija 1

Developmental Psychology 1

Voditeljka / Moderator: Katarina Ostojić



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Unutrašnji i spoljašnji resursi adolescenata kao osnova razlikovanja profila psihološke dobrobiti

Adolescencija predstavlja razvojni period u kome se socioemocionalne veštine (SEV) i kvalitet bliskih odnosa prepliću u oblikovanju psihološkog funkcionisanja mladih. Iako se često unutrašnji resursi posmatraju zasebno, kvalitet odnosa s roditeljima i prijateljima predstavlja spoljašnji resurs koji može imati važnu ulogu u razumevanju različitih obrazaca vulnerabilnosti. Cilj istraživanja bio je da se identifikuju profili učenika na osnovu kombinacije unutrašnjih i spoljašnjih resursa, kao i da se ispita da li se izdvojeni profili razlikuju u pokazateljima subjektivne dobrobiti i emocionalnog funkcionisanja. U istraživanju je učestvovao 881 učenik (68% devojaka), uzrasta 15 godina, iz Beograda, koji su popunjavali onlajn upitnik u školi. Unutrašnji resursi operacionalizovani su kroz emocionalnu regulaciju, jedan od domena socioemocionalnih veština prema OECD okviru, odnosno kroz optimizam, rezilijentnost i emocionalnu kontrolu. Spoljašnji resursi obuhvataju procenu kvaliteta odnosa s majkom, ocem i prijateljima. Korišćen je OECD upitnik za ispitivanje SEV, procenu kvaliteta odnosa sa značajnim drugima, anksioznosti i raspoloženja u poslednje dve nedelje. Primenom latentne analize profila izdvojena su četiri profila: Opšte osnaženi, 30% (visoki skorovi na unutrašnjim i spoljašnjim resursima); Opšte vulnerabilni, 10% (niski skorovi na svim dimenzijama); Relaciono osnaženi-unutrašnje vulnerabilni, 41%; i Unutrašnje osnaženi-relaciono vulnerabilni, 18%. Ispitane su razlike između profila u pogledu anksioznosti i raspoloženja. Rezultati ukazuju na statistički značajne razlike između profila u pogledu anksioznosti ($F(3, 875) = 76.93$; $p < .001$, $\eta^2 = .209$) i procene raspoloženja ($F(3, 875) = 69.11$, $p < .001$, $\eta^2 = .192$). Gejms–Hauelov post hoc test pokazuje da Opšte vulnerabilni učenici imaju značajno viši nivo anksioznosti od svih ostalih grupa ($p < .001$), dok je anksioznost Opšte osnaženih najmanja ($p < .00$). Slično, Takijev HSD test pokazuje i da Opšte vulnerabilni učenici imaju najniže raspoloženje u poslednje dve nedelje ($p < .001$), Opšte osnaženi pokazuju najviše ($p < .001$), dok između Relaciono podržanih i Relaciono vulnerabilnih nema razlike ($p = .746$). Dobijeni rezultati potvrđuju značaj person-centred pristupa u razumevanju razvoja mladih, jer pokazuju da se adolescenti ne razlikuju samo po nivou pojedinačnih veština ili kvaliteta odnosa, već po specifičnim konfiguracijama resursa kojima raspolažu. Istovremeno oslabljeni unutrašnji i spoljašnji resursi predstavljaju posebno nepovoljnu konfiguraciju, povezanu s višom anksioznošću i negativnijim raspoloženjem, dok su razvijeni socioemocionalni kapaciteti i podržavajući odnosi povezani s povoljnijim obrascem subjektivne dobrobiti. Implikacije za rad s mladima odnose se na potrebu za integrisanim intervencijama koje istovremeno jačaju emocionalnu regulaciju, rezilijentnost i optimizam, ali i kvalitet odnosa s roditeljima, vršnjacima i drugim značajnim osobama.

Ključne reči: socioemocionalne veštine, odnosi s bliskim drugima, anksioznost, raspoloženje

Internal and External Resources in Adolescence as a Basis for Distinguishing Profiles of Psychological Well-Being

Adolescence is a developmental period during which socio-emotional (SE) skills and the quality of close relationships both shape young people's psychological functioning. Although internal resources are often examined independently, the quality of relationships with parents and friends represents important external resources that may contribute to understanding different patterns of vulnerability. Study aim was to identify student profiles based on combinations of internal and external resources and to examine whether these profiles differ in subjective well-being and emotional functioning. The study included 881 15-year-old secondary school students (68% girls) from Belgrade, who completed an online questionnaire administered at school. Internal resources were operationalised as emotional regulation, one of the SE skill domains within the OECD framework, encompassing optimism, resilience, and emotional control. External resources included perceived relationship quality with mothers, fathers, and friends. The OECD Survey was used to assess SE skills, relationship quality, anxiety, and mood during the previous two weeks. Latent Profile Analysis identified four distinct profiles: Generally Strong (30%; high levels across all dimensions), Generally Vulnerable (10%; low levels across all dimensions), Relationally Strong-Internally Vulnerable (42%), and Internally Strong-Relationally Vulnerable (18%). The results revealed significant profile differences in anxiety ($F(3, 875) = 76.93, p < .001, \eta^2 = .209$), and mood ($F(3, 875) = 69.11, p < .001, \eta^2 = .192$). Games-Howell post hoc comparisons showed that students in the Generally Vulnerable profile reported significantly higher anxiety than those in all other profiles ($p < .001$), whereas students in the Generally Strong profile reported the lowest anxiety levels. Similarly, Tukey's HSD test indicated that students in the Generally Vulnerable profile reported the lowest mood during the previous two weeks, while the Generally Strong profile reported the highest mood (both $p < .001$). No significant difference in mood was found between the Relationally Strong-Internally Vulnerable and Internally Strong-Relationally Vulnerable profiles ($p = .746$). The findings support the value of a person-centred approach to understanding development by demonstrating that adolescents differ not only in the levels of individual SE skills or relationship quality but also in the specific configurations of internal and external resources. Simultaneously diminished internal and external resources represent a particularly unfavourable profile, associated with elevated anxiety and poorer mood, whereas well-developed SE capacities combined with supportive relationships are linked to more favourable well-being. Findings highlight the importance of integrated interventions that strengthen emotional regulation, resilience, and optimism while fostering supportive relationships with significant others.

Keywords: *Socio-emotional skills, close relationships, anxiety, mood*



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Characteristics of Adolescents' Deviant Behaviour in Real and Virtual Environments: Results of a Pilot Study

Adolescence is a period of experimentation with social roles and behaviour, which may become deviant. Digitalisation transforms mechanisms of socialisation, giving modern teenagers an additional space for such experimentation. This raises questions about the characteristics of deviant behaviour across these two environments. The aim of this study is to investigate manifestations of online and offline deviant behaviour among adolescents.

The study sample included 101 adolescents aged 12 to 18 ($M = 15.43, SD = 1.31$), of whom 27% were male and 73% female. Data collection was performed online; the study link was distributed through the

school administration. Participation was anonymous and voluntary; written consent was obtained. Using the Questionnaire of Deviant Activity in Real and Virtual Environment, levels of different online and offline deviant behaviour were identified. Descriptive statistics, factor analysis, Spearman correlation analysis and comparative analysis (Wilcoxon tests) were used.

Exploratory factor analysis (KMO test = 0.858, Bartlett's test = 1298.51, $p < 0.001$) identified a two-factor structure of the questionnaire reflecting scales of online and offline deviant behaviour. Confirmatory factor analysis confirmed this structure ($\chi^2 = 398.34$, $p < 0.001$, $df = 226$, CFI = 0.854, TLI = 0.837, SRMR = 0.075, RMSEA = 0.087, BIC = 6905, AIC = 6774).

Secondary factorisation identified the following subscales. The scale of offline deviant behaviour (KMO test = 0.87, Bartlett's test = 616.86, $p < 0.001$) included substance use, extreme leisure, behavioural aggression, and self-harm. The scale of online deviant behaviour (KMO test = 0.868, Bartlett's test = 491.13, $p < 0.001$) included excessive videogames, preference for online communication, and online surfing. Confirmatory factor analysis showed that the model with these subscales had appropriate fit indexes ($\chi^2 = 171.748$, $p < 0.001$, $df = 112$, CFI = 0.932, TLI = 0.907, SRMR = 0.069, RMSEA = 0.073, BIC = 5464, AIC = 5310).

All identified subscales are positively associated with each other, with correlations ranging from 0.217 to 0.64 (all $p < 0.05$) except for the indicator of excessive video games which was associated only with self-harm ($r = 0.316$, $p < 0.01$). Comparative analysis did not find differences between subscales within the scales; however, the level of online deviance ($M = 2.51$) was higher than the level of offline deviance ($M = 1.87$; $W = 558.5$, $p < 0.001$).

Findings showed a two-factor structure, suggesting that manifestations of deviant behaviour differ between online and offline environments. Moreover, online and offline deviant behaviour have their own specific features. Numerous correlations point to adolescents' tendency to be involved in many types of deviant behaviour. One more important result demonstrated that modern adolescents are prone to online deviance rather than offline.

Keywords: adolescents, online deviant behaviour, offline deviant behaviour, pilot study



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Passive Screen Time Predicts Verbal Working Memory Through Play Quality: A Three-Wave Longitudinal Study

Verbal working memory is one of the strongest cognitive predictors of children's successful transition to school. Although previous research has consistently demonstrated negative associations between screen exposure and verbal working memory (Ma et al., 2025), the mechanisms explaining these associations remain unclear. One possible mechanism is children's play quality, as role play represents a critical context for the development of self-regulation including verbal working memory (Elkonin, 2005). The present study examined longitudinal associations between passive screen time and verbal working memory from preschool to first grade and tested whether children's play quality mediates these associations. The study initially enrolled 150 preschool children; analyses included 84 participants (57% girls; Mean age at Wave 1 = 70.0 months, $SD = 3.73$, range = 63–77 months) with complete data across three waves (second-to-last preschool year, final preschool year, and first grade). At each wave, passive screen time (parent report) and verbal working memory (Sentence Repetition, NEPSY-II) were assessed. At Wave 1, play quality was evaluated using a structured observational tool (Veraksa et al., 2025), assessing play coordination, role actions, and impulsive actions. The results of structural equation modelling (CFI = .96, RMSEA = .056, SRMR = .073) showed that higher passive screen time in

the second-to-last preschool year predicted lower verbal working memory in the final preschool year ($z = -3.87$, $p < .001$, $\beta = -.473$), while passive screen time in the final preschool year predicted lower verbal working memory in first grade ($z = -3.80$, $p < .001$, $\beta = -.453$). Mediation analyses further indicated that passive screen time was positively associated with play discoordination ($z = 2.5$, $p = .017$, $\beta = .367$), which, in turn, negatively predicted verbal working memory ($z = -3.6$, $p = .001$, $\beta = -.528$). Although the direct association between passive screen time and verbal working memory was not significant ($p = .448$), the indirect effect through play discoordination was significant (CI $[-0.0058, -0.0002]$, $p = .036$, $\beta = -.19$). The findings suggest that reduced quality of children's play may represent one developmental mechanism through which passive screen exposure influences later cognitive functioning. During role play, children voluntarily subordinate their behaviour to the rules implied by their roles, while the motives arising within the play become more important than immediate impulses (Vygotsky, 2016). This enables children to act beyond their everyday level of self-regulation and supports the development of verbal working memory. Greater amounts of passive screen time may reduce opportunities to engage in high-quality role play, thereby indirectly influencing the development of verbal working memory. Promoting high-quality play may therefore help mitigate the negative effects of excessive passive screen time on children's cognitive development.

Keywords: *passive screen time, verbal working memory, play quality, longitudinal study, role play*

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Rezilijentnost roditelja dece sa i bez smetnji u razvoju

Roditelji dece sa smetnjama u razvoju svakodnevno se suočavaju sa brojnim izazovima koji mogu uticati na njihove lične i porodične resurse, kao i na sposobnost uspešnog prilagođavanja stresnim životnim okolnostima. Rezilijentnost predstavlja jedan od ključnih zaštitnih faktora koji doprinosi očuvanju psihološkog blagostanja, međutim, još uvek nije dovoljno istraženo u kojoj meri se razlikuje između roditelja dece sa smetnjama u razvoju i roditelja koji nemaju decu sa smetnjama u razvoju, niti da li je povezana s korišćenjem psihološke pomoći. Cilj ovog istraživanja bio je da se ispituju razlike u ukupnoj rezilijentnosti i njenim dimenzijama između roditelja dece sa smetnjama u razvoju i roditelja koji nemaju decu sa smetnjama u razvoju, kao i razlike u rezilijentnosti u zavisnosti od korišćenja psihološke pomoći unutar obe grupe roditelja.

U istraživanju je učestvovalo 246 roditelja (84% žena), prosečne starosti 40,9 godina, od kojih je 108 imalo dete sa smetnjama u razvoju, a 138 nije imalo dete sa smetnjama u razvoju. Rezilijentnost je procenjena primenom Resilience Scale for Adults (RSA). Razlike između grupa ispitanice su t-testom za nezavisne uzorke.

Rezultati pokazuju da roditelji koji nemaju decu sa smetnjama u razvoju ostvaruju statistički značajno više skorove na ukupnoj rezilijentnosti, kao i na dimenzijama socijalne kompetentnosti, porodične kohezije, planirane budućnosti i socijalnih resursa. Najizraženije razlike zabeležene su na dimenzijama socijalnih resursa i porodične kohezije, što ukazuje na to da roditelji dece sa smetnjama u razvoju raspolazu manjim interpersonalnim i porodičnim zaštitnim resursima. Nasuprot tome, razlike u pozitivnoj percepciji sebe i strukturisanom stilu nisu dostigle statističku značajnost, što sugerise da pojedini intrapersonalni aspekti rezilijentnosti ostaju očuvani bez obzira na razvojni status deteta.

Dodatne analize pokazale su da unutar grupa roditelja koji imaju dete sa smetnjama u razvoju, odnosno roditelja koji nemaju decu sa smetnjama u razvoju, ne postoje statistički značajne razlike u ukupnoj rezilijentnosti niti u pojedinačnim dimenzijama RSA između roditelja koji koriste i onih koji ne koriste

psihološku pomoć. Međutim, odsustvo statistički značajnih razlika ne znači nužno da takva povezanost ne postoji. Odnos između rezilijentnosti i korišćenja psihološke pomoći može biti složen i dvosmeran: niža rezilijentnost može doprineti većoj potrebi za podrškom, dok osobe koje se uspješnije nose s teškoćama mogu imati manju potrebu da je potraže.

Dobijeni rezultati naglašavaju značaj razvoja programa podrške usmerenih na jačanje porodičnih i socijalnih resursa roditelja dece sa smetnjama u razvoju. Posebnu pažnju potrebno je usmeriti na intervencije koje podstiču socijalnu povezanost, porodičnu koheziju i planiranje budućnosti, budući da upravo ove dimenzije predstavljaju oblasti u kojima su uočene najveće razlike između ispitivanih grupa.

Ključne reči: rezilijentnost, roditelji, smetnje u razvoju, psihološka pomoć, RSA

Resilience in Parents of Children With and Without Developmental Disabilities

Parents of children with developmental disabilities face numerous daily challenges that may affect their personal and family resources, as well as their ability to adapt successfully to stressful life circumstances. Resilience represents one of the key protective factors contributing to psychological well-being; however, there is still limited evidence regarding differences in resilience between parents of children with developmental disabilities and parents who do not have children with developmental disabilities, as well as the association between resilience and the use of psychological support. The aim of this study was to examine differences in overall resilience and its dimensions between these two groups of parents and to investigate whether resilience differs according to the use of psychological support within each group.

The sample consisted of 246 parents (84% women) with a mean age of 40.9 years. Of these, 108 had a child with developmental disabilities, while 138 did not have a child with developmental disabilities. Resilience was assessed using the Resilience Scale for Adults (RSA). Group differences were examined using independent-samples t-tests.

The results showed that parents who did not have children with developmental disabilities achieved significantly higher scores on overall resilience, as well as on the dimensions of social competence, family cohesion, planned future, and social resources. The largest differences were observed in social resources and family cohesion, suggesting that parents of children with developmental disabilities have fewer interpersonal and family protective resources. In contrast, no significant differences were found in positive perception of self or structured style, indicating that certain intrapersonal aspects of resilience remain preserved regardless of the child's developmental status.

Additional analyses revealed no statistically significant differences in overall resilience or any RSA dimensions between parents who used psychological support and those who did not, either among parents of children with developmental disabilities or among parents who did not have children with developmental disabilities. However, the absence of statistically significant differences does not necessarily mean that such an association does not exist. The relationship between resilience and the use of psychological support may be complex and bidirectional: lower resilience may contribute to a greater need for support, whereas individuals who cope more successfully with difficulties may have less need to seek it.

The findings highlight the importance of developing support programmes aimed at strengthening family and social resources among parents of children with developmental disabilities. Particular attention should be devoted to interventions promoting social connectedness, family cohesion, and future planning, as these represent the domains in which the greatest differences between the groups were identified.

Keywords: *resilience, parents, developmental disabilities, psychological support, RSA*



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Validacija srpske verzije testa IE-ACCME-B za procenu emocionalne i metaemocionalne inteligencije dece

Cilj studije je validacija skale IE-ACCME-B (Intelligenza Emotiva: Abilità, Credenze e Concetto di Sè MetaEmotivo; D'Amico & Geraci, 2023) za ispitivanje emocionalne (EI) i metaemocionalne inteligencije. Skala se oslanja na model četiri grane, koji EI konceptualizuje kao sposobnost obrade emocionalnih informacija (Mayer et al., 1999); obuhvata međusobno povezane i hijerarhijski organizovane sposobnosti opažanja, korišćenja, razumevanja i upravljanja emocijama.

Uzorak će činiti barem 300 učenika, uzrasta 8–11 godina. Instrument obuhvata: upitnik metaemocionalnih uverenja (8 ajtema); skalu samoprocene emocionalnog self-koncepta (8 ajtema); skalu maksimalnog učinka emocionalnih sposobnosti (30 zadataka); skalu samoprocene sopstvenog učinka na testu emocionalnih sposobnosti (8 ajtema).

Konvergentno-diskriminativna valjanost, primenom Pirsonove korelacije, biće procenjivana u odnosu na sposobnost razumevanja emocija merenu testom ACES (Schultz et al., 2001), fluidnu inteligenciju (Van der Elst et al., 2013), emocionalnu samoefikasnost (TEIQue; Mavroveli et al., 2008) i bazične crte ličnosti (Velikih 5+2; Čolović et al., 2014). Kriterijumska valjanost biće ispitana u odnosu na status u vršnjačkoj grupi (Guess Who; Coie & Dodge, 1988), socijalne veštine procenjene od strane nastavnika (SSBS; Merrell, 2002), opštu dobrobit (KIDSCREEN-10, Ravens-Sieberer et al., 2010; WHO-5, 2024) i uspeh u školi. Za proveru prediktivne valjanosti koristićemo hijerarhijsku regresionu analizu, te ispitati doprinos EI u predviđanju relevantnih kriterijuma.

Ispitivanje strukturalne valjanosti skale maksimalnog učinka emocionalnih sposobnosti (30 zadataka) biće sprovedeno konfirmatornom faktorskom analizom. Kako ova skala polazi od empirijski proverenog modela četiri grane i kako verzija skale IE-ACCME za starije ukazuje na četvorofaktorsko rešenje, očekujemo identičnu strukturu u srpskoj validaciji (D'Amico & Geraci, 2023). Veličina uzorka određena je na osnovu heuristike koja preporučuje 10 ispitanika po stavki (Nunnally, 1967), kao i na osnovu toga da je minimalna veličina uzorka za 3 ili 4 faktora sa zasićenjima od .50 i šest ili više ajtema $N = 200$ (Wolf et al., 2013). Takođe, proverićemo da li se nad indikatorima četiri grane EI izdvaja faktor višeg reda.

Ključne reči: emocionalna inteligencija, metaemocionalna inteligencija, validacija, IE-ACCME-B test

Validation of the Serbian Version of the IE-ACCME-B Test

This study validates the IE-ACCME-B scale (Intelligenza Emotiva: Abilità, Credenze e Concetto di Sè MetaEmotivo; D'Amico & Geraci, 2023) for assessing emotional intelligence and meta-emotional intelligence. The instrument is rooted in the four-branch model, which conceptualises EI as the capacity to process emotional information (Mayer et al., 1999), and encompasses interconnected and hierarchically organised abilities: perceiving, using, understanding, and managing emotions.

The sample will include at least 300 students, aged 8 to 11 years. The instrument includes: a meta-emotional beliefs questionnaire (8 items); a self-report scale measuring emotional self-concept (8 items); a maximum performance scale assessing emotional abilities (30 tasks); and a self-rating scale of the respondent's own performance on the ability tasks (8 items).

Convergent-discriminant validity will be tested through Pearson correlations with a test of emotion understanding (Schultz et al., 2001), fluid intelligence (Van der Elst et al., 2013), emotional self-efficacy



(TEIQue; Mavroveli et al., 2008), and basic personality traits (Big 5+2; Čolović et al., 2014). Criterion validity will be examined through peer status (Guess Who; Coie & Dodge, 1988), teacher-rated social skills (SSBS; Merrell, 2002), general well-being (KIDSCREEN-10, Ravens-Sieberer et al., 2010; WHO-5, 2024), and academic achievement. Hierarchical regression will evaluate EI's predictive contribution to relevant criteria.

Structural validity of the maximum performance scale assessing emotional abilities will be conducted using confirmatory factor analysis. Since this scale is based on the empirically verified four-branch model and the version for older individuals points to a four-factor solution, we expect an identical structure in our validation (D'Amico & Geraci, 2023). The sample size was determined based on the heuristic recommending 10 participants per item (Nunnally, 1967), as well as the fact that the minimum sample size for three or four factors with loadings of .50 and six or more items is $N = 200$ (Wolf et al., 2013). A higher-order factor across the four EI branches will also be tested.

Keywords: emotional intelligence, meta-emotional intelligence, validation, IE-ACCME-B test

Razvojna psihologija 2

Developmental Psychology 2

Voditeljka / Moderator: Jovana Trbojević Jocić



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Afektivna vezanost, mentalizacija i indikatori mentalnog zdravlja kod adolescenata pred izlazak iz hraniteljstva

Istraživanja, kao i praksa u oblasti hraniteljstva, pokazala su nedvosmisleno da deca bez roditeljskog staranja na alternativnom porodičnom smeštaju predstavljaju vulnerabilnu populaciju. U poređenju s njihovim vršnjacima, kod ove dece su usled česte istorije traumatskih iskustava, zanemarivanja i separacije značajno prisutniji problemi u mentalnom zdravlju. Pored napora da se adaptiraju na izmenjeno porodično i socijalno okruženje, ova deca se na relativno ranom uzrastu suočavaju sa zahtevom da se osamostale, s obzirom na to da većina njih napušta sistem socijalne zaštite s punoletstvom. Imajući u vidu ovaj izazov, izgradnja pozitivnog mentalnog zdravlja od velikog je značaja za adolescente na hraniteljstvu.

Cilj ovog rada bio je da ispita i analizira međusobnu povezanost aspekata mentalnog zdravlja mladih koji se nalaze neposredno pred napuštanjem alternativnog porodičnog smeštaja. Aspekti mentalnog zdravlja u ovoj studiji obuhvataju intrapsihičke i interpersonalne kapacitete i uključuju dimenzije afektivne vezanosti, kapacitet za mentalizaciju i socioemocionalne snage i teškoće, operacionalizovane kao nivo samopoštovanja, stepen prisustva internalizujućih i eksternalizujućih problema, prosocijalno ponašanje i afektivni balans. Istraživanje je sprovedeno primenom upitnika samoprocene na uzorku od 103 adolescenata, uzrasta od 15 do 19 godina. U slučaju maloletnih ispitanika, saglasnost za njihovo učešće u istraživanju tražena je od odgovarajućeg organa starateljstva, odnosno nadležnog centra za socijalni rad.

Rezultati istraživanja su pokazali da je, za razliku od dimenzije izbegavanja, koja značajno korelira samo s prosocijalnim ponašanjem ($r = -.239$, $p < .05$), dimenzija anksioznosti značajno povezana sa samopoštovanjem ($r = -.532$, $p < .01$), prosocijalnim ponašanjem ($r = .303$, $p < .01$), eksternalizujućim ($r = .252$, $p < .05$) i internalizujućim problemima ($r = .428$, $p < .01$), kao i afektivnim balansom ($r = -.452$, $p < .01$). Dalje, pokazalo se da je hipermentalizacija povezana sa samopoštovanjem ($r = .454$, $p < .01$), eksternalizujućim ($r = -.409$, $p < .01$) i internalizujućim problemima ($r = -.443$, $p < .01$) i afektivnim balansom ($r = .473$, $p < .01$), dok hipomentalizacija značajno korelira sa istim varijablama u suprotnom smeru.

Rezultati istraživanja ukazuju na značaj razvoja pozitivnog unutrašnjeg radnog modela sebe kod adolescenata na hraniteljstvu. Takođe, ističe se negativna povezanost hipomentalizacije s kvalitetom socioemocionalnog funkcionisanja, kao i protektivna uloga hipermentalizacije kojom, možemo pretpostaviti, ovi mladi uspevaju da izgrade izvestan doživljaj predvidljivosti i kontrole u značajnim međuljudskim odnosima. Podaci prikupljeni ovom studijom upućuju na potrebu za dodatnom edukacijom hranitelja u vezi sa izgradnjom emocionalnog odnosa sa decom na smeštaju da bi se pospešili reparacija unutrašnjeg radnog modela sebe i razvoj adekvatnog kapaciteta za mentalizaciju.

Ključne reči: hraniteljstvo, adolescenti, mentalno zdravlje, afektivna vezanost, mentalizacija

Attachment, Mentalisation, and Mental Health Indicators Among Adolescents Preparing to Leave Foster Care

Research and practice in the field of foster care have consistently demonstrated that children without parental care placed in alternative family care represent a vulnerable population. Compared to their peers, these children exhibit significantly higher rates of mental health difficulties due to frequent histories of traumatic experiences, neglect, and separation. In addition to adapting to altered family and social environments, they are confronted at a relatively early age with the challenge of independent living, as most leave the social welfare system upon reaching adulthood. Given this challenge, promoting positive mental health is particularly important for adolescents in foster care.

The aim of this study was to examine and analyse the interrelationships among various aspects of mental health in young people who are approaching the transition out of alternative family care. The mental health dimensions investigated included intrapsychic and interpersonal capacities, encompassing attachment dimensions, mentalisation capacity, and socio-emotional strengths and difficulties. These were operationalised through measures of self-esteem, the presence of internalising and externalising problems, prosocial behaviour, and affective balance. The study was conducted using self-report questionnaires administered to a sample of 103 adolescents aged 15 to 19 years. For participants under the age of 18, consent for participation was obtained from the appropriate guardianship authority, namely the competent Centre for Social Work.

The results showed that, unlike the attachment avoidance dimension, which was significantly correlated only with prosocial behaviour ($r = -.239$, $p < .05$), attachment anxiety was significantly associated with self-esteem ($r = -.532$, $p < .01$), prosocial behaviour ($r = .303$, $p < .01$), externalising problems ($r = .252$, $p < .05$), internalising problems ($r = .428$, $p < .01$), and affective balance ($r = -.452$, $p < .01$). Furthermore, hypermentalisation was associated with self-esteem ($r = .454$, $p < .01$), externalising problems ($r = -.409$, $p < .01$), internalising problems ($r = -.443$, $p < .01$), and affective balance ($r = .473$, $p < .01$), whereas hypomentalisation showed significant correlations with the same variables in the opposite direction.

The findings highlight the importance of developing a positive internal working model of the self among adolescents in foster care. They also emphasise the negative association between hypomentalisation and socio-emotional functioning, as well as the potentially protective role of hypermentalisation, through which these young people may establish a sense of predictability and control in significant interpersonal relationships. The findings point to the need for additional training of foster caregivers to facilitate the repair of the internal working model of the self and the development of an adequate capacity for mentalisation.

Keywords: foster care, adolescents, mental health, attachment, mentalisation



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Profili osnaženosti i vulnerabilnosti učenika: uloga socioemocionalnih veština i kvaliteta bliskih odnosa

Socioemocionalni razvoj adolescenata oblikovan je složenom interakcijom individualnih kapaciteta i kvaliteta odnosa sa značajnim drugima. U tom kontekstu, važno je razumeti načine na koje se različiti

unutrašnji i spoljašnji resursi kombinuju kod pojedinačnih učenika. Cilj ovog istraživanja bio je da se identifikuju profili učenika na osnovu socioemocionalnih veština (SEV) koje čine domen emocionalne regulacije – optimizma, rezilijentnosti i emocionalne kontrole, kao unutrašnjih resursa, kao i procene kvaliteta odnosa s majkom, ocem i prijateljima, kao spoljašnjih resursa. Posebno nas je zanimalo da li se učenici mogu profilisati po vulnerabilnosti i osnaženosti, tj. nedostatku ili posedovanju resursa. U istraživanju je učestvovao 881 učenik srednjih škola (68% devojaka), uzrasta 15 godina, iz Beograda. Korišćen je OECD upitnik za ispitivanje SEV, procenu kvaliteta odnosa sa značajnim drugima, zadovoljstva školom i iskustva nasilja u školi u poslednjih 12 meseci. Za identifikovanje profila primenjena je analiza latentnih profila. Rezultati ukazuju na četiri kvalitativno različita profila: Opšte osnaženi - iznadprosečni na svim dimenzijama (30%); Opšte vulnerabilni – ispodprosečni na svim dimenzijama (10%); Relaciono osnaženi-unutrašnje vulnerabilni (42%); i Unutrašnje osnaženi-relaciono vulnerabilni (18%). Najveći broj učenika pripada trećem profilu, što ukazuje na to da podržavajući odnosi ne podrazumevaju nužno i razvijene individualne socioemocionalne kapacitete. Utvrđene su polne razlike u pripadnosti profilima ($\chi^2(3, N = 879) = 100.64, p < .001$). Devojčice češće pripadaju profilu Opšte vulnerabilnih (14% vs 2%) i Relaciono osnaženih-unutrašnje vulnerabilnih (50% vs 26%), dok su dečaci češće Relaciono vulnerabilni-unutrašnje osnaženi (25% vs 15%) i Opšte osnaženi (47% vs 22%). ANOVA ukazuje na to da se profili razlikuju u odnosu na zadovoljstvo školom i iskustvo nasilja u školi. Učenici iz Opšte osnaženog i Relaciono osnaženog-unutrašnje vulnerabilnog profila imaju manje iskustava nasilja ($F(3, 875) = 54.35, p < .001, \eta^2 = .157$) i izraženije zadovoljstvo u poređenju s učenicima iz preostala dva profila ($F(3, 875) = 53.99, p < .001, \eta^2 = .156$). Nalazi ukazuju na to da osnaženost adolescenata ne treba posmatrati kao jedinstvenu osobinu, već kao konfiguraciju unutrašnjih i spoljašnjih resursa. Posebno je značajan nalaz da veliki broj učenika, naročito devojaka, ima očuvane i podržavajuće odnose, ali istovremeno pokazuje niže unutrašnje resurse emocionalne regulacije. U obrazovnom kontekstu, ovo upućuje na potrebu za diferenciranim intervencijama: škole ne bi trebalo da se oslanjaju samo na procenu socijalne uključenosti učenika, već i na sistematsko praćenje i jačanje njihovih socioemocionalnih kapaciteta. Programi usmereni na razvoj rezilijentnosti, emocionalne kontrole i optimizma, uz očuvanje kvalitetnih odnosa s porodicom i vršnjacima, mogu doprineti smanjenju školskog nasilja i unapređenju zadovoljstva školom.

Ključne reči: socioemocionalne veštine, odnosi sa bliskim drugima, pol, zadovoljstvo školom, nasilje u školi

Profiles of Student Strengths and Vulnerabilities: The Role of Socio-Emotional Skills and the Quality of Close Relationships

Adolescents' socio-emotional (SE) development is shaped by the complex interaction between individual capacities and the quality of relationships with significant others. It is therefore important to understand how internal and external resources are combined in students. The aim of the study was to identify student profiles based on SE skills within emotional regulation - optimism, resilience, and emotional control - as internal resources, and perceived relationship quality with mothers, fathers, and friends as external resources. We examined whether students could be classified according to patterns of vulnerability and strength, that is, the absence or presence of these resources. The sample of 881 secondary school students (68% girls), aged 15, from Belgrade, completed the OECD Survey assessing SE skills, the quality of relationships with significant others, school satisfaction, and experiences of school bullying during the previous 12 months. Latent Profile Analysis was used to identify student profiles. The results revealed four qualitatively distinct profiles: Generally Strong with all scores above average (30%); Generally Vulnerable with all below-average scores (10%); Relationally Strong–Internally Vulnerable (42%); and Internally Strong–Relationally Vulnerable (18%). The largest proportion of students belonged to the third profile, suggesting that supportive relationships do not necessarily imply well-developed individual SE capacities. Significant gender differences were found among different profiles ($\chi^2(3, N = 879) = 100.64, p < .001$); girls were more likely to belong to the Generally Vulnerable profile (14% vs. 2%) and the Relationally Strong–Internally Vulnerable profile (50% vs. 26%), whereas boys were more likely to belong to the Internally Strong–Relationally Vulnerable profile (25%

vs. 15%) and the Generally Strong profile (47% vs. 22%). An ANOVA indicated significant differences among the profiles in school satisfaction and experiences of school bullying. Students in the Generally Strong and Relationally Strong–Internally Vulnerable profiles reported fewer experiences of school bullying ($F(3, 875) = 54.35, p < .001, \eta^2 = .157$) and higher levels of school satisfaction than students in the other two profiles ($F(3, 875) = 53.99, p < .001, \eta^2 = .156$). The findings suggest that adolescent strengths should not be viewed as a single characteristic but rather as a configuration of internal and external resources. It is particularly important that many students, especially girls, maintain supportive relationships while showing lower emotional regulation resources. In education, these results highlight the need for differentiated interventions. Schools should not rely only on students' social connectivity but should also systematically monitor and strengthen their SE capacities. Fostering resilience, emotional control, and optimism, while maintaining supportive family and peer relationships, may help reduce bullying and enhance school satisfaction.

Keywords: socio-emotional skills, close relationships, gender, school satisfaction, school bullying



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Beyond Screen Time: Cultural-Historical Perspectives on Digital Device Use and Child Development

While concerns about excessive screen time in childhood remain widespread, cultural-historical theory suggests that developmental outcomes depend not only on the amount of screen exposure but also on how digital devices are used. According to L.S. Vygotsky, digital technologies may function as psychological tools that support higher mental functions when they are used in socially mediated, goal-directed activities. This study examined how different patterns of digital device use are associated with cognitive and physical development in preschool children from a cultural-historical perspective. In this study, 417 children aged 6-7 years participated in a structured interview and assessment of self-regulation (NEPSY-II subtests), imagination (Completing figures), physical development (Movement Assessment Battery for Children-2), anthropometric indicators (e.g., circumferential measurements of the chest, waist, hips; fat skinfold thickness on the back, forearm, abdomen, and shoulder). As a part of the interview, children were asked, "What do you usually use digital devices for?". Children who reported using digital devices primarily as psychological tools ($N=107$) demonstrated higher verbal working memory ($t(415) = 2.48, p = .014, d = 0.28$) than children who used devices mainly for entertainment ($N = 310$). Children who used digital devices for communication showed better cognitive flexibility ($t(415) = 2.64, p = .009, d = 0.3$) and inhibitory control ($t(415) = 2.30, p = .022, d = 0.26$). Using digital devices to search for information or share impressions was associated with higher visual working memory ($t(415) = 2.44, p = .015, d = 0.31$). Children who independently selected digital content demonstrated greater imaginative elaboration ($t(415) = 2.53, p = .012, d = 0.27$), whereas playing digital games with siblings or peers was associated with higher imaginative flexibility ($t(415) = 2.32, p = .021, d = 0.24$). Passive screen time was negatively correlated with fine motor skills among boys ($r = -.24, p = .008$) and positively correlated with fat skinfold thickness on the shin ($r = .26, p = .004$), shoulder ($r = .21, p = .018$), and abdomen ($r = .23, p = .011$). No significant associations were observed among girls or for active screen time ($p > .05$). The findings suggest that the developmental impact of digital technologies depends less on screen time itself than on the cultural organisation of children's digital activity. Purposeful, socially mediated use of digital devices is associated with more favourable cognitive outcomes, whereas predominantly passive entertainment use is linked to less favourable physical development. These results support a cultural-historical understanding of digital technologies as potential psychological tools whose developmental value depends on the way they are integrated into children's everyday activities (Vygotsky, 1983).

Keywords: cultural-historical approach, executive functions, imagination, screen time, digital devices

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Relationships Between Self-Perceived Success, Pre-Competition Anxiety, and Self-Determined Motivation in Football Players

Understanding psychological factors that contribute to athletes' competitive experience is essential in sport psychology. From the perspective of Self-Determination Theory, athletes' motivational regulations range from autonomous to controlled forms, which differentially influence emotional and cognitive responses in sport. Pre-competition anxiety is considered a key psychological factor affecting performance, particularly in high-demand competitive contexts such as football. This study examined the relationships between self-perceived sport success, pre-competition anxiety (somatic anxiety, worry, and concentration disruption), and different forms of motivation grounded in SDT in Serbian football players.

The sample consisted of 100 male football players from Serbia, aged 18 to 40 years ($M = 22$), with an average football experience of 13 years. During 2024, participants completed an online battery of questionnaires, including the Sport Anxiety Scale-2, which assesses worry, somatic anxiety, and concentration disruption; a single item measuring self-perceived success in football; and the Sport Motivation Scale-II.

Self-perceived success was negatively correlated with all three pre-competitive anxiety indicators, as well as with amotivation, indicating that higher perceived success is associated with more adaptive emotional responses before competition and more autonomous types of motivation. Autonomous motivation (intrinsic and identified regulation) was negatively correlated with anxiety indicators, while more external and non-autonomous forms of motivation (amotivation, external regulation, and introjected regulation) were positively correlated with indicators of pre-competitive anxiety.

Regression analyses further clarified these relationships. The predictive model (types of motivation and self-perceived success) significantly explained 47.4% of the variance in concentration disruption ($F = 11.972, p = .001$) and 22.4% of the variance in worry ($F = 3.830, p = .001$). The model did not significantly explain somatic anxiety ($F = 1.824, p = .092$). Concentration disruption was significantly predicted by higher amotivation ($\beta = .71$), lower identified regulation ($\beta = -.28$), and external regulation ($\beta = -.36$). For worry, amotivation was a positive predictor ($\beta = .29$), while self-perceived success was a negative predictor ($\beta = -.24$).

These findings suggest that athletes' perceived sport success is associated with lower pre-competitive anxiety, while amotivation represents the most consistent risk factor for maladaptive cognitive and attentional responses before competition. Autonomous forms of motivation, particularly identified and intrinsic regulation, appear to function as protective factors, whereas controlled forms show weaker or inconsistent effects. These results highlight the importance of fostering autonomous motivation and perceived competence in football training environments in order to enhance athletes' psychological readiness for competition.

Keywords: football players, self-perceived success, pre-competition anxiety, self-determination

theory, motivation regulations



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How the Experience of Traditional and Digital Play in Preschool Age Is Related to the Psychological Well-Being of Russian Adolescents

Play during preschool years is a leading activity in the process of which the growth of the main developmental formations of preschool age occurs. However, the role of play at later ages is not studied enough. The aim of this study was to investigate the relationship between the play experience at preschool age and indicators of psychological well-being in adolescence. The study involved 763 adolescents aged 14-18 years ($M = 16.6$, $SD = 1.04$) from four regions of the Russian Federation. The sample consisted of 442 girls (57.9%) and 321 boys (42.1%). Spearman's correlation analysis and multiple regression analysis were used to analyse the data. The Russian-language version of the EPOCH methodology was used to assess the psychological well-being of adolescents. The questionnaire includes the following scales: Engagement, Perseverance, Optimism, Connectedness, and Happiness. A developed questionnaire was used to retrospectively evaluate the play experience of adolescents at preschool age. The retrospective questionnaire includes five factors: Interest in play, Play with peers, Play with adults, Role play, and Digital play. According to the results obtained, all indicators of play in preschool age are statistically significantly related to indicators of psychological well-being of adolescents, with the exception of Digital play ($R^2 = 0.281$, $p < 0.001$). The Digital play scale did not show significant links with the psychological well-being of adolescents. The results of the study may indicate the predictive role of preschool play in development and the importance of traditional types of play for successful development at later ages.

Keywords: *play, digital play, preschool age, psychological well-being, adolescence, retrospective study*

Pedagoška psihologija 1

Education Psychology 1

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Kada je manje više: Dispozicioni optimizam kao moderator u procesu suočavanja sa ispitnom anksioznošću

Obrazovni proces na svim nivoima školovanja prožet je kontinuiranim proverama znanja i veština. Zbog potencijalnih značajnih posledica, ove evaluativne situacije predstavljaju visoko stresne okolnosti koje često pobuđuju posebnu formu situaciono specifične dispozicione tendencije kod učenika i studenata – ispitnu anksioznost. Međutim, s obzirom na to da ispitna anksioznost nije pouzdan direktni prediktor postignuća, savremena istraživanja fokusirana su na eksplorisane njenih indirektnih efekata na akademski uspeh preko različitih intervenišućih varijabli. Model dizajniran za potrebe ovog istraživanja tretira ispitnu anksioznost kao stresor, tri kategorije mehanizama za suočavanje (suočavanje usmereno na problem, suočavanje usmereno na emocije i izbegavanje) kao medijatore, dispozicioni optimizam kao potencijalnu moderator varijablu, dok je ishod ispitivane stresne transakcije operacionalizovan kroz postignuti uspeh na kolokvijumu.

Istraživanje je sprovedeno na uzorku od 263 studenta (87% žena) Odseka za psihologiju i Odseka za germanistiku Filozofskog fakulteta Univerziteta u Novom Sadu. Primenjeni su sledeći upitnici: Inventar ispitne anksioznosti (the Test Anxiety Inventory – TAI), Inventar za suočavanje sa stresnim zadacima (Coping Inventory for Task Stress – CITS) i Test životne orijentacije (Life Orientation Test-Revised – LOT-R). Za obradu prikupljenih podataka primenjena je moderirano medijaciona analiza. Prema dobijenim rezultatima, optimizam se pokazao kao statistički značajan moderator jedino u relaciji između ispitne anksioznosti i suočavanja usmerenog na zadatak ($B = -0.01$, $p = .018$), pri čemu povišena evaluativna strepnja predviđa dominantniju usmerenost na zadatak samo kod studenata s vrlo nisko izraženim optimizmom ($B = 0.09$, 95% CI [0.02, 0.16]). Nadalje, nalazi moderirano medijacione analize sugerišu da intenzivna ispitna anksioznost kod onih ispitanika, kod kojih se aktiviraju mehanizmi suočavanja usmereni na emocije, a koji su istovremeno nisko optimistični, predviđa slabije akademsko postignuće (za vrlo nizak optimizam: $B = -0.25$, 95% CI [-0.49, -0.06]). Takođe, rezultati ukazuju i na to da ispitna anksioznost, delujući preko izbegavanja, indirektno predviđa bolji uspeh kod izrazito nisko optimističnih studenata ($B = 0.10$, 95% CI [0.00, 0.28]). Uprkos relativno opšteprihvaćenom shvatanju da dispozicioni optimizam predstavlja univerzalno adaptivan resurs za suočavanje s akademskim stresom, rezultati aktualnog istraživanja doprinose iznjenjavanjem razumevanju složenih odnosa među ispitivanim fenomenima. Čini se da, pod određenim uslovima, niži stepen optimizma predstavlja čak povoljniju polaznu osnovu za uspešnije suočavanje s evaluativnim stresom.

Ključne reči: ispitna anksioznost, suočavanje sa stresom, dispozicioni optimizam, akademsko postignuće

When Less Is More: Dispositional Optimism as a Moderator in the Process of Coping With Test Anxiety

The educational process at all levels of schooling is permeated by continuous evaluations of knowledge and skills. Due to potential significant consequences, these evaluative situations represent highly stressful circumstances that often arouse a specific form of situation-specific dispositional tendency in

pupils and students—test anxiety. However, given that test anxiety is not a reliable direct predictor of achievement, contemporary research focuses on exploring its indirect effects on academic success through various intervening variables. The model designed for the purposes of this study treats test anxiety as a stressor, three categories of coping mechanisms (problem-focused coping, emotion-focused coping, and avoidance) as mediators, and dispositional optimism as a potential moderator variable, while the outcome of the examined stressful transaction is operationalised through the achieved success on a midterm exam.

The study was conducted on a sample of 263 students (87% female) from the Department of Psychology and the Department of German Language and Literature at the Faculty of Philosophy, University of Novi Sad. The following questionnaires were administered: the Test Anxiety Inventory (TAI), the Coping Inventory for Task Stress (CITS), and the Life Orientation Test-Revised (LOT-R). A moderated mediation analysis was applied to process the collected data. According to the obtained results, optimism proved to be a statistically significant moderator only in the relation between test anxiety and task-oriented coping ($B = -0.01$, $p = .018$), whereby elevated evaluative anxiety predicts a more dominant orientation toward the task only in students with very low levels of optimism ($B = 0.09$, 95% CI $[0.02, 0.16]$). Furthermore, the findings of the moderated mediation analysis suggest that intense test anxiety predicts poorer academic achievement in those participants in whom emotion-focused coping mechanisms are activated, and who are simultaneously low in optimism (for very low optimism: $B = -0.25$, 95% CI $[-0.49, -0.06]$). Additionally, the results indicate that test anxiety, acting through avoidance, indirectly predicts better success in highly low-optimistic students ($B = 0.10$, 95% CI $[0.00, 0.28]$). Despite the relatively generally accepted view that dispositional optimism represents a universally adaptive coping resource for academic stress, the results of the current study contribute to a more nuanced understanding of the complex relationships among the investigated phenomena. It appears that, under certain conditions, a lower degree of optimism represents an even more favourable baseline for more successful coping with evaluative stress.

Keywords: *test anxiety, coping with stress, dispositional optimism, academic achievement*



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Interpersonalno ponašanje nastavnika i akademsko nepoštjenje: multilevel analiza individualnih i odeljenskih efekata

Varanje u školi ostaje značajan obrazovni problem, ali se relativno malo zna o ulozi interpersonalnih odnosa između nastavnika i učenika u oblikovanju nepoštenog ponašanja. Polazeći od interpersonalnog modela poučavanja, ovo istraživanje ispitalo je da li percepcije učenika o nastavnikovom uticaju i bliskosti predviđaju aktivno varanje na časovima matematike, kako na individualnom, tako i na odeljenskom nivou.

U istraživanju je učestvovalo 648 učenika srednjih škola (48,6% mladića; uzrasta od 15 do 19 godina) raspoređenih u 44 odeljenja (prosečna veličina odeljenja = 17,2 učenika). Aktivno varanje u matematici procenjavano je skalom razvijenom za potrebe ovog istraživanja. Interpersonalno ponašanje nastavnika mereno je pomoću Upitnika o interakciji nastavnika i učenika (QTI; Wubbels i sar., 1993), s fokusom na dimenzije Uticaj i Bliskost. Uspeh iz matematike operacionalizovan je završnom ocenom ostvarenom tokom prvog polugodišta. Za analizu podataka korišćena je multilevel regresiona analiza kako bi se uvažila hijerarhijska struktura podataka. Prediktori su uključivani hijerarhijski: (1) pol i uspeh iz matematike, (2) individualne percepcije nastavnikovog uticaja i bliskosti i (3) prosečne odeljenske vrednosti nastavnikovog uticaja i bliskosti.

Koeficijent intraklasne korelacije pokazao je da se 19,4% varijanse aktivnog varanja može pripisati razlikama između odeljenja. U konačnom modelu, niži uspeh iz matematike predviđao je viši nivo aktivnog varanja, $B = -0,219$, $t(636,7) = -7,53$, $p < ,001$. Na individualnom nivou, učenici koji su svoje nastavnike doživljavali kao uticajnije ($B = -0,058$, $t(601,4) = -2,01$, $p = ,045$) i bliskije ($B = -0,044$, $t(602,8) = -3,23$, $p = ,001$) prijavljivali su niži nivo aktivnog varanja. Na nivou odeljenja, viši prosečan nastavnikov uticaj predviđao je niži nivo varanja ($B = -0,189$, $t(51,6) = -2,10$, $p = ,041$), dok je viši prosečan nivo nastavnikove bliskosti predviđao viši nivo varanja ($B = 0,092$, $t(51,5) = 2,27$, $p = ,028$). Konačni model objasnio je 15,0% varijanse putem fiksnih efekata, odnosno 31,5% kada je uključena i varijansa na nivou odeljenja.

Nalazi ukazuju na to da je interpersonalno ponašanje nastavnika povezano s akademskim nepoštenjem kako na individualnom, tako i na odeljenskom nivou. Dok se čini da podržavajući odnosi između nastavnika i učenika obeshrabruju varanje na individualnom nivou, pozitivan efekat bliskosti na nivou odeljenja sugerše da veoma podržavajuća odeljenska klima može funkcionisati drugačije kada se uzmu u obzir zajedničke norme vezane za varanje.

Ključne reči: akademsko nepoštenje, matematika, interpersonalno ponašanje nastavnika, multilevel analiza, odeljenska klima

Teacher Interpersonal Behaviour and Academic Dishonesty: A Multilevel Analysis of Individual and Classroom Effects

Academic cheating remains a significant educational concern, yet relatively little is known about the role of teacher–student interpersonal relationships in shaping dishonest behaviour. Drawing on the interpersonal model of teaching, this study examined whether students' perceptions of teacher influence and proximity predict active cheating in mathematics classes at both the individual and classroom levels.

Participants were 648 secondary school students (48.6% boys; aged 15–19 years) nested within 44 classrooms (average classroom size = 17.2 students). Active cheating in mathematics was assessed using a scale developed for the purposes of this study. Teacher interpersonal behaviour was measured using the Questionnaire on Teacher Interaction (QTI, Wubbels et al., 1993), focusing on the dimensions of Influence and Proximity. Mathematics achievement was operationalised as the final grade obtained during the first semester. A multilevel regression analysis was conducted to account for the nested structure of the data. Predictors were entered hierarchically: (1) gender and mathematics achievement, (2) individual-level perceptions of teacher influence and proximity, and (3) classroom-level averages of teacher influence and proximity.

The intraclass correlation coefficient indicated that 19.4% of the variance in active cheating was attributable to classroom-level differences. In the final model, lower mathematics achievement predicted higher levels of active cheating, $B = -0.219$, $t(636.7) = -7.53$, $p < .001$. At the individual level, students who perceived their teachers as more influential ($B = -0.058$, $t(601.4) = -2.01$, $p = .045$) and more proximate ($B = -0.044$, $t(602.8) = -3.23$, $p = .001$) reported lower levels of active cheating. At the classroom level, higher average teacher influence predicted lower cheating ($B = -0.189$, $t(51.6) = -2.10$, $p = .041$), whereas higher average teacher proximity predicted higher cheating ($B = 0.092$, $t(51.5) = 2.27$, $p = .028$). The final model explained 15.0% of the variance through fixed effects and 31.5% when classroom-level variance was included.

The findings suggest that teacher interpersonal behaviour is associated with academic dishonesty at both individual and classroom levels. While supportive teacher–student relationships appear to discourage cheating at the individual level, the positive classroom-level effect of proximity indicates that highly supportive classroom climates may operate differently when shared norms regarding cheating are considered.

Keywords: academic cheating, mathematics, teacher interpersonal behaviour, multilevel analysis, classroom climate



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The Role of Academic Motivation in Students' Digital Behaviour and Technology Attitudes

Research grounded in Self-Determination Theory (SDT) shows that autonomous motivation promotes academic engagement, whereas controlled motivation is associated with superficial learning strategies and diminished emotional investment. Separately, EdTech literature documents that technology pessimism and technophobia reduce digital engagement. However, there is no clear evidence of whether negative technology attitudes mediate the link between motivational regulation and students' digital behaviour. Controlled motivation may allow institutional LMS use (normatively prescribed), while simultaneously suppressing self-directed digital behaviour (proactively chosen practices) through attitudes towards technology as a source of personal value. The study addresses three objectives: (1) test if controlled motivation predicts technology pessimism and technophobia; (2) test if these attitudes mediate the link between controlled motivation and self-directed behaviour, leaving institutional LMS use unaffected; (3) examine if this mediation pattern reverses for autonomous motivation.

Method: The multi-university student sample includes 596 participants (75% females; $M = 21.2$, $SD = 1.86$). The following measures were used: the Academic Motivation Scale based on self-determination theory, the Technology Attitude Scale for technology pessimism and technophobia, and self-reported measures for institutional LMS use and self-directed digital behaviour.

Results: The parallel mediation models (with 5,000 bootstrap resamples) examined the distinct pathways linking motivational regulation to institutional versus autonomous digital behaviour through technology pessimism and technophobia. Controlled motivation did not significantly predict technology pessimism or technophobia, suggesting that externally regulated learning does not inherently foster negative technological attitudes. For institutional LMS use, controlled motivation exerted a direct positive effect, with no significant indirect effects. However, the model for self-directed digital behaviour revealed a divergent pattern—autonomous motivation emerged as a significant direct predictor. Importantly, technology pessimism acted as a major negative mediator for autonomous motivation, thereby demonstrating a suppression effect. Motivational features predicted both forms of digital behaviour, but with divergent mediation patterns. Institutional LMS use was driven by both motivational features, effectively bypassing negative technological attitudes due to structural enforcement. In contrast, autonomous digital practices were uniquely susceptible to cognitive filtering, where technology pessimism significantly attenuated behavioural output. This pattern empirically demonstrates that while normatively prescribed technology use overrides internal technology pessimism, self-initiated digital engagement remains deeply constrained by authentic, critical technological attitudes.

Keywords: digital behaviour, higher education, self-determination theory, technology pessimism, autonomous motivation

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Kada škola postane prepreka: Barijere za razvoj zdravih životnih navika adolescenata u školskom okruženju

Tokom adolescencije dolazi do učestalog uključivanja u različite oblike eksperimentisanja i rizičnih ponašanja. Istovremeno, ovaj razvojni period predstavlja ključnu fazu za usvajanje zdravih životnih navika, koje su povezane sa brojnim pozitivnim dugoročnim ishodima, uključujući bolje fizičko i mentalno zdravlje, viši akademski uspeh i izraženije prosocijalno ponašanje. Cilj ovog rada jeste da se identifikuju faktori na nivou škole kao mikrosistema koji predstavljaju prepreke za razvoj zdravih životnih navika adolescenata, pre svega u domenu ishrane, fizičke aktivnosti i navika spavanja.

Istraživanje je sprovedeno primenom kvalitativnog pristupa u tri osnovne i dve srednje škole. U svakoj školi organizovane su po tri fokus grupe sa nastavnicima, roditeljima i učenicima šestog i osmog razreda osnovne škole, odnosno prvog i drugog razreda srednje škole (ukupno 15 fokus grupa). Tokom fokus grupa razgovarano je o iskustvima, stavovima i potrebama učesnika u vezi s razvojem zdravih životnih navika i ulogom škole u podsticanju odgovornog odnosa prema zdravlju, kao i o mogućnostima unapređenja školske prakse.

Analizom sadržaja identifikovan je niz prepreka za razvoj zdravih životnih navika koje su dosledno prepoznali učenici, roditelji i nastavnici, a odnose se na način organizovanja škole i aktivnosti u njoj. Kao jedna od ključnih barijera izdvojena je organizacija školskih obaveza, koju karakterišu povremeni periodi intenzivnog opterećenja zbog velikog broja provera znanja, što dovodi do deprivacije sna. Učesnici su takođe ukazali na nedostatak zdravih opcija ishrane u školskom okruženju i istovremenu dostupnost nutritivno siromašne hrane (npr. pekare i automati sa grickalicama), kao i na kratke školske odmorne koji ne omogućavaju adekvatan unos obroka. Kao značajne prepreke prepoznate su i organizacija vannastavnih aktivnosti i stručne prakse, koje se često realizuju nakon redovne nastave, dovodeći do preskakanja ručka, kasnih obroka i odlaganja odlaska na spavanje. Učesnici iz srednjih škola ističu da učenici koji žive dalje od škole uglavnom moraju da preskoče ručak. Dodatno, učesnici su istakli nedovoljnu saradnju škole i porodice, rasprostranjeno uverenje da je uticaj škole ograničen ukoliko se zdrave navike ne razvijaju u porodičnom okruženju, nizak nivo uključenosti učenika u vannastavne aktivnosti, kao i uticaj vršnjačkog pritiska, usled kojeg se odstupanje od dominantnih obrazaca ponašanja može doživeti kao socijalno rizično. Dobijeni nalazi ukazuju na to da škola, umesto da predstavlja generator protektivnih faktora i okruženje koje podstiče usvajanje zdravih životnih navika, kroz određene strukturne i organizacione karakteristike može doprineti njihovom narušavanju. Adolescenti koji uspevaju da održe zdrave obrasce ponašanja to često čine uprkos, a ne zahvaljujući školskom okruženju.

Ključne reči: zdrave navike, adolescenti, škola, mikrosistem, kvalitativna analiza

Zahvalnica: Istraživanje je podržao Centar za interaktivnu pedagogiju, Beograd.

When School Becomes a Barrier: Obstacles to the Development of Healthy Lifestyle Habits Among Adolescents in the School Environment

During adolescence, young people increasingly engage in various forms of experimentation and risk-taking behaviours. At the same time, this developmental period represents a critical stage for the adoption of healthy lifestyle habits, which are associated with numerous positive long-term outcomes, including better physical and mental health, higher academic achievement, and greater prosocial behaviour. The aim of this study was to identify school-level factors, within the school as a microsystem, that act as barriers to the development of healthy lifestyle habits among adolescents, particularly in the domains of nutrition, physical activity, and sleep.

The study employed a qualitative research design and was conducted in three primary and two secondary schools. In each school, three focus groups were organised with teachers, parents, and students from the sixth and eighth grades of primary school and the first and second grades of secondary school (15 focus groups in total). The focus group discussions explored participants' experiences, attitudes, and needs related to the development of healthy lifestyle habits and the role of schools in promoting responsible health-related behaviours, as well as opportunities for improving school practices.

Content analysis identified a range of barriers that were consistently recognised by students, parents, and teachers and were related to the organisation of school life and activities. One of the key barriers identified was the organisation of academic obligations, characterised by periodic episodes of intensive workload due to multiple assessments and examinations, leading to sleep deprivation. Participants also highlighted the lack of healthy food options within the school environment, alongside the widespread availability of nutritionally poor food choices (e.g., bakeries and vending machines), as well as short school breaks that do not allow sufficient time for adequate meals. The organisation of extracurricular activities and vocational training placements was also identified as a significant barrier, as these activities are often scheduled after regular classes, resulting in skipped lunches, delayed meals, and postponed bedtimes. Participants from secondary schools emphasised that students who live farther from school often have no choice but to skip lunch. Additionally, participants pointed to insufficient collaboration between schools and families, the widespread belief that schools have limited influence when healthy habits are not fostered within the family environment, low levels of student participation in extracurricular activities, and the influence of peer pressure.

The findings suggest that, rather than serving as an environment that promotes the adoption of healthy lifestyle habits, schools may, through certain structural and organisational characteristics, contribute to the undermining of these habits.

Keywords: healthy lifestyle, adolescence, school, microsystem, qualitative analyses

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Parental Behaviours and Career Adaptability: The Role of Perceived Expectations, Criticism, and Autonomy Support

From the perspective of Self-Determination Theory, supportive parental behaviours, particularly autonomy support, are considered to facilitate the development of more adaptive motivational resources, psychological functioning, and positive developmental outcomes in adulthood like shaping career-related adaptation. In contrast, controlling parenting practices, such as criticism and conditional regard, are assumed to undermine autonomy and contribute to less adaptive patterns of functioning. This study examined the association between perceived parental behaviours (expectations, criticism, autonomy support, and positive/negative conditional regard) and career adaptability in adulthood.

The sample consisted of 145 adult participants of both sexes (71.7% female), aged between 18 and 61 years ($M = 30.77$, $SD = 10.95$), from Serbia. Further instruments were used: subscales—Parental Expectations and Parental Criticism from the Multidimensional Perfectionism Scale; Perceived Parental Autonomy Support Scale (P-PASS); Positive and Negative Parental Conditional Regard Scale – Academics (PCRS–Academics); Career Adapt-Abilities Scale (CAAS).

Correlation analyses showed that autonomy support from both mother and father was positively associated with overall career adaptability (mother: $r = .348$, $p < .001$; father: $r = .243$, $p = .003$), as well as with all subdimensions (control, concern, curiosity, and confidence). These findings suggest that autonomy-supportive parenting contributes to the development of adaptive psychological resources important for career development. Both maternal and paternal criticism showed consistent negative associations with career adaptability. Maternal criticism was negatively related to overall adaptability, control, and concern, while paternal criticism showed particularly strong negative associations, especially with confidence ($r = -.379$, $p < .001$), representing the strongest correlation observed in the study. Positive and negative conditional regard from both parents showed weak but significant negative associations with career adaptability dimensions, suggesting that controlling parenting practices may undermine autonomy, perceived control, and confidence in career-related decision-making.

A hierarchical regression analysis showed that the overall model was statistically significant ($F(10,134) = 2.224$, $p = .020$), explaining 14.2% of the variance in career adaptability ($R^2 = .142$; adjusted $R^2 = .078$). Among all predictors, only maternal autonomy support emerged as a significant independent predictor ($\beta = .260$, $p = .024$), whereas the remaining variables were not significant in the multivariate model. These findings suggest that perceived maternal autonomy support may play a role in career adaptability in adulthood; however, this conclusion should be interpreted cautiously given the relatively small sample, the modest proportion of explained variance, and the broad age range of participants.

Keywords: career adaptability, parental expectations, parental criticism, parental autonomy support, parental conditional regard

Pedagoška psihologija 2

Education Psychology 2

Voditeljka / Moderator: Jasmina Pekić



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„Ako previše koristim veštačku inteligenciju, osećam da zaglupljujem, a ako bi nastavnik koristio veštačku inteligenciju, osećao bih se izdanim“: Percepcije učenika o korišćenju veštačke inteligencije u obrazovnim kontekstima

Veštačka inteligencija je tu da ostane, a škole 21. veka treba da pripreme učenike za ovu realnost. Međutim, kako veštačka inteligencija preoblikuje obrazovanje, još uvek nije jasno. U ovom kontekstu, od suštinske je važnosti razmotriti perspektive svih obrazovnih aktera, uključujući glasove onih koji se pripremaju za ovu novu realnost. Ovaj rad bavi se percepcijama učenika srednjih škola o korišćenju veštačke inteligencije (AI) u obrazovnim kontekstima. Istraživanje ima za cilj da ispita kako učenici razumeju i doživljavaju AI u sopstvenom učenju, kao i kako percipiraju i tumače njeno korišćenje od strane svojih nastavnika.

Empirijski materijal se zasniva na polustrukturiranim grupnim intervjuima sprovedenim sa 20 učenika uzrasta od 14 do 16 godina iz šest evropskih zemalja: Španije (5), Litvanije (3), Italije (2), Bugarske (4), Turske (3) i Srbije (3). Intervjui su s učenicima iz Srbije vođeni na srpskom, a s učenicima iz ostalih zemalja na engleskom jeziku. Intervjui su organizovani po zemljama i pratili su vodič za intervju koji je pokrivao obrazovne kontekste učenika, iskustva s korišćenjem AI, oblasti u kojima se AI koristi, percepcije prednosti/nedostataka korišćenja AI i stavove o korišćenju AI od strane njihovih nastavnika. Podaci su analizirani korišćenjem tematske analize, uz podršku softvera za analizu kvalitativnih podataka MAXQDA.

Nalazi pokazuju da su učenici dobro upoznati s alatima veštačke inteligencije i da ih često koriste, prvenstveno da uštede vreme, razjasne složene sadržaje ili podrže razumevanje. U isto vreme, učenici pokazuju suptilnu svest o rizicima povezanim s prekomernom oslonjenošću na AI, posebno strah od kognitivne zavisnosti i „postajanja glupim“ usled smanjenog korišćenja sopstvenih kognitivnih kapaciteta. Dok učenici generalno doživljavaju AI kao prihvatljivu alatku kada se koristi kao dodatni izvor za učenje, njena upotreba kao prečice ili zamene za učenje se snažno problematizuje.

Posebno značajan nalaz se odnosi na percepcije učenika o korišćenju AI od strane nastavnika. U različitim nacionalnim kontekstima, učenici povezuju korišćenje AI od strane nastavnika sa snažnim negativnim emocijama, uključujući razočaranje i osećaj izdaje, tumačeći to kao moralno nesaglasno s obrazovnim odgovornostima nastavnika. Istraživanje zaključuje da percepcije učenika o AI oblikuju ne samo instrumentalni aspekti, već i duboko utemeljena normativna očekivanja o trudu, autentičnosti i odnosu nastavnik–učenik. Ovi nalazi naglašavaju važnost razmatranja etičkih i relacionih dimenzija integracije AI u obrazovanje, pored tehničkih i pedagoških razmatranja.

Ključne reči: veštačka inteligencija u obrazovanju, percepcije učenika, korišćenje veštačke inteligencije od strane nastavnika, srednja škola

"If I Use AI Too Much, I Feel I'm Becoming Stupid, and If a Teacher Used AI, I Would Feel Betrayed": Students' Perceptions of AI Use in Educational Contexts

Artificial intelligence is here to stay, and schools of the 21st century are expected to prepare students for this reality. How AI reshapes education, however, is still unclear. In this context, it is essential to consider the perspectives of all educational stakeholders, including the voices of those who are being prepared for this emerging reality. This paper explores secondary school students' perceptions of the use of artificial intelligence (AI) in educational settings. The study aims to examine how students understand and experience AI in their own learning, as well as how they perceive and interpret its use by their teachers.

The empirical material is based on semi-structured group interviews conducted with 20 students aged 14 to 16 from six European countries: Spain (5), Lithuania (3), Italy (2), Bulgaria (4), Turkey (3), and Serbia (3). Interviews with students from Serbia were conducted in Serbian, while interviews with students from the other countries were conducted in English. Interviews were organised by country and followed an interview guide covering students' educational contexts, experiences with AI use, domains in which AI is used, perceptions of the benefits/downsides of AI use, and views on the use of AI by their teachers. The data were analysed using thematic analysis, supported by the qualitative data analysis software MAXQDA.

The findings indicate that students are highly familiar with AI tools and report frequent use, primarily to save time, clarify complex content, or support understanding. At the same time, students demonstrate a nuanced awareness of the risks associated with overreliance on AI, most notably the fear of cognitive dependency and "becoming stupid" due to diminished use of one's own thinking. While students generally frame AI as acceptable when used as a supplementary learning resource, its use as a shortcut or replacement for learning is strongly problematised.

A particularly salient finding concerns students' perceptions of teachers' use of AI. Across national contexts, students associate teacher use of AI with strong negative emotions, including disappointment and feelings of betrayal, interpreting it as morally inconsistent with teachers' educational responsibilities. The study concludes that students' perceptions of AI are shaped not only by instrumental considerations but also by deeply held normative expectations about effort, authenticity, and the teacher-student relationship. These findings highlight the importance of addressing ethical and relational dimensions of AI integration in education, alongside technical and pedagogical considerations.

Keywords: *artificial intelligence in education, student perceptions, teacher use of AI, secondary education*



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Academic Motivation and AI Literacy: Controlling Socially Desirable Responding

Generative artificial intelligence in higher education raises questions about whether students' motivation for learning relates to AI literacy. Because both constructs are commonly self-reported, socially desirable responding should also be considered. This study examined associations between academic motivation and AI literacy before and after controlling for social desirability. The sample

comprised 215 students from Serbia, aged 19 – 45 years ($M = 22.64$, $SD = 3.76$), of whom 180 (83.7%) were female. Academic motivation was measured with the AMS, AI literacy and related competencies with the Serbian MAELS, and socially desirable responding with a short Marlowe-Crowne scale. The six AMS dimensions included in the analyses were intrinsic motivation to know, toward accomplishment, and to experience stimulation, external and introjected regulation, and amotivation. The six MAELS dimensions were Apply AI, Create AI, AI Learning/Self-Efficacy/Problem Solving, Understand AI, Detect AI, and shortened AI Emotion Regulation. Canonical correlation analysis was followed by partial canonical analysis of scores residualised for socially desirable responding. The initial model did not reach conventional significance according to Wilks' criterion, Wilks' $\lambda = .79$, $F(36, 894.20) = 1.40$, $p = .06$, although the first function suggested a potentially meaningful pattern warranting exploratory interpretation. After controlling for social desirability, the model reached statistical significance according to Wilks' criterion, Wilks' $\lambda = .78$, $F(36, 894.20) = 1.43$, $p < .05$, $R_c = .38$, $R_c^2 = .15$. The strongest contributors were intrinsic motivation to know, intrinsic motivation to experience stimulation, and intrinsic motivation towards accomplishment, and, on the MAELS side, Detect AI, AI Learning/Self-Efficacy/Problem Solving, and Understand AI. Because the variables loaded in the same direction on the first canonical variates, the function was interpreted as reflecting a positive association between intrinsic forms of academic motivation and cognitive and self-regulatory aspects measured by the MAELS. Among the six MAELS dimensions, only Detect AI yielded a significant regression model, $F(6, 208) = 2.23$, $p < .05$, $R^2 = .06$, with intrinsic motivation to know as a significant predictor, $\beta = .24$, $t(208) = 2.45$, $p < .05$. This may suggest that intellectual curiosity encourages closer attention to unfamiliar technologies, making it easier to recognise AI-based applications, devices, and interactions. Redundancy for the first function was low, accounting for only 2.14% of variance in the MAELS set. Thus, although theoretically meaningful and largely unchanged after controlling for socially desirable responding, the relationship was weak in practical terms and cannot be readily attributed to response bias. The findings should be treated as exploratory and examined further in larger and more heterogeneous samples.

Keywords: academic motivation, AI literacy, social desirability, canonical analysis, students



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Academic Motivation as a Mediator of School Climate and Screen Time in Russian and Serbian Adolescent Samples

Modern adolescents socialise in a hybrid environment where real and digital processes interact, partly irrespective of culture. Peer relationships may promote digital engagement—either compensating for insufficient social support or facilitating joint activities online. However, the overall volume of screen time may not depend directly on relationship quality, suggesting that other mechanisms are at play. This study examines academic motivation as one such potential mediator: we propose that a poor school climate reduces interest in learning, thereby increasing unstructured screen time.

The sample comprised 388 adolescents aged 14 (43% were male, 57% female). The Serbian sample included 134 individuals, and the Russian sample included 254 individuals. Data collection was performed via a link distributed through the school administration. Participation was anonymous and voluntary. Written consent was obtained. Adolescents answered questions about school climate, screen time, intrinsic and extrinsic academic motivation, and amotivation (The Academic Motivation Questionnaire was used). Three mediation models are tested for the Russian and Serbian samples, with intrinsic motivation, extrinsic motivation, and amotivation as mediators, respectively.

Intrinsic motivation mediated the school climate–screen time link only in the Serbian sample (indirect effect: $b = -0.06$, $p = 0.002$), with school climate positively predicting intrinsic motivation ($b = 0.58$, $p < 0.001$), which negatively predicted screen time ($b = -0.11$, $p < 0.001$). In the Russian sample, only the direct path from school climate to intrinsic motivation was significant ($b = 0.65$, $p < 0.001$). The extrinsic motivation model was non-significant in both samples (all $p > 0.05$). In the amotivation model, the indirect effect was significant only for the Serbian sample ($b = -0.05$, $p < 0.01$), where school climate negatively predicted amotivation ($b = -0.62$, $p < 0.001$), which positively predicted screen time ($b = 0.09$, $p < 0.01$).

The study findings showed that academic motivation did not mediate the association between school climate and screen time for the Russian sample, whereas it did for the Serbian sample. These results may reflect greater unity and interpersonal warmth in Serbian culture, contrasted with higher restraint and independence in the Russian one. Nevertheless, some universal, culture-independent results were obtained. School climate was identified as an important factor in academic motivation for students from both countries. Positive perceptions of the school environment and supportive relationships with classmates and teachers increase engagement in learning and decrease amotivation.

Keywords: *academic motivation, school climate, digital activity, screen time, cross-cultural study*



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Accuracy, Confidence, and the Influence of Contextual Information on Teachers' Recognition of LLM-Generated Texts

Large language models (LLMs) bring both challenges and opportunities for education. While students may benefit from them, overreliance may hinder skill development. Educators must therefore recognise and mitigate the consequences of LLM use, such as AI-generated student work. This study examined teachers' ability to recognise AI-generated texts, factors influencing recognition accuracy, and determinants of teachers' confidence in their judgements. In a $2 \times 2 \times 3$ online experiment, secondary school teachers ($N = 184$, $M_{age} = 46.76$, $SD = 10.76$, 66% female) judged whether texts on the importance of the EU were written by students or an LLM. We manipulated authorship (LLM vs. student) and quality (high (HQ) vs. low (LQ)) between-subjects, and contextual information about students' prior performance (above-average, below-average grades, or no information) within-subjects. With such a design we could examine how textual features and commonly available contextual information shape teachers' judgements. Participants experienced considerable difficulty identifying AI-generated texts. Overall recognition accuracy was above chance ($\chi^2(1) = 20.72$, $p < .001$), but a three-way ANOVA showed that student-written texts were identified more accurately ($M = 0.70$) than AI texts ($M = 0.47$; $F(1,181) = 63.78$, $p < .001$). As scarce research shows teachers rely on both quality and contextual cues in attributing authorship, we hypothesised that incongruence between the two would serve as a warning and improve accuracy (e.g., HQ text attributed to a low-achieving student seems unlikely), but this was not the case ($F(2,181) = 0.65$, $p = .52$). Teachers, however, exhibited a bias, more frequently attributing HQ texts to AI and LQ texts to students ($\chi^2(1) = 170.3$, $p < .001$), suggesting they underestimate LLMs' ability to generate LQ texts. As false attributions may negatively affect students' motivation, this calls for informing educators on AI's capability of creating texts of varying quality. Because teachers lack objective means of verifying authorship, we also examined confidence in their judgements. A linear mixed-effects model indicated that confidence was higher when attributing HQ texts to AI rather than students ($\beta = 1.37$, $p < .001$), consistent with their quality-based bias. Teachers were more confident when judging LQ than HQ texts overall ($\beta = -0.64$, $p = .01$). Finally, confidence was shaped by an interaction between quality and context ($\beta = 0.99$, $p = .01$):



HQ texts were perceived as more difficult to attribute when no or above-average context was available, showing that cues influenced certainty even without improving accuracy. Overall, contextual cues did not improve teachers' ability to identify AI texts but influenced their confidence and judgement strategies. The findings reveal systematic biases, overconfidence, and limited reliability in AI-text detection, underscoring the need for interventions supporting more informed judgements about AI-generated student work.

Keywords: artificial intelligence, teachers, confidence, AI-generated texts, authorship attribution

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Pedagoška psihologija 3

Education Psychology 3

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Uloga ugleda u odnosu akademskog uspjeha i socijalne anksioznosti

Socijalna anksioznost odnosi se na pojačano doživljavanje straha od evaluacije i učestalo izbjegavanje socijalnih situacija. Rezultira narušavanjem kvalitete života te teškoćama u interpersonalnom i profesionalnom funkcioniranju. Socijalna anksioznost ima značajan utjecaj na akademsku prilagodbu i akademsku uspješnost, no smatra se da je taj učinak indirektan. Evolucijske teorije smatraju da je socijalna anksioznost adaptivni mehanizam za niže rangirane u društvenoj hijerarhiji koji pomaže u izbjegavanju odbacivanja od strane grupe te u izbjegavanju sukoba s više rangiranim pojedincima. Vrijedna znanja ili vještine okolina može nagraditi višim ugledom odnosno višim rangom u hijerarhiji, pri čemu socijalna anksioznost postaje manje adaptivna. S obzirom na važnost ugleda za ostvarivanje višeg ranga, željeli smo ispitati njegovu ulogu u odnosu akademske uspješnosti i socijalne anksioznosti na studiju.

Ispitanici su bili studenti prve godine prijediplomskih studija Sveučilišta u Rijeci, prosječne dobi 19 godina (66.1% žena i 33.1% muškaraca). U prvom dijelu istraživanja (početak akademske godine) sudjelovalo je 741, a u drugom (nakon akademske godine) 510 studenata. Primijenili smo upitnike za procjenu akademske uspješnosti, Ljestvicu anksioznosti u socijalnim interakcijama, Upitnik socijalne fobije te Upitnik dominacije i ugleda.

Rezultati pokazuju da je promjena ugleda značajan medijator odnosa akademske uspješnosti i promjene socijalne anksioznosti tijekom akademske godine (-0.229 , 95% CI $[-0.481, -0.042]$). Viša akademska uspješnost povezana je s većim povećanjem ugleda, koje je zatim povezano s većim smanjenjem socijalne anksioznosti tijekom akademske godine. Proporcija ukupnog efekta za koju je zaslužna medijacija je 16.8 %.

Ovim istraživanjem utvrdili smo značajnu ulogu ugleda u odnosu akademske uspješnosti i socijalne anksioznosti i time doprinijeli razjašnjavanju odnosa socijalne anksioznosti i teškoća akademskog funkcioniranja.

Ključne reči: socijalna anksioznost, ugled, akademska uspješnost

Zahvalnica: Rad je nastao u sklopu projekta Dimenzije topline i kompetentnosti, socijalno rangiranje i mentalno zdravlje (uniri-iz-25-292), financiranog od strane Sveučilišta u Rijeci.

The Role of Prestige in the Relationship Between Academic Success and Social Anxiety

Social anxiety refers to the increased experience of fear of evaluation and frequent avoidance of social situations. It results in reduced quality of life and difficulties in interpersonal and professional functioning. Social anxiety has a significant impact on academic adjustment and academic performance, although this effect is considered to be indirect. Evolutionary theories suggest that social anxiety is an adaptive mechanism for lower-ranking individuals in the social hierarchy, helping them avoid group rejection and conflict with higher-ranking individuals. Valuable knowledge or skills may be rewarded with higher prestige by the social group, that is, with a higher rank within the hierarchy, in

which case social anxiety becomes less adaptive. Higher rank can be achieved by increasing prestige through the possession of knowledge and skills. Given the importance of prestige for achieving higher rank, we aimed to examine its role in the relationship between academic achievement and social anxiety in university students.

Participants were first-year undergraduate students at the University of Rijeka, with a mean age of 19 years (66.1% female, 33.1% male). In the first wave of data collection (beginning of the academic year), 741 students participated, and in the second wave (after the academic year), 510 students participated. We administered questionnaires assessing academic achievement, the Social Interaction Anxiety Scale, the Social Phobia Scale, and the Dominance and Prestige Questionnaire.

Results show that change in prestige is a significant mediator of the relationship between academic achievement and change in social anxiety over the academic year (-0.229 , 95% CI $[-0.481, -0.042]$). Higher academic achievement was associated with a greater increase in prestige, which was in turn associated with greater reduction in social anxiety over the academic year. The proportion of the total effect accounted for by the mediation is 16.8%.

This study shows the significant role of prestige in the relationship between academic achievement and social anxiety and contributes to a better understanding of the relationship between social anxiety and academic functioning difficulties.

Keywords: social anxiety, prestige, academic achievement

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Povezanost metakognicije i akademskog postignuća kod studenata: metaanaliza

Cilj ovog istraživanja bio je da se metaanalitičkim pristupom ispita povezanost između metakognicije i akademskog postignuća kod studenata, imajući u vidu nedosledne empirijske nalaze u dosadašnjoj literaturi. Metakognicija se u obrazovnoj psihologiji definiše kao skup procesa koji uključuju praćenje, regulaciju i kontrolu sopstvenih kognitivnih aktivnosti, a smatra se potencijalno značajnim faktorom akademskog uspeha.

U metaanalizu je uključeno deset empirijskih studija ($N = 2.890$) koje su ispunile kriterijume uključivanja, pri čemu je kao mera metakognicije korišćen Metacognitive Awareness Inventory (MAI), dok je akademsko postignuće operacionalizovano kroz prosek ocena (GPA). Veličine efekata su konvertovane u Pirsonov koeficijent korelacije i analizirane primenom modela varijabilnih efekata (random-effects model), uz primenu Fišerove Z transformacije.

Procenjuje se da postoji pozitivna povezanost između metakognicije i akademskog postignuća ($r = .1964$, 95% CI $[-.015, .408]$), koja nije dostigla statističku značajnost ($Z = 1.82$, $p > .05$). Dobijeni nalaz ukazuje na trend pozitivne veze, ali bez dovoljno statističke snage da se ona generalisuje na populaciju.

Zaključuje se da je odnos između metakognicije i akademskog postignuća kompleksan i verovatno moderiran dodatnim varijablama, što ukazuje na potrebu za budućim metaanalizama koje će uključiti veći broj studija i ispitati ulogu moderatorskih faktora.

Ključne reči: metakognicija, akademsko postignuće, metaanaliza, studenti

The Relationship Between Metacognition and Academic Achievement in Students: A Meta-Analysis

The aim of this study was to examine, using a meta-analytic approach, the relationship between metacognition and academic achievement among university students, given the inconsistent empirical findings in the existing literature. In educational psychology, metacognition is defined as a set of processes involving the monitoring, regulation, and control of one's own cognitive activities and is considered a potentially important factor in academic success.

The meta-analysis included ten empirical studies ($N = 2,890$) that met the inclusion criteria. Metacognition was measured using the Metacognitive Awareness Inventory (MAI), while academic achievement was operationalised through grade point average (GPA). Effect sizes were converted into Pearson's correlation coefficients and analysed using a random-effects model, with Fisher's Z transformation applied.

A positive association between metacognition and academic achievement was estimated ($r = .1964$, 95% CI $[-.015, .408]$); however, this association did not reach statistical significance ($Z = 1.82$, $p > .05$). The obtained finding indicates a positive trend in the relationship between metacognition and academic achievement, but without sufficient statistical evidence to support its generalisation to the population.

It is concluded that the relationship between metacognition and academic achievement is complex and likely moderated by additional variables, highlighting the need for future meta-analyses incorporating a larger number of studies and examining potential moderating factors.

Keywords: *metacognition, academic achievement, meta-analysis, students*



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Authoritative School Climate Dimensions and Bullying Victimization Among Secondary School Students

Previous research has shown that bullying victimisation is associated with students' perceptions of school climate. Within authoritative school climate theory, school climate is conceptualised through two complementary dimensions: responsiveness/social support and demandingness/structure. The aim of this study was to examine the relationships between these dimensions and bullying victimisation among secondary school students.

The sample comprised 243 students from two secondary schools in Belgrade (56 boys, 187 girls; $Mage = 16.50$, $SD = 1.10$). Students completed the student version of the Delaware School Climate Survey (DSCS) and the Delaware Bullying Victimization Scale (DBVS). Following the DSCS framework, responsiveness/social support was operationalised through teacher-student relations, student-student relations, and respect for diversity, whereas demandingness/structure was operationalised through clarity of expectations, fairness of rules, school safety, and schoolwide student engagement. Following the DBVS manual, the total bullying victimisation score was calculated using physical, verbal, and relational victimisation. The scales demonstrated good internal consistency (Cronbach's $\alpha = .81$ for

responsiveness/social support, $\alpha = .85$ for demandingness/structure, and $\alpha = .90$ for bullying victimisation). Pearson correlation coefficients and a multiple linear regression analysis were conducted.

Responsiveness/social support ($r = -.25, p < .001$) and demandingness/structure ($r = -.25, p < .001$) were both significantly negatively correlated with bullying victimisation. A multiple linear regression analysis indicated that the overall model was significant, $F(2, 240) = 9.71, p < .001, R^2 = .08$. When both dimensions were entered simultaneously, neither responsiveness/social support nor demandingness/structure made a unique contribution to bullying victimisation ($\beta = -.15, p = .06$ for both variables).

The results are consistent with authoritative school climate theory and suggest that responsiveness/social support and demandingness/structure are associated with bullying victimisation among secondary school students. Overall, this study contributes to a better understanding of the role of authoritative school climate dimensions in relation to bullying victimisation among secondary school students.

Keywords: *authoritative school climate, responsiveness/social support, demandingness/structure, bullying victimisation*



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School-Parent Relationship as a Protective Factor Against School Violence: Clarifying the Connection With a Multi-Informant Approach

A strong school-parent relationship (SPR) was recognised as one of the most protective factors against school violence (SV), as it improves communication and responses to students' behavioural problems. Given that SV is often assessed through subjective reports which may vary depending on respondents' sensitivity to violence and the school context, it is important to combine information from different actors and to take into account different school contexts when investigating the association between SPR and SV. Thus, the aim of the present study was to explore how different dimensions of SPR, as well as distinct patterns of SPR, are associated with SV from the perspectives of teachers and principals.

The study used Serbian TALIS 2024 data from 199 principals and 4,007 teachers from 199 schools. SPR was operationalised through six teacher-reported items. EFA yielded a two-factor solution, distinguishing institutional support for parental involvement (IS) and teacher's personal engagement in collaboration with parents (TE). School misconduct and violence (SMV) was operationalised through 4 items reported by teachers (SMV-T) and principals (SMV-P). All measures showed satisfactory measurement properties and were aggregated at the school level for further analyses.

Linear regression showed that IS ($\beta = -.203, p = .006$) and TE ($\beta = .170, p = .021$) are significantly associated with SMV-P, and both IS ($\beta = -.456, p < .001$) and TE ($\beta = .291, p < .001$) have significant contribution in predicting SMV-T.

To complement the regression analyses, HCA identified four distinct SPR profiles that differed in both SMV-T ($F = 4.686, p = .003$) and SMV-P ($F = 3.387, p = .019$). Schools with high IS and low TE showed the lowest levels of both SMV, whereas schools with low IS and moderate TE showed the highest levels. The remaining two profiles showed intermediate levels of SMV.

The distinction between IS and TE suggests two independent sources of SPR: IS mainly provided by principals and TE dependent on teachers' individual actions. IS's negative association with SMV, regardless of the data source, indicates the importance of institutional support for SPR, beyond teachers' individual efforts. However, TE showed an unexpected positive association with SMV. The pattern uncovered through HCA is consistent with the possibility that higher levels of SMV might make teachers more engaged with parents in order to suppress it. Alternatively, since SMV-T reflects teachers' perceptions of SMV, the positive association may be explained by the greater sensitivity to SMV of more engaged teachers, but it would not explain the relation with SMV-P. The findings point to the central role of institutional support in creating safer school environments, challenging the assumption that violence prevention depends primarily on teachers' individual efforts. They also underscore the value of a multi-informant perspective for disentangling informant-specific sensitivity from responses to higher levels of school violence.

Keywords: school-parent relationship, institutional support, teacher engagement, school violence, multi-informant approach

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Predicting EFL Academic Achievement: The Unique Contributions of English Self-Concept and Self-Evaluation

Academic achievement is influenced by various cognitive and affective factors, among which academic self-concept and self-evaluation play important roles. Academic self-concept refers to students' perceptions of their own abilities and expectations regarding academic outcomes. Previous studies have shown that self-concept positively affects English language learning and contributes to academic achievement. Another important construct is self-evaluation, referring to learners' assessment of their own learning processes, which contributes to higher self-efficacy, motivation, and greater engagement in learning activities.

The present study aimed to determine whether English self-concept and self-evaluation predict EFL academic achievement among university students. A total of 192 students participated in the study (43 female, 148 male, and 1 non-binary/other). Participants were recruited from all four years of study at the Faculty of Sport and Psychology.

The questionnaire, including an informed consent form, was administered online in February 2026 using Google Forms. Most participants ($N = 184$) had studied English before university, and more than half ($N = 107$) had previously taken English classes, although only 8 had taken them at the time of the study. About a quarter ($N = 51$) had passed an official Cambridge exam (FCE, CAE, CPU). Participants reported moderate to high levels of English Self-concept (ESC) ($M = 3.31$, $SD = .78$) and Self-evaluation (SE) ($M = 5.44$, $SD = 1.46$), with distributions meeting the normality criteria proposed by Tabachnick and Fidell (2021). Academic achievement was positively associated with ESC ($p = .559$, $p < .001$), SE ($p = .541$, $p < .001$), English proficiency ($p = .499$, $p < .001$), learning duration ($p = .184$, $p = .011$), and year of study ($p = .166$, $p = .022$), whereas no significant association was found with informal learning. ESC and SE were also highly intercorrelated ($p = .841$, $p < .001$), though collinearity diagnostics ($VIF = 4.59$ and $tolerance = .22$) values remained within acceptable limits (O'Brien, 2007). A hierarchical multiple regression analysis showed that ESC explained 37.3% of the variance in academic achievement ($R^2 = .373$). After SE was added, the explained variance significantly increased ($R^2 = .402$). ESC remained a



significant predictor after the inclusion of SE ($\beta = .285$, $p = .019$), while SE also emerged as a significant predictor and demonstrated a somewhat stronger contribution ($\beta = .368$, $p = .003$).

Overall, the findings indicate that both English self-concept and self-evaluation are significant predictors of EFL academic achievement, highlighting the importance of positive self-perceptions and reflective practices in English language learning. These results have pedagogical implications, suggesting that teachers could incorporate structured self-assessment activities to strengthen students' English self-concept and encourage regular self-evaluation.

Keywords: academic achievement, self-concept, self-evaluation, English language learning

Socijalna psihologija 1

Social Psychology 1

Voditeljka / Moderator: Bojana Bodroža



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Student kao društvena uloga u vreme političkih kriza

Nadolazeće odraslo doba predstavlja osetljivu fazu u kojoj se preispituju lični, profesionalni, vrednosni i društveni identiteti, a identitet se oblikuje i kroz društvene, političke i institucionalne kontekste, gde važnu ulogu imaju značenja koja se pripisuju određenim društvenim pozicijama, među kojima je i studentska.

Studentski protesti u Srbiji otvorili su pitanja poput uloge studenata u društvu i značenja obrazovanja i političke odgovornosti mladih. Ovi protesti ne predstavljaju samo vid političke reakcije, već i prostor u kojem se artikulišu lična i kolektivna značenja i preispituju društvene i univerzitetske norme.

Cilj istraživanja bio je da se ispita kako su studenti tokom studentskih protesta konstruisali značenja studentskog identiteta, obrazovanja i društvene odgovornosti i kako je iskustvo pokreta oblikovalo njihove stavove, aktivnosti i iskustva. Istraživanje je bilo vođeno istraživačkim pitanjima: Kako studenti konstruišu značenja studentskog identiteta, obrazovanja i društvene odgovornosti u kontekstu studentskog pokreta? Na koji način učešće u pokretu oblikuje doživljaj pripadnosti i mogućnosti društvenog delovanja? Kako razumeju promene u svojoj moralnoj, političkoj i generacijskoj poziciji tokom pokreta? Kako iskustvo pokreta oblikuje predstave o društvu, patriotizmu i sopstvenoj budućnosti u Srbiji?

Studija je realizovana kao kvalitativno istraživanje putem onlajn upitnika s otvorenim pitanjima. Link ka onlajn upitniku distribuiran je putem društvenih mreža, metodom snežne grudve. U ovom radu prikazani su odgovori 28 učesnika koji su odgovorili na sva pitanja relevantna za temu. Uzorak je činilo 14 studentkinja i 14 studenata, uzrasta od 18 do 25 godina ($M = 20,4$). Svi učesnici studirali su na Univerzitetu u Beogradu ili Univerzitetu umetnosti u Beogradu i učestvovali su u studentskim protestima. Odgovori su obrađeni tematskom analizom usmerenom na identifikovanje obrazaca značenja, dominantnih diskursa i alternativnih/suprotstavljenih pozicija.

Nalazi pokazuju da se značenje studentskog identiteta proširilo s individualne akademske uloge na kolektivnu, moralnu i građansku. Studenti su sebe dominantno videli kao kritičke, društveno odgovorne i sposobne za organizovanje i pokretanje promena. Pokret su povezivali sa borbom, zajedništvom, pravdom, slobodom i nadom, a učešće u njemu povećalo je osećaj pripadnosti i ponosa zbog studentskog statusa. Obrazovanje je opaženo kao temeljna društvena vrednost, a obrazovni sistem kao institucionalno oslabljen, nedovoljno podržan i politički ugrožen.

Pokret je doprineo i redefinisanju patriotizma, od simboličke pripadnosti ka građanskoj odgovornosti. Odnos prema budućnosti u Srbiji dominantno je postao uslovan, gde je odluka o ostanku povezivana sa mogućnošću stvarnih promena.

Nalazi ukazuju na studentske proteste kao prostor kolektivnog učenja, pregovaranja identiteta i formiranja političkih, moralnih i generacijskih značenja.

Ključne reči: studenti, protesti, diskurs, kvalitativno istraživanje

Student as a Social Role in Times of Political Crises

Emerging adulthood is a sensitive developmental period during which personal, professional, value-based, and social identities are re-examined. Identity is also shaped by social, political, and institutional contexts, including the meanings attributed to the student role.

The student protests in Serbia have raised questions about the role of students in society, the meaning of education, and young people's political responsibility. Beyond political action, the protests have provided a space for articulating personal and collective meanings and questioning social and university norms.

This study examined how students constructed the meanings of student identity, education, and social responsibility during the protests, and how participation in the movement shaped their attitudes and experiences. The study addressed the following questions: How do students construct the meanings of student identity, education, and social responsibility within the student movement? How does participation shape their sense of belonging and perceived capacity for social action? How do they understand changes in their moral, political, and generational positions? How does the movement shape their views of society, patriotism, and their future in Serbia?

The study employed a qualitative design using an online questionnaire with open-ended questions. The questionnaire was distributed via social media using snowball sampling. This paper presents responses from 28 participants who completed all relevant questions. The sample included 14 female and 14 male students aged 18–25 years ($M = 20.4$), all enrolled at the University of Belgrade or the University of Arts in Belgrade and involved in the protests. Data were analysed using thematic analysis to identify patterns of meaning, dominant discourses, and alternative perspectives.

The findings indicate that student identity expanded from an individual academic role to a collective, moral, and civic one. Participants described themselves as critical, socially responsible, and capable of initiating social change. The movement was associated with struggle, solidarity, justice, freedom, and hope, while participation strengthened their sense of belonging and pride in being students. Education was viewed as a fundamental social value, whereas the educational system was perceived as institutionally weakened and politically threatened.

The movement also redefined patriotism from symbolic national belonging towards civic responsibility. Participants' views of their future in Serbia became largely conditional, with remaining in the country linked to the possibility of meaningful social change. Overall, the findings suggest that the protests functioned as a space for collective learning, identity negotiation, and the construction of political, moral, and generational meanings.

Keywords: students, protests, discourse, qualitative research



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Trust, but Verify: How (in)consistent Allyship Shapes Disadvantaged Group Members' Perceptions

Advantaged group members can play an important role in supporting LGBTQIA+ rights, yet LGBTQIA+ individuals may question whether such allyship reflects genuine commitment or temporary, externally motivated engagement. Drawing on Kelley's covariation model and the Attribution-Identity Model of Ally Sincerity, we examined whether the temporal consistency of heterosexual allies' protest participation shapes LGBTQIA+ individuals' perceptions of allies' motives, sincerity, trustworthiness,

and willingness to work with them. Across three preregistered experiments conducted in the United States, LGBTQIA+ participants evaluated heterosexual allies protesting for LGBTQIA+ rights whose participation was described as consistent, inconsistent, alternating, or unspecified. Study 1 used a two-condition design comparing consistent versus decreasing ally participation ($N = 287$). Study 2 added a control condition in which no temporal information was provided ($N = 601$). Study 3 compared sustained participation with two forms of inconsistency: decreasing and alternating participation ($N = 434$).

In Study 1, LGBTQIA+ participants perceived consistently participating allies as more internally motivated, $t = 4.43$, $p < .001$, $d = .52$, less externally motivated, $t = -4.09$, $p < .001$, $d = -.48$, more trustworthy, $t = 8.38$, $p < .001$, $d = .97$, more influential, $t = 6.58$, $p < .001$, $d = .78$, and more authentic, $t = 7.12$, $p < .001$, $d = .84$, than allies whose participation decreased over time. Study 2 replicated this pattern in a three-condition design, showing a significant multivariate effect of ally participation consistency, Pillai's Trace = .24, $F(18, 1182) = 9.10$, $p < .001$, partial $\eta^2 = .12$. Inconsistent allies were evaluated less positively than both consistent allies and allies for whom no temporal information was provided. Study 3 further showed that both decreasing and alternating participation undermined ally evaluations relative to sustained participation, Pillai's Trace = .64, $F(22, 844) = 18.08$, $p < .001$, partial $\eta^2 = .32$. The two inconsistent conditions did not differ from one another on the study outcomes.

Overall, sustained ally participation signalled internal motivation, sincerity, trustworthiness, authenticity, and commitment, whereas inconsistent participation increased doubts about allies' motives and heightened perceptions of performative or hypocritical allyship. These findings suggest that consistency over time is central to building trust between heterosexual allies and LGBTQIA+ communities.

Keywords: *allyship, temporal consistency, attributions, sincerity, internal and external motives*



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Generacijske perspektive o društvenim promenama i kolektivnom delovanju u Hrvatskoj

Kolektivna akcija ujedinjuje pojedince u težnji ka zajedničkim ciljevima, čineći ih ključnim pokretačem sistemskih društvenih promena. Pojedinačni glasovi često ostaju nemi, ali ujedinjeni građani čine kritičnu masu sposobnu da utiče na zakone i društvenu svest. Projekat „Odrastanje, život i starenje u Hrvatskoj: Generacijske razlike u društvenom kapitalu i potencijal za društvene promene“ ispituje stavove prema društvenim promenama i kolektivnom delovanju među generacijama u Hrvatskoj i ulogu društvenih mreža u poticanju angažmana. Studija provedena u proleće 2026. kroz 12 fokus grupa s učesnicima u dobi od 13 do 80 godina istražuje motive, prepreke i metode društvenog angažmana, pod vidom generacijskih razlika.

Preliminarni nalazi pokazuju individualne varijacije unutar svake generacije, uz neke generacijske razlike. Generacija Z (13–28) sklona je skepticizmu prema protestima, favorizujući online kampanje i starije generacije doživljava kao kohezivnije. Zabrinuti su zbog korupcije i nepravde, ali se uglavnom angažuju digitalno. Sebe vide kao buduće pokretače promena, ali sumnjaju u efikasnost protesta ako nisu široko podržani, a društvene mreže smatraju prvenstveno platformom za deljenje informacija. Hrvatsku omladinu smatraju pasivnom sem ako nije izravno pogođena.

Milenijalci (29–44) prepoznaju svoj uticaj i društvenu odgovornost, ali skloni su da ostanu pasivni, zbog straha od društvene osude i norme „šuti i trpi“. Naglašavaju važnost kombinovanja društvenih medija s ličnim aktivizmom i online platforme vide kao alate za pojačavanje efekta. Veruju da značajne

društvene promene zahtevaju velike događaje i kolektivni napor kako bi se suprotstavili sistemskim problemima.

Generacija X (45–60) doživljava hrvatsko društvo kao inertno, spremno da reaguje samo u teškim uslovima poput ugnjetavanja, nepravde ili ekoloških problema. Društvene mreže vide kao komunikacijski alat za pokretanje protesta, ali naglašavaju da značajna promena zahteva lični aktivizam. Općenito, vide malo motivacije za kolektivno delovanje unutar hrvatskog društva.

Boomeri (61–80) povezuju društvene promene s promenama u društvenim vrednostima i favorizuju offline aktivizam poput volontiranja i peticija. Sistemske promene smatraju sporima, ali mogućima kroz individualne i kolektivne napore. Vjeruju da online platforme podržavaju aktivizam, ali ne mogu zameniti lične napore. Žale zbog društvenih promena koje su dovele do konzumerizma i materijalizma, i žele veću jednakost. Svoju generaciju doživljavaju kao prestaru za proteste i krive društvenu apatiju i generacijske promene za pad aktivizma.

Učesnici ističu regionalni aktivizam, poput protesta srpskih studenata, kao primer efikasne mobilizacije, koji utiče na percepciju društvenih promena u Hrvatskoj. Unatoč razlikama, postoji generacijski zajedničko prepoznavanje važnosti i online i offline angažmana. Glavne prepreke uključuju apatiju, strah od osude, percepciju da je promena teško ostvariva i fokus na lične interese.

Ključne reči: društvene promene, kolektivna akcija, generacijske razlike, Hrvatska, društveni kapital
Zahvalnica: NPOO projekt „Odrastati, živjeti i starjeti u Hrvatskoj: Generacijske razlike u socijalnom kapitalu i potencijal za društvenu promjenu (GenSoK)“

Generational Perspectives on Social Change and Collective Action in Croatia

Collective action unites individuals in pursuit of common goals, making them a key driver of systemic social change. Individual voices often remain silent, but united citizens form a critical mass capable of influencing laws and social awareness. The project "Growing up, living, and ageing in Croatia: Generational differences in social capital and potential for social change" examines attitudes toward social change and collective action across generations in Croatia and the role of social networks in fostering engagement. Conducted in spring 2026 through 12 focus groups with participants aged 13 to 80, the study explores motives, barriers, and methods of social engagement, highlighting perceived generational differences.

Preliminary findings show individual variation within each generation, along with broader patterns. Generation Z (13–28) tends to be sceptical of protests, favouring online campaigns, and perceives older generations as more cohesive. They are concerned about corruption and injustice but mainly engage digitally. They see themselves as future changemakers but doubt protest effectiveness unless widely supported, and Croatian youth as passive unless directly affected. Social media is perceived primarily as an information-sharing platform.

Millennials (29–44) recognise their influence and social responsibility but tend to remain passive, due to fears of social judgement and adherence to norms of enduring and sacrifice. They emphasise the importance of combining social media with in-person activism, viewing online platforms as tools to amplify efforts. They believe significant societal change requires major events and collective effort to oppose systemic issues.

Generation X (45–60) perceives Croatian society as inert, reacting only under severe circumstances such as oppression, injustice, or environmental crises. They see social media as useful for starting protests but stress that meaningful change needs in-person activism. Overall, they see little motivation for collective action in Croatian society.

Boomers (61–80) favour offline activism like volunteering and petitions. They view systemic change in social values as slow but possible through individual and collective efforts and regret social change that has led to consumerism and materialism. They believe online platforms support activism but cannot replace in-person efforts. However, they perceive their generation as too old for protests and blame societal apathy for declining activism.

Participants frequently cite Serbian student protests as examples of effective mobilisation, influencing perceptions of social change in Croatia. There is a shared recognition of the importance of both online and offline engagement, influenced by generational experiences and societal context. The main barriers include apathy, fear of judgement, the perception that change is very difficult, and a focus on personal interests.

Keywords: *social change, collective action, generational differences, Croatia, social capital*

Acknowledgement: *NPOO project "Growing up, living, and ageing in Croatia: Generational differences in social capital and potential for social change".*



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#NisamPrijavila: analiza prepreka u prijavljivanju rodno zasnovanog nasilja

U decembru 2021. godine, nakon objave na Tviteru o neadekvatnoj institucionalnoj reakciji na prijavu rodno zasnovanog nasilja (RZN), javnost je reagovala relativizacijom i preispitivanjem žrtve. Revoltirane ovakvim odgovorom, žene su masovno pokrenule regionalni pokret pod heštegom #NisamPrijavila, deleći lična iskustva RZN kako bi ukazale na društvene i institucionalne barijere koje ih sprečavaju da progovore.

U ovom radu analiziran je sadržaj tvitova označenih heštgom #NisamPrijavila, s akcentom na prepreke u prijavljivanju pretrpljenog RZN. Pomoću alata TAGS preuzeti su javno dostupni tvitovi s ovim heštegom, objavljeni u periodu od 25. decembra 2021. do 13. januara 2022. godine. Inicijalna baza sadržala je 25.421 objavu. Tokom procesa čišćenja baze eliminisani su retvitovi, kao i tvitovi koji nisu sadržali lično iskustvo RZN, što je rezultiralo finalnim uzorkom od 1.219 tvitova. Ukupno 99% (1204) tvitova podelile su žene, a samo 1% (13) muškarci. Primenom kvalitativne analize sadržaja, dva nezavisna koda analizirala su razloge za neprijavljivanje nasilja koji su izneti u objavama.

Analiza razloga za neprijavljivanje iskustava RZN pokazala je da žrtve najčešće nisu prepoznale da je reč o nasilju (266 tvitova). Nasilje takođe nije prijavljivano usled stida (78), straha (74) ili samookrivljavanja (58). Žrtve ističu da je značajnu ulogu u neprijavljivanju iskustva RZN imala socijalna sredina koja je minimizirala iskustvo ili im nije verovala (73), nije im pružila podršku nakon što su podelile iskustvo (60), odvrćala ih je od prijavljivanja počinioca (9) ili direktno okrivljavala (21). Često je isticano da je počinilac bila osoba sa moći ili uticajem (62) ili da žrtvi svakako niko ne bi verovao (50). U značajnom broju slučajeva žrtve su isticale nedostatak dokaza i ukazivale na „nevidljivost“ nasilja (56) – najčešće u slučajevima psihološkog nasilja. Neke žrtve su neprijavljivanjem pokušavale da zaštite porodicu (54). Institucionalni razlozi neprijavljivanja tiču se nepoverenja u institucije (48) i demotivisanosti prethodnim lošim iskustvima sa prijavljivanjem nasilja (7). Specifičnost odnosa sa počiniocem dodatno otežava ovaj proces, bilo da postoji odnos zavisnosti (13), da počinilac žrtvu uspeva da ubedi da se ništa

nije desilo ili da je sama kriva (44), zato što je počinitelj član porodice (36), ali i zato što žrtva veruje da će se počinitelj promeniti (4). Deo žrtava RZN navodi da je uspeo da pobjegne ili da se odbrani od počinioca (55) ili da veruje da može samostalno da izađe na kraj sa preživljenim iskustvom (13).

Dobijeni nalazi potvrđuju da kompleksna mreža društvenih pritisaka, institucionalnog nepoverenja i ličnih psiholoških barijera sistemski odvraća žrtve od prijavljivanja rodno zasnovanog nasilja, ali i ukazuju na veliki značaj sveobuhvatne edukacije o RZN. Viralni pokreti poput #NisamPrijavila imaju ključnu ulogu u dekonstrukciji mita o „odgovornosti žrtve“ i mapiranju propusta unutar sistema zaštite.

Ključne reči: rodno zasnovano nasilje, Tviter, prijavljivanje nasilja, barijere, #NisamPrijavila

#IDidNotReport: An Analysis of Barriers to Reporting Gender-Based Violence

In December 2021, a Twitter post detailing an inadequate institutional response to gender-based violence (GBV) triggered public relativisation and victim-blaming. In response, women initiated a massive regional movement under the hashtag #NisamPrijavila (#IDidNotReport), sharing personal experiences to highlight the social and institutional barriers preventing them from speaking out.

This paper analyses tweets tagged #NisamPrijavila to examine barriers to reporting GBV. Using the TAGS tool, publicly shared tweets published between December 25, 2021, and January 13, 2022, were retrieved. The initial database of 25,421 posts was cleaned by eliminating retweets and posts without personal GBV experiences, yielding a final sample of 1,219 tweets. Women shared 99% (1,204) of these tweets, and men 1% (13). Through qualitative content analysis, two independent coders analysed the reasons for underreporting expressed in the posts.

The analysis revealed that victims most frequently failed to recognise the behaviour as violence (266 tweets). Violence also went unreported due to shame (78), fear (74), or self-blame (58). The social environment played a significant role by minimising experiences or disbelieving victims (73), failing to provide support (60), discouraging reporting (9), or directly blaming them (21). It was frequently noted that the perpetrators were described as individuals of power or influence (62), or that the victims believed no one would trust them anyway (50). Victims also highlighted a lack of evidence and the "invisibility" of abuse (56), most commonly regarding psychological violence. Some victims attempted to protect their families by not reporting (54). Institutional barriers included a lack of trust in institutions (48) and demotivation from prior negative reporting experiences (7). The specific relationship with the abuser further compounded the issue, involving dependency (13), the perpetrator convincing the victim nothing happened or that she is to blame (44), the abuser being a family member (36), or the belief that the perpetrator would change (4). Conversely, some victims stated they escaped or defended themselves (55) or believed they could cope independently (13).

The findings confirm that a complex web of social pressures, institutional distrust, and psychological barriers systematically deters victims from reporting GBV, while underscoring the vital importance of comprehensive education on GBV. Viral movements like #NisamPrijavila play a crucial role in deconstructing the myth of victim responsibility and mapping failures within the protection system.

Keywords: gender-based violence, Twitter, reporting violence, barriers, #NisamPrijavila

Socijalna psihologija 2

Social Psychology 2

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Seeing Hate, Feeling the Distance: How Issue Polarisation Shapes Affective Metaperceptions

Metaperceptions about political ingroups and outgroups are a key component of second-order beliefs in the polarisation literature. They are typically conceptualised in ideological terms, while less attention is given to beliefs about affective attitudes people ascribe to political in- and outgroups (affective metaperceptions; AM). We thus examine how issue polarisation contributes to different dimensions of AM. Specifically, we test how perceived (PP) and actual polarisation (AP) predict metaperceptions of ingroup and outgroup love and hate, since these AM may differ in how they signal threat and convey social norms. We hypothesise that PP plays a stronger role than AP in explaining variation in AM. We analysed data of 610 Slovenian adults (Mage = 40.86, 59% women; 69% left-, 27% right-wing). Issue polarisation was measured across 10 societal issues based on participants' own and perceived group positions. AP was defined as the distance between participants' and average outgroup positions, and PP as the distance between perceived left- and right-wing positions. AM were assessed via feeling thermometers, yielding four indices (ingroup/outgroup love and hate). Political orientation was measured using a single left-right continuum. We estimated a multivariate regression model predicting four AM with AP and PP, controlling for political orientation. Pillai's trace showed significant multivariate effects of AP ($V = .04$, $p < .001$), PP ($V = .10$, $p < .001$), and orientation ($V = .05$, $p < .001$). PP was a consistent predictor across all four AM (β s = 0.32–0.51, $ps < .001$), while AP was non-significant for three of those (β s = –0.01–0.09, $ps = .35$ –.90). This highlights the centrality of perceived political reality in shaping affective beliefs. For metaperceptions of outgroup hate (i.e., how much the outgroup hates one's ingroup), however, AP exhibited an effect comparable ($\beta = 0.13$, $p < .001$) to PP ($\beta = 0.18$, $p < .001$), suggesting a distinct basis for this metaperception. Stronger right-wing orientation predicted stronger ingroup love ($\beta = 0.76$, $p < .001$) and hate ($\beta = 0.51$, $p < .01$), but not the two outgroup dimensions (β s = –0.14–0.01, $ps = .53$ –.93). The model explained 4%–8% of the variance in outcome variables. Our findings indicate that ideological issue divides spill over into perceptions of outgroup hostility, potentially fostering perceptions of threat and insecurity. More broadly, the results highlight an interplay between ideological and affective dimensions of polarisation, likely characterised by reciprocal links. While PP plays a dominant role in shaping AM, actual disagreement also contributes to judgements involving the attribution of negative affect to the outgroup. This may suggest that individuals rely more on substantively grounded, informed comparisons of issue positions when forming beliefs about the most threatening intergroup attitudes (i.e. metaperceptions of outgroup hate), integrating both perceived and actual issue distance.

Keywords: political polarisation, perceived polarisation, actual polarisation, affective metaperceptions, intergroup relationships

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Everyday Nostalgia: Linking Trait Nostalgia and Loneliness to Daily Nostalgic Experience

Nostalgia is often described as a bittersweet feeling involving a longing for one's own past, and is increasingly understood as an adaptive mechanism for coping with negative present circumstances, loneliness, and self-discontinuity. Theoretically, nostalgia is activated when the individual perceives his/her current or future circumstances as unstable or uncertain—in which case nostalgia serves as a mechanism of communication between the current and the past self through nostalgic reverie. While nostalgia can be conceptualised either as a stable individual disposition (trait nostalgia) or as a situational response (state nostalgia), the relationship between these two manifestations of the phenomenon and their correlates remain underexplored in the literature. The present study examined whether trait nostalgia predicts the daily frequency of nostalgic episodes (state nostalgia), and whether trait loneliness, identified in prior research as one of the most potent triggers of nostalgia, is similarly related to its daily occurrence. We used the Experience Sampling Method (ESM) to track the daily frequency of nostalgic episodes over 10 days. The sample consisted of 46 participants (61% women, $M_{age} = 22.6$, $SD_{age} = 3.97$), with a total of 460 entries. On the first day, participants completed trait measures of nostalgia (Southampton Nostalgia Scale) and loneliness (UCLA Loneliness Scale). Results showed that trait nostalgia significantly predicted the daily frequency of nostalgic episodes ($b = 0.059$, $t(416) = 2.195$, $R^2 = .085$, $p < .05$), although the intraclass correlation coefficient indicated that only 8.2% of the variance in daily nostalgia was attributable to between-person differences, limiting the predictive power of trait-level measures. In spite of the fact that trait loneliness was correlated with trait nostalgia, it was not significantly associated with the daily frequency of nostalgic episodes. These findings suggest that while trait and state nostalgia are related, daily nostalgic experience is predominantly shaped by within-person, situational factors rather than stable dispositions, and that the role of loneliness as a trigger of nostalgia may not be extrapolated from experimentally induced states to naturally occurring, spontaneous nostalgic recall.

Keywords: *experience sampling method, trait nostalgia, state nostalgia, loneliness*

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A Primary Value Organises Moral Judgement: An Idiographic Approach to Moral Foundations

Moral foundations research typically proceeds nomothetically, comparing average foundation endorsement across groups sorted by foundation profile, political orientation, or the binding versus individualising divide. We propose an idiographic complement centred on the structure of moral concerns within the person. Each individual holds a hierarchy of moral foundations, and we argue that the foundation at its top, the primary foundation, differs from secondary foundations in shaping how the person evaluates transgressions. We further ask whether actively open-minded thinking (AOT), the disposition to seek and weigh evidence against one's existing beliefs, relates to judgement differently depending on which level of the hierarchy a violation engages.

Using one of the first administrations of the Moral Foundations Questionnaire-2 in a Serbian community sample ($N = 761$), we derived each participant's hierarchy by rank-ordering the six MFQ-2 subscale scores. The highest-scoring foundation was designated primary; participants without a unique maximum ($n = 129$) were excluded, yielding $N = 632$. Each of the 18 vignettes was pre-coded for the foundation it violates and then classified, per participant, as a primary-foundation or a secondary-foundation violation.

Linear mixed-effects models predicted judgements from violation type, four thinking style measures, and their interactions, with crossed random intercepts for participants and vignettes. Coefficients are standardised. Primary-foundation violations were judged more wrong ($b = 0.36$, $SE = 0.02$, 95% CI $[0.31, 0.41]$, $p < .001$) and were held with greater certainty ($b = 0.10$, $SE = 0.02$, 95% CI $[0.06, 0.15]$, $p < .001$), consistent with the primary foundation functioning as a moral anchor. The hierarchy also conditioned the role of analytic thinking: AOT interacted with violation type on wrongness ($b = 0.11$, $SE = 0.03$, 95% CI $[0.06, 0.16]$, $p < .001$), higher AOT being associated with stronger condemnation of primary-foundation violations ($b = 0.09$, 95% CI $[0.03, 0.14]$, $p = .003$) and showing no reliable association for secondary-foundation violations ($b = -0.02$, 95% CI $[-0.06, 0.01]$, $p = .192$). Analytic openness, often linked to moral permissiveness, here tracked firmer condemnation precisely where the perceiver's central commitment was at stake. The pattern held when relevance was modelled continuously as a within-person gradient, retaining all 761 participants.

The approach applies directly to intergroup judgement and moral persuasion, where appeals should land differently depending on whether they engage a person's primary or secondary foundations, and it reframes both attitude-change interventions and cross-cultural moral research in underrepresented regions.

Keywords: moral foundations, idiographic model, moral judgement, MFT, thinking styles

Socijalna psihologija 3

Social Psychology 3

Voditeljka / Moderator: Marija Volarov



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A Satisfied Future Me: Future Self-Relatedness Predicts Daily Psychological Needs Satisfaction

Future self-relatedness is a well-established predictor of overall human well-being. However, its specific relationship with basic psychological needs (autonomy, competence, and relatedness) remains largely underexplored. Drawing on Self-Determination Theory, the small self hypothesis, and person-situation transaction frameworks, this study investigated how daily fluctuations in future self-relatedness predict the satisfaction of basic psychological needs, and whether these processes are mediated by the physical, social, and structural features of immediate daily situations. A sample of ($N = 151$) individuals participated in a study with a baseline and experience sampling phase. We measured the key variables at the state level using the Future Self-Similarity Scale and the Psychological Needs Satisfaction Scale during the baseline phase. In the experience sampling phase, participants completed the state versions of the aforementioned measures and reported whether they were with others, in open spaces, and in formal situations five times per day over a week. Hierarchical multilevel regression models revealed that future self-relatedness predicted autonomy ($\beta = .20$, $t = 7.64$, $p < .001$), competence ($\beta = .11$, $t = 3.10$, $p = .003$), and relatedness ($\beta = 0.19$, $t = 6.21$, $p < .001$) need satisfaction only at the within-participant level. Multilevel mediation analyses revealed that the social context and situational formality did not mediate these effects. However, we observed a significant within-person mediation effect of environment: spikes in momentary future self-relatedness significantly reduced the likelihood of being in closed spaces, which in turn protected and enhanced daily autonomy ($\beta = 0.02$, 95% CI [.01, .04]) and competence ($\beta = 0.05$, 95% CI [.02, .08]). Hence, connecting with one's future self may function as an active psychological resource in daily life. By prompting individuals out of closed spaces and into expansive, open environments, a strong connection to the future self may safeguard daily autonomy and competence. This study highlights the importance of accounting for physical space and disaggregated multi-level structure when understanding the relationship between temporal identity and daily psychological need satisfaction.

Keywords: future self-relatedness, autonomy, competence, relatedness, environmental context



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Rodno zasnovano nasilje i diskriminacija u akademskom kontekstu: tematska analiza narativa iz Bosne i Hercegovine i Republike Srbije

Rad se bavi rodno zasnovanim nasiljem i diskriminacijom u akademskom kontekstu Bosne i Hercegovine i Republike Srbije, s posebnim osvrtom na načine na koje ispitanici opisuju rodnu nejednakost, kulturne norme i institucionalne prakse. Polazeći od pretpostavke da univerzitet nije imun na rodno zasnovano nasilje i diskriminaciju, istraživanje je usmjereno na dva pitanja: (1) postoji li raskorak u percepciji rodno zasnovanog nasilja i diskriminacije između ženskih i muških ispitanika i (2)

koji narativi dominiraju u opisima iskustava i opažanja rodne neravnopravnosti u akademskom prostoru.

Analiza je sprovedena na korpusu od 61 polustrukturisanog narativnog intervjua prikupljenog na univerzitetima u Bosni i Hercegovini i Republici Srbiji. Korpus je obuhvatio 37 žena i 24 muškarca. Intervjui su ortografski transkribovani i analizirani refleksivnom tematskom analizom iz perspektive kritičkog realizma, dok su kodiranje i organizacija podataka sprovedeni uz podršku softvera QDA Miner.

U analiziranim narativima ispitanica češće se pojavljuju poznavanje ključnih pojmova, senzibilizovanost za rodnu nejednakost i prepoznavanje iskustava uznemiravanja. Među opisanim oblicima rodno zasnovanog nasilja i diskriminacije izdvajaju se seksualizovani komentari, neprikladno posmatranje, potcjenjivanje kompetencija, osporavanje autoriteta, prigušivanje glasa žena i isključivanje iz neformalnih centara moći. Teži oblici nasilja rjeđe se pojavljuju u analiziranim narativima, dok su češće opisivani svakodnevni oblici uznemiravanja i diskriminacije koje ispitanici predstavljaju kao normalizovane ili nedovoljno institucionalno prepoznate.

Tematskom analizom izdvojeno je pet dominantnih obrazaca: profesionalna degradacija; obezličavanje i seksualizovana degradacija žena; prikrivena opstrukcija i eksploatacija; internalizacija i reprodukcija rodni normi; te institucionalna formalizacija bez djelotvorne zaštite. U bosanskohercegovačkom korpusu posebno su izraženi narativi o patrijarhalnim kulturnim obrascima, tradicionalnim očekivanjima i navikavanju na nejednakost. U korpusu iz Srbije naglašenija je tema institucionalne formalizacije bez djelotvorne zaštite, naročito kroz obrazac „na papiru je sve u redu“, kojim ispitanici opisuju raskorak između zakona, pravilnika i akcionih planova, s jedne strane, i percipiranih promjena institucionalne kulture, s druge.

Nalazi ukazuju na to da ispitanici rodno zasnovano nasilje i diskriminaciju opisuju u kontekstu kulturnih normi, tradicionalnih očekivanja i institucionalnog formalizma. Istraživanje pruža uvid u načine na koje učesnici prepoznaju, tumače i opisuju ove pojave u akademskom prostoru, bez pretenzije da se utvrdi njihova rasprostranjenost ili uzročna povezanost s pojedinim kulturnim i institucionalnim činiocima.

Ključne reči: rodno zasnovano nasilje, rodna diskriminacija, akademski kontekst, univerzitet, refleksivna tematska analiza

Gender-Based Violence and Discrimination in the Academic Context: A Thematic Analysis of Narratives From Bosnia and Herzegovina and the Republic of Serbia

This paper examines gender-based violence and discrimination in academic contexts in Bosnia and Herzegovina and Serbia, focusing on how respondents describe gender inequality, cultural norms, and institutional practices. The study addresses two questions: (1) whether female and male respondents differ in their perceptions of gender-based violence and discrimination, and (2) which narratives predominate in accounts of gender inequality in academic settings.

The analysis draws on 61 semi-structured narrative interviews conducted at universities in Bosnia and Herzegovina and Serbia with 37 women and 24 men. The interviews were orthographically transcribed and examined using reflexive thematic analysis informed by critical realism. QDA Miner was used to support coding and data organisation.

Female respondents' narratives more frequently reflected familiarity with key concepts, sensitivity to gender inequality, and recognition of harassment. Reported forms of violence and discrimination included sexualised comments, inappropriate staring, undervaluing competence, questioning authority, silencing women's voices, and exclusion from informal centres of power. Severe forms of violence appeared less frequently, while respondents more often described everyday harassment and discrimination as normalised or insufficiently recognised by institutions.

Five dominant patterns were identified: professional degradation; depersonalisation and sexualised degradation of women; covert obstruction and exploitation; internalisation and reproduction of gender norms; and institutional formalisation without effective protection. Narratives about patriarchal patterns, traditional expectations, and habituation to inequality were especially pronounced in the corpus from Bosnia and Herzegovina. In the Serbian corpus, greater emphasis was placed on institutional formalisation without effective protection, captured by the pattern "everything is fine on paper": a perceived gap between formal regulations and changes in institutional culture.

The findings show how respondents describe gender-based violence and discrimination in relation to cultural norms, traditional expectations, and institutional formalism. The study offers insight into how participants recognise and interpret these phenomena in academic settings, without seeking to establish their prevalence or causal relationship with specific cultural or institutional factors.

Keywords: gender-based violence, gender discrimination, academic context, university, reflexive thematic analysis



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Constructive and Blind Patriotism Differently Predict Founder Identity and Social Value Among Social Entrepreneurs

Previous work suggested that constructive, but not blind, expressions of patriotism may help social entrepreneurs acquire resources. Drawing on the Founder Identity Model and Role Congruity Theory, we examined whether these expressions predict attributions of communitarian, missionary, and Darwinian founder identities, as well as perceptions of social value. Participants ($N=200$) evaluated six real-life social entrepreneurs in a within-participants design. Data were analysed using hierarchical linear mixed modelling (LMM) and moderated mediation analysis with robust 95% Monte Carlo confidence intervals (20,000 replications). Our findings indicate that constructive patriotism consistently predicted communitarian/missionary identity ($r=.16, p<.001$) and perceived social value ($r=.19, p<.001$). However, the gender of the entrepreneur acted as a key moderator with constructive patriotism yielding a stronger positive effect on perceived social value for female ($\beta=0.26, p<.001$) than male entrepreneurs ($\beta=0.15, p<.001; \chi^2(1)=9.67, p=.002$). Conversely, blind patriotism increased Darwinian identity more strongly for male ($\beta=0.20, p<.001$) than female entrepreneurs ($\beta=0.08, p=.014; \chi^2(1)=10.41, p=.001$), generating a significant indirect path to perceived social value via Darwinian identity exclusively for men. These results provide novel empirical insights into the nuanced ways in which national identity expressions and gendered expectations shape the legitimacy and evaluation of social ventures.

Keywords: constructive patriotism, blind patriotism, gender, social entrepreneurship, social value, founder identity



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Nostalgija na tromeđi prošlosti, sadašnjosti i budućnosti – temporalnost doživljaja nostalgije kod mladih

Većina savremenih istraživača nostalgiju definiše kao afektivno ambivalentno iskustvo usmereno ka prošlosti. Dosadašnja psihološka istraživanja nostalgije pružila su ograničen uvid u to kako pojedinci doživljavaju i interpretiraju nostalgiju. Osim toga, većina istraživanja je rađena na populaciji odraslih, verovatno jer istraživači pretpostavljaju da je nostalgija fenomen karakterističan za zrelo doba. Cilj ovog istraživanja bio je da ispita kako mladi doživljavaju i opisuju nostalgiju, kao i kako uklapaju nostalgiju u svoj životni narativ. S obzirom na to da je nostalgija učestalija tokom perioda većih životnih promena, fokusirali smo se na prelaz iz osnovne u srednju školu, strateški uzorkujući 16 učenika prvog razreda srednje škole (7 dečaka i 9 devojčica) iz Beograda, Niša i Kragujevca. Podatke smo prikupili polustrukturisanim intervjuima i analizirali interpretativnom fenomenološkom analizom. Fokus intervju bio je na nostalgiji za događajima, periodima i osobama, kao i kontekstu javljanja nostalgije, refleksiji o njoj i strategijama njene regulacije. Nalazi ukazuju na to da nostalgija nije usmerena isključivo ka prošlosti, već nužno uključuje i usmerenost ka sadašnjosti i budućnosti. U analizi smo izdvojili univerzalnu i promenljivu temporalnu strukturu: prva je prisutna kod svih učesnika, dok druga ukazuje na individualne razlike. Univerzalno u nalazima je to da su učesnici nostalgijom sećanja interpretirali kroz poređenje sa trenutnim životnim okolnostima, pri čemu je sadašnjost referentni okvir za evaluaciju prošlih iskustava. Da bi se nostalgija javila, potrebno je da pojedinci opažaju diskontinuitet između prošlosti i sadašnjosti u relevantnim životnim aspektima. Dodatno, određeni elementi prošlosti moraju biti procenjeni kao vredniji od sadašnjih. Nostalgija ne podrazumeva nužno globalnu idealizaciju prošlosti, već selektivno izdvajanje aspekata koji se doživljavaju kao izgubljeni. Uočili smo da individualne razlike u učestalosti, sadržaju i funkciji nostalgije zavise od toga: a) da li učesnici procenjuju prošlost kao generalno bolju od sadašnjosti ili preferiraju sadašnjost, i b) da li veruju da nostalgijom sećanja mogu ponovo da se prožive ili ih smatraju nepovratno izgubljenim. Promenljiva temporalna struktura takođe oblikuje konkretno iskustvo nostalgije, određujući da li će biti izraženiji njeni prijatniji ili neprijatniji aspekti. Zaključno, nostalgija kod mladih predstavlja složen temporalni fenomen koji nastaje kroz interakciju doživljaja prošlosti, sadašnjosti i budućnosti.

Ključne reči: nostalgija, temporalnost, mladi, interpretativna fenomenološka analiza, kvalitativno istraživanje

Nostalgia at a Crossroads of Past, Present, and Future - Temporality of Nostalgic Experience in Youth

Most contemporary researchers define nostalgia as an affectively ambivalent experience oriented towards the past. Psychological studies on nostalgia provided limited insight into how individuals experience and interpret nostalgia. Furthermore, they mostly draw from adult samples, probably assuming one needs to reach a relatively mature age to feel nostalgic about the past. The aim of the current study was therefore to explore whether adolescents feel nostalgia, how they describe nostalgic experiences, and how they position it in their own life narratives. Keeping in mind that nostalgia is more frequent during periods of major life changes, we focused on the transition from primary to secondary school, strategically sampling 16 first-year secondary school students (seven boys and nine girls) from Belgrade, Niš, and Kragujevac. We collected data through semi-structured interviews and analysed them using Interpretative Phenomenological Analysis. The interviews focused on nostalgia for events, life periods, and significant others, as well as on contexts in which nostalgia emerges, their reflection on nostalgic experiences, and regulatory strategies. The findings indicate that nostalgia is not oriented exclusively towards the past, but necessarily involves an orientation towards

the present and the future. We identified both a universal and a variable temporal structure: the former was present across all participants, whereas the latter reflected individual differences. What is universal is participants' interpretation of nostalgic memories through comparisons with their current life circumstances, with the present serving as a frame for evaluating past experiences. A prerequisite for nostalgia to arise is a perceived discontinuity between the past and the present in relevant life domains. Additionally, certain aspects of the past must be perceived as more valuable than their present counterparts. Nostalgia did not necessarily involve a global idealisation of the past; rather, it reflected the selective highlighting of aspects experienced as lost. We observed individual differences in frequency, content and function of nostalgia depending on: (a) whether the participants perceived the past as significantly better than the present, or preferred their current lives, and (b) whether they believed that nostalgic memories could be recreated, or regarded them as irretrievably lost. The variable temporal structure also shapes experiences of nostalgia by determining whether its pleasant or unpleasant aspects will be more prominent. Taken together, it seems nostalgia among adolescents represents a complex temporal phenomenon that emerges through the interaction of experiences of the past, present, and future.

Keywords: nostalgia, temporality, youth, interpretative phenomenological analysis, qualitative research

Socijalna psihologija 4

Social Psychology 4

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Decreasing Double Standards for Different Social Groups

Double standards refer to the inconsistent application of general rules, standards, or principles to different groups or situations. The present study examined whether reminding people of a general principle that should be universally applied leads them to hold fewer double standards. Since double standards require people to apply a rule in one context, and then ignore it or loosen it in another, they may be facilitated by a broader inconsistency in one's beliefs. This is why we also explored whether the tendency to hold double standards is related to a general proneness to doublethink (the tendency to simultaneously endorse contradictory beliefs) and whether the magnitude of the experimental effect depends on individual differences in doublethink, i.e., whether doublethink serves as a moderator. A total of 224 participants were randomly assigned to either an experimental condition, in which they were reminded of the importance of applying principles consistently, or a control condition. The age range of the sample is predominantly between 19 and 25 years of age with most of the respondents being Bachelor's level students. To assess endorsement of double standards, we developed a scale consisting of paired items reflecting the application of five high-order principles—Freedom of speech, Right to political expression and protest, Presumption of innocence, The right to cultural and identity expression, and Freedom of sexual expression – to different social groups. These social groups included groups with different political views, sexual orientations, ethnicities, etc. We counted the total number of times a participant applied a principle to one, but not to the other social groups. Results show that general proneness to exhibiting double standards (total score) was not significantly lower in the experimental group relative to the control group ($t=.776$, $p=.38$), i.e. reminding the participants how important it is to apply general principles consistently did not prompt them to do so with real social groups; there was, however, at least one pair of beliefs which showed an experimental effect and it was related to allowing freedom of speech to opposing political views. The range of the criterion variable is between 0 and 2.13 while the mean is $M = .7961$ and standard deviation $SD = .411$, making it likely that double standards were low in our sample overall, hence lessening the experimental effect. We observed an expected correlation between endorsement of double standards and doublethink ($r=.22$, $p<0.05$), however only in the control group. We also did not find a moderation of doublethink for the experimental effect. We suspect the lack of the intervention's effect may be due to the issues selected for the double standards scale, as they were affectively charged and politically polarised, rendering any reminders of the general principles ineffective. Future research should thus test the intervention on less charged issues as well and compare its effectiveness.

Keywords: inconsistency, double standards, doublethink, applying general principles, intervention



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Subjektivno blagostanje u starosti: trendovi i determinante u Srbiji

Imajući u vidu da subjektivno blagostanje predstavlja važan pokazatelj psihološkog, socijalnog i zdravstvenog funkcionisanja starijih osoba, sve je veći značaj razumevanja faktora koji doprinose njegovom očuvanju u uslovima demografskog starenja. Iako literatura ukazuje na brojne prediktore blagostanja u starosti, mali je broj studija koje integrativno ispituju individualne, socijalne i društvene faktore u okviru istog modela, posebno na nacionalno reprezentativnim uzorcima starijih osoba u Srbiji i kroz duži vremenski period. Cilj ovog rada je prikaz i interpretacija trendova subjektivnog blagostanja, kao i identifikacija faktora koji mu doprinose kod starijih ljudi u Srbiji, na osnovu podataka Evropskog društvenog istraživanja (ESS) za 2018, 2020. i 2023. godinu. Ukupni broj ispitanika po talasima iznosi 648 u 9. talasu, 445 u 10. talasu i 490 u 11. talasu. Subjektivno blagostanje operacionalizovano je kroz zadovoljstvo životom i pozitivni afekat (osećanje sreće), dok su kao prediktori obuhvaćeni sociodemografski, zdravstveni, psihološki i socijalni faktori. Rezultati pokazuju da se tokom poslednja tri ciklusa ESS-a beleži porast subjektivnog blagostanja starijih u Srbiji, te je ono sada dostiglo nivo evropskog proseka za oba pokazatelja. Najveći porast oba pokazatelja dogodio se nakon 2018. godine, a primetan je u tokom 2020, kada je usled posledica pandemije COVID-19 subjektivno blagostanje kod ostalih starosnih grupa bilo u padu. Ovakvi rezultati mogu biti objašnjeni pojačanom institucionalnom brigom o starijima tokom pandemije, završetkom perioda fiskalne konsolidacije u Srbiji, kao i posledicama rata u Ukrajini po blagostanje u zemljama Evropske unije. Hijerarhijska regresiona analiza pokazala je da se kao najvažniji prediktori zadovoljstva životom izdvajaju subjektivna procena finansijske situacije domaćinstva ($\beta = -.41^{***}$), osećaj kontrole nad sopstvenim životom ($\beta = .20^{***}$), zadovoljstvo ekonomskim stanjem društva ($\beta = .22^{***}$) i manja ograničenost usled zdravstvenih problema ($\beta = .13^{**}$). Prediktori sreće su, osim nekih od prethodno pomenutih varijabli, i niži nivo percipirane nebezbednosti u lokalnom okruženju ($\beta = -.16^{***}$), veća socijalna povezanost ($\beta = .12^{**}$) i aktivnost ($\beta = .10^{*}$), kao i subjektivna procena zdravlja ($\beta = .12^{*}$). Finalni model je objasnio 32.4% varijanse zadovoljstva životom ($R^2 = .324$, $F(16,474) = 14.35$, $p < .001$) i 27.2% varijanse sreće ($R^2 = .272$, $F(16,474) = 11.05$, $p < .001$). Čini se da na zadovoljstvo životom, kao kognitivnu komponentu blagostanja, više utiču širi socijalni i ekonomski faktori, dok su za sreću, kao afektivnu komponentu, važni i oni faktori koji su bliže povezani sa individualno-emocionalnim iskustvima. Svi navedeni rezultati ukazuju na to da je očuvanju blagostanja u starosti važno pristupiti integrativno, odnosno uzeti u obzir lične resurse pojedinca, ali i šire društvene uslove i strukturne faktore.

Ključne reči: subjektivno blagostanje, starije osobe, Evropsko društveno istraživanje

Subjective Well-Being in Older Age: Trends and Determinants in Serbia

Given the importance of subjective well-being as an indicator of psychological, social, and health functioning in later life, identifying the factors that contribute to its maintenance has become increasingly important in the context of population ageing. Although previous research has identified numerous predictors of well-being in older age, relatively few studies have simultaneously examined individual, social, and societal determinants within a single analytical framework, particularly using nationally representative samples of older adults in Serbia across multiple time points. This study examines trends in subjective well-being and identifies its key determinants among older adults in Serbia using data from the European Social Survey (ESS) collected in 2018, 2020, and 2023. The sample comprised 648 respondents in Round 9, 445 in Round 10, and 490 in Round 11. Subjective well-being was operationalised through two indicators: life satisfaction and positive affect (happiness). Predictors included sociodemographic, health-related, psychological, and social factors. The findings indicate a

steady increase in subjective well-being among older adults in Serbia across the last three ESS rounds, with both indicators reaching the European average. The most pronounced improvement occurred after 2018 and remained evident in 2020, when the COVID-19 pandemic was associated with declines in subjective well-being among most other age groups. These findings may reflect enhanced institutional support for older adults during the pandemic, the end of the fiscal consolidation period in Serbia, and the adverse effects of the war in Ukraine on well-being across European Union countries. The hierarchical regression analysis showed that the most important predictors of life satisfaction were subjective assessment of the household's financial situation ($\beta = -.41^{***}$), perceived control over one's own life ($\beta = .20^{***}$), satisfaction with society's economic condition ($\beta = .22^{***}$), and fewer limitations due to health problems ($\beta = .13^{**}$). In addition to some of the aforementioned variables, predictors of happiness included lower perceived insecurity in the local environment ($\beta = -.16^{***}$), greater social connectedness ($\beta = .12^{**}$), activity ($\beta = .10^*$), and subjective assessment of health ($\beta = .12^*$). The final model explained 32.4% of the variance in life satisfaction ($R^2 = .324$, $F(16,474) = 14.35$, $p < .001$) and 27.2% of the variance in happiness ($R^2 = .272$, $F(16,474) = 11.05$, $p < .001$). The findings suggest that life satisfaction, as the cognitive component of subjective well-being, is more strongly shaped by broader socioeconomic conditions, whereas happiness, as its affective component, is additionally influenced by factors more closely related to individual emotional experiences. These results underscore the importance of an integrative approach to promoting well-being in later life by considering both personal resources and broader social and structural conditions.

Keywords: *subjective well-being, older adults, European Social Survey*



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Zamka autentičnosti: Identitet mladih kao usklađivanje življenog i prezentovanog selfa

Savremeni kontekst menja način na koji mladi doživljavaju i prezentuju sebe, izlažući ih različitim uticajima (npr. stilovi, simboli) i različitim društvenim grupama od kojih svaka ima implicitno ili eksplicitno definisane kriterijume pripadnosti (stil oblačenja, muzika, često posećena mesta). Društvene mreže predstavljaju specifičan prostor za komunikaciju s različitim društvenim grupama. Ona se najčešće obavlja iz vlastitog, poznatog okruženja i tako omogućava veći stepen kontrole nad odabirom kako, kada i šta otkriti o sebi nego interakcija licem u lice. Povratne informacije o sopstvenoj slici su na društvenim mrežama kvantitativno merljive (broj lajkova, komentara i deljenja) i mogu se prevesti u indikatore nečijeg statusa, a sadržaj koji se deli je često trajno sačuvan. Potreba za prihvatanjem i socijalnom validacijom, bilo od strane vršnjaka ili kroz povratne informacije koje pružaju same platforme, može stvarati napetost između načina na koji mladi doživljavaju sebe i načina na koji sebe predstavljaju drugima. Tako proces digitalnog samopredstavljanja postaje prostor u kojem se neprestano oblikuje i pregovara odnos između življenog selfa (autentičnog doživljaja sebe, Gofmanovog „izvođača“) i prikazanog selfa (slike sebe koju predstavljamo drugima, Gofmanovog „karaktera“).

Cilj ovog istraživanja je da se ispita na koji način mladi razumeju i konstruišu identitet kroz digitalno samopredstavljanje, upotrebu estetskih i supkulturnih kodova i da li im je u tom procesu važna socijalna validacija. Istraživanje će se baviti i odnosom između življenog i prikazanog selfa, kao i time u kojoj se meri podudara samopredstavljanje u onlajn i oflajn kontekstima.

Istraživanje je kvalitativno i sprovodi se primenom polustrukturisanih intervjua. Planiran je prigodan uzorak veličine 25 ispitanika, uzrasta od 16 do 25 godina, oba pola. Učesnici se regrutuju putem ličnih kontakata istraživača i metodom snežne grudve, uključujući kontaktiranje potencijalnih učesnika putem direktnih poruka na društvenim mrežama. Analizi podataka pristupiće se iz fenomenološke perspektive, primenom tematske analize. U izradi kodne sheme koristiće se induktivni pristup. Istraživanje bi trebalo da doprinese produbljenom razumevanju toga kako mladi doživljavaju sebe danas. Pretpostavljamo da će rezultati pružiti uvid u načine na koje estetski i supkulturni kodovi služe kao oslonac u formiranju identiteta, kao i da će potvrditi da je stvaranje identiteta jedan dinamičan proces koji nastaje kroz interakciju življenog i prikazanog selfa. Pretpostavljamo i da se identifikacija mladih s određenim sadržajima (npr. muzika, politički stavovi) neće pokazati kao jedinstven i stabilan oblik pripadnosti društvenoj grupi, već da može varirati u zavisnosti od socijalnog konteksta, te može doći i do prihvatanja međusobno neuskладivih stavova i vrednosti. Takođe pretpostavljamo da će istraživanje osvetliti važnost usklađivanja autentične slike o sebi sa zahtevima javne procene u digitalnom okruženju.

Ključne reči: mladi, identitet, samopredstavljanje, društvene mreže

The Authenticity Trap: Youth's Identity as a Negotiation Between the Lived and the Performed Self

Contemporary contexts introduce new dimensions to how young people perceive and present themselves—they are exposed to a wide range of influences (styles, symbols, etc.) as well as different social groups, each with implicit or explicit criteria for belonging (clothing style, music, frequently visited places). Social media provide a specific space for communicating with different social groups. This communication usually takes place from within one's own familiar environment, allowing greater control over what, when, and how to disclose about oneself than face-to-face interaction. Feedback on one's self-image is quantitatively measurable on social media (number of likes, comments, and shares) and can be translated into indicators of social status, while shared content is often permanently preserved. The need for acceptance and social validation, whether from peers or through feedback provided by the platforms themselves, can create tension between how young people experience themselves and how they present themselves to others. Thus, digital self-presentation becomes a space in which the relationship between the lived self (the authentic experience of oneself, Goffman's "performer") and the presented self (the image of oneself presented to others, Goffman's "character") is continuously shaped and negotiated.

The aim of this research is to examine how young people understand and construct identity through digital self-presentation, the use of aesthetic and subcultural codes, and whether social validation is important to them in this process. The research will also examine the relationship between the lived and presented selves, and the extent to which self-presentation corresponds across online and offline contexts.

The research is qualitative and uses semi-structured interviews. A convenience sample of 25 participants aged 16–25, of both genders, is planned. Participants are recruited through researchers' personal contacts and snowball sampling, including direct messages on social media. Data will be analysed from a phenomenological perspective using thematic analysis, with an inductive approach to developing the coding scheme.

The research is expected to deepen understanding of how young people perceive themselves today. We expect the findings to show how aesthetic and subcultural codes support identity formation and to confirm that identity is a dynamic process emerging through the interaction of the lived and presented selves. We also expect identification with certain content (e.g., music, political views) to vary across social contexts rather than represent a singular, stable form of group belonging, potentially involving the acceptance of conflicting attitudes and values. Finally, the research is expected to

highlight the importance of reconciling an authentic self-image with the demands of public evaluation in the digital environment.

Keywords: youth, identity, self-presentation, social media



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Modern Ideological Gender Gap in Europe: An Update and Extension

"Modern ideological gender gap" refers to the observation of women becoming more left-wing or liberal-oriented compared to men over the last several decades. In our previous study (Trogrlić and Todosijević, 2024), we provided comparative evidence that partly supports this observation. Namely, based on the European Social Survey data from 2018 and 2019—ESS09 (29 countries), it was found that women indeed tend to place themselves more to the left than men, but they are also significantly more likely to choose the middle point of the left-right scale. In the present study, we update and extend that analysis using two new data sets. We utilise the ESS10 (31 countries) and ESS11 (30 countries) datasets, collected between 2020 and 2022, and 2023 and 2024, respectively, and including nearly 100,000 respondents in total.

The results indicate that the modern ideological gender gap persists, i.e., the tendencies reported in 2024 are observable in newer datasets as well. The European public seems slightly divided by gender—women, on average, are slightly more left-wing but also tend to be clearly more centrist, while men are consistently more right-wing. The gap, at the aggregate level, has widened between the ESS09 (the gap at the aggregate European level was $d_{ESS9} = .176$) and ESS10 ($d_{ESS10} = .344$) waves, but remained constant between the ESS10 and ESS11 ($d_{ESS11} = 0.318$) waves. The results also show strong variation across countries—the modern gender gap is not observed in about half of the included countries, whereas the reversed gap (men being more leftist) is observed nowhere. The modern gender gap is more prevalent in the so-called “older democracies”, and less often found, or inconsistent over time, in newer Eastern European democracies.

Keywords: left-right ideology, gender differences, European Social Survey data

Psihometrija

Psychometrics

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Psychometric Properties and Validation of the Serbian Version of the Centrality of Religiosity Scale (CRS-15)

Numerous questionnaires have been designed to measure religiosity, emerging from different scientific approaches and objectives. The Centrality of Religiosity Scale (CRS) introduces a novel approach by combining the centrality and content models of religiosity measurement, designed to explore religiosity at varying depths. It has a short (CRS-5), intermediate (CRS-10), and long version (CRS-15), where the number in the acronym indicates the item count. All versions have the same underlying multidimensional structure, consisting of five core dimensions: Ideology, Intellect, Experience, Private Practice, and Public Practice. The aim was to translate and adapt the scale into the Serbian language, and to evaluate its factor structure, reliability, and convergent validity via correlations with the Multidimensional Fundamentalism Inventory and the Religious Orientation Scale within a Serbian sample. The CRS-15 was translated using the back-translation method. The first sample consisted of 741 participants (29.3% male), aged 16 to 70 ($M = 35.47$, $SD = 11.33$). Confirmatory factor analysis showed acceptable fit indices for the originally proposed five-dimensional model of the CRS-15 ($\chi^2 = 402.651$, $p < .001$, $CFI = .970$, $TLI = .960$, $RMSEA = .074$, 90% CI [.067, .081]). The subscale alpha reliabilities were .95 (Ideology), .88 (Intellect), .92 (Experience), .94 (Private practice), and .92 (Public practice). The second study focused primarily on testing the instrument's convergent validity. This sample consisted of 289 participants (21.5% male, 0.3% preferred not to disclose gender), aged 18 to 68 ($M = 32.36$, $SD = 12.85$). Results again demonstrated acceptable fit indices for the five-dimensional model ($\chi^2 = 163.368$, $p < .001$, $CFI = .978$, $TLI = .971$, $RMSEA = .062$, 90% CI [.049, .075]). Subscale alpha reliabilities were .91 (Ideology), .85 (Intellect), .94 (Experience), .92 (Private practice), and .88 (Public practice). Correlations between the CRS-15 dimensions and other religiosity measures—*intrinsic religiosity*, *extrinsic religiosity*, and *religious fundamentalism*—were all significant ($p < .001$) and are presented respectively for each dimension: Ideology (.76, .48, .60), Intellect (.66, .28, .46), Experience (.79, .48, .59), Private practice (.84, .54, .58), and Public practice (.82, .48, .61). Both studies confirmed the strong psychometric properties and internal consistency of the CRS-15, while the second study established its convergent validity. This questionnaire is a suitable tool for assessing general religiosity and its distinct dimensions within Serbian research contexts. Future studies are needed to evaluate the predictive validity of the CRS-15 regarding religious behaviour, as well as to test its measurement invariance across different demographic groups.

Keywords: religiosity, CRS-15 questionnaire, validity, reliability, CFA

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Adaptation of the Outcome Questionnaire (OQ-45) Among the Russian-Speaking Sample

In the last few decades, there has been a significant increase in the prevalence of psychotherapy as a form of professional help, and at the same time, there is a growing interest in studying its mechanisms and effectiveness. There has been a shift from narrowly symptom-centred indicators to models for evaluating the results of psychotherapy, including emotional state, interpersonal functioning, and social role adaptation. The Outcome Questionnaire–45 (OQ-45), developed by Lambert and colleagues, is one of the tools that consider these aspects. It was created in accordance with a conceptual model for evaluating the results of therapy, by which changes should be considered in three main domains: subjective distress, interpersonal relationships, and social role functioning.

Despite the widespread international distribution of the OQ-45, there are still no systematic data on its psychometric properties in the Russian-speaking space. The problem of our research was the lack of valid material for evaluating the psychotherapy outcome in Russian. The research objective was to evaluate the psychometric characteristics of the OQ-45 among the Russian-speaking sample in order to expand the possibilities of empirical research on psychotherapy and the introduction of regular monitoring practices in clinical work.

We hypothesised that the adapted OQ-45 questionnaire would have sufficient psychometric characteristics to evaluate the results of psychotherapy, including high reliability ($\alpha > 0.7$) and acceptable indicators of factor structure (RMSEA < 0.08 , CFI > 0.9 , TLI > 0.9 , SRMR < 0.08).

Methods

The double reverse translation method was used in the current study; the translation was handled by two experts.

The OQ-45 questionnaire was filled out by participants through the 1ka service. The study participants were clients of the psychological services of the RANEPa and the KubSU. The study involved 1,113 people, including 947 women and 166 men. The average age was 20.66, $sd = 3.823$.

Results and Discussion

During the confirmatory factor analysis, it was revealed that the three-factor structure is acceptable: $\chi^2 = 1162.080$, $df = 296$, $p < 0.001$, RMSEA = 0.051, CFI = 0.975, TLI = 0.972, SRMR = 0.061. The WLSMV estimator was used. Some of the items were deleted so that the acceptable indicators were achieved. Thus, the 1st factor included 15 points, the 2nd—4 points, and the 3rd—7 points.

It was revealed that there are very good internal consistency values for the overall indicator and for the severity of symptoms ($\alpha = 0.924$ and $\alpha = 0.921$, respectively). Internal consistency turned out to be sufficient ($\alpha = 0.710$) for the scale of social role functioning, and questionable for the scale of interpersonal functioning ($\alpha = 0.678$).

Our hypotheses have been partially confirmed. Despite the good performance of the factor model, the questionable reliability indicator on the scale of interpersonal functioning is of interest, which should be considered in further work.

Keywords: psychotherapy outcome, psychotherapy, outcome questionnaire, adaptation

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Metamemory Beliefs in Young Adults—Structure and Relationships With Episodic Memory Performance, Metamemory Monitoring and Personality

Metamemory beliefs represent declarative knowledge about one's memory ability, personal control, and the use of memory strategies in everyday life. These beliefs represent global and general assessments of one's memory and are typically assessed through self-report measures. In this study we focused on the Multifactorial Memory Questionnaire (MMQ), an instrument extensively validated as a measure of subjective memory in older adults, that is now increasingly used in the population of young adults without proper validation. We aimed to test the factor structure of the Multifactorial Memory Questionnaire (MMQ) and its relationship with episodic memory performance, metamemory monitoring, and basic personality traits.

Our sample consisted of 222 university students (85.1% females, Mage = 22.96, SDage = 4.54) from Serbia. They filled out the MMQ and the HEXACO, and completed two memory tasks - the list learning task (30 Serbian nouns; item memory task) and the word pair task (30 pairs of semantically unrelated Serbian nouns; associative memory task). During each memory task they also provided judgements of learning (JOL) and retrospective confidence judgements (RCJ) as measures of metamemory monitoring.

The MMQ does not calculate a summary score, but all three subscales showed excellent reliability—Memory Satisfaction ($\alpha = .935$), Ability ($\alpha = .882$), and Strategy ($\alpha = .874$). The theoretically assumed three-factor solution fit the data poorly ($\chi^2/df = 2.007$, $p < .001$, CFI = .755, TLI = .745, RMSEA = .068, 90% CI [.064, .071]). The same was true for the four-factor solution, also commonly obtained in the literature ($\chi^2/df = 1.941$, $p < .001$, CFI = .732, TLI = .727, RMSEA = .065, 90% CI [.062, .069]). Scores on the three intended MMQ subscales (Satisfaction, Ability, Strategies) showed null correlations with all episodic and metamemory variables (largest $r = .076$, $p = .262$). The Memory Satisfaction subscale showed positive correlations with Extraversion ($r = .378$, $p < .001$) and Conscientiousness ($r = .260$, $p < .001$), Ability correlated with Conscientiousness ($r = .410$, $p < .001$), while Strategies did not correlate with any of the personality traits. We additionally tested mediation models with MMQ subscales as mediators between basic personality traits and metamemory monitoring measures but obtained no significant direct or indirect effects.

The proposed factorial structure of the MMQ appears to be age-sensitive, as it was not replicated in a younger sample. Additionally, we found subjective memory beliefs to have no ties to either actual memory performance or online metamemory processes taking part during test-taking. These results, combined with moderate correlations with some basic personality traits, imply that metamemory beliefs, at least in younger participants, are more of a trait-like disposition that is not rooted in online cognitive processes but rather individuals' general self-view.

Keywords: MMQ, metamemory beliefs, metamemory monitoring, young adults, personality traits, validation study



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SPANE in a Work Context: Psychometric Properties in a Sample of Croatian Early Career Researchers

Affective experiences are a central component of psychological functioning and flourishing, particularly in demanding professional contexts, such as academic settings. The Scale of Positive and Negative Experience (SPANE) is a widely used measure of affect, but research on its suitability for evaluating work-related affect in specific institutional settings is still limited. This study examined the psychometric properties of the SPANE adapted to work-related affective experiences among early career researchers (doctoral candidates and postdoctoral researchers). Using two-wave data ($N = 529$ at baseline; $N = 339$ at follow-up), we examined the scale's factor structure, measurement invariance across gender and time, and its convergent and discriminant validity. The results supported the expected two-factor structure of the SPANE positive and negative affect subscales, as well as its metric and scalar measurement invariance across gender and time. Cronbach's alphas ranged from .89 to .94 across both measurement points and subscales, and test-retest correlation was .63 for both subscales. The scale also showed theoretically consistent associations with life satisfaction, anxiety, depression, and Big Five personality traits. Medium to high negative correlations were found between the positive affect subscale and negative emotionality, anxiety, and depression, while the correlation with life satisfaction was high and positive. The opposite pattern was present for the negative affectivity subscale. Therefore, the Croatian version of the SPANE can be considered a valid measure of work-related affective experiences, and assesses those experiences equivalently for male and female researchers and consistently across measurement occasions. These findings indicate that the scale is a reliable measure of affective work-related well-being and contribute to research on emotional functioning and quality of life in early academic careers.

Keywords: affective well-being, early career researchers, measurement invariance, SPANE, work context

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Industrijska i organizaciona psihologija

Industrial and Organisational Psychology

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Ko (ne) progovara? Moderatorski efekti organizacijskih činilaca na odnos intenziteta moralnosti i namere za uzbunjivanjem

Zaposleni se na svom radnom mestu svakodnevno suočavaju sa brojnim situacijama. U nekima oni ne postavljaju pitanje da li je ponašanje aktera ispravno ili nije, dok u drugim prepoznaju moralnu problematiku. Koji će se od ova dva ishoda desiti, zavisi od procene karakteristika te situacije – veličine posledica uočenog ponašanja, verovatnoće njihovog javljanja, vremenske neposrednosti i koncentracije, kao i socijalnog konsenzusa o ispravnosti takvog ponašanja i bliskosti sa žrtvama, odnosno od, jednim imenom, intenziteta moralnosti. Ova procena nadalje oblikuje postupke zaposlenih. Nas je interesovalo da li je ona povezana sa spremnošću zaposlenih da prijave uočene nepravilnosti u organizaciji, kao i da li ovu vezu moderiraju organizacijski činioci poput organizacijske pravde i etičke klime.

Uzorak su činila 283 zaposlena ispitanika regrutovana metodom snežne grudve, putem društvenih mreža. Starost se kretala od 19 do 63 godine ($M = 38.79$; $SD = 12$). Većinu su činile žene (73.70%), oni sa ukupnim radnim stažem preko 10 godina (56.90%) i završenom srednjom školom (33%). Samo je 14.80% ispitanika izvestilo da u njihovoj organizaciji postoji anonimni, formalni kanal za prijavljivanje nepravilnosti.

Za prikupljanje podataka korišćene su dve vinjete napravljene za potrebe ovog istraživanja. Prva vinjeta je opisivala situaciju mobinga, a druga situaciju lažiranja evidencije radnog vremena. Nakon čitanja vinjeta, ispitanici su popunjavali upitnike za procenu intenziteta moralnosti tih situacija. Takođe su procenjivali koliko je verovatno da bi ponašanje aktera iz scenarija prijavili nekome unutar organizacije. Kako bi se postigao varijabilitet u odgovorima, vinjete su osmišljene tako da ne ukazuju eksplicitno na moralnu problematičnost.

Rađene su četiri analize moderacije – po dve za svaku vinjetu. Kontrolne varijable su bile realističnost i lakoća zamišljanja opisane situacije.

Rezultati su pokazali da je u sve četiri analize, intenzitet moralnosti ostvario značajan pozitivan glavni efekat na nameru za unutrašnjim uzbunjivanjem ($b = .36 - .40$, $p < .001$). Međutim, organizacijska pravda nije bila značajan moderator ni u situaciji mobinga ($\Delta R^2 = .00$, $F(1, 276) = 1.26$, $p = .26$), ni u situaciji lažiranja evidencije radnog vremena ($\Delta R^2 = .00$, $F(1, 276) = .13$, $p = .71$). Takođe, ni etička klima nije bila značajan moderator ni u situaciji mobinga ($\Delta R^2 = .01$, $F(1, 269) = 3.20$, $p = .07$), ni u situaciji lažiranja evidencije radnog vremena ($\Delta R^2 = .00$, $F(1, 269) = .04$, $p = .84$).

To znači da percepcija zaposlenog da li je organizacija pravedna ili nije, kao i da li ima ili ne propisane etičke norme, ne menja uticaj moralnog intenziteta situacije na odluku da prijavi nepravilnost. Drugim rečima, ono što igra ulogu je lični osećaj za to šta je moralno ispravno, nezavisno od spoljašnjih, organizacijskih činilaca, što je u skladu sa Modelom moralnog intenziteta (Jones, 1991).

Ključne reči: namera za uzbunjivanjem, intenzitet moralnosti, organizacijska pravda, etička klima

Who Speaks Up (and Who Doesn't)? Moderating Effects of Organisational Factors on the Relationship Between Moral Intensity and Whistleblowing Intention

Employees encounter many situations at work. In some, they do not question whether the behaviour is right or wrong, while in others, they recognise a moral issue. Which of these outcomes occurs depends on how they perceive specific situational factors—the severity of the consequences, the likelihood of their occurrence, temporal proximity and concentration, as well as social consensus about the rightness of that behaviour and closeness to victims, that is, in one term, moral intensity. This perception influences how employees act. We were interested in whether this perception relates to employees' willingness to report observed irregularities, and whether this relationship is affected by organisational factors like justice and ethical climate.

The sample included 283 employees recruited through social media using the snowball method. Ages ranged from 19 to 63 years ($M = 38.79$; $SD = 12$). Most participants were female, had more than 10 years of total work experience (56.90%), and had completed secondary education (33%). Only 14.80% of participants reported the existence of anonymous formal channels for reporting irregularities in their organisations.

For data collection, two vignettes developed for this study were used. The first described a mobbing situation, and the other described the falsification of working hours. After reading the vignettes, participants completed questionnaires assessing the moral intensity of these situations. They also indicated how likely they would be to report the behaviour of the actors to someone within the organisation. To achieve variability in responses, the vignettes were designed so that they do not explicitly indicate a moral problem.

Four moderation analyses were conducted—two per vignette. Control variables were realism and ease of imagining the described situation.

The results showed that in all four analyses, moral intensity had a significant positive main effect on the internal whistleblowing intention ($b = .36-.40$, $p < .001$). However, organisational justice was not a significant moderator in the mobbing situation ($\Delta R^2 = .00$, $F(1, 276) = 1.26$, $p = .26$), nor in the falsification of working hours situation ($\Delta R^2 = .00$, $F(1, 276) = .13$, $p = .71$). Similarly, ethical climate was not a significant moderator either in the mobbing situation ($\Delta R^2 = .01$, $F(1, 269) = 3.20$, $p = .07$) or in the falsification of working hours situation ($\Delta R^2 = .00$, $F(1, 269) = .04$, $p = .84$).

These findings suggest that employees' perceptions of whether the organisation is fair and whether it has written ethical norms do not influence the effect of moral intensity on the decision to engage in internal whistleblowing. In other words, what matters most is individuals' personal view of what is morally right, regardless of external organisational factors, which aligns with the Moral Intensity Model (Jones, 1991).

Keywords: whistleblowing intention, moral intensity, organisational justice, ethical climate



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Razlike u kvalitetu razmene lider–član između zaposlenih u privatnom i javnom sektoru

Kvalitet razmene lider–član (engl. leader-member exchange, LMX) označava kvalitet dijadnog odnosa između zaposlenog i neposrednog rukovodioca i dosledan je prediktor radnih stavova (Gerstner & Day, 1997; Dulebohn et al., 2012). Strukturne karakteristike organizacije ipak određuju granice u kojima se taj odnos formira. Privatni i javni sektor sistemski se razlikuju po stepenu formalizacije i autonomije rukovodilaca, pa je opravdano pretpostaviti da se razlikuje i percipirani kvalitet LMX-a.

Cilj istraživanja bio je da se utvrdi da li se kvalitet razmene lider–član razlikuje između zaposlenih u privatnom i javnom sektoru, uz proveru da li je razlika nezavisna od starosti zaposlenih. Uzorak su činila 93 zaposlena lica u Srbiji koja imaju neposrednog rukovodioca (59 žena i 34 muškarca, prosečna starost $M=40.0$, $SD=12.1$, raspon 22–62), zaposlena u privatnom ($n=60$) ili javnom sektoru ($n=33$). Ispitanici iz civilnog sektora isključeni su zbog male zastupljenosti. Podaci su prikupljeni prigodnim i lančanim uzorkovanjem putem onlajn upitnika. Kvalitet razmene meren je skalom LMX-7 (Graen & Uhl-Bien, 1995) na petostepenoj skali, s visokom pouzdanošću (Kronbahov $\alpha=.91$). Razlika između sektora ispitana je Velčovim t-testom, uz Koenovo d , Man-Vitnijev test kao neparametarsku proveru i regresionu kontrolu efekta starosti. Zaposleni u privatnom sektoru izveštavali su o značajno višem kvalitetu razmene lider–član ($M=3.35$, $SD=0.89$) nego zaposleni u javnom sektoru ($M=2.83$, $SD=1.09$), $t(55.57)=2.37$, $p=.022$, $d=0.54$ (srednja veličina efekta), 95% CI $[0.11, 0.98]$. Nalaz je potvrđen neparametarski (Man-Vitni $U=1242$, $p=.043$) i bio je izraženiji među nemenadžerskim zaposlenima ($d=0.81$). Iako su zaposleni u javnom sektoru bili stariji ($M=46.2$ naspram 36.6 godina), starost nije bila povezana sa LMX-om ($r=-.05$, $p=.65$), a sektor je ostao značajan prediktor i uz kontrolu starosti ($b=0.57$, 95% CI $[0.12, 1.02]$, $t(90)=2.51$, $p=.014$).

Nalazi se mogu tumačiti u okviru teorije socijalne razmene i procesa razmene uloga (Graen & Uhl-Bien, 1995), prema kojoj se kvalitetan odnos gradi razmenom poverenja koja prevazilazi formalni ugovor. Visoka formalizacija i standardizovane procedure u javnom sektoru sužavaju diskreciju rukovodioca da individualizuje odnos i uzvati podršku, pa razmena ostaje pretežno transakciona. Pošto neposredni rukovodilac deluje kao filter kroz koji zaposleni interpretiraju širi organizacioni kontekst (Erdogan & Liden, 2002), manje formalizovano okruženje privatnog sektora ostavlja više prostora za razvoj visokokvalitetne razmene.

Teorijski, rezultati pokazuju da kvalitet razmene lider–član nije samo interpersonalni već i kontekstualno uslovljen fenomen, pa makrokontekst sektora treba uključiti u modele LMX-a. Praktično, nalaz ima implikacije za razvoj liderstva u javnom sektoru, gde je kvalitet razmene niži. Buduća istraživanja trebalo bi da provere ovaj odnos na većim i uravnoteženim uzorcima i longitudinalno, uz moguće medijatore poput stepena formalizacije.

Ključne reči: razmena lider–član, LMX, sektor zaposlenja, organizacioni kontekst, liderstvo

Differences in Leader-Member Exchange Quality Between Private and Public Sector Employees

Leader-member exchange (LMX) refers to the quality of the dyadic relationship between an employee and their direct supervisor and is a consistent predictor of work attitudes (Gerstner & Day, 1997; Dulebohn et al., 2012). The structural characteristics of the organisation, however, set the boundaries within which this relationship forms. The private and public sectors differ systematically in

formalisation and managerial autonomy, making it reasonable to expect that perceived LMX quality differs as well.

The aim of the study was to determine whether LMX quality differs between private and public sector employees, and whether any difference is independent of employee age. The sample comprised 93 employed individuals in Serbia who have a direct supervisor (59 women and 34 men, mean age $M=40.0$, $SD=12.1$, range 22–62), working in the private ($n=60$) or public sector ($n=33$). Civil/NGO sector respondents were excluded due to their small number. Data were collected through convenience sampling via an online questionnaire. LMX quality was measured with the LMX-7 scale (Graen & Uhl-Bien, 1995) on a five-point scale, with high reliability (Cronbach's $\alpha=.91$). Differences between sectors were tested with Welch's t-test, using Cohen's d , the Mann-Whitney test as a nonparametric check, and regression to control for age. Private sector employees reported significantly higher LMX quality ($M=3.35$, $SD=0.89$) than public sector employees ($M=2.83$, $SD=1.09$), $t(55.57)=2.37$, $p=.022$, $d=0.54$ (medium effect), 95% CI [0.11, 0.98]. The finding was confirmed nonparametrically (Mann-Whitney $U=1242$, $p=.043$) and was more pronounced among non-managerial employees ($d=0.81$). Although the public sector group was older ($M=46.2$ vs 36.6 years), age was unrelated to LMX ($r=-.05$, $p=.65$), and sector remained a significant predictor after controlling for age ($b=0.57$, 95% CI [0.12, 1.02], $t(90)=2.51$, $p=.014$).

The findings can be interpreted within social exchange theory and the role-making process (Graen & Uhl-Bien, 1995), in which a high-quality relationship develops through a gradual exchange of trust and resources beyond the formal contract. High formalisation and standardised procedures in the public sector narrow the supervisor's discretion to individualise the relationship, so the exchange remains largely transactional. As the direct supervisor filters the broader organisational context for employees (Erdogan & Liden, 2002), the less formalised private-sector environment leaves more room for high-quality exchange to develop.

Theoretically, the results suggest that LMX quality is not purely interpersonal but also context-dependent, so the macro-level sector context should be incorporated into LMX models. Practically, the finding has implications for leadership development in the public sector, where exchange quality is lower. Future research should test this relationship in larger, balanced samples and longitudinally, examining mediators such as formalisation.

Keywords: leader-member exchange, LMX, employment sector, organisational context, leadership



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Development and Initial Validation of a Motivating Language Scale in Tourism

Minimum wages, long working hours, and heavy workloads are common in the tourism sector, which often leaves managers limited in what they can realistically do for their employees. It is often challenging for them to find ways to maintain employee motivation, so they tend to rely on language to mitigate the negative effects of these working conditions. Managers' motivating language can serve as a tool for enhancing employee motivation, as it helps make work more meaningful and build and strengthen relationships. This is particularly useful in the tourism sector, which often includes diverse workforces and frequent interaction between employees and clients, as demotivated employees can significantly impact organisational success. Motivating language, which differentiates between

direction-giving, empathetic, and meaning-making language, has been widely studied across different fields but has received limited attention in the tourism sector. Thus, this study aimed to develop and test an initial motivational language scale tailored to the tourism sector. The research was conducted using a sequential mixed-method design in Serbia and Slovenia. In the first phase, a scenario-based questionnaire with open-ended responses was used, collecting data from twenty managers in the tourism sector in Serbia and Slovenia. The data were analysed using directed qualitative content analysis, which enabled the identification of the three dimensions of motivational language and the selection of statements used to develop the scale. The newly developed scale consisted of 18 items, nine from each country, and was measured using a five-point Likert scale. In the second phase, the scale was tested on a sample of 215 employees from the tourism sector in Serbia and Slovenia. The data were found to be suitable for factor analysis ($KMO = .920$; Bartlett's $\chi^2(153) = 2337.43$, $p < .001$). Exploratory factor analysis (Principal Axis Factoring with Direct Oblimin rotation) revealed a three-factor structure explaining 63.16% of the total variance, with the extracted factors corresponding to meaning-making language, direction-giving language, and empathetic language. The scale demonstrated high internal consistency across all dimensions ($\alpha = .902, .866$, and $.827$). These findings confirmed the multidimensional structure of motivating language and offered evidence of the scale's reliability and validity of the construct. They also shed light on the importance of managerial language in shaping the motivation of employees in the tourism sector, as well as the need for context-specific measurement instruments.

Keywords: motivating language, employee motivation, scale development, tourism sector



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When Boreout Leads to Leaving: The Role of Incompatible Personal Work Values

A significant portion of existing research on employees' mental health focuses on work-related stressors, often highlighting a heavy workload as a predictor of burnout and examining how burned-out employees behave. However, while equally relevant, fewer studies explore the costs faced by individuals and organisations when employees are assigned to consistently boring, understimulating, unchallenging, and repetitive tasks that may lead to boreout. This study aims to address this gap by investigating whether different aspects of boreout, such as insufficient workload (IW), understimulation (US), and work-related guilt (feeling guilty for not working enough [WRG]), predict turnover intention. We also examined whether these direct relationships are influenced by the mismatch between employees' expected and actual workday experiences, conceptualised as the incompatibility of personal work values (PWV).

Data were collected in 2026 from a sample of 502 employees (77% women, $M_{age} = 37$, $SD = 9.16$) using the Work Bore-Out Scale (Poirier et al., 2021) and the Turnover Intention Scale (Popov, 2009). Three simple moderation analyses were conducted with three different predictors (IW, US, and WRG), with PWV serving as the moderator and turnover intention as the outcome.

The first model accounted for 18% of the variance in turnover intention. IW was a significant predictor ($\beta = .31$, $p < .001$), while PWV was not ($\beta = -.05$, $p = .574$). The interaction between IW and PWV was significant ($\beta = .04$, $p = .008$), indicating moderation by PWV. Conditional effects revealed that the association between IW and turnover intention strengthened as PWV increased, from low ($\beta = .21$, 16th percentile) and mean ($\beta = .33$, 50th percentile) to high levels of PWV ($\beta = .41$, 84th percentile). The second model explained 37% of the variance, with US being a significant predictor ($\beta = .52$, $p < .001$) but

PWV was not ($\beta = .01$, $p = .847$). The US x PWV interaction was not significant ($\beta = -.01$, $p = .649$). The third model explained 14% of the variance, with WRG as a significant predictor ($\beta = .39$, $p < .001$), but PWV was not ($\beta = -.09$, $p = .283$). The interaction between WRG and PWV was significant ($\beta = .08$, $p = .003$). Conditional effects showed that the relationship between WRG and turnover intention strengthened as PWV increased, from low ($\beta = .20$, 16th percentile) and mean ($\beta = .43$, 50th percentile) to high levels ($\beta = .58$, 84th percentile).

Our study shows that different aspects of boreout can lead to turnover intention, which predicts actual quitting (Griffeth et al., 2000). A larger gap between expectations and reality in work heightens the impact of IW and WRG on the intention to leave. PWV did not directly predict turnover, but acts as a risk factor that makes employees more sensitive to negative work factors such as insufficient workload and boredom.

Keywords: *boreout, turnover intention, boredom, work values, work bore-out scale*



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Affective Pathways From Boreout to Turnover Intention

Boreout is defined as a negative work-related state of chronic boredom resulting from an insufficient workload, a lack of stimulation, and a perceived lack of meaning. It has increasingly been recognised as a significant risk factor for employee well-being. A growing body of research has linked boreout to a range of adverse individual outcomes. However, relatively little is known about how boreout contributes to employees' turnover intentions and which affective mechanisms underlie this relationship. Therefore, this study examined whether three dimensions of boreout—insufficient workload (IW), understimulation (US), and work-related guilt (WRG) - predict employees' turnover intention directly and indirectly through positive affect (PA) and negative affect (NA).

Data were collected in 2026 from a sample of 502 employees (77% women, $M_{age} = 37$, $SD = 9.16$) using the Work Bore-Out Scale (Poirier et al., 2021), SIAB-PANAS (Mihic et al., 2014), and the Turnover Intention Scale (Popov, 2009). Six mediation analyses were conducted using three boreout subscales as predictors, PA and NA as mediators, and turnover intention as the outcome.

All boreout dimensions positively predicted turnover intentions. When PA was included as a mediator, IW ($\beta = .14$, $p < .001$), US ($\beta = .38$, $p < .001$) and WRG ($\beta = .14$, $p = .01$) showed significant direct effects, alongside with significant indirect effects (IW: $\beta = .18$, 95% CI = [.14, .23]; US: $\beta = .13$, 95% CI = [.07, .18]; WRG: $\beta = .29$, 95% CI = [.22, .35]), indicating partial mediation by PA. Higher boreout was associated with reduced PA, which in turn increased turnover intentions. When NA was included as a mediator, IW ($\beta = .21$, $p < .001$), US ($\beta = .40$, $p < .001$) and WRG ($\beta = .22$, $p < .001$) again showed significant direct effect, and significant indirect effects (IW: $\beta = .12$, 95% CI = [.09, .16]; US: $\beta = .11$, 95% CI = [.08, .15]; WRG: $\beta = .21$, 95% CI = [.15, .26]). Higher boreout was associated with elevated NA, which also increased turnover intentions. Across dimensions, US demonstrated the strongest direct effect.

Our study shows that all examined aspects of boreout syndrome were associated with higher turnover intentions, with the US showing the strongest direct effect. The results further suggest that affective states represent an important mechanism through which boreout influences employees' intention to leave the organisation. These findings highlight the importance of not only managing employees' workload but also creating a stimulating work environment that fosters positive affective experiences and reduces negative affective states, thereby decreasing the risk of employee turnover.

Keywords: *boreout, turnover intention, positive affect, negative affect*

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Zadovoljstvo poslom zaposlenih u Srbiji: efekti organizacione pravičnosti i radnog staža

Zadovoljstvo poslom jedan je od najistraživanijih konstrukata u organizacionoj psihologiji zbog svog značaja za uspešno funkcionisanje zaposlenih i organizacija, dok se organizaciona pravičnost u savremenoj literaturi dosledno identifikuje kao ključni faktor zadovoljstva poslom. Cilj ovog istraživanja bio je da se ispita odnos organizacione pravičnosti i njene četiri dimenzije sa zadovoljstvom zaposlenih, kao i da se ispita da li postoji razlika u zadovoljstvu zaposlenih u odnosu na dužinu radnog staža. U istraživanju je učestvovalo 238 ispitanika (70% žena, 30% muškaraca, jedna osoba drugog roda) starosti od 17 do 65 godina ($M = 39.30$, $SD = 12.20$) zaposlenih u različitim sektorima u Srbiji. Prema dužini radnog staža, ispitanici su podeljeni u tri kategorije: do 3,5 godine radnog staža ($n = 94$), od 3,5 do 7 godina radnog staža ($n = 52$) i 7 i više godina radnog staža ($n = 92$). Podaci su prikupljeni putem onlajn upitnika koji obuhvata: skalu organizacione pravičnosti (četiri dimenzije), kratku formu Minesota upitnika zadovoljstva poslom – MSQ i set pitanja o demografskim varijablama. Obe skale su pokazale visoku internu konzistentnost u ovom istraživanju ($\alpha = .94$ za skalu organizacione pravičnosti; $\alpha = .91$ za skalu zadovoljstva poslom). Prostim linearnom regresijom, s ukupnim skorom pravičnosti kao prediktorom, objašnjen je značajan procenat varijanse zadovoljstva poslom, $R^2 = .62$, $F(1, 236) = 387.60$, $p < .001$, $\beta = .79$, $t(236) = 19.69$, $p < .001$. U višestrukoj regresiji sa četiri dimenzije kao prediktorima, $R^2 = .64$, $F(4, 233) = 104.50$, $p < .001$, kao značajni prediktori izdvojile su se interpersonalna, $\beta = .37$, $t(233) = 6.95$, $p < .001$, distributivna, $\beta = .31$, $t(233) = 5.51$, $p < .001$, informaciona, $\beta = .19$, $t(233) = 3.16$, $p = .002$, i proceduralna pravičnost, $\beta = .14$, $t(233) = 2.25$, $p = .026$. Suprotno dosadašnjim nalazima istraživanja, koja pokazuju da Proceduralna pravičnost najviše korelira sa zadovoljstvom poslom, naše istraživanje sugerise da supskala Informaciona pravičnost je pokazala najveću korelaciju, $r(236) = .66$, $p < .001$, sa varijablom zadovoljstvo poslom, dok su sa njom korelirale i supskale Interpersonalna pravičnost, $r(236) = .65$, $p < .001$, Proceduralna pravičnost, $r(236) = .64$, $p < .001$, i Distributivna pravičnost, $r(236) = .61$, $p < .001$. Na osnovu ANOVA statističke analize utvrđeno je da razlike u zadovoljstvu poslom nisu značajne kod grupa različite dužine staža, $F(2, 235) = 0.27$, $p = .77$, $\eta^2 = .00$. Korelacije četiri dimenzije sa zadovoljstvom poslom bile su ujednačene ($r = .61-.66$), dok su u modelu sa svim dimenzijama najveći jedinstveni doprinos dale interpersonalna i distributivna pravičnost. Dobijeni rezultati imaju praktične implikacije za organizacije u Srbiji, jer se čini da pravovremena informisanost šalje snažan signal radnicima da su cenjeni članovi organizacije, naglašavajući značaj kvaliteta interpersonalnog postupanja i percipirane raspodele ishoda uz poboljšanje dimenzija pravičnosti u okviru organizacije.

Ključne reči: organizaciona pravičnost, zadovoljstvo poslom, dužina radnog staža

Employee Job Satisfaction in Serbia: The Effects of Organisational Justice and Work Experience

Job satisfaction is one of the most extensively studied constructs in organisational psychology due to its importance for the effective functioning of employees and organisations, while organisational justice has consistently been identified in the literature as a key determinant of job satisfaction. The aim of this study was to examine the relationship between organisational justice, its four dimensions, and job satisfaction, as well as differences in job satisfaction according to work experience. The study included 238 participants (70% women, 30% men, and one participant identified as another gender), aged 17 to 65 years ($M = 39.30$, $SD = 12.20$), employed across various sectors in Serbia. Based on work experience, participants were divided into three categories: up to 3.5 years ($n = 94$), between 3.5 and

7 years ($n = 52$), and 7 or more years ($n = 92$). Data were collected using an online questionnaire including the Organisational Justice Scale (OJS; Colquitt, 2001), comprising four dimensions, the short form of the Minnesota Satisfaction Questionnaire (MSQ; Weiss et al., 1967), and demographic questions. Both scales demonstrated high internal consistency ($\alpha = .94$ for OJS and $\alpha = .91$ for MSQ). A simple linear regression showed that perceived organisational justice significantly predicted job satisfaction, explaining 62% of its variance, $R^2 = .62$, $F(1, 236) = 387.60$, $p < .001$, $\beta = .79$, $t(236) = 19.69$, $p < .001$. Contrary to previous findings suggesting that procedural justice is most strongly associated with job satisfaction, informational justice showed the strongest correlation with job satisfaction, $r(236) = .66$, $p < .001$, followed by interpersonal justice, $r(236) = .65$, $p < .001$, procedural justice, $r(236) = .64$, $p < .001$, and distributive justice, $r(236) = .61$, $p < .001$. A multiple regression including the four justice dimensions as predictors explained 64% of the variance in job satisfaction, $R^2 = .64$, $F(4, 233) = 104.50$, $p < .001$. Interpersonal justice ($\beta = .37$, $t(233) = 6.95$, $p < .001$), distributive justice ($\beta = .31$, $t(233) = 5.51$, $p < .001$), informational justice ($\beta = .19$, $t(233) = 3.16$, $p = .002$), and procedural justice ($\beta = .14$, $t(233) = 2.25$, $p = .026$) emerged as significant predictors. A one-way ANOVA revealed no significant differences in job satisfaction across work experience groups, $F(2, 235) = 0.27$, $p = .77$, $\eta^2 = .00$. Correlations between all four justice dimensions and job satisfaction were relatively similar ($r = .61-.66$), whereas interpersonal and distributive justice made the largest unique contributions in the multiple regression model. These findings have practical implications for organisations in Serbia, suggesting that timely communication signals to employees that they are valued organisational members, while emphasising the importance of high-quality interpersonal treatment, fair outcome distribution, and continuous improvement of organisational justice practices.

Keywords: organisational justice, job satisfaction, work experience

Kognitivna psihologija

Cognitive Psychology

Voditeljka / Moderator: Ivana Jakovljević

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Percepcija tekstualnih poruka: uloga pola pošiljaoca i emocionalne valence emodžija

Popularizacija društvenih mreža poput Instagrama, Fejsbuka i Votsapa dovela je do povećanog korišćenja tekstualnih poruka. Za razliku od komunikacije licem u lice, u digitalnoj komunikaciji nedostaje većina neverbalnih signala, zbog čega je veća verovatnoća da dođe do nerazumevanja između pošiljaoca i primaoca poruke. Kako bi nadomestili nedostatak neverbalne komunikacije, korisnici sve češće koriste emodžije, prvenstveno radi prenošenja emocionalnog tona poruke. Cilj istraživanja bio je da se ispita da li se procena emocionalne valence i pobudljivosti tekstualnih poruka razlikuje u zavisnosti od pola pošiljaoca i emocionalne valence emodžija (pozitivan, negativan ili bez emodžija). Dodatno je ispitivana percepcija emotivnosti pošiljaoca u odnosu na pol pošiljaoca i emocionalnu valencu emodžija.

Odabrano je 30 kratkih poruka procenjenih kao česte u svakodnevnoj komunikaciji i neutralnog emocionalnog tona. Sve poruke bile su kratke i bez izraženog emocionalnog sadržaja kako bi se obezbedila njihova neutralnost. Svaka poruka prikazana je sa muškim i ženskim imenom pošiljaoca, kao i u tri varijante: sa pozitivnim emodžijem, negativnim emodžijem i bez emodžija. Na taj način kontrolisani su pol pošiljaoca i emocionalna valenca emodžija. Ispitanici (N=144, 26,4% muškaraca) imali su zadatak da na osnovu prikazane poruke procene njenu emocionalnu valencu i pobudljivost, kao i emotivnost pošiljaoca. Emocionalna valenca procenjivana je na petostepenoj Likertovoj skali (1 = veoma neprijatno, 5 = veoma prijatno), dok je pobudljivost procenjivana na petostepenoj skali od niskog do veoma visokog intenziteta.

Rezultati ANOVA za ponovljena merenja pokazali su značajan efekat pola pošiljaoca na procenu emocionalne valence – poruke poslate od strane žena procenjene su kao prijatnije, $F(1,278)=5.43$; $p=.021$, $\eta^2=.038$. Utvrđen je i značajan efekat emocionalne valence emodžija, $F(2,278)=184.663$; $p<.001$, $\eta^2=.571$, pri čemu su poruke s pozitivnim emodžijem procenjene kao najprijatnije, a poruke s negativnim emodžijem kao najmanje prijatne. Kada je u pitanju pobudljivost poruke, utvrđen je efekat pola pošiljaoca, $F(1,278)=4.668$; $p=.032$, $\eta^2=.032$, pri čemu su poruke žena procenjene kao pobudljivije. Takođe je utvrđen značajan efekat emocionalne valence emodžija, $F(2,278)=60.385$; $p<.001$, $\eta^2=.303$, pri čemu su poruke sa pozitivnim emodžijem procenjene kao pobudljivije u odnosu na preostale dve varijante. Percepcija emotivnosti pošiljaoca bila je pod uticajem emocionalne valence emodžija, $F(2,278)=59.41$; $p<.001$, $\eta^2=.299$, i pola pošiljaoca, $F(1,278)=5.850$; $p=.017$, $\eta^2=.040$, pri čemu su pošiljaoci ženskog pola procenjeni kao emotivniji.

Rezultati ukazuju na to da pol pošiljaoca i emocionalna valenca emodžija utiču na percepciju tekstualnih poruka. Poruke koje je poslala žena procenjuju se kao prijatnije i pobudljivije, dok se same pošiljalke procenjuju kao emotivnije, što ukazuje na to da pol pošiljaoca predstavlja važan faktor u interpretaciji emocionalnog sadržaja tekstualnih poruka.

Ključne reči: tekstualne poruke, emocionalna valenca, pobudljivost, polna pristrasnost

Perception of Text Messages: The Role of Sender Gender and Emoji Emotional Valence

The popularisation of social media platforms such as Instagram, Facebook, and WhatsApp has led to an increased use of text messages. Unlike face-to-face communication, digital communication lacks most nonverbal cues, making misunderstandings between the sender and the receiver more likely. To compensate for the lack of nonverbal communication, users increasingly use emojis, primarily to convey the emotional tone of a message. The aim of this study was to examine whether the perceived emotional valence and arousal of text messages differ depending on the sender's gender and the emotional valence of emojis (positive, negative, or no emoji). In addition, the perception of the sender's emotionality was examined as a function of the sender's gender and the emotional valence of emojis.

Thirty short text messages, rated as common in everyday communication and emotionally neutral, were selected. All messages were brief and free of strong emotional content to ensure neutrality. Each message was presented with either a male or female sender's name and in three versions: with a positive emoji, a negative emoji, or no emoji. In this way, the sender's gender and the emotional valence of emojis were controlled. Participants ($N = 144$, 26.4% men) were asked to rate the emotional valence and arousal of each message, as well as the emotionality of the sender. Emotional valence was assessed on a five-point Likert scale (1 = very unpleasant, 5 = very pleasant), while arousal was assessed on a five-point scale ranging from low to very high intensity.

A repeated-measures ANOVA revealed a significant effect of the sender's gender on emotional valence ratings, with messages sent by women being rated as more pleasant, $F(1,278)=5.43$; $p=.021$, $\eta^2=.038$. A significant effect of emoji emotional valence was also found, $F(2,278)=184.663$; $p<.001$, $\eta^2=.571$, with messages containing a positive emoji being rated as the most pleasant and those containing a negative emoji as the least pleasant. Regarding arousal ratings, a significant effect of the sender's gender was found, $F(1,278)=4.668$; $p=.032$, $\eta^2=.032$, with messages sent by women being perceived as more arousing. A significant effect of emoji emotional valence was also obtained, $F(2,278)=60.385$; $p<.001$, $\eta^2=.303$, with messages containing a positive emoji being rated as more arousing than the other two conditions. The perceived emotionality of the sender was influenced by emoji emotional valence, $F(2,278)=59.41$; $p<.001$, $\eta^2=.299$, and the sender's gender, $F(1,278)=5.850$; $p=.017$, $\eta^2=.040$, with female senders being perceived as more emotional.

The results indicate that the sender's gender and the emotional valence of emojis influence the perception of text messages. Messages sent by women were perceived as more pleasant and more arousing, while female senders were perceived as more emotional, suggesting that the sender's gender is an important factor in interpreting the emotional content of text messages.

Keywords: text messages, emotional valence, arousal, gender bias



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The Effects of Cognitive Load on the Distribution of Reasoning Mistakes

Drawing on dual-process theories, prior research consistently shows that Type 2 deliberative processing depends on working memory (WM) resources. The demand a task places on WM—its cognitive load—is determined by the number of interdependent elements that must be maintained and integrated simultaneously. Reasoning tasks from the Cognitive Reflection Test (CRT) are designed

to elicit an intuitive but incorrect answer, and reaching the correct response requires holding several interdependent elements at once. Thus, Type 2 processing must actively inhibit the initial intuition and perform cognitive decoupling, separating the task's logical structure from the intuitive representations. Consequently, loading WM resources during reasoning reduces the number of normatively correct responses on the CRT, with an increase in heuristic, typical incorrect responses. Some findings further suggest that increasing load also gives rise to atypical errors, responses matching neither the correct answer nor the typical heuristic lure. However, it remains unclear how the structure of incorrect responses changes with increasing load—specifically, whether the cognitive system maintains adaptive functioning as load increases, reflected in a rise in heuristic responses, or instead gives way to functional collapse, reflected in a rise in atypical responses.

This study examined how cognitive load affects the distribution of correct, heuristic, and atypical incorrect CRT responses, including a sample of $N=226$ participants, using a four-condition between-subjects design: no load (control), time pressure, concurrent task, and extreme load (operationalised as a combination of time pressure and concurrent task). Response distributions were analysed via multinomial logistic regression, with the correct answer as reference category. Experimental condition significantly predicted response type, $\chi^2(6) = 38.12$, $p < .001$. Relative to control, time pressure significantly increased the odds of both heuristic ($OR = 1.76$, $p < .001$) and atypical ($OR = 2.01$, $p < .001$) responses, and the combined extreme-load condition showed a comparable pattern (heuristic $OR = 1.66$, $p = .001$; atypical $OR = 2.13$, $p < .001$). The concurrent-task condition alone did not significantly affect response type ($p > .05$). However, the contrast between heuristic and atypical responses showed no significant differences across any condition ($p > .05$). Heuristic responding remained relatively stable across conditions, suggesting that adaptive processing persists even under cognitive load. At the same time, atypical responses also increased through conditions, indicating that increasing load is accompanied by a decline in reasoning. Ultimately, both heuristic and atypical responses increased proportionally across load conditions, pointing to a general decline in reasoning accuracy rather than a shift between adaptive heuristic and functional collapse.

Keywords: *cognitive load, cognitive reflection test, cognitive collapse, heuristic processing, reasoning mistakes*



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The Differential Impacts of Health Messaging and Cognitive Styles on Formal and Evaluative Biases

This study aimed to uncover the cognitive architecture of health reasoning by examining how dispositional cognitive styles and brief persuasive messaging differentially shape two distinct categories of cognitive biases: formal-probabilistic biases (which require algorithmic probability processing) and evaluative biases (which rely on retrospective causal judgement). Formal-probabilistic biases were operationalised through base-rate neglect, the pseudo-certainty effect, and risky choice framing, whereas evaluative bias was operationalised via outcome bias. Data were collected from an adult sample ($N = 901$) in a pre–post experimental design involving brief persuasive health messaging communicating the importance and purpose of herd immunity.

At baseline and immediately after exposure to text, participants completed a battery of formal and evaluative bias tasks, constructed for this study in the health domain: the Actively Open-Minded Thinking Scale (AOT) and the Cognitive Reflection Test (CRT).

We then examined how each bias changed from baseline (T_0) to immediate post-test. The results showed selective effects, affecting some types of biases, but not others, suggesting that they may depend on different cognitive mechanisms. Brief health-related messaging had a null effect on core probabilistic biases, leaving base-rate neglect ($M_{diff} = -0.004$, $t(900) = -0.46$, $p = .642$) and the pseudo-certainty effect ($M_{diff} = -0.010$, $t(900) = -0.23$, $p = .820$) unaffected. However, exposure to text systematically increased sensitivity to framing, increasing the risky choice framing effect ($M_{diff} = 0.200$, $t(900) = 3.67$, $p < .001$). The messaging, in turn, mitigated evaluative-biased reasoning; the overall outcome bias score was significantly attenuated ($M_{diff} = -0.385$, $t(900) = -4.04$, $p < .001$). To test the direct main effects of dispositional styles on these two categories of biases, simultaneous OLS regression models were executed on post-exposure scores. The model predicting formal-probabilistic biases was significant, $F(2, 898) = 4.39$, $p = .013$, $R^2 = .010$, Cohen's $f^2 = 0.010$, driven by AOT as a protective predictor ($\beta = .078$, $t(898) = 2.33$, $p = .020$), while CRT was orthogonal ($p = .135$). Conversely, the model predicting evaluative bias ($F(2, 898) = 4.98$, $p = .007$, $R^2 = .011$, Cohen's $f^2 = 0.011$) revealed that higher AOT counterintuitively positively predicted susceptibility to outcome bias ($\beta = .105$, $t(898) = 3.14$, $p = .002$), whereas CRT was again orthogonal ($p = .731$).

The findings demonstrate that open-minded cognitive styles protect against formal probability errors while counterintuitively increasing vulnerability to evaluative fallacies. Brief health messaging does not clear cognitive biases; instead, it increases susceptibility to framing under risk, while reducing outcome bias.

Keywords: cognitive biases, health reasoning, cognitive reflection, actively open-minded thinking

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Cognitive Fusion Questionnaire (CFQ): Examination of Structural and Convergent Validity

The aim of this study was to adapt the Cognitive Fusion Questionnaire (CFQ; Gillanders et al., 2014) into the Serbian language and examine its psychometric properties. The CFQ is a seven-item self-report measure of cognitive fusion rated on a 7-point Likert scale. The Serbian version was developed following established cross-cultural adaptation guidelines (Beaton et al., 2000). The study was conducted on a general sample of 300 adult participants ($M = 45.11$, $SD = 13.48$). The psychometric properties of the instrument were evaluated using descriptive statistics, reliability analyses, confirmatory factor analysis, and correlations with measures of psychological inflexibility (AAQ-II) and symptoms of depression, anxiety, and stress (DASS-21) to assess convergent validity.

The CFQ demonstrated excellent internal consistency ($\alpha = .95$; $\omega = .95$). Confirmatory factor analysis supported a unidimensional structure of the scale with excellent model fit indices ($CFI = .999$, $TLI = .999$, $RMSEA = .047$, $SRMR = .018$). All items showed strong factor loadings (.855–.945). The CFQ was strongly positively correlated with psychological inflexibility ($r = .802$), as well as with depression ($r = .710$), anxiety ($r = .613$), and stress ($r = .641$). These correlations are comparable in magnitude to those

reported in the original validation study by Gillanders et al. (2014), suggesting that the Serbian version demonstrates a pattern of correlations consistent with the original instrument.

Overall, the findings support the reliability and validity of the Serbian version of the CFQ, suggesting that it is an appropriate instrument for assessing cognitive fusion in Serbian-speaking populations.

Keywords: *Cognitive Fusion Questionnaire, CFQ, psychometric validation, Serbian adaptation, cognitive fusion*



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The Expansion of the Serbian Colour Lexicon: An Online Colour-Naming Study

Studies show that the colour lexicons of European languages are actively evolving to include more than the proposed 11 basic colour terms (BCTs; Berlin & Kay, 1969). Our previous psycholinguistic study suggested a similar pattern in Serbian (Jakovljević & Zdravković, 2018). In this study, a colour-naming task was used to investigate the Serbian colour lexicon and identify the number of BCTs across the colour space.

A total of 1,049 Serbian speakers participated in an online colour-naming study (available at <https://colournaming.net>), providing 38,609 unconstrained responses to 606 colour stimuli from the Munsell Renotation Dataset specified in sRGB. Before the experiment, participants adjusted the brightness of their display settings and completed a web-based Dynamic Colour Vision Test (Barbur et al., 1994). In the main task, participants named as many colour stimuli as they wished (mean 37 per observer, SD = 33), presented sequentially in random order. Stimuli consisted of 2° uniformly coloured discs with a black outline and were presented on a mid-grey background. Response times were measured from stimulus onset to the first keyboard press.

Responses from participants with possible colour deficiency were excluded, as well as meaningless words and terms written in languages other than Serbian. The remaining 35,479 responses from 1,043 participants were retained for analysis. Label frequency, naming consensus, and median response time were computed for 725 unique colour terms used by more than one participant.

Terms corresponding to the 11 BCTs showed high consensus values (0.68 to 1.00) and short median response times (1.5 to 2.4 s), and together accounted for 38.2% of all naming responses, confirming their basic status in Serbian: zelena-green, plava-blue, ljubičasta-purple, roze-pink, braon-brown, crvena-red, narandžasta-orange, žuta-yellow, siva-grey, crna-black, bela-white. Five additional terms—teget-dark blue, bordo-bordeaux, oker-ochre, tirkizna-turquoise, and lila-lilac—showed intermediate consensus (0.43 to 0.60) and response times (2.4 to 2.9 s) between the core BCTs and the remaining colour terms, suggesting a gradient of basicness (Witzel, 2018).

The results show that the Serbian language has 11 BCTs and five candidates for basic status, with the remaining colour terms covering 52% of all responses, reflecting the rich Serbian colour lexicon. The salience of tirkizna and lila is consistent with findings in British English (Mylonas & MacDonald, 2016), while the salience of plava and teget suggests that Serbian might be undergoing a differentiation of the blue region already present in several languages, such as Russian (goluboy/siniy; Paramei et al. 2018), Italian (azzurro/blue; Paggetti & Menegaz, 2012), and Greek (galazio/mple; Mylonas et al., 2026).



This positions Serbian among modern European languages whose colour lexicons are actively expanding.

Keywords: basic colour terms, Serbian language, colour naming



POSTER SEKCIJA
POSTER SECTION

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The Relationship Between Work-Family Conflict and Marital Quality: The Mediating Role of Job Satisfaction

In contemporary society, balancing the demands of multiple life roles, especially work and family, has become an increasingly significant challenge for married and cohabiting partners. According to conflict theory, work and family constitute inherently incompatible life domains characterised by competing demands and expectations, such that success in one role often comes at the expense of the other. However, previous research has focused predominantly on the consequences of work-to-family conflict (when professional demands hinder an individual's ability to fulfil family responsibilities), while family-to-work conflict (when family demands impede workplace obligations) has received considerably less attention, despite theoretical assumptions suggesting that the direction of conflict may determine the nature and intensity of its consequences. Drawing on Conservation of Resources Theory, it can be assumed that conflict between work and family depletes individuals' personal resources, reducing subjective well-being and occupational functioning, including job satisfaction. In turn, job dissatisfaction has been linked to lower marital satisfaction and stability, suggesting that negative experiences in work roles may contribute to poorer marital outcomes. Accordingly, the aim of the present study was to examine the relationship between work-family conflict and marital quality, as well as the mediating role of job satisfaction in this relationship. The sample consisted of 325 employed participants (61.8% women) in marriage or cohabitating relationship, with a mean age of 38 years ($SD=8.73$). Data were collected through an online survey using the Work-Family Conflict Scale, the Spector Job Satisfaction Survey, and the Dyadic Adjustment Scale. The analysis of the mediating role of job satisfaction in the relationship between work-family conflict and marital quality, with relationship duration as a control variable, was conducted using Hayes' PROCESS macro (Model 4). The results of the mediation analysis indicated that job satisfaction partially mediated the relationship between work-to-family conflict ($\beta=-.02$, 95% CI $[-.04, -.00]$) and marital quality, as well as between family-to-work conflict ($\beta=-.06$, 95% CI $[-.10, -.02]$) and marital quality, as the direct paths between both dimensions of work-family conflict and marital quality were weaker but still significant after accounting for job satisfaction. Consistent with the assumptions of Conservation of Resources Theory, the depletion of personal resources (time, physical, and mental energy) resulting from the incompatibility of work and family role demands may be associated with lower job satisfaction, which in turn may extend to the marital domain and be linked to less positive evaluations of marital quality. These findings highlight the interdependence of occupational and marital functioning and underscore the importance of maintaining and promoting occupational well-being for the quality of intimate relationships.

Keywords: work-to-family conflict, family-to-work conflict, marital quality, job satisfaction



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The Role of Work-Family Enrichment in Marital Quality and Job Satisfaction: Testing the Matching and Cross-Domain Hypotheses

Contemporary work-family research has expanded beyond role conflict to examine how positive experiences in one role may enhance functioning in another. Conservation of Resources Theory suggests that individuals strive to acquire, preserve, and enhance their resources, with resources obtained in one role potentially generating additional resources and initiating a so-called "gain spiral" resulting in favourable outcomes across various aspects of life. From this perspective, work-family enrichment may represent an important mechanism through which positive experiences and resources derived from work roles contribute to better family functioning, and vice versa. However, it remains unclear whether the effects of enrichment are specific to the domain from which they originate (the Matching Hypothesis) or are predominantly transferred to another (the Cross-Domain Hypothesis). Accordingly, the present study aimed to examine the role of work-to-family and family-to-work enrichment in explaining marital quality and job satisfaction. The sample consisted of 325 employed participants (61.8% women) in marriage or cohabitating relationship, with a mean age of 38 years ($SD = 8.73$). Data were collected through an online survey using the Work-Family Enrichment Scale, the Spector Job Satisfaction Survey, and the Dyadic Adjustment Scale. Two hierarchical regression analyses were conducted, with marital quality and job satisfaction as the criterion variables. Gender, relationship duration, number of children, and years of work experience were included as control variables, whereas the dimensions underlying work-to-family enrichment (development, affect, and capital) and family-to-work enrichment (development, affect, and efficiency) were included as predictors. The results indicated that work-to-family enrichment dimensions—development ($\beta = .18$, $p < .001$), affect ($\beta = .41$, $p < .001$) and capital ($\beta = .31$, $p < .001$), significantly predicted job satisfaction ($R^2 = .39$, $F(10, 315) = 19.82$, $p < .001$). In contrast, family-to-work enrichment dimensions—development ($\beta = .20$, $p < .001$), affect ($\beta = .24$, $p < .001$), and efficiency ($\beta = .12$, $p < .05$), significantly predicted marital quality ($R^2 = .22$, $F(10, 315) = 8.71$, $p < .001$). These findings suggest that resources generated in the work role and transferred to the family role are associated with higher job satisfaction, whereas resources generated in the family role and transferred to the work role are associated with higher marital quality. Overall, the findings support the Matching Hypothesis, suggesting that the effects of enrichment may be the strongest within the domain from which the resources originate.

Keywords: work-to-family enrichment, family-to-work enrichment, marital quality, job satisfaction



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Work and Social Resources as Predictors of Life Satisfaction Among Employed Women in Post-Transition Croatia

The transition from socialism to contemporary market-oriented societies has produced lasting changes in work organisation, employment conditions, and social relations, making the understanding of psychological well-being an important aspect of post-transition processes. Drawing on the Job Demands–Resources model and social resource perspectives, this study examines the contribution of work and family resources to personal well-being among employed women in Croatia. The aim of the

study was to examine whether social resources from the family domain explain additional variance in life satisfaction beyond work-related characteristics.

The study was conducted as an online survey using a convenience sample of employed women in Croatia (N = 613). Life satisfaction was used as an indicator of personal well-being. Predictors were entered hierarchically in regression analyses: demographic characteristics were entered in the first step, work characteristics (job demands, job control, supervisor support, and coworker support) in the second step, work-family conflict in the third step, and family social resources (partner support and support from other family members) in the final step.

The final regression model was significant, $F(10, 217) = 7.37$, $p < .001$, explaining 25.4% of the variance in life satisfaction (adjusted $R^2 = .219$). Work characteristics significantly increased the explained variance beyond demographic characteristics ($\Delta R^2 = .132$, $p < .001$), while work-family conflict contributed additional variance ($\Delta R^2 = .035$, $p = .002$). Adding family social resources further improved the model ($\Delta R^2 = .060$, $p < .001$). In the final model, greater job control ($\beta = .213$, $p = .003$), higher partner support ($\beta = .184$, $p = .013$), and higher support from other family members ($\beta = .143$, $p = .044$) were positively associated with life satisfaction, whereas work-family conflict showed a negative association ($\beta = -.146$, $p = .045$).

The findings extend the JD-R framework by demonstrating that resources beyond the workplace contribute uniquely to employees' personal well-being. In the context of post-transition Croatia, where women frequently balance paid work with substantial family responsibilities, family social support may represent an important form of social capital that compensates for structural constraints and strengthens psychological well-being. The results highlight the importance of considering both occupational and family resources when designing interventions and policies aimed at improving the well-being and social inclusion of employed women.

Keywords: *life satisfaction, Job Demands-Resources model, family social support, employed women, post-transition Croatia*

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Depression/Anxiety and Mobile Phone and Internet Use: Mediating Roles of Distress Tolerance and Mindfulness

Compensatory internet use theory suggests that negative life events may increase individuals' motivation to use the internet as a means of coping with and alleviating negative emotions. Previous research showed the mediating effects of low distress tolerance and low mindfulness in the relationship between depression, anxiety, and problematic mobile phone use, indicating that smartphones can be used as a maladaptive emotion regulation strategy. The present study extends the focus to different patterns of everyday mobile phone and internet use. The main objective was to examine whether distress tolerance and mindfulness mediate the associations between depression/anxiety and five types of mobile phone and internet use: communication (calls and messages), social networking, internet browsing, solitary video gaming, and social video gaming. Specifically, the study investigated whether higher levels of depression and anxiety were associated with greater engagement in these activities through lower distress tolerance and reduced mindfulness. Data were collected online via Google Forms, and the survey link was distributed through

various social media platforms. The sample consisted of 286 participants from the general population (Mage = 37.09, SDage = 15.79; 75.2% women). Depression/anxiety, distress tolerance, mindfulness, and mobile phone and internet use were measured using the DASS-21, DTS, FFMQ-SF, and MTUAS, respectively. To examine the proposed mediating effects, a path analysis was conducted using AMOS software. The model was tested while controlling for gender, age, and education level. Distress tolerance emerged as a significant mediator in the relationship between anxiety and two types of mobile phone and internet use: communication ($\beta = .011$, 95% CI [.001, .025]) and social networking ($\beta = .014$, 95% CI [.002, .029]). Mindfulness did not show any significant mediating effects for anxiety. Neither distress tolerance nor mindfulness demonstrated significant mediating effects in the relationship between depression and any of the examined types of use. Anxiety demonstrated a significant direct effect on communication ($\beta = .150$, SE = .019). Our findings indicate that individuals with higher levels of anxiety are more likely to use mobile phones and the internet for communication and social networking activities due to a reduced ability to tolerate distress. Thus, these forms of social mobile phone and internet use may be understood as maladaptive strategies for regulating or avoiding unpleasant internal experiences. At the same time, communication-oriented mobile phone and internet use may also represent an adaptive emotion regulation strategy, as mobile communication facilitates the exchange of care and connectedness and typically occurs within close social networks characterised by familiarity and regular face-to-face contact.

Keywords: depression, anxiety, distress tolerance, mindfulness, mobile phone and internet use



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An Experimental and Longitudinal Comparison of Pro-Vaccination Communication Strategies on Vaccination Intentions

Robust comparative evidence regarding individual-level messaging strategies about vaccination remains sparse. This longitudinal randomised experiment (N = 901 at baseline; N = 694 fully retained across four time points) systematically evaluated the immediate and sustained impacts of six written pro-vaccination communication strategies, all standardised around the core concept of herd immunity. The tested messages reflected distinct psychological approaches, the first three overarching by the information deficit model of communication: the nudge, the boost, and psychological inoculation (PI), while the latter three stemmed from models employed in direct physician-patient communication: patient-concerns-centred communication (PCCC), grounded in a psychoeducational approach, dismissive informational load (DIL) overloading the reader with information about vaccination in a paternalistic dismissive tone, and neutral informational load (NIL) which applies information overload without a dismissive tone, benchmarked against an active medical control. Outcomes targeted personal and proxy vaccination intentions, information-seeking habits, and vaccine-related biased reasoning.

At baseline, a pronounced contextual asymmetry emerged, with proxy intentions to vaccinate a child being systematically higher than personal evaluations ($t(900) = -15.42$, $p < .001$, $d = 0.51$). Regarding text efficacy, planned contrasts showed that only the empathetic, psychoeducationally grounded PCCC text was uniquely effective, yielding a significant immediate increase in personal vaccination intention relative to the control group ($t(894) = 2.83$, $p_{\text{adj}} = .029$, Cohen's $d = 0.35$). This primary effect demonstrated robust stability over the 14-day longitudinal tracking period, with repeated exposures to the texts. One-way ANCOVAs confirmed that the robustness of the PCCC intervention on personal

intention persisted after statistically accounting for significant dispositional covariates, namely Agreeableness and Openness ($F(1, 254) = 9.12, p = .003, \eta^2 = 0.03$). Exploratory moderation analyses indicated that, for proxy decisions regarding a hypothetical child, both PI and NIL served as highly effective targeted strategies for individuals with elevated baseline vaccine-conspiratorial beliefs (β s $> .41$). These brief interventions failed to impact vaccine-related biased reasoning (all $p_{adj} = .05$, all $d = 0.03$).

The findings indicate that written pro-vaccination messaging can successfully shift immediate and short-term behavioural readiness, provided it prioritises patient-centred validation and avoids paternalism. However, modulating systemic information-seeking habits or restructuring pervasive biased reasoning requires more sustained, interactive designs.

Keywords: vaccination intention, patient-centred communication, communication strategies, vaccine hesitancy, biased reasoning

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Socijalna senzitivnost, emocionalna reaktivnost, emocionalna regulacija i fizička aktivnost kao prediktori izvršnih funkcija

Izvršne funkcije predstavljaju ključan aspekt adaptivnog funkcionisanja i omogućavaju efikasno upravljanje ponašanjem, emocijama i kognitivnim procesima. U okviru ovog istraživanja, pažnja je bila usmerena na dve izvršne funkcije, radnu memoriju i inhibiciju. Dosadašnja istraživanja dosledno ukazuju na povezanost fizičke aktivnosti i emocionalne regulacije sa boljim izvršnim funkcijama, dok je doprinos dimenzija senzitivnosti na senzorno procesuiranje (SPS) znatno manje istražen. Posebno je nedovoljno poznat njihov zajednički doprinos radnoj memoriji i inhibiciji. Cilj ovog istraživanja bio je da se ispita doprinos socijalne senzitivnosti, emocionalne reaktivnosti, strategija emocionalne regulacije (kognitivne preformulacije i supresije) i fizičke aktivnosti u objašnjenju radne memorije i inhibicije.

U istraživanju je učestvovalo 768 ispitanika iz Republike Srbije (56,3% žena), uzrasta od 16 do 75 godina ($M = 34,56$; $SD = 14,82$). Podaci su prikupljeni primenom upitnika ADEXI, HSP-R i ERQ. Doprinos prediktora ispitan je hijerarhijskom regresionom analizom. Konačni model za radnu memoriju bio je statistički značajan i objasnio je 13,5% varijanse. Emocionalna reaktivnost izdvojila se kao značajan prediktor slabije radne memorije ($\beta = .337, p < .001$), dok je socijalna senzitivnost bila povezana sa boljim performansama radne memorije ($\beta = -.240, p < .001$). Nakon uključivanja dodatnih varijabli, kognitivna preformulacija ($\beta = .089, p = .011$) predviđala je lošiju radnu memoriju, dok je fizička aktivnost bila povezana sa boljim funkcionisanjem radne memorije ($\beta = -.070, p = .039$). Supresija nije ostvarila značajan doprinos. U slučaju inhibicije, konačni model objasnio je 6% varijanse, pri čemu se jedino emocionalna reaktivnost izdvojila kao značajan prediktor slabije inhibicije ($\beta = .237, p < .001$).

Rezultati ukazuju na to da emocionalna reaktivnost predstavlja najsnažniji i najdosledniji korelat izvršnih funkcija, dok su doprinosi socijalne senzitivnosti, emocionalne regulacije i fizičke aktivnosti specifični za radnu memoriju. Nalazi podržavaju integrativni pristup u proučavanju izvršnih funkcija i ukazuju na značaj istovremenog razmatranja afektivnih, kognitivnih i bihevioralnih faktora.

Ključne reči: egzekutivne funkcije, socijalna senzitivnost, emocionalna reaktivnost, emocionalna regulacija, fizička aktivnost

Social Sensitivity, Emotional Reactivity, Emotion Regulation, and Physical Activity as Predictors of Executive Functions

Executive functions represent a key component of adaptive functioning, enabling effective regulation of behaviour, emotions, and cognitive processes. This research focused on two executive functions, working memory and inhibition. Previous research has consistently linked physical activity and emotion regulation to better executive functioning, whereas the contribution of sensory processing sensitivity (SPS) dimensions remains considerably less explored. In particular, their combined contribution to working memory and inhibition has rarely been examined. The aim of this study was to investigate the contribution of social sensitivity, emotional reactivity, emotion regulation strategies (cognitive reappraisal and expressive suppression), and physical activity to working memory and inhibition.

The sample consisted of 768 participants from Serbia (56.3% women), aged 16 to 75 years ($M = 34.56$, $SD = 14.82$). Data were collected using the ADEXI, HSP-R, and ERQ questionnaires. Hierarchical regression analyses were conducted to examine the contribution of predictor blocks to working memory and inhibition. The final working memory model was statistically significant and explained 13.5% of the variance. Emotional reactivity emerged as a significant predictor of poorer working memory performance ($\beta = .337$, $p < .001$), whereas social sensitivity was associated with better working memory performance ($\beta = -.240$, $p < .001$). After adding emotion regulation strategies and physical activity, cognitive reappraisal ($\beta = .089$, $p = .011$) predicted poorer working memory, while physical activity predicted better working memory performance ($\beta = -.070$, $p = .039$). Expressive suppression did not contribute significantly to the model. Regarding inhibition, the final model explained 6% of the variance, with emotional reactivity emerging as the only significant predictor of poorer inhibitory control ($\beta = .237$, $p < .001$). The findings suggest that emotional reactivity is the most robust correlate of executive functioning, whereas the contributions of social sensitivity, emotion regulation, and physical activity appear to be specific to working memory. The results support an integrative perspective on executive functioning and highlight the importance of jointly considering affective, cognitive, and behavioural factors.

Keywords: executive functions, social sensitivity, emotional reactivity, emotion regulation, physical activity



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Tracking the Temporal Dynamics of Contextual Cueing: A Mouse-Tracking Study

Contextual cueing refers to the advantage in visual search when target–distractor configurations are repeated rather than novel. Although robust, the effect's temporal locus remains debated. Early-locus accounts assume that repeated contexts guide attention towards the learned target location before target identification, whereas late-locus accounts propose that the benefit emerges after the target has been located, through facilitated target–distractor discrimination or response selection. Given the lack of consensus on the temporal dynamics of contextual cueing, the present study examined whether the effect is expressed in early or late kinaesthetic measures of mouse movement. Participants ($N = 61$) completed a visual search task (target T among L distractors), with equal numbers of repeated and novel displays. We analysed behavioural measures (reaction time, accuracy), global trajectory characteristics, and kinaesthetic measures of mouse movement (speed and acceleration intensity in the first and last 25% of the trajectory). Compared with novel displays, repeated displays

yielded shorter reaction times (Wilcoxon signed-rank test, $W = 0$, $p < .001$, rank-biserial $r = -1.00$), higher accuracy (Wilcoxon signed-rank test, $W = 20$, $p = .001$, rank-biserial $r = .81$), shorter mouse trajectories (Wilcoxon signed-rank test, $W = 0$, $p < .001$, rank-biserial $r = -1.00$), and smaller maximum deviation from the ideal path ($t(60) = -18.66$, $p < .001$, Cohen's $d = -2.39$). To assess temporal locus more directly, two machine-learning models based on logistic regression were trained to classify display type from kinaesthetic measures. The early model did not classify displays above chance level ($M = 51.69\%$, $SD = 3.21$; ROC AUC = .54), whereas the late model showed moderate classification accuracy ($M = 62.49\%$, $SD = 2.14$; ROC AUC = .64). Thus, contextual cueing was robustly reflected in behavioural and global trajectory measures, but early kinaesthetic measures did not provide clear support for an early-locus account. Instead, the greater informativeness of late kinaesthetic measures suggests a possible contribution of a late locus, consistent with facilitated target-distractor discrimination or response-related processes. However, an early-locus interpretation remains possible if movement trajectories in novel displays involve corrective adjustments consistent with prioritisation of the expected target location during early selection. This possibility will be examined in subsequent spatial heat-map analyses, together with additional tests of late-phase speed and acceleration intensity.

Keywords: contextual cueing, visual search, mouse tracking, attentional guidance, temporal dynamics

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Beyond Personality Traits: A Network Perspective on BFI-2 Personality Facets

Network analysis has emerged as a valuable framework for examining personality structure by representing facets as nodes and their direct conditional associations as edges, moving beyond latent-variable models towards a system in which personality features mutually reinforce one another. The aim of the present study was to examine the network structure of the 15 facets of the Big Five Inventory-2 (BFI-2), to identify the most central facets, and to evaluate the statistical significance and stability of the centrality estimates. The sample consisted of 1016 participants from Serbia ($M_{age} = 32.50$, $SD_{age} = 14.16$; 58% female), drawn from two independent subsamples that completed the Serbian adaptation of the BFI-2 (Smederevac et al., 2024). A Gaussian Graphical Model was estimated using partial correlations without regularisation, with edges retained at $\alpha = .05$. Bootstrap confidence intervals and p-values for all centrality measures were computed across 1,000 nonparametric replications, allowing statistical inference on centrality that standard implementations do not provide. The network comprised 58 statistically significant edges out of 105 possible (sparsity = .45), with the strongest positive associations between Anxiety and Emotional Volatility ($r = .40$), Productiveness and Responsibility ($r = .37$), Compassion and Respectfulness ($r = .34$), and Sociability and Assertiveness ($r = .34$), and the strongest negative association between Energy Level and Depression ($r = -.28$). Centrality analyses revealed that, by Expected Influence, Compassion exhibited the highest positive influence ($z = 2.20$, 95% CI [1.50, 2.44], $p < .001$), whereas Depression exhibited the strongest inhibitory role ($z = -2.12$, 95% CI [-2.55, -1.70], $p < .001$). Trust ($z = -1.22$, $p < .001$) and Sociability ($z = -1.06$, $p = .008$) also significantly contributed to network inhibition, while Creative Imagination ($z = 0.71$, $p = .036$) and Anxiety ($z = 0.55$, $p = .020$) contributed positively. By Strength, Aesthetic Sensitivity ($z = -2.17$, $p = .016$) and Organisation ($z = -1.55$, $p = .036$) showed significantly lower overall connectivity. Bootstrap confidence intervals for edges and centrality measures indicated stable estimates: the strongest edges showed narrow intervals, and the rank order of the most central nodes was preserved across resampling. The findings position Compassion and Depression as functionally pivotal facets in the BFI-

2 personality network, the former as a connecting and activating node, the latter as the strongest inhibitory node. Although the network reveals clusters partially consistent with the theoretical domain structure, Compassion's central position emerges from extensive cross-domain conditional dependencies, suggesting that network analysis captures aspects of personality organisation beyond domain-level groupings.

Keywords: *Big Five Inventory-2 (BFI-2), network analysis, centrality, partial correlations, Gaussian Graphical Model*

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The Honest and the Devious: Antagonism in the Relation Between Honesty-Humility and Manipulation Tactics

Within the HEXACO personality model, the Honesty-Humility dimension consistently emerges as the strongest predictor of unethical behaviour (Heck et al., 2018). Recent evidence from the maladaptive personality domain further suggests that antagonism is a key trait associated with perceived manipulative ability (Wissing & Reinhard, 2019). However, the mechanisms through which these constructs jointly shape specific manipulative strategies remain underexplored. The aim of this study was to examine the mediating role of antagonism in the relationship between Honesty-Humility and three types of manipulation tactics: indirect tactics for coercion (ITC), direct tactics (DT), and indirect tactics for humouring (ITH). The sample comprised 758 participants from the general population of Serbia (56.1% female, $M = 34.58$, $SD = 14.82$), who completed the HEXACO-60 (Honesty-Humility, $\alpha = .81$), The Personality Inventory for DSM-5-Brief Form (Antagonism, $\alpha = .73$), and the Manipulation Tactics Questionnaire (ITC: $\alpha = .91$; DT: $\alpha = .84$; ITH: $\alpha = .76$). Three mediation analyses were conducted using the PROCESS macro for SPSS (Hayes, 2017), with 5,000 bootstrap resamples and 95% bias-corrected CIs and with Honesty-Humility as the predictor, Antagonism as the mediator, and each manipulation tactic as the criterion.

Results showed that Honesty-Humility significantly and negatively predicted antagonism ($\beta = -.57$, $p < .001$; $R^2 = .32$). Indirect effects consistent with the proposed model were observed for indirect tactics for coercion (indirect effect = -0.35 , 95% CI $[-0.42, -0.29]$; $R^2 = .30$) and indirect tactics for humouring (indirect effect = -0.23 , 95% CI $[-0.30, -0.16]$; $R^2 = .30$), with significant direct effects of Honesty-Humility remaining in both models, indicating partial mediation. For direct tactics, the bootstrap interval included zero (indirect effect = -0.07 , 95% CI $[-0.15, 0.01]$); only a direct effect was found ($\beta = -.19$, $p < .001$).

These findings suggest that antagonism partly accounts for the association between Honesty-Humility and indirect manipulation tactics, which may involve greater strategic flexibility, whereas direct tactics appear more directly linked to low Honesty-Humility itself. The relatively strong association between Honesty-Humility and antagonism also suggests that the two constructs, while conceptually distinct, are not fully independent, which should be considered when interpreting the proposed pathways. The results point to potentially distinct routes to manipulative behaviour, with implications for integrating normative and maladaptive personality models. Given the different measurement approaches (a normative HEXACO inventory versus a DSM-based measure of clinically relevant traits), future research should more closely examine whether this pattern reflects genuinely distinct construct-level mechanisms or different expressions of a related disposition along a normative-clinical continuum.

Keywords: *Honesty-Humility, antagonism, manipulation tactics, HEXACO*

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Inkrementalna validnost srpske adaptacije PID-5-BF inventara u predikciji subkliničkih ponašanja

Alternativni DSM-5 model poremećaja ličnosti (AMPD), operacionalizovan inventarom PID-5 i njegovom kratkom formom (PID-5-BF), predstavlja dimenzionalni pristup proučavanju maladaptivnih osobina ličnosti. Iako su dimenzije ovog modela pokazale inkrementalnu validnost u odnosu na bazične osobine ličnosti pri objašnjavanju kliničkih manifestacija, manji broj istraživanja ispitivao je njihov dodatni doprinos u predikciji subkliničkih ponašanja.

Cilj istraživanja bio je ispitivanje inkrementalne validnosti PID-5-BF inventara u odnosu na dimenzije Velikih pet u predikciji manipulativnog i antisocijalnog ponašanja. Uzorak je činilo 768 punoletnih ispitanika iz opšte populacije Srbije (56.25% žena; $M = 34.54$, $SD = 14.82$). Ispitanici su popunjavali PID-5-BF, BFI-2, TM22 (indirektne i direktne tehnike prinude, indirektne tehnike udovoljavanja) i STAB (fizička agresija, kršenje pravila, socijalna agresija). Podaci su analizirani poređenjem ugnjeđenih (nested) modela strukturalnih jednačina: najpre je procenjen model koji je uključivao samo dimenzije Velikih pet, a zatim model sa dodatim PID-5-BF domenima. Modeli su poređeni Satora-Benter korigovanim likelihood ratio testom (LRT) i ΔR^2 .

Uključivanje AMPD dimenzija značajno je unapredilo model objašnjenja manipulativnih taktika ($\Delta R^2 = .05-.14$; $\Delta\chi^2_{SB}(15) = 185.12$, $p < .001$) i antisocijalnih ponašanja ($\Delta R^2 = .13-.20$; $\Delta\chi^2_{SB}(15) = 245.76$, $p < .001$). Antagonizam se izdvojio kao najkonzistentniji prediktor, dok su negativni afekat, dezinhibicija i psihoticizam pokazali specifične doprinose.

Nalazi ukazuju na to da PID-5-BF pruža dodatnu prediktivnu vrednost u odnosu na model Velikih pet, iako su efekti relativno skromni, i podržavaju primenu AMPD modela izvan kliničkog konteksta.

Ključne reči: inkrementalna validnost, PID-5-BF, maladaptivne osobine ličnosti, antisocijalno ponašanje, manipulativne taktike

Incremental Validity of the Serbian Adaptation of the PID-5-BF in Predicting Subclinical Behaviours

The Alternative DSM-5 Model for Personality Disorders (AMPD), operationalised through the Personality Inventory for DSM-5 (PID-5) and its brief form (PID-5-BF), represents a dimensional approach to the study of maladaptive personality traits. Although the dimensions of this model have demonstrated incremental validity beyond basic personality traits in explaining clinical manifestations, fewer studies have examined their additional contribution to predicting subclinical behaviours.

The aim of this study was to examine the incremental validity of the PID-5-BF domains beyond the dimensions of the Big Five in predicting manipulative and antisocial behaviours. The sample consisted of 768 adult participants from the general population of Serbia (56.25% women; $M = 34.54$, $SD = 14.82$). Participants completed the PID-5-BF, BFI-2, TM22 (indirect and direct coercion tactics, indirect ingratiation tactics), and STAB (physical aggression, rule-breaking, social aggression). Data were analysed by comparing nested structural equation models: first, a model including only Big Five dimensions was estimated, followed by a model with added PID-5-BF domains. Models were compared using the Satorra-Bentler corrected likelihood ratio test (LRT) and ΔR^2 .

Adding AMPD dimensions significantly improved the explanatory model of manipulative tactics ($\Delta R^2 = .05-.14$; $\Delta\chi^2_{SB}(15) = 185.12$, $p < .001$) and antisocial behaviours ($\Delta R^2 = .13-.20$; $\Delta\chi^2_{SB}(15) = 245.76$, $p < .001$).

.001). Antagonism emerged as the most consistent predictor, while Negative Affectivity, Disinhibition, and Psychoticism showed specific contributions.

The findings indicate that the PID-5-BF provides additional predictive value beyond the Big Five, although the effects were relatively modest, and support the application of the AMPD model beyond clinical contexts.

Keywords: incremental validity, PID-5-BF, maladaptive personality traits, antisocial behaviour, manipulative tactics



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Latentna struktura stavova prema nauci

Iako interesovanje za poverenje u nauku poslednjih godina raste, nalazi prethodnih istraživanja ukazuju na to da se odnos prema nauci ne iscrpljuje u proceni njenog kredibiliteta i pouzdanosti. Stavovi prema nauci predstavljaju širi konstrukt koji, pored poverenja u naučna saznanja, naučnike i institucije, obuhvata procenu integriteta naučne prakse, kao i stavove o ulozi nauke u društvu i javnom odlučivanju. Na osnovu ovih teorijski definisanih domena i nalaza prethodnih istraživanja konstruisan je početni skup od 20 stavki namenjenih proceni stavova prema nauci. Cilj istraživanja bio je da se ispita njegova latentna struktura.

Podaci su prikupljeni na prigodnom uzorku od 461 ispitanika (75% žena), starosti od 17 do 79 g. ($M = 35.50$, $SD = 15.54$), koji su regrutovani putem društvenih mreža i imejla. Sprovedena je faktorska analiza u užem smislu (PAF). Vrednost KMO iznosila je 0.858, što ukazuje na veoma dobru adekvatnost podataka za sprovođenje faktorske analize, dok je Bartletov test sferičnosti bio statistički značajan ($\chi^2(190) = 2507.24$, $p < 0.001$), potvrđujući postojanje povezanosti među stavkama. Na osnovu Scree dijagrama i Hornove paralelne analize odlučeno je da se zadrže tri faktora. Nakon Promax rotacije dobijeno rešenje objašnjavalo je 46.21% ukupne varijanse. Jedna stavka je uklonjena zbog nezadovoljavajućeg faktorskog opterećenja, dok je preostalih 19 uspešno raspoređeno na tri faktora. Prvi faktor, epistemičko poverenje u nauku (7 stavki; $\alpha = 0.818$), obuhvata poverenje u naučni metod, naučne rezultate, naučnike i institucije. Drugi faktor, kritički odnos prema naučnoj praksi (6 stavki; $\alpha = 0.737$) odnosi se na percepciju potencijalnih pristrasnosti, ograničenja i zloupotreba u naučnoj zajednici. Treći faktor, uloga nauke u javnom životu (6 stavki; $\alpha = 0.722$), obuhvata procenu nedovoljne zastupljenosti naučnih saznanja i preporuka naučnih institucija u javnom odlučivanju.

Faktori su bili međusobno povezani, pri čemu je najizraženija povezanost dobijena između epistemičkog poverenja u nauku i faktora uloge nauke u javnom životu ($r = -0.544$), dok su povezanosti kritičkog odnosa prema naučnoj praksi sa preostala dva faktora bile znatno slabije ($r = -0.225$; $r = -0.144$). Negativna povezanost je posledica načina kodiranja trećeg faktora, pri čemu viši skorovi ukazuju na snažniji doživljaj da je nauka nedovoljno zastupljena u javnom životu i donošenju odluka.

Rezultati pružaju inicijalnu potvrdu trofaktorske strukture konstruisanog instrumenta i ukazuju na to da stavovi prema nauci predstavljaju višedimenzionalan konstrukt, koji obuhvata epistemičko poverenje, kritički odnos prema naučnoj praksi i stavove o ulozi nauke u javnom životu. Ovakva struktura pruža osnovu za dalju validaciju instrumenta i preciznije ispitivanje odnosa između različitih aspekata stavova prema nauci.

Ključne reči: stavovi prema nauci, poverenje u nauku, skepticizam prema nauci, uloga nauke u javnom odlučivanju, faktorska analiza

Latent Structure of Attitudes Towards Science

Although interest in trust in science has increased in recent years, previous research suggests that attitudes towards science extend beyond evaluations of its credibility and reliability. Attitudes towards science represent a broader construct that encompasses trust in scientific knowledge, scientists, and scientific institutions, as well as assessments of the integrity of scientific practice and views on the role of science in society and public decision-making. Based on these theoretically defined domains and findings from previous research, an initial set of 20 items was developed to assess attitudes towards science. The aim of the study was to examine its latent structure.

Data were collected from a convenience sample of 461 participants (75% women), aged 17 to 79 years ($M = 35.50$, $SD = 15.54$), recruited via social media and email. Exploratory factor analysis was conducted using PAF. The KMO measure was .858, indicating very good sampling adequacy, while Bartlett's test of sphericity was statistically significant ($\chi^2(190) = 2507.24$, $p < .001$), confirming sufficient intercorrelations among the items. Based on the Scree plot and Horn's parallel analysis, a three-factor solution was retained. Following Promax rotation, the solution accounted for 46.21% of the total variance. One item was removed due to unsatisfactory factor loading, while the remaining 19 were successfully distributed across three factors. The first factor, epistemic trust in science (7 items; $\alpha = .818$), reflects trust in the scientific method, scientific findings, scientists, and scientific institutions. The second factor, critical attitudes towards scientific practice (6 items; $\alpha = .737$), refers to perceptions of potential biases, limitations, and abuses within the scientific community. The third factor, the role of science in public life (6 items; $\alpha = .722$), reflects perceptions that scientific knowledge and recommendations from scientific institutions are insufficiently represented in public decision-making.

The factors were intercorrelated, with the strongest association observed between epistemic trust in science and support for the role of science in public life ($r = -.544$), whereas associations between critical attitudes towards scientific practice and the remaining two factors were substantially weaker ($r = -.225$; $r = -.144$). The negative association reflects the third factor's coding, with higher scores indicating a stronger perception that science is insufficiently represented in public life and decision-making.

The findings provide initial support for the three-factor structure of the developed instrument, suggesting that attitudes towards science constitute a multidimensional construct encompassing epistemic trust, critical attitudes towards scientific practice and views on the role of science in public life. This structure enables further validation of the instrument and more precise examination of the relationships among different aspects of attitudes towards science.

Keywords: attitudes towards science, trust in science, scepticism towards science, role of science in public decision-making, factor analysis



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Socijalna anksioznost i agresivnost: da li se iza straha od odbacivanja krije agresivnost?

Savremeni modeli socijalne anksioznosti ukazuju na to da ona nije povezana isključivo sa socijalnim povlačenjem i submisivnošću, već i sa složenim obrascima interpersonalnog funkcionisanja koji mogu uključivati različite aspekte agresivnosti. Priroda ovih odnosa još uvek nije dovoljno razjašnjena. Cilj istraživanja bio je ispitivanje prediktivne moći socijalne anksioznosti za različite aspekte agresivnosti – bes, hostilnost, dominaciju i osvetoljubivost – uz statističku kontrolu pola i starosti. Istraživanje je

sprovedeno na heterogenom uzorku iz opšte populacije Srbije (N = 1209), pretežno ženskog pola (64,5%), starosti od 19 do 80 godina (AS = 39,45; SD = 13,07). Primenjene su Skala socijalne anksioznosti (SA) i Upitnik agresivnosti (BODH). Rezultati pokazuju da je socijalna anksioznost značajan prediktor svih ispitivanih aspekata agresivnosti, pri čemu je njen doprinos najveći u predviđanju hostilnosti. Socijalna anksioznost samostalno objašnjava 8,7% varijanse hostilnosti, 7,2% varijanse besa, 4,5% varijanse osvetoljubivosti i 2,5% varijanse dominacije. Uvođenjem pola i starosti u modele, objašnjena varijansa dodatno se povećava, a svi modeli ostaju statistički značajni. Pol i starost pokazali su se značajnim prediktorima pojedinih aspekata agresivnosti, pri čemu je starost bila značajan prediktor besa, osvetoljubivosti, dominacije i hostilnosti, dok je pol bio značajan prediktor osvetoljubivosti i dominacije. Nalazi podržavaju savremena shvatanja prema kojima socijalna anksioznost ne predstavlja nužno suprotnost agresivnosti, već može biti povezana s pojedinim agresivnim emocionalnim i kognitivnim reakcijama. Posebno izražena povezanost socijalne anksioznosti sa hostilnošću i besom može ukazivati na značaj negativnih interpretacija i emocionalnih reakcija u socijalnim situacijama. Ovi nalazi doprinose boljem razumevanju interpersonalnog funkcionisanja osoba sa izraženijom socijalnom anksioznošću i ukazuju na potrebu daljeg ispitivanja specifičnih mehanizama koji povezuju socijalnu anksioznost i različite oblike agresivnosti.

Ključne reči: socijalna anksioznost, bes, osvetoljubivost, hostilnost, dominacija

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Social Anxiety and Aggression: Is Aggression Hidden Behind the Fear of Rejection?

Contemporary models of social anxiety suggest that it is not exclusively associated with social withdrawal and submissiveness, but also with complex patterns of interpersonal functioning that may include various aspects of aggression. The nature of these relationships remains insufficiently understood. The aim of this study was to examine the predictive power of social anxiety for different aspects of aggression—anger, hostility, dominance, and vindictiveness—while statistically controlling for sex and age. The study was conducted on a heterogeneous sample from the general population of Serbia (N = 1,209), predominantly female (64.5%), aged 19 to 80 years (M = 39.45; SD = 13.07). The Social Anxiety Scale (SA) and the Aggression Questionnaire (BODH) were administered. The results showed that social anxiety was a significant predictor of all examined aspects of aggression, with its contribution being greatest in predicting hostility. Social anxiety alone explained 8.7% of the variance in hostility, 7.2% of the variance in anger, 4.5% of the variance in vindictiveness, and 2.5% of the variance in dominance. When sex and age were added to the models, the explained variance increased further, and all models remained statistically significant. Sex and age were significant predictors of specific aspects of aggression, with age emerging as a significant predictor of anger, vindictiveness, dominance, and hostility, while sex was a significant predictor of vindictiveness and dominance. The findings support contemporary conceptualisations suggesting that social anxiety is not necessarily the opposite of aggression, but may be associated with certain aggressive emotional and cognitive responses. The particularly pronounced association between social anxiety and hostility and anger may point to the relevance of negative interpretations and emotional responses in social situations. These findings contribute to a better understanding of the interpersonal functioning of individuals with elevated social anxiety and highlight the need for further research into the specific mechanisms linking social anxiety to different forms of aggression.

Keywords: social anxiety, anger, vengefulness, hostility, dominance

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Preliminarna psihometrijska evaluacija revidirane verzije upitnika odbrambenih mehanizama (MOD-R)

Mehanizmi odbrane predstavljaju relativno stabilne nesvesne obrasce mišljenja, osećanja i ponašanja koje pojedinci koriste u suočavanju s emocionalnim problemima. Iako postoje instrumenti za njihovu procenu, istraživanja ukazuju na određena ograničenja u pogledu njihovih psihometrijskih karakteristika i razlikovanja nivoa zrelosti mehanizama odbrane. Iz tog razloga, konstruisan je upitnik Mehanizmi odbrane (MOD; Džamonja-Ignjatović i sar., 2014), čiji su početni rezultati bili zadovoljavajući, ali je prepoznata potreba za doradom pojedinih skala. Kao nastavak razvoja ovog instrumenta, razvijena je revidirana verzija MOD upitnika, MOD-R (Mehanizmi odbrane – revizija). Cilj ove pilot studije bio je da se ispituju pouzdanost i preliminarna psihometrijske karakteristike revidirane verzije instrumenta. Uzorak u istraživanju činilo je 100 ispitanika (84% žena), a prosečan uzrast bio je 23.19 godina. MOD-R meri 20 mehanizama odbrane klasifikovanih prema psihodinamskoj teoriji u tri nivoa: zreli (npr. anticipacija, sublimacija), nezreli (npr. negacija, devaluacija) i neurotski (npr. potiskivanje, racionalizacija). Revidirana verzija upitnika sadrži 110 stavki (po 5, 6 ili 7 ajtema za svaki mehanizam), u obliku tvrdnji koje se procenjuju četvorostepenom Likertovom skalom. Pored MOD-R upitnika, u istraživanju je korišćen i Defensive Style Questionnaire – DSQ-40 (Andrews & Bond, 1993) u cilju provere konvergentne validnosti. Rezultati pokazuju zadovoljavajuću internu konzistentnost MOD-R upitnika, pri čemu je većina skala ostvarila više koeficijente pouzdanosti nego u prethodnoj verziji upitnika (Kronbah $\alpha = .34-.91$). Odgovarajući nivoi MOD-R i DSQ upitnika pokazali su statistički značajne pozitivne korelacije (korelacije u rasponu od $r = .42$ do $.77$, sve $p < .001$), pružajući podršku preliminarnoj konvergentnoj validnosti revidiranog instrumenta. Preliminarna eksploratorna faktorska analiza (EFA) bez unapred zadatog broja faktora ukazala je na šestofaktorsko rešenje koje nije bilo teorijski interpretabilno, zbog čega je dodatno ispitano teorijski očekivano trofaktorsko rešenje. EFA uz unapred zadata tri faktora, pokazala je da faktori objašnjavaju 36.73% ukupne varijanse, uz delimično poklapanje sa teorijski pretpostavljenom strukturom. Prvi faktor u najvećoj meri obuhvatio je nezrele mehanizme odbrane, dok su drugi i treći faktor pokazali manje jasno grupisanje zrelih i neurotskih mehanizama. Faktorska opterećenja kretala su se od $-.178$ do $.826$, pri čemu su najviša opterećenja dobijena za mehanizme koji pripadaju nezrelom nivou odbrane. Korelacije između faktora bile su niske ($r = -.12$ do $.28$), ukazujući na ograničeno preklapanje izdvojenih dimenzija. Dobijeni nalazi ukazuju na zadovoljavajuću internu konzistentnost većine skala i preliminarnu podršku validnosti MOD-R upitnika. Biće potrebna dalja istraživanja na većim i heterogenijim uzorcima radi dodatne revizije skala i provere faktorske strukture instrumenta.

Ključne reči: mehanizmi odbrane, upitnik MOD-R, psihometrijska evaluacija, pouzdanost

Preliminary Psychometric Evaluation of the Revised Defence Mechanisms Questionnaire (MOD-R)

Defence mechanisms represent relatively stable unconscious patterns of thoughts, emotions, and behaviours that individuals use when coping with emotional difficulties. Although several instruments have been developed for their assessment, previous research has pointed to certain limitations regarding their psychometric properties and the differentiation between levels of defence mechanism maturity. For this reason, the Defence Mechanisms Questionnaire (MOD; Džamonja-Ignjatović et al., 2014) was developed. While initial findings indicated satisfactory results, the need for further refinement of certain scales was identified. As a continuation of the instrument development process, a revised version of the MOD questionnaire, MOD-R (Defence Mechanisms – Revised), was developed. The aim of this pilot study was to examine the reliability and preliminary psychometric characteristics of the revised instrument. The sample consisted of 100 participants (84% women), with a mean age of 23.19 years. MOD-R assesses 20 defence mechanisms classified according to psychodynamic theory into three levels: mature (e.g., anticipation, sublimation), immature (e.g., denial, devaluation), and neurotic (e.g., repression, rationalisation). The revised questionnaire consists of 110 items (5, 6, or 7 items per mechanism), rated on a four-point Likert scale. In addition to the MOD-R, the Defensive Style Questionnaire—DSQ-40 (Andrews & Bond, 1993) was administered to examine convergent validity. Results indicated satisfactory internal consistency of the MOD-R, with most scales demonstrating higher reliability coefficients compared to the previous version of the questionnaire (Cronbach's $\alpha = .34-.91$). Corresponding levels of the MOD-R and DSQ showed statistically significant positive correlations (r s ranging from .42 to .77, all $p < .001$), providing support for the preliminary convergent validity of the revised instrument. A preliminary EFA without a predefined number of factors indicated a six-factor solution that lacked theoretical interpretability; therefore, a theoretically expected three-factor solution was additionally examined. EFA with a predefined three-factor solution showed that the factors accounted for 36.73% of the total variance, with partial correspondence to the theoretically proposed structure. The first factor predominantly comprised immature defence mechanisms, whereas the second and third factors showed less clear grouping of mature and neurotic defence mechanisms. Factor loadings ranged from $-.178$ to $.826$, with the highest loadings observed for mechanisms belonging to the immature defence level. Correlations between factors were low ($r = -.12$ to $.28$), indicating limited overlap between the extracted dimensions. The findings provide preliminary support for the reliability and validity of the MOD-R, while further research on larger and more heterogeneous samples is needed to refine specific scales and examine the factor structure of the instrument.

Keywords: defence mechanisms, MOD-R questionnaire, psychometric evaluation, reliability



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Replication of the Holistic Face Effect on Caucasian Older Adolescents

Humans are highly specialised for face recognition, which occurs rapidly and with high accuracy. A key question is how this highly automated process operates: are faces processed, like most complex objects, by analysing individual features, or does this process occur holistically, in which faces are perceived as integrated wholes and the relationships among individual facial features are crucial? There is support for both types of processes, but the evidence supporting the holistic theory of face processing comes mainly when the Composite Face Effect (CFE) paradigm was used. Such research also shows that holistic face perception is already present in children as young as ten years old

(Meinhardt-Injac et al., 2017), and that it also develops beyond adolescence, up to 24 years of age (Sun et al., 2022). However, this developmental trajectory was only demonstrated in Asian participants.

We tested 30 Caucasian university students (age: 19-21), using 20 photographs of Caucasian faces as stimuli. The CFE paradigm includes sequential presentation of two faces: one during the learning phase and another during the test phase. These faces are created by combining the upper and lower halves of different individuals' faces. Participants are instructed to determine whether the upper half of the face shown in the test phase is the same as the upper half presented during the learning phase. Faces in the test phase are presented in one of four conditions created by crossing congruence (congruent vs. incongruent) with alignment (aligned vs. misaligned) in a 2×2 design. In the congruent condition, the test face is either entirely the same as or entirely different from the face presented during the learning phase. In the incongruent condition, one part of the test face is the same as in the learning phase, whereas the other part is different. In the misaligned condition, the lower half of the face is shifted horizontally to the right relative to the upper half. In contrast, in the aligned condition, the lower half is positioned directly beneath the upper half.

If faces are perceived holistically, the CFE is expected to emerge, reflected in better recognition of congruent than incongruent faces in the aligned condition. Furthermore, a larger CFE is expected in the aligned condition than in the misaligned condition, but they should not interact. This is exactly what we have obtained in our sample, on mean sensitivity A' scores [Congruency: $F(1,29)=6.04$, $p=.02$, $\eta^2=0.17$; Alignment: $F(1,29)=1.06$, $p=.3$; Congruency $\times$ Alignment: $F(1,29)=1.13$, $p=0.3$], and most notably in Aligned: Congruent $>$ Incongruent, demonstrating the presence of CFE. The obtained pattern of results indicates that it is difficult to ignore the irrelevant half of the face, particularly observed in the aligned condition, which promotes holistic processing. In sum, our results confirm the established development of holistic face processing in the Caucasian population.

Keywords: *face perception, holistic face effect, older adolescents*



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Positive Youth Development, Risk Behaviours, and Well-Being Among High School Students

In response to the deficit perspective, the Positive Youth Development (PYD) framework was developed. Unlike the deficit-based approach, PYD views adolescents as individuals who possess the potential to develop and strengthen their own abilities, strengths, and resources (Lerner et al., 2003). The 5Cs model of Positive Youth Development comprises five key characteristics: competence, character, confidence, connection, and caring. Previous research has linked positive youth characteristics to a wide range of positive outcomes. The aim of this study was to examine the extent to which high school students' well-being can be predicted based on the characteristics of Positive Youth Development and risk behaviours. The study included 289 third-year high school students from Osijek and Vinkovci (65% of the participants were female, 33% were male, and 2% preferred not to disclose their gender). Data were collected online using the SurveyMonkey platform: Sociodemographic questionnaire, Short version of the Positive Youth Development Questionnaire (PYD-SF, Geldhof et al., 2014), Risk behaviours scale—adapted from Developmental Assets: A Profile of Your Youth (Search Institute, 2018) and The Alcohol, Smoking and Substance Involvement Screening Test (WHO, 2010), and Short Warwick-Edinburgh Mental Wellbeing. All components of positive development were positively related to well-being (from $r = .19$ (caring) to $r = .63$ (confidence)). Risk behaviours were not found to be significantly associated with well-being and were therefore not included in the regression analysis. The results indicate that competence, confidence, and connection

are significant positive predictors of students' well-being (competence – $\beta = .16$, $p < .01$, confidence – $\beta = .32$, $p < .01$, and connection $\beta = .32$, $p < .01$). The predictors together explain 51% of the variance in well-being. Although this study does not permit causal inferences, the associations between the components of Positive Youth Development and adolescents' well-being highlight the value of implementing school-based programmes designed to promote Positive Youth Development among high school students.

Keywords: Positive Youth Development, risk behaviours, well-being



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Vakcinalne teorije zavere u Srbiji: doprinos političkih ideologija i konspiratornog mentaliteta

Vakcinalno oklevanje predstavlja rastući problem u domenu javnog zdravlja, a verovanje u vakcinalne teorije zavere jedan je od ključnih faktora koji mu doprinosi. Cilj ovog istraživanja bio je da se ispita doprinos političko-ideoloških konstrukata, desničarske autoritarnosti (RWA) i orijentacije na socijalnu dominaciju (SDO), kao i konspiratornog mentaliteta u objašnjenju verovanja u vakcinalne teorije zavere. U istraživanju je korišćena sekundarna baza podataka prikupljena na reprezentativnom uzorku građana Srbije (N = 847; 52.9% muškaraca), formiranom stratifikovanim trostepenim probabilističkim uzorkovanjem tokom 2017. godine. Primenom bivarijatne korelacione analize i hijerarhijske multiple regresije testirane su četiri hipoteze o prediktivnoj moći ispitivanih konstrukata. Rezultati su pokazali da su RWA ($\beta = .108$, $p < .01$), SDO ($\beta = .169$, $p < .001$) i konspiratorni mentalitet ($\beta = .215$, $p < .001$) značajni pozitivni prediktori verovanja u vakcinalne teorije zavere, čime su potvrđene sve postavljene hipoteze. Konspiratorni mentalitet pokazao se kao najsnažniji prediktor, objašnjavajući dodatnih 4.5% varijanse iznad doprinosa političko-ideoloških konstrukata ($\Delta R^2 = .045$, $F(6, 840) = 18.72$, $p < .001$). Sve varijable zajedno objasnile su 11.8% varijanse verovanja u vakcinalne teorije zavere ($R^2 = .118$). Dobijeni nalazi ukazuju na to da verovanje u vakcinalne teorije zavere nije povezano samo sa političko-ideološkim stavovima, već i sa opštom sklonošću ka konspirativnom tumačenju društvenih događaja. Nalazi istraživanja mogu doprineti boljem razumevanju psiholoških osnova vakcinalnog oklevanja i razvoju efikasnijih strategija komunikacije u oblasti javnog zdravlja u Srbiji.

Ključne reči: vakcinalne teorije zavere, konspiratorni mentalitet, desničarska autoritarnost, orijentacija na socijalnu dominaciju, vakcinalno oklevanje

Vaccine Conspiracy Theories in Serbia: The Contribution of Political Ideologies and Conspiracy Mentality

Vaccine hesitancy represents a growing public health concern, with belief in vaccine-related conspiracy theories being one of its key contributing factors. The aim of this study was to examine the contribution of political-ideological constructs, right-wing authoritarianism (RWA), and social dominance orientation (SDO), as well as conspiratorial mentality in explaining belief in vaccine conspiracy theories. The study used a secondary dataset collected on a representative sample of Serbian citizens (N = 847; 52.9% men), obtained through stratified three-stage probability sampling in 2017. Bivariate correlation analyses and hierarchical multiple regression were employed to test four hypotheses regarding the predictive power of the examined constructs. The results showed that RWA ($\beta = .108$, $p < .01$), SDO ($\beta = .169$, $p < .001$), and conspiratorial mentality ($\beta = .215$, $p < .001$) were significant positive predictors of belief in vaccine conspiracy theories, thereby supporting all hypotheses. Conspiratorial mentality emerged as the strongest predictor, explaining an additional 4.5% of variance beyond the contribution of political-ideological constructs ($\Delta R^2 = .045$, $F(6, 840) = 18.72$, $p < .001$). All

variables together explained 11.8% of the variance in belief in vaccine conspiracy theories ($R^2 = .118$). These findings indicate that belief in vaccine conspiracy theories is not only associated with political-ideological attitudes but also with a general tendency towards conspiratorial interpretations of social events. The results may contribute to a better understanding of the psychological foundations of vaccine hesitancy and the development of more effective public health communication strategies in Serbia.

Keywords: vaccine conspiracy theories, conspiracy mentality, right-wing authoritarianism (RWA), social dominance orientation (SDO), vaccine hesitancy



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Measuring Conspiracy Mentality in Serbia: Trend Analysis and Validation of Conspiracy Mentality Questionnaire

Conspiracy mentality refers to a generalised tendency to interpret important social and political events as the result of secret plots orchestrated by powerful groups. Although widely studied in Western populations, the psychometric properties of commonly used conspiracy mentality measures remain underexplored in non-WEIRD cultural contexts. Despite some previous research in Serbia demonstrating the internal consistency and one-factor structure of the conspiracy mentality questionnaire (CMQ) in a Serbian sample, further psychometric evaluation remains warranted.

The present research examined the psychometric properties of the CMQ, including internal consistency, factorial structure, along with socio-demographic correlates (gender, age, and years of education) of the Conspiracy Mentality in a representative Serbian sample through five studies.

Data were collected across five nationally representative surveys conducted between 2016 and 2019 (total $N = 4,854$). Participants ranged in age from 18 to 88 years ($M=43.06$; $SD=15.296$). Participants were recruited through a three-stage stratified sampling procedure and completed face-to-face interviews.

Results showed consistent internal reliability of the CMQ across all studies (Cronbach's α ranging from .83 to .89). Exploratory factor analyses consistently supported a one-factor structure for the CMQ, explaining more than 60% of variance across measurements in all five studies. Trend analysis across four time points showed the absence of statistically significant changes in the level of conspiracy mentality, which indicates consistency of this construct in the observed period. To further establish the construct validity of the CMQ, confirmatory factor analysis (CFA) was conducted to examine whether conspiracy mentality could be empirically distinguished from conceptually related constructs. Across samples, the hypothesised models demonstrated acceptable fit, with χ^2/df ranging from 5.02 to 7.11, CFI = .92, NFI = .90, and RMSEA ranging from .06 to .07, supporting the distinctiveness of the CMQ.

Associations between conspiracy mentality and socio-demographic variables were generally weak and inconsistent over time. A small negative correlation with gender was found only in 2016, while a small positive correlation with years of education emerged only in May 2017. We conclude that no stable associations with age, gender, or education were observed across measurements.

Overall, the findings provide evidence for the reliability of the CMQ. The study highlights the importance of examining conspiracy beliefs outside WEIRD populations, suggests a one-factorial organisation of the CMQ and socio-demographic correlates of conspiracy mentality.

Keywords: conspiracy mentality, CMQ, validation, socio-demographic variables, Serbian sample



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Serbian Version of the Beliefs About Revenge Pornography Scale— Preliminary Validation Results

Non-consensual sharing of intimate images (NCII) is a form of digital sexual violence committed to humiliate the victim, damage her reputation, and cause significant distress. Revenge pornography (RP) is one form of such violence perpetrated by a current or former romantic or sexual partner of the victim. Since the victims of RP are typically female, it can also be considered a form of violence against women. Research conducted in various countries has revealed prevalent negative attitudes toward RP victims. These attitudes include minimising the harm experienced, dehumanizing the victims, normalising the behaviour of perpetrators, and blaming the victims themselves. It is crucial to explore whether similar patterns are present in Serbia, as no research has yet addressed this issue in that context. Considering the scarcity of research on this topic, the aim of our research was to validate the Scale of Beliefs about Revenge Pornography (BRPQ; 45 items) in a community sample in Serbia. We hypothesised that the four-factor structure of the BRPQ would be confirmed. To further test construct validity, we hypothesised moderate-to-low positive correlations with Hostile and Benevolent Sexism (HS and BS), Right-Wing Authoritarianism (RWA), Social Dominance Orientation (SDO), and Dark Personality Traits. To test predictive validity, we hypothesised that BRPQ would negatively predict sexual online behaviour measured via behavioural indicators, e.g., frequency of engaging in sexting.

A test battery and a set of sociodemographic questions were distributed online via the SoSci platform. Data collection is still ongoing, with the current convenience sample consisting of 256 participants from the general population (75% female; $M(\text{age}) = 34.82$, $SD(\text{age}) = 15.68$).

Confirmatory factor analysis did not provide adequate support for the original four-factor model. However, exploratory factor analysis suggested a four-factor solution that was conceptually consistent with the original instrument. These four factors were as in the original scale: Avoiding Vulnerable Behaviour (AVB), Victim Harm (VH), Victim Blaming/Victims as Promiscuous (VP), and offence Minimisation (OM). The correlations of these factors with other constructs were significant and ranged from low to moderate: HS (from $r = .29$ for OM to $r = .56$ for AVB), BS (from $r = .19$ for VP to $.25$ for AVB), SDO (from $r = .24$ for rVH to $.41$ for OM), RWA (from $r = .16$ for rVH to $.53$ for AVB), Machiavellianism (from $r = .23$ for VP to $.28$ for AVB) and Sadism (from $r = .16$ for AVB to $.31$ for OM). As for predictive validity, only Avoiding Vulnerable Behaviour negatively predicted sexual online behaviour ($\beta = -.25$, $t(224) = 3.50$, $p = .001$).

Results should be considered preliminary because data collection is ongoing. They warrant further examination, since more participants are needed for all analyses, and the sample consists mostly of women.

Keywords: revenge pornography, victim blaming, sexism, social dominance orientation, right-wing authoritarianism



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Metacognitive Beliefs, Self-Compassion, and Attention Control in Middle Childhood

According to the Self-Regulatory Executive Function model (Wells, 2019), children who believe that worry is uncontrollable are prone to prolonged worry. Prolonged worry occupies working memory and attentional resources, leaving fewer resources for tasks that require resistance to distraction. Self-compassion may reduce this load: children who respond to difficulties with kindness rather than self-criticism engage less in negative self-focused thinking, which frees those resources. We therefore test a specific mechanism and expect self-compassion to weaken the association between maladaptive metacognitive beliefs and objective attention performance. The moderator role should be strongest at ages 8 to 12. In this period, executive attention is still maturing, and worry becomes more cognitive and repetitive, so attention is particularly open to interference from worry. At the same time, stable self-evaluation is just emerging, and children begin to differ in how critically they treat themselves. With metacognitive control still immature, this attitude towards the self may determine how much of the attentional resources worry consumes. Few studies in this age group have combined self-report measures with a behavioural attention task.

Around 400 children aged 8 to 12 will complete the study online, only on desktop or laptop computers with a keyboard, with standardised instructions and a practice block with an accuracy criterion. Attention control will be measured with a child version of the Flanker task. Metacognitive beliefs will be assessed with a Russian translation of the German Metacognitions Questionnaire for Children (MKF-K; Naumann, 2014), a 30-item children's version of the MCQ-30 (Wells & Cartwright-Hatton, 2004). Self-compassion will be assessed with the Self-Compassion Scale for Youth (SCS-Y; Neff et al., 2021), with its positive and negative components analysed separately. Both questionnaires are translated into Russian using forward and backward translation.

The main analysis will use trial-level linear mixed models of reaction times (congruency $\times$ metacognitive beliefs $\times$ self-compassion), with accuracy as a secondary outcome in generalised mixed models, and age and gender as covariates. Responses faster than 200 ms and trials without a response within 1700 ms will be excluded, and error trials will not enter the reaction time analysis. An a priori power analysis for the interaction term, based on the smallest effect size of interest ($f^2 = .02$, $\alpha = .05$, power = .80), requires about 395 children. We expect larger flanker interference in children with stronger maladaptive metacognitive beliefs, and a weaker association in children with higher self-compassion. The results can inform school-based programmes addressing metacognitive beliefs and self-compassion in middle childhood.

Keywords: *metacognitive beliefs, self-compassion, attention control, middle childhood, online assessment*



PANEL DISKUSIJA
PANEL DISCUSSION

Moderatorica / Moderator: Bojana Bodroža

Organizatorke / Organizers: Bojana Dinić, Bojana Bodroža

Panelisti / Panelists: Vanja Subotić, Ana Perović, Mihailo Ilić

Psihoterapija i AI: konkurencija, alat ili saveznik?

Panel će se baviti sve prisutnijom upotrebom veštačke inteligencije u domenu mentalnog zdravlja, sa posebnim fokusom na AI četbotove i alate koji pružaju psihološku podršku. Kroz interdisciplinarnu diskusiju psihologa, psihoterapeuta i stručnjaka za veštačku inteligenciju, biće razmotreno kako funkcionišu veliki jezički modeli (LLM), zbog čega im se ljudi obraćaju za pomoć, kao i u kojoj meri oni mogu odgovoriti na potrebe korisnika koje su ranije bile rezervisane za stručnjake za mentalno zdravlje. Panel će obuhvatiti pitanja motiva za korišćenje AI alata, njihovih potencijalnih koristi i rizika, načina na koje pružaju psihološku podršku, kao i problema vezanih za privatnost podataka, poverenje u tehnologiju i antropomorfizaciju AI sistema. Posebna pažnja biće posvećena uticaju AI alata na proces samodijagnostikovanja, očekivanja korisnika i odnos između klijenata i terapeuta.

Cilj panela je da podstakne kritičko promišljanje o mogućnostima i ograničenjima veštačke inteligencije u oblasti mentalnog zdravlja i da odgovori na pitanje da li AI može predstavljati dopunu ili alternativu određenim oblicima psihološke pomoći, kao i gde se nalaze granice njene primene.

Psychotherapy and AI: Competition, Tool, or Ally?

The panel will explore the increasingly widespread use of artificial intelligence in the field of mental health, with a particular focus on AI chatbots and tools that provide psychological support. Through an interdisciplinary discussion involving psychologists, psychotherapists, and AI experts, the panel will examine how large language models (LLMs) function, why individuals turn to them for help, and to what extent they can meet users' needs that were traditionally addressed by mental health professionals. The discussion will cover motivations for using AI tools, their potential benefits and risks, the ways in which they provide psychological support, as well as issues related to data privacy, trust in technology, and the anthropomorphisation of AI systems. Special attention will be given to the impact of AI tools on self-diagnosis, user expectations, and the relationship between clients and therapists.

The goal of the panel is to encourage critical reflection on the possibilities and limitations of artificial intelligence in mental health, and to explore whether AI can serve as a complement or an alternative to certain forms of psychological support, as well as where the boundaries of its application lie.



HR LOUNGE
HR LOUNGE

Moderatorke / Moderators: Dragana Jelić i Jelena Karapandžić

Govornici / Speakers: Luka Babić, Valentina Kalaj Dakić, Predrag Okanović

People Analytics: Razumevanje zaposlenih i donošenje odluka uz pomoć podataka

People Analytics je oblast koja povezuje psihologiju, upravljanje ljudskim resursima i analitiku podataka, sa ciljem boljeg razumevanja ponašanja zaposlenih i donošenja kvalitetnijih organizacionih odluka. Zajedno sa vodećim stručnjacima iz industrije, istražićemo na koji način organizacije danas koriste podatke kako bi predvidele fluktuaciju, unapredile angažovanost zaposlenih, optimizovale proces selekcije i kreirale kvalitetnije radno okruženje. Kroz primere iz prakse i iskustva panelista razgovaraćemo o tome gde se nalaze podaci na osnovu kojih organizacije donose ključne odluke, kako se oni prikupljaju i analiziraju, ali i kako pomažu da razumemo šta se već dogodilo, predvidimo buduće trendove i pravovremeno reagujemo na potencijalne rizike i prilike.

Posebnu pažnju posvetićemo mogućnostima primene People Analytics-a u različitim HR procesima, kao i izazovima koje sa sobom nose pitanja etike, privatnosti i kvaliteta podataka. Učesnici će imati priliku da saznaju kakvo je trenutno stanje ove oblasti u Srbiji, koji su njeni razvojni pravci i kakva je uloga psihologa u organizacijama koje svoje odluke zasnivaju na podacima.

People Analytics: Understanding Employees and Making Data-Driven Decisions

People Analytics is a field that connects psychology, human resource management, and data analytics with the goal of better understanding employee behavior and making higher-quality organizational decisions. Together with leading industry experts, we will explore how organizations today use data to predict turnover, improve employee engagement, optimize selection processes, and create a better work environment. Through practical examples and the experiences of our panelists, we will discuss where the data used for key organizational decisions comes from, how it is collected and analyzed, and how it helps us understand what has already happened, anticipate future trends, and respond in a timely manner to potential risks and opportunities. Special attention will be given to the possibilities of applying People Analytics in various HR processes, as well as to the challenges related to ethics, privacy, and data quality. Participants will have the opportunity to learn about the current state of this field in Serbia, its development trends, and the role of psychologists in organizations that base their decisions on data.



RADIONICE
WORKSHOPS

Svetlana Nešić Bajgo, Tamara Tomašević

Prava deteta u praksi – odgovornost odraslih i uslovi za ostvarivanje prava

Prava deteta predstavljaju temeljni okvir za razumevanje razvoja, dobrobiti i položaja deteta, ali i za donošenje profesionalnih odluka u radu sa decom. Iz te perspektive, profesionalne uloge nisu neutralne u odnosu na prava deteta, već su usmerene ka njihovom ostvarivanju, zaštiti i unapređivanju. Radionica je namenjena studentima psihologije i drugih društveno-humanističkih disciplina, kao i profesionalcima koji rade ili će raditi sa decom. Njen cilj je produbljivanje razumevanja prava deteta i njihove primene u svakodnevnoj praksi, uz kritičko preispitivanje uvreženih pretpostavki o pravima, obavezama i odgovornostima. Poseban fokus biće stavljen na razumevanje da prava deteta ne predstavljaju skup izolovanih normi, već međusobno povezan sistem koji zahteva promišljanje, refleksiju i odgovorno profesionalno delovanje. Radionica doprinosi razumevanju da zaštita i ostvarivanje prava deteta nisu zadatak pojedinca niti isključivo porodice, već zajednička odgovornost svih sistema koji učestvuju u životu deteta.

Kroz iskustvene vežbe, grupni rad, analizu konkretnih situacija i primenu lestvice participacije, učesnici će istraživati kako se osnovni principi Konvencije o pravima deteta ostvaruju u svakodnevnoj praksi. Razmatraće se pitanja poput: kako uskladiti pravo deteta na participaciju sa odgovornošću odraslih da ga zaštite; kako procenjivati najbolji interes deteta u složenim okolnostima; kako odgovoriti na različite razvojne potrebe dece bez diskriminacije i kako obezbediti uslove koji podržavaju njihov život, razvoj i dobrobit.

Posebna pažnja biće posvećena izazovima koji nastaju kada se u praksi pojave sukobi između pojedinih prava, potreba i interesa, kao i načinima donošenja profesionalnih odluka koje omogućavaju da sva četiri osnovna principa prava deteta ostanu istovremeno zaštićena i uvažena. Polazeći od Bronfenbrennerovog ekološkog modela razvoja, učesnici će istraživati na koji način porodica, vršnjaci, obrazovni, zdravstveni i sistem socijalne zaštite, lokalna zajednica, mediji i širi društveni kontekst utiču na ostvarivanje prava deteta od najranijeg razvoja. Kroz mapiranje odnosa, moći i odgovornosti različitih aktera, razmatraće se kako se prava deteta ostvaruju ili ograničavaju u svakodnevnoj praksi, kao i koje su odgovornosti pojedinaca, institucija i države u stvaranju uslova za pun razvoj svakog deteta.

Kada stručnjaci svoj rad zasnivaju na naučnim saznanjima, profesionalnoj etici, refleksiji i stalnom preispitivanju sopstvenih pretpostavki, oni ne samo da obavljaju svoju profesionalnu ulogu, već aktivno doprinose stvaranju uslova u kojima svako dete može da ostvaruje svoja prava, razvija svoje potencijale i učestvuje u životu zajednice. U tom smislu, ostvarivanje prava deteta nije dodatak profesionalnoj praksi, već jedan od njenih osnovnih ciljeva i merila kvaliteta.

Children's Rights in Practice: Adult Responsibility and the Conditions for the Realisation of Children's Rights

Children's rights provide a fundamental framework for understanding child development, well-being, and social position, as well as for guiding professional decision-making when working with children. From this perspective, professional roles are not neutral with regard to children's rights; rather, they are directed towards their realisation, protection, and advancement. This workshop is designed for psychology students, students of other social sciences and humanities disciplines, and professionals who work—or intend to work—with children. Its goal is to deepen participants' understanding of children's rights and their application in everyday practice, while encouraging critical reflection on common assumptions regarding rights, obligations, and responsibilities. Particular attention will be given to understanding that children's rights do not constitute a set of isolated norms, but an

interconnected system that requires thoughtful consideration, reflection, and responsible professional action. The workshop promotes the understanding that the protection and realisation of children's rights are neither the sole responsibility of individuals nor of families alone, but a shared responsibility of all systems involved in children's lives.

Through experiential exercises, group work, case analyses, and the application of participation frameworks, participants will explore how the fundamental principles of the UN Convention on the Rights of the Child are implemented in everyday practice. Questions explored during the workshop include: How can children's right to participation be balanced with adults' responsibility to ensure their protection? How should the best interests of the child be assessed in complex circumstances? How can professionals respond to diverse developmental needs without discrimination? And how can conditions that support children's lives, development, and well-being be created? Special attention will be paid to situations in which different rights, needs, and interests come into conflict, as well as to approaches to professional decision-making that help ensure all four guiding principles of children's rights remain simultaneously respected and protected.

Drawing on Bronfenbrenner's ecological model of development, participants will examine how families, peers, educational, health, and social welfare systems, local communities, media, and the broader social environment influence the realisation of children's rights from the earliest stages of development. Through mapping relationships, power dynamics, and responsibilities among different actors, participants will explore how children's rights are enabled or constrained in everyday practice, as well as the responsibilities of individuals, institutions, and governments in creating conditions that support the full development of every child.

When professionals ground their work in scientific knowledge, professional ethics, reflection, and the continuous examination of their own assumptions, they not only fulfil their professional role but also actively contribute to creating conditions in which every child can exercise their rights, develop their potential, and participate fully in community life. In this sense, the realisation of children's rights is not an addition to professional practice—it is one of its fundamental goals and a key indicator of its quality.



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Moć asertivne komunikacije – od samopouzdanog izražavanja do uspešne saradnje

Asertivna komunikacija predstavlja obrazac interpersonalnog ponašanja koji podrazumeva jasno, direktno i socijalno primereno izražavanje sopstvenih misli, osećanja, potreba i stavova, uz istovremeno uvažavanje prava, dostojanstva i integriteta drugih osoba. Kao jedan od ključnih koncepata savremene psihologije i komunikacije i treninga socijalnih veština, asertivnost se nalazi između dva neadaptivna obrasca ponašanja – pasivnog, koji karakteriše odustajanje od sopstvenih potreba, i agresivnog, koji podrazumeva narušavanje prava drugih. Savremena istraživanja pokazuju da je razvijena asertivnost povezana sa višim nivoom samopoštovanja, boljom emocionalnom regulacijom, većim zadovoljstvom međuljudskim odnosima, manjim rizikom od stresa i sagorevanja, kao i uspešnijim profesionalnim funkcionisanjem. Zbog toga se razvoj asertivne komunikacije smatra jednom od ključnih komponenti programa unapređenja socijalnih i emocionalnih kompetencija u obrazovanju, zdravstvu i poslovnom okruženju. Cilj radionice je povećanje komunikacijskih kompetencija, osnaživanje učesnika za lakše nošenje sa svakodnevnim izazovima, smanjenje profesionalnih grešaka, sprečavanje sindroma izgaranja i mobinga, jačanje samopouzdanja i tolerancije, prihvatanje svojih i asertivnih prava drugih ljudi i preuzimanje odgovornosti za sopstvene emocije kao kamen temeljac psihičkog samorazvoja. Po završetku radionice učesnici će biti

osposobljeni da razlikuju pasivni, agresivni, pasivno-agresivni i asertivni stil komunikacije, prepoznaju sopstveni dominantni stil komunikacije i njegove posledice, primenjuju principe asertivne komunikacije u svakodnevnim situacijama i jasno izražavaju mišljenja, osećanja, potrebe i očekivanja bez ugrožavanja prava drugih, postavljaju i štite lične granice na prihvatljiv način, koriste „ja“ poruke, uspešno rešavaju nesporazume i konflikte uz očuvanje međusobnog uvažavanja. Sadržaj radionice je organizovan u tematske celine (stilovi komunikacije, značaj asertivne komunikacije i njene vrste, davanje i primanje kritika i pohvala, asertivno odbijanje zahteva i upućivanje molbi, asertivna prava, pregovaranje i rešavanje konflikta, analiza tipičnih komunikacijskih situacija iz života, plan ličnog razvoja asertivnih veština). Posle svake celine planira se rad u malim grupama koje imaju izvestioca o interaktivnom radu, kao jedna od metoda rada. Planirane su sledeće metode rada: ulazna i završna evaluacija znanja učesnika iz oblasti komunikacije, igranje uloga (rolplej u vezi sa stilovima komunikacije i asertivnim pravima), samoprocena i refleksija o sopstvenom stilu komunikacije.

Ključne reči: asertivnost, samopouzdanje ponašanje i saradnja

Assertive Communication Leads to Success

Assertive communication is a pattern of interpersonal behaviour that involves clear, direct, and socially appropriate expression of one's own thoughts, feelings, needs and attitudes, while respecting the rights, dignity and integrity of other people. As one of the key concepts of modern psychology and communication and social skills training, assertiveness is located between two maladaptive patterns of behaviour—passive, which is characterised by giving up one's own needs, and aggressive, which involves violating the rights of others. Modern research shows that developed assertiveness is associated with a higher level of self-esteem, better emotional regulation, greater satisfaction with interpersonal relationships, a lower risk of stress and burnout, as well as more successful professional functioning. Therefore, the development of assertive communication is considered one of the key components of programmes for improving social and emotional competencies in education, health, and business environments. The goal of the workshop is to increase communication competencies, empower participants to cope with everyday challenges more easily, reduce professional mistakes, prevent burnout and mobbing syndrome, strengthen self-confidence, tolerance and acceptance of their own and other people's assertive rights and take responsibility for their own emotions as the cornerstone of psychological self-development. Upon completion of the workshop, participants will be able to distinguish between passive, aggressive, passive-aggressive and assertive communication styles, recognise their own dominant communication style and its consequences, apply the principles of assertive communication in everyday situations, clearly express opinions, feelings, needs, and expectations without compromising the rights of others, set and protect personal boundaries in an acceptable way, use "I" messages, successfully resolve misunderstandings and conflicts while maintaining mutual respect. The content of the workshop is organised in thematic units (communication styles, the importance of assertive communication and its types, giving and receiving criticism and praise, assertively refusing requests and making requests, assertive rights, negotiating and resolving conflicts, analysis of typical communication situations from life, personal development plan for assertive skills). After each unit, work is planned in small groups with a reporter on interactive work, as one of the work methods. The following work methods are planned: initial and final evaluation of participants' knowledge of communication, role-playing (role-play regarding communication styles and assertive rights), self-assessment and reflection on one's own communication style.

Keywords: assertiveness, communication, success, confident behaviour and cooperation



TRANSFEROV PODSKUP
TRANSFER'S SUBCONFERENCE

PLENARNO PREDAVANJE

PLENARY LECTURE

Isidora Gatarić*Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia**Email: isidora.gataric@uns.ac.rs***Izvan granica uma: Šta psiholozi mogu da rade u doba veštačke inteligencije (a da nije HR)**

Razvoj veštačke inteligencije i ubrzane promene na tržištu rada otvaraju nove mogućnosti za primenu znanja i veština stečenih tokom studija psihologije. Iako se profesionalni put psihologa često povezuje sa psihološkom procenom, savetovanjem, psihoterapijom i istraživačkim radom u okviru tradicionalnih psiholoških disciplina, kompetencije koje psiholozi razvijaju mogu biti značajne i u oblastima koje na prvi pogled deluju udaljeno od matične struke. Jedna od njih je tehnološka industrija, u kojoj se sve više prepoznaje značaj razumevanja ljudskog ponašanja, analitičkog razmišljanja i donošenja odluka zasnovanih na podacima. Predavanje će predstaviti lični profesionalni put od obrazovanja i početaka karijere u oblastima analize podataka i statistike, preko napredovanja od juniorskih do rukovodećih pozicija, do rada na razvoju proizvoda zasnovanih na veštačkoj inteligenciji u ulozi Product Owner-a. Kroz ovaj profesionalni razvoj biće prikazano kako se znanja stečena tokom studija psihologije mogu primeniti u različitim poslovnim kontekstima, kao i na koji način se profesionalni identitet može razvijati izvan unapred definisanih granica jedne struke. Posebna pažnja biće posvećena prenosivim kompetencijama psihologa koje imaju praktičnu vrednost u tehnološkom okruženju. To uključuje razumevanje ljudskog ponašanja i potreba korisnika, postavljanje istraživačkih pitanja, kritičko promišljanje, formulisanje i testiranje hipoteza, osmišljavanje eksperimenata, interpretaciju rezultata, kao i poznavanje statistike i istraživačke metodologije. Biće razmotreno kako se ove veštine mogu povezati sa analizom podataka, razvojem proizvoda, donošenjem poslovnih odluka i unapređivanjem korisničkog iskustva. Učesnici će se upoznati i sa osnovnim principima razvoja proizvoda zasnovanih na veštačkoj inteligenciji, od prepoznavanja problema i definisanja potreba korisnika do testiranja rešenja i njihovog kontinuiranog unapređivanja. Biće predstavljene različite uloge u ovom procesu, uz osvrt na to gde psiholozi mogu doprineti i kako mogu graditi karijeru u interdisciplinarnim timovima koji povezuju tehnologiju, podatke i razumevanje korisnika. Cilj predavanja je da podstakne učesnike da preispitaju uobičajene predstave o profesionalnim mogućnostima nakon studija psihologije, prepoznaju vrednost sopstvenih kompetencija i razmotre alternativne pravce karijernog razvoja. Polazeći od iskustva prelaska iz psihologije u tech industriju, predavanje će pokazati da diploma iz psihologije ne predstavlja ograničenje na jedan profesionalni put, već može biti čvrsta osnova za razvoj karijere u različitim oblastima, uključujući analitiku, upravljanje proizvodima i veštačku inteligenciju.

Ključne reči: psihologija, razvoj karijere, veštačka inteligencija, analiza podataka, upravljanje proizvodima

Beyond the Mind: What Psychologists Can Do in the Age of AI

The development of artificial intelligence and rapid changes in the labor market are creating new opportunities for applying the knowledge and skills acquired through psychology education. Although psychologists' career paths are often associated with psychological assessment, counseling, psychotherapy, and research within traditional psychological disciplines, the competencies they develop can also be valuable in fields that may initially seem distant from their discipline. One such field is the technology industry, where understanding human behavior, analytical thinking, and data-driven decision-making are increasingly recognized as important assets.

This talk will present a personal professional journey from academic training and the early stages of a

career in data analytics and statistics to progression from junior to leadership positions and, ultimately, work on the development of artificial intelligence-powered products as a Product Owner. Through this career trajectory, the talk will illustrate how knowledge acquired through psychology education can be applied across different professional contexts and how professional identity can evolve beyond the predefined boundaries of a single discipline.

Particular attention will be given to the transferable competencies that psychologists bring to technology-driven environments. These include understanding human behavior and user needs, formulating research questions, thinking critically, developing and testing hypotheses, designing experiments, interpreting results, and applying knowledge of statistics and research methodology. The talk will explore how these skills can be integrated into data analytics, product development, business decision-making, and user experience improvement.

Participants will also be introduced to the fundamental principles of developing artificial intelligence-powered products, from identifying problems and defining user needs to testing solutions and continuously improving them. Different roles involved in this process will be outlined, with a focus on how psychologists can contribute and build careers in interdisciplinary teams that bring together technology, data, and user understanding.

The aim of the talk is to encourage participants to reconsider conventional assumptions about career opportunities after studying psychology, recognize the value of their own competencies, and explore alternative career paths. Drawing on the experience of transitioning from psychology to the technology industry, the talk will demonstrate that a degree in psychology does not confine graduates to a single professional path, but can provide a solid foundation for careers across diverse fields, including analytics, product management, and artificial intelligence.

Keywords: *psychology, career development, artificial intelligence, data analytics, product management*

USMENA IZLAGANJA

ORAL SECTION

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Preoblikovanje posla kao prediktor radne angažovanosti i sindroma izgaranja – moderatorska uloga funkcije rukovodioca

Usled sve većih zahteva poslovnog okruženja, razumevanje faktora koji ostvaruju efekat na radnu angažovanost (RA) i izgaranje zaposlenih je važan preduslov za unapređenje njihovog blagostanja. Jedan od najšire istraživanih ličnih resursa je preoblikovanje posla, koje je u prethodnim studijama bilo uglavnom pozitivno povezano sa RA, a negativno sa izgaranjem. Ove veze se ne ostvaruju van konteksta, kao što je radna pozicija. Nije dovoljno istraženo kako radna pozicija (rukovodeća ili izvršilačka) moderira ove veze. Cilj istraživanja bio je da ispita moderatorsku ulogu funkcije rukovodioca u odnosu između preoblikovanja posla i dva ishoda – RA i sindroma izgaranja.

Uzorak se sastojao od 324 ispitanika (57.7% ženskog pola, starost: $AS = 34.80$; $SD = 10.18$). Podaci su prikupljeni u maju 2023. godine, putem kratke forme srpske verzije Skale preoblikovanja posla koja meri 4 dimenzije preoblikovanja posla: povećanje strukturnih resursa posla (PSTR), smanjenje ometajućih zahteva posla (SOZ), povećanje socijalnih resursa posla (PSOR) i povećanje izazovnih zahteva posla (PIZ); skraćene srpske verzije Upitnika radne angažovanosti koja meri 3 dimenzije RA: energičnost, posvećenost i apsorpciju i Skale izgaranja na radu koja meri intenzitet sindroma izgaranja. Sprovedeno je 8 analiza jednostavne moderacije u programu JASP, pri čemu su dobijeni nalazi eksplorativnog karaktera i interpretirani su sa oprezom.

Rezultati su pokazali da su svi aspekti preoblikovanja posla povezana sa RA: PSTR ($b = 0.42$, $p < .01$), SOZ ($b = -0.14$, $p = .03$), PSOR ($b = 0.24$, $p < .01$) i PIZ ($b = 0.38$, $p < .01$). SOZ bilo je jedino povezano sa sindromom izgaranja ($b = 0.17$, $p = .01$). Razlika između izvršilaca ($n = 239$) i rukovodilaca ($n = 83$) nije uticala na vezu između PSTR i RA ($95\%CI[-0.36, 0.15]$, $R^2 = 0.17$), SOZ i RA ($95\%CI[-0.29, 0.19]$, $R^2 = 0.04$), PSOR i RA ($95\%CI[-0.11, 0.36]$, $R^2 = 0.09$), PIZ i RA ($95\%CI[-0.45, 0.04]$, $R^2 = 0.13$), PSTR i sindroma izgaranja ($95\%CI[-0.18, 0.37]$, $R^2 = 0.01$), SOZ i sindroma izgaranja ($95\%CI[-0.35, 0.13]$, $R^2 = 0.02$) i PSOR i sindroma izgaranja ($95\%CI[-0.27, 0.22]$, $R^2 = 0.01$). Uloga rukovodioca bila je značajan moderator izgaranja kod PIZ ($b = 0.26$, $p < .05$, $95\%CI[0.01, 0.52]$, $R^2 = 0.02$) - PIZ je bilo povezano sa povećanjem izgaranja na rukovodilačkim pozicijama ($b = 0.26$, $p = .03$), ali ne i na izvršilačkim ($b = -0.01$, $p = .96$). Dva ispitanika nisu uključena u moderatorske analize zbog nedostajućih podataka o radnoj poziciji.

Nalazi su ukazali na to da preoblikovanje posla, uopšteno, može omogućiti zaposlenom da ispuni svoje potrebe i želje, što bi ga moglo motivisati za rad. SOZ može imati funkciju izbegavajućeg ponašanja koje ima efekat na javljanje negativnih emocija i iziskuje napor, što bi moglo imati negativan efekat na radnu angažovanost, a pozitivan efekat na sindrom izgaranja. Konačno, izazovni zahtevi mogli bi imati motivacionu funkciju, ali i biti izvor napora pri kontinuiranom ulaganju resursa kod već zahtevnije uloge rukovodioca.

Ključne reči: preoblikovanje posla, radna angažovanost, sindrom izgaranja, uloga rukovodioca, uloga izvršioca

Job Crafting as a Predictor of Work Engagement and Burnout: The Moderating Role of Managerial Status

Understanding the factors that affect work engagement (WE) and burnout among employees is an important prerequisite for improving their well-being in an increasingly demanding work environment.

Job crafting, one of the most widely studied personal resources, has been mostly positively associated with WE and negatively with burnout. These associations do not occur outside of context, such as job position. It is insufficiently explored how job position (managerial or nonmanagerial) moderates these associations. The aim of the study was to examine the moderating role of managerial position in the relationships between job crafting and two outcomes - WE and burnout.

The sample comprised 325 participants (57.7% women; age: $M = 34.85$, $SD = 10.20$). Data were collected in May 2023 using 12-item JCS-Serbian short version which assessed Job crafting across 4 dimensions: increasing structural job resources (ISJR), decreasing hindering job demands (DHJD), increasing social job resources (ISoJR), and increasing challenging job demands (ICJD); Serbian version of the Utrecht Work Engagement Scale-9 which assessed WE across three dimensions: vigor, dedication, and absorption and Serbian version of the Work Burnout scale from the Copenhagen Burnout Inventory which assessed the intensity of the burnout. Eight simple moderation analyses were conducted in JASP; the findings were exploratory and interpreted with caution.

All job crafting dimensions were associated with WE: ISJR ($b = 0.42$, $p < .01$), DHJD ($b = -0.14$, $p = .03$), ISoJR ($b = 0.24$, $p < .01$), and ICJD ($b = 0.38$, $p < .01$). DHJD was the only dimension associated with burnout ($b = 0.17$, $p = .01$). The difference between nonmanagerial ($n = 239$) and managerial positions ($n = 83$), did not moderate the associations between WE and ISJR (95%CI[-0.36, 0.15], $R^2 = 0.17$), DHJD (95%CI[-0.29, 0.19], $R^2 = 0.04$), ISoJR (95%CI[-0.11, 0.36], $R^2 = 0.09$) and ICJD (95%CI[-0.45, 0.04], $R^2 = 0.13$), nor did it moderate the associations between burnout and ISJR (95%CI[-0.18, 0.37], $R^2 = 0.01$), DHJD (95%CI[-0.35, 0.13], $R^2 = 0.02$) and ISoJR (95%CI[-0.27, 0.22], $R^2 = 0.01$). Managerial status significantly moderated the association between ICJD and burnout ($b = 0.26$, $p = .03$, 95%CI[0.01, 0.52], $R^2 = .02$) - ICJD was positively associated with burnout among managers ($b = 0.26$, $p = .03$), but not among employees in nonmanagerial positions ($b = -0.01$, $p = .96$). Two participants were excluded from the moderation analyses due to missing data on job position.

The findings suggest that job crafting, in general, may enable employees to fulfill their needs and desires, which may motivate them at work. DHJD may serve an avoidance function associated with negative emotions and requiring effort, which could negatively affect WE and positively affect burnout. Finally, challenging demands may have a motivating function, but may also represent a source of effort when they require continuous investment of resources in the more demanding managerial position.

Keywords: *job crafting, work engagement, burnout, managerial position, nonmanagerial position*



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Fleksibilnost posla kao prediktor radne angažovanosti i sindroma izgaranja

Fleksibilnost posla se odnosi na slobodu zaposlenih da donose odluke koje utiču na to u koje vreme, na kojoj lokaciji i u kakvom rasporedu obavljaju svoje radne aktivnosti. Uobičajene komponente fleksibilnosti posla su: fleksibilnost lokacije (FL), fleksibilnost rasporeda (FR) i fleksibilnost odlaska (FO). Fleksibilnost lokacije odnosi se na mogućnost rada od kuće/na daljinu. Fleksibilnost rasporeda obuhvata mogućnost zaposlenih da promene početak i kraj svog radnog vremena. Fleksibilnost odlaska odnosi se na mogućnost odsustva sa posla radi obavljanja privatnih obaveza. Prema modelu radni zahtevi-resursi (JD-R), fleksibilnost posla predstavlja resurs na radu koji poseduje motivacioni potencijal, zbog čega se očekuje da može podstaći radnu angažovanost i umanjiti izgaranje. Cilj istraživanja je bio da ispita da li tri dimenzije fleksibilnosti posla predviđaju radnu angažovanost i sindrom izgaranja.

Uzorak je činilo 325 ispitanika (57.9% ženskog pola), starosti između 19 i 63 godine ($AS = 34.83$, $SD =$

10.18). Podaci su prikupljeni u maju 2023. godine, korišćenjem skale radne angažovanosti (UWES-9; Schaufeli et al., 2006), Skale izgaranja na radu (WB; Berat et al., 2016; Kristensen et al., 2005) i fleksibilnost posla merena pomoću tri indikatora (FL, FR, FO) na petostepenoj Likertovoj skali.

Urađene su dve linearne regresije u kojima su prediktori bile tri dimenzije fleksibilnosti posla, a kriterijumske varijable su bile radna angažovanost i ukupan nivo izgaranja.

Rezultati prve regresione analize pokazali su se statistički značajnim ($R^2 = .063$; $F(3,319) = 7.147$, $p < .001$). Dimenzija FR značajno je predviđala radnu angažovanost ($\beta = .151$, $p = .041$), dok dimenzije FL ($\beta = .035$, $p = .590$) i FO ($\beta = .108$, $p = .111$) nisu značajno predviđale radnu angažovanost.

Rezultati druge regresione analize takođe su se pokazali statistički značajnim ($R^2 = .066$; $F(3,319) = 7.518$, $p < .001$). Dimenzija FR značajno je predviđala sindrom izgaranja ($\beta = -.191$, $p = .005$), dok FL ($\beta = -.055$, $p = .391$) i FO ($\beta = -.123$, $p = .068$) nisu značajno predviđale sindrom izgaranja.

Nalazi ukazuju da različiti oblici fleksibilnosti posla nemaju jednaku ulogu u očuvanju dobrobiti zaposlenih; Jedino je FR bila povezana sa većom radnom angažovanošću i manjim izgaranjem, verovatno zbog veće kontrole i autonomije koje omogućava zaposlenima. Nasuprot tome, FL može više zavisiti od karakteristika konkretnog radnog mesta, dok FO možda nema ulogu stabilnog svakodnevnog resursa. Rezultati ukazuju da organizacije treba, pre svega, da razmotre načine za povećanje autonomije zaposlenih kroz fleksibilnije strukturiranje radnog vremena.

Ključne reči: *fleksibilnost posla, radna angažovanost, sindrom izgaranja*

Job flexibility as a predictor of work engagement and burnout syndrome

Job flexibility refers to the freedom of employees to participate in decisions about when, where, and on what schedule they perform their work activities. Common components of job flexibility are: location flexibility (LF), schedule flexibility (SF), and departure flexibility (DF). Location flexibility refers to the ability to work from home/remotely. Schedule flexibility includes employees' ability to change the start and end of their working hours. Departure flexibility refers to the possibility of being away from work to fulfill personal responsibilities. According to the job demands-resources (JD-R) model, job flexibility represents a work-related resource with motivational potential, which is why it is expected that it can encourage work engagement and reduce burnout. The aim of the research was to examine whether the three dimensions of job flexibility predict work engagement and burnout syndrome.

The sample consisted of 325 participants (57.9% female), aged between 19 and 63 years ($M = 34.83$, $SD = 10.18$). Data were collected in May 2023, using the UWES-9 scale (Schaufeli et al., 2006), the Work Burnout Scale (WB; Berat et al., 2016; Kristensen et al., 2005) and job flexibility was measured using three indicators (FL, FR, FO) on a five-point Likert scale. Two linear regressions were conducted with the three dimensions of job flexibility entered as predictors, and work engagement and the overall level of burnout entered as criterion variables. The results of the first regression analysis were statistically significant ($R^2 = .063$; $F(3,319) = 7.147$, $p < .001$). The SF dimension significantly predicted work engagement ($\beta = .151$; $p = .041$), while the LF ($\beta = .035$; $p = .59$) and DF ($\beta = .108$; $p = .111$) dimensions were not significant predictors of work engagement.

The results of the second regression analysis also were statistically significant ($R^2 = .066$; $F(3,319) = 7.518$, $p < .001$). SF dimension significantly predicted burnout syndrome ($\beta = -.191$, $p = .005$), while LF ($\beta = -.055$; $p = .391$) and DF ($\beta = -.123$; $p = .068$) did not significantly predict burnout syndrome. The findings indicate that different forms of job flexibility do not play an equal role in preserving employee well-being - only SF was associated with higher work engagement and lower burnout, probably due to the greater control and autonomy it allows employees. In contrast, LF may depend more on the characteristics of the specific workplace, while DF may not have the role of a stable everyday resource. The results indicate that organizations should, first and foremost, consider ways to increase employee autonomy through more flexible structuring of working hours.

Keywords: *job flexibility, work engagement, burnout syndrome*

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Uloga bazičnih psiholoških potreba u odnosu između osetljivosti na potkrepljenje i afekta kod studenata

Bazične psihološke potrebe predstavljaju važan aspekt psihološkog funkcionisanja i blagostanja, dok individualne razlike u osetljivosti na potkrepljenje mogu biti povezane sa načinom na koji studenti doživljavaju pozitivan i negativan afekat. Cilj istraživanja bio je da se ispita uloga bazičnih psiholoških potreba u odnosu između osetljivosti na potkrepljenje i afekta kod studenata. Polazeći od teorije osetljivosti na potkrepljenje i teorije samoodređenja, pretpostavljeno je da će bihevioralni aktivacioni sistem (BAS) biti povezan sa višim pozitivnim afektom delom putem većeg zadovoljenja autonomije, kompetentnosti i povezanosti, dok će bihevioralni inhibitorni sistem (BIS) biti povezan sa višim negativnim afektom delom putem nižeg zadovoljenja ovih potreba. Uzorak je činilo 150 studenata, od kojih je 52 bilo muškog, a 98 ženskog pola. Prosečan uzrast ispitanika iznosio je 22,30 godina ($SD = 1,95$). Primenjeni su skraćena verzija Upitnika osetljivosti na potkrepljenje (UOP), koji meri osetljivost na bihevioralne aktivacione i inhibitorne procese, Skala bazičnih psiholoških potreba (BPNS), kojom je ispitano zadovoljenje potreba za autonomijom, kompetentnošću i povezanošću, i Skala pozitivnog i negativnog afekta (PANAS), kojom su procenjeni pozitivni i negativni afekat. Sprovedene su analize paralelne višestruke medijacije pomoću PROCESS makroa, model 4, uz 5000 bootstrap uzoraka. Pol i godina studija kontrolisani su kao kovarijati.

U modelu pozitivnog afekta, BAS je imao značajan direktni efekat nakon uključivanja psiholoških potreba, $B = 0.34$, $\beta = .25$, $p < .001$. Ukupan indirektni efekat bio je značajan, $B = 0.22$, 95% CI $[0.09, 0.38]$. Značajni pojedinačni indirektni efekti utvrđeni su za autonomiju, $B = 0.10$, 95% CI $[0.03, 0.20]$, i kompetentnost, $B = 0.13$, 95% CI $[0.04, 0.27]$, dok povezanost nije ostvarila značajan jedinstveni indirektni efekat, $B = -0.02$, 95% CI $[-0.07, 0.02]$. Model je objasnio 43.60% varijanse pozitivnog afekta, $F(6, 143) = 18.38$, $p < .001$.

U modelu negativnog afekta, BIS je imao značajan direktni efekat nakon uključivanja psiholoških potreba, $B = 0.55$, $\beta = .46$, $p < .001$. Ukupan indirektni efekat bio je značajan, $B = 0.26$, 95% CI $[0.14, 0.39]$. Autonomija, $B = 0.12$, 95% CI $[0.05, 0.19]$, i kompetentnost, $B = 0.12$, 95% CI $[0.01, 0.25]$, ostvarile su značajne pojedinačne indirektne efekte, dok povezanost nije ostvarila značajan jedinstveni indirektni efekat, $B = 0.02$, 95% CI $[-0.02, 0.07]$. Model je objasnio 59.50% varijanse negativnog afekta, $F(6, 143) = 35.09$, $p < .001$.

Nalazi ukazuju na to da se odnos između BAS-a i pozitivnog afekta, odnosno BIS-a i negativnog afekta, može delimično opisati kroz indirektne povezanosti putem zadovoljenja autonomije i kompetentnosti, u skladu sa pretpostavljenim teorijskim modelom. Povezanost nije ostvarila značajan jedinstveni indirektni doprinos kada su autonomija i kompetentnost uključene u modele. S obzirom na presečni karakter istraživanja, nalazi ne omogućavaju zaključivanje o vremenskom ili uzročnom redosledu između ispitivanih varijabli. Rezultati sugerišu da bi intervencije usmerene na unapređenje studentskog blagostanja mogle biti usmerene na podsticanje autonomije i kompetentnosti, odnosno osećaja izbora, kontrole i akademske efikasnosti.

Ključne reči: BIS/BAS, bazične psihološke potrebe, autonomija, kompetentnost, afekat

The Role of Basic Psychological Needs in the Relationship Between Reinforcement Sensitivity and Affect in Students

Basic psychological needs represent an important aspect of psychological functioning and well-being, while individual differences in reinforcement sensitivity may be associated with how students experience positive and negative affect. The aim of the study was to examine the role of basic psychological needs in the relationship between reinforcement sensitivity and affect in students.

Drawing on Reinforcement Sensitivity Theory and Self-Determination Theory, it was hypothesized that the Behavioral Activation System (BAS) would be associated with higher positive affect partly through greater satisfaction of autonomy, competence, and relatedness, whereas the Behavioral Inhibition System (BIS) would be associated with higher negative affect partly through lower satisfaction of these needs. The sample consisted of 150 students, including 52 male and 98 female participants. The mean age of the participants was 22.30 years ($SD = 1.95$). A shortened version of the Reinforcement Sensitivity Questionnaire, measuring sensitivity to behavioral activation and inhibition processes, the Basic Psychological Needs Scale (BPNS), assessing the satisfaction of autonomy, competence, and relatedness, and the Positive and Negative Affect Schedule (PANAS), assessing positive and negative affect, were administered. Parallel multiple mediation analyses were conducted using the PROCESS macro (Model 4), with 5,000 bootstrap samples. Sex and year of study were controlled as covariates.

In the positive affect model, BAS had a significant direct effect after the inclusion of psychological needs, $B = 0.34$, $\beta = .25$, $p < .001$. The total indirect effect was significant, $B = 0.22$, 95% CI [0.09, 0.38]. Significant specific indirect effects were found for autonomy, $B = 0.10$, 95% CI [0.03, 0.20], and competence, $B = 0.13$, 95% CI [0.04, 0.27], whereas relatedness did not show a significant unique indirect effect, $B = -0.02$, 95% CI [-0.07, 0.02]. The model explained 43.60% of the variance in positive affect, $F(6, 143) = 18.38$, $p < .001$.

In the negative affect model, BIS had a significant direct effect after the inclusion of psychological needs, $B = 0.55$, $\beta = .46$, $p < .001$. The total indirect effect was significant, $B = 0.26$, 95% CI [0.14, 0.39]. Autonomy, $B = 0.12$, 95% CI [0.05, 0.19], and competence, $B = 0.12$, 95% CI [0.01, 0.25], showed significant specific indirect effects, whereas relatedness did not show a significant unique indirect effect, $B = 0.02$, 95% CI [-0.02, 0.07]. The model explained 59.50% of the variance in negative affect, $F(6, 143) = 35.09$, $p < .001$.

The findings indicate that the relationships between BAS and positive affect, and between BIS and negative affect, can be partly described through indirect associations via the satisfaction of autonomy and competence, consistent with the proposed theoretical model. Relatedness did not show a significant unique indirect contribution when autonomy and competence were included in the models. Given the cross-sectional design of the study, the findings do not allow conclusions about the temporal or causal ordering of the examined variables. The results suggest that interventions aimed at promoting student well-being could focus on strengthening autonomy and competence, particularly students' sense of choice, control, and academic efficacy.

Keywords: BIS/BAS, basic psychological needs, autonomy, competence, affect



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Formiranje i procena identiteta u adolescenciji i nastupajućoj odraslosti: povezanost sa depresivnim simptomima i usamljenošću

Petodimenzionalni model razvoja identiteta razlikuje posvećenost i identifikaciju sa obavezama (PO i IO), eksploracije u širinu i dubinu, kao i ruminativne eksploracije (RE). Dosadašnja istraživanja pokazala su da su ovi procesi povezani sa psihološkim funkcionisanjem mladih, pri čemu su čvršće baveze uglavnom povezane sa boljim mentalnim zdravljem, dok se RE povezuje sa izraženijom usamljenošću (US) i depresivnim simptomima (DS). Na osnovu prošlih istraživanja, očekuje se da će RE biti pozitivno povezana sa DS i US, kao i da će dimenzije koje odražavaju stabilnost identiteta biti negativno povezane sa varijablama koje se odnose na DS i US. Međutim, nije dovoljno jasno kako su dimenzije razvoja identiteta povezane sa DS i US u sociokulturnom kontekstu Srbije i Republike Srpske. Stoga je cilj ovog istraživanja bio je replikovati ranije nalaze o odnosima između dimenzija razvoja identiteta, usamljenosti i depresivnih simptoma kod mladih.

U istraživanju je učestvovalo 176 ispitanika uzrasta od 18 do 30 godina, većinski studenti, a podaci su prikupljeni elektronskim putem. Dimenzije razvoja identiteta procenjavane su Skalom dimenzija razvoja identiteta (DIDS), usamljenost UCLA skalom usamljenosti (ULS), a depresivni simptomi Skalom depresivnosti Centra za epidemiološke studije (CES-D). Podaci su analizirani višestrukim linearnim regresijama.

Prema rezultatima regresione analize, kada su DS kriterijum, RE ($\beta = .16$, $p < .05$) se izdvojila kao značajan pozitivan prediktor, dok se IO ($\beta = -.24$, $p < .01$) izdvojila kao značajan negativan prediktor, a PO nije statistički značajan prediktor DS. U slučaju kada je US kriterijum, dimenzije obavezivanja IO ($\beta = -.22$, $p < .01$) i PO ($\beta = -.15$, $p < .05$) predstavljaju značajne negativne prediktore, a RE nije statistički značajan prediktor US. Ukupno objašnjena varijansa US prediktorima iznosi $R^2 = .55$, odnosno 55%, i značajnost modela je $F(6, 169) = 35$, $p < .001$. Ukupno objašnjena varijansa DS prediktorima takođe iznosi $R^2 = .55$, odnosno 55%, i značajnost modela je $F(6, 169) = 34.7$, $p < .001$.

Dobijeni nalazi na uzorku studenata sugerišu da stabilnost identiteta ima različitu ulogu u objašnjenju ispitivanih oblika distresa. Moguće objašnjenje veze između IO i nižih DS jeste to što unutrašnje prihvatanje životnih izbora pruža osećaj smisla, kontinuiteta i stabilnosti, čime se može umanjiti osećaj praznine i neizvesnosti pred budućnošću. Sa druge strane, stalna sumnja i neodlučnost koje prate RE mogu biti iscrpljujuće i povezane prvenstveno sa izraženijim DS, dok se ne pokazuju kao direktno povezane sa US. Ovi rezultati nam mogu pomoći da bolje razumemo kako su uobličavanje ličnih izbora i psihološko funkcionisanje povezani tokom nastupajuće odraslosti u našem sociokulturalnom kontekstu, ukazujući na to da samo PO, bez dubljeg poistovećivanja sa IO, verovatno nije dovoljno za smanjenje distresa.

Ključne reči: razvoj identiteta, nastupajuća odraslost, usamljenost, depresivni simptomi

Identity Formation and Evaluation in Adolescence and Emerging Adulthood: Correlations with Depressive Symptoms and Loneliness

The five-dimensional model of identity development distinguishes commitment making and identification with commitment (CM and IC), exploration in breadth and in depth, as well as ruminative exploration (RE). Previous research has shown that these processes are related to young people's psychological functioning, with stronger commitments generally linked to better mental health, while RE is associated with more pronounced loneliness (LO) and depressive symptoms (DS). Based on past research, RE was expected to be positively related to DS and LO, and the dimensions reflecting identity stability to be negatively related to variables referring to DS and LO. However, it is not clear enough how identity development dimensions are related to DS and LO in the sociocultural context of Serbia and the Republic of Srpska. Therefore, the aim of this study was to replicate earlier findings on the relations between identity development dimensions, loneliness, and depressive symptoms in young people.

The study included 176 participants aged 18–30 years, mostly students, with data collected online. Identity development dimensions were assessed with the Dimensions of Identity Development Scale (DIDS), loneliness with the UCLA Loneliness Scale (ULS), and depressive symptoms with the Center for Epidemiologic Studies Depression Scale (CES-D). The data were analyzed by multiple linear regressions. According to the regression analysis results, when DS was the criterion, when DS was the criterion, RE ($\beta = .16$, $p < .05$) emerged as a significant positive predictor, whereas IC ($\beta = -.24$, $p < .01$) emerged as a significant negative predictor, while CM was not a significant predictor of DS. When LO was the criterion, the commitment dimensions IC ($\beta = -.22$, $p < .01$) and CM ($\beta = -.15$, $p < .05$) were significant negative predictors, while RE was not a significant predictor of LO. The total variance explained by the LO predictors is $R^2 = .55$ (i.e., 55%), and the model is statistically significant, $F(6, 169) = 35$, $p < .001$. The total variance explained by the DS predictors is also $R^2 = .55$ (55%), and the model is statistically significant, $F(6, 169) = 34.7$, $p < .001$.

These results on a student sample suggest that identity stability has a different role in explaining the examined forms of distress. A possible explanation for the relation between IC and lower DS may be

that the internal acceptance of one's life choices provides a sense of meaning, continuity and stability, which may reduce feelings of emptiness and uncertainty about the future. In contrast, the constant doubt and indecisiveness accompanying RE may be primarily related to heightened DS, while not appearing to be directly related to LO. These results may help us better understand how the shaping of personal choices and psychological functioning are related during emerging adulthood in our sociocultural context, indicating that CM alone, without deeper IC is probably not sufficient to reduce distress.

Keywords: identity development, emerging adulthood, loneliness, depressive symptoms



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Roditeljske strategije suočavanja i nošenja sa izazovima tokom odrastanja dece sa neurorazvojnim poremećajima

Cilj ovog master rada je dublje sagledanje i razumevanje subjektivnog iskustva roditeljstva roditelja dece sa smetnjama u razvoju, sa posebnim naglaskom na razumevanje roditeljskog doživljaja sebe u kontekstu njihovog razumevanja deteta i roditeljske uloge, kao i rasvetljavanje strategija koje su roditelji doživeli kao korisne pri nošenju sa razvojnim i životnim izazovima. Uzorak čini pet roditelja, tri majke i dva oca, sa kojima su sprovedeni polustrukturisani intervjui vođeni agendom koja je osmišljena za potrebe ovog istraživanja. Primenjena metoda analize podataka je interpretativna fenomenološka metoda, s obzirom da je fokus na subjektivnoj stvarnosti samih roditelja. Analiza je najpre sprovedena na idiografskom nivou kroz identifikovanje personalnih iskustvenih tema (PET), a nakon toga i na grupnom nivou identifikovanjem grupnih iskustvenih tema (GET). Na ovaj način je omogućen uvid u idiosinkratičnost iskustva svakog roditelja pojedinačno, ali i u zajedničke obrasce koje vezuju iskustva svih roditelja zajedno. Identifikovane su sledeće tri grupne iskustvene teme: (1) Evolucija roditeljskog identiteta kroz razumevanje deteta, (2) Gde vidim sebe? Održi uloge roditelja u odnosu sa drugima, (3) Šta mi je pomoglo da opstanem? Izvori podrške i neispunjene potrebe. Navedene teme oslikavaju roditeljsko iskustvo i zajednički odgovaraju na glavna istraživačka pitanja. Rezultati ukazuju na to da se roditeljski doživljaj sebe ne formira izolovano, već u dinamičnom polju kroz vreme i relaciju sa detetom i ostalim socijalnim sistemima. Roditeljsko iskustvo se osmišljava u prostoru između dubokog prihvatanja detetove autentičnosti u sadašnjosti i trajne potrebe za uspostavljanjem sigurnih okvira za budućnost, gde se uočava stopljenost roditeljskih potreba sa potrebama deteta. Nalazi rada ukazuju na jasnu potrebu prelaska sa isključive brige o detetu na podršku celoj porodici, kroz osiguravanje systemske psihološke pomoći roditeljima, kontinuitet usluge ličnih pratilaca i lako dostupnog, jedinstvenog mesta na kom roditelji mogu dobiti sve potrebne informacije.

Ključne reči: neurorazvojni poremećaji, roditeljsko iskustvo, izazovi, strategije suočavanja, interpretativna fenomenološka analiza

Parental Coping Strategies for Managing the Challenges of Raising Children with Neurodevelopmental Disorders

The aim of this master's thesis is to explore the experiences of parents raising children with developmental disabilities, with a particular focus on how parents perceive themselves in relation to their child and their parental role, and the strategies they find helpful in coping with developmental and life challenges. The sample consisted of five parents (three mothers and two fathers), who participated in semi-structured interviews. Data were analysed using Interpretative Phenomenological Analysis (IPA), given the focus on parents' subjective experiences and the meanings they attributed to them. Analysis was first conducted at the idiographic level by identifying Personal Experiential Themes (PETs), followed by a group-level analysis to identify Group Experiential Themes (GETs). This approach

provided insight into the idiosyncratic nature of each parent's experience, as well as the shared patterns across participants. Three group experiential themes were identified: (1) Evolution of parental identity through understanding the child, (2) Where do I see myself? Reflections of the parental role in relation to others, and (3) What helped me survive? Sources of support and unmet needs. Together, these themes capture key aspects of the parenting experience and address the main research questions. The findings indicate that parental self-concept is not formed in isolation, but develops dynamically over time through relationships with the child and other social systems. The parenting experience is understood within the space between a deep acceptance of the child's authenticity in the present and a continuing need to establish secure frameworks for the future, where we observed an interweaving of parental and child needs. This highlights a need to shift from a sole focus on caring for the child towards supporting the family as a whole. This includes providing systemic psychological support for parents, ensuring continuity of personal assistant services, and establishing an easily accessible, centralised source of information to help parents navigate available support and services.

Keywords: neurodevelopmental disorders, parental experience, challenges, coping strategies, interpretative phenomenological analysis



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Sklonost društvenoj hijerarhiji i nepoverenje u politiku: odnos između socijalne dominacije i političkog cinizma

Prema teoriji socijalne dominacije, politički stavovi poput političkog cinizma proizlaze iz individualne orijentacije ka socijalnoj dominaciji.

Cilj ovog istraživanja bio je ispitivanje povezanosti između socijalne dominacije i političkog cinizma, kao i moderatorske uloge socioekonomskog statusa u tom odnosu. Polazilo se od pretpostavke da će viši nivo socijalne dominacije biti povezan sa višim nivoom političkog cinizma, kao i da će socioekonomski status menjati jačinu ove povezanosti, pri čemu se očekivala slabija povezanost kod osoba višeg, a jača kod osoba nižeg socioekonomskog statusa, zbog njihovog različitog položaja u društvenom sistemu.

Istraživanje je sprovedeno na sekundarnoj bazi podataka Instituta za političke studije iz 2017. godine, na uzorku od 788 ispitanika iz Srbije. Socijalna dominacija procenjena je pomoću pet ajtema koji se odnose na odnose bliskosti prema različitim društvenim grupama, pri čemu je ukupan skor formiran kao prosek odgovora, a viši skor označavao je izraženiju orijentaciju ka dominaciji i nejednakosti među grupama. Politički cinizam procenjen je pomoću dva ajtema koji se odnose na poverenje u političke institucije i aktere, pri čemu je niži nivo poverenja predstavljao indikator izraženijeg političkog cinizma. Socioekonomski status operacionalizovan je samoprocenom finansijske situacije na skali od 1 („nemam novca ni za osnovne potrebe“) do 5 („novac uopšte nije problem“).

Sprovedena je hijerarhijska regresiona analiza sa političkim cinizmom kao kriterijumskom varijablom u tri koraka, pri čemu je u trećem koraku dodat interakcioni član (socijalna dominacija $\times$ finansijska situacija, formiran nakon standardizacije prediktora). Finalni regresioni model objasnio je 4,3% varijanse političkog cinizma ($R^2 = .043$). Socijalna dominacija bila je statistički značajan pozitivan prediktor političkog cinizma ($\beta = .144$, $p < .001$), dok je finansijska situacija bila statistički značajan negativan prediktor ($\beta = -.154$, $p < .001$). Interakcija socijalne dominacije i finansijske situacije nije bila statistički značajan prediktor političkog cinizma ($\beta = .041$, $p = .247$), što ukazuje na to da socioekonomski status ne moderira odnos između socijalne dominacije i političkog cinizma.

Nalazi pružaju delimičnu podršku teoriji socijalne dominacije, ukazujući na to da socijalna dominacija predstavlja značajan prediktor političkog cinizma, dok pretpostavka o moderatorskoj ulozi socioekonomskog statusa nije potvrđena.

Ključne reči: socijalna dominacija, politički cinizam, socioekonomski status, poverenje u političke

institucije, Srbija

Orientation Toward Social Hierarchy and Distrust in Politics: Relationship Between Social Dominance and Political Cynicism

According to Social Dominance Theory, political attitudes such as political cynicism stem from individuals' orientation toward social dominance.

This study aimed to examine the relationship between social dominance and political cynicism, as well as the moderating role of socioeconomic status in this relationship. It was hypothesized that higher levels of social dominance would be associated with higher levels of political cynicism and that socioeconomic status would moderate the strength of this association, with a weaker association expected among individuals of higher socioeconomic status and a stronger association among those of lower socioeconomic status, due to their different positions within the social system.

The study was conducted using a secondary dataset collected by the Institute for Political Studies in 2017, comprising a sample of 788 participants from Serbia. Social dominance was assessed using five items referring to closeness toward different social groups, with the overall score calculated as the mean of the responses, higher scores indicated a stronger orientation toward dominance and inequality between groups. Political cynicism was assessed using two items referring to trust in political institutions and political actors, with lower levels of trust indicating higher levels of political cynicism. Socioeconomic status was operationalized through participants' self-reported financial situation on a scale from 1 ("I do not have enough money even for basic needs") to 5 ("Money is not a problem at all").

A hierarchical regression analysis was conducted with political cynicism as the criterion variable in three steps, with the interaction term (social dominance $\times$ financial situation, formed after standardizing the predictors) added in the third step. The final regression model explained 4.3% of the variance in political cynicism ($R^2 = .043$). Social dominance was a statistically significant positive predictor of political cynicism ($\beta = .144, p < .001$), whereas financial situation was a statistically significant negative predictor ($\beta = -.154, p < .001$). The interaction between social dominance and financial situation was not a statistically significant predictor of political cynicism ($\beta = .041, p = .247$), indicating that socioeconomic status does not moderate the relationship between social dominance and political cynicism.

The findings provide partial support for Social Dominance Theory, indicating that social dominance is a significant predictor of political cynicism, while no evidence was found that this relationship depends on socioeconomic status, thus, the hypothesis regarding the moderating role of socioeconomic status was not supported.

Keywords: social dominance, political cynicism, socioeconomic status, trust in political institutions, Serbia

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Kada mladi uče mlade: prevencija vršnjačkog nasilja

Vršnjačko nasilje predstavlja značajan društveni problem sa ozbiljnim poslasticama po mentalno i fizičko zdravlje mladih. Usled sve veće učestalosti vršnjačkog nasilja među adolescentima postoji potreba za preventivnim programima usmerenim kako na njegovo smanjenje tako i na podizanje svesti o ovom fenomenu. Često se ističe značaj aktivnijeg uključivanja mladih u kreiranje i sprovođenje ovakvih programa što je bila polazana osnova ovog istraživanja. Cilj istraživanja je bio ispitivanje efekta preventivne radionice na stavove i znanje adolescenata prema vršnjačkom nasilju. Istraživanje je sprovedeno na uzorku od 38 ispitanika, dok je posle eliminisanja nedostajućih podataka u oba merenje ostalo 27 adolescenata uzrasta ($M = 17.15$), ženskog (67%) i muškog pola (26%), sa 2 ispitanika koji su

odabrali kategoriju "drugo", iz tri novosadske srednje škole. Preventivnu radionicu su osmislili i sproveli studenti četvrte godine Fakulteta za sport i psihologiju. Radionica je trajala 2.5 sata i sadržala edukativni i interaktivni deo o vršnjačkom nasilju i njegovim posledicama. Pre i nakon radionice ispitanici su popunjavali bateriju testova koji su činili upitnik o opštim podacima ispitanika i iskustvima sa vršnjačkim nasiljem, test znanja o nasilju (sadrži 8 pitanja otvorenog tipa o pojmu, oblicima, prepoznavanju i posledicama vršnjačkog nasilja), skalu stavova prema vršnjačkom nasilju (sadrži 15 tvrdnji vezanih stereotipe o nasilnicima, stigmatizaciji žrtve, ulozi posmatrača i dr. na koje su ispitanici odgovorili na petostepenoj Likertovoj skali) i skalu empatije Indeksa interpersonalne reaktivnosti. Većina adolescenata nije doživela vršnjačko nasilje (70,4%), dok njih 8 izveštava da je pretrpelo nasilje, najviše u osnovnoj školi (25,9%), jednom (11,1%) i ponekad (22,2%). Većina adolescenata je prisustvovala vršnjačkom nasilju (70,4%) i pomogla žrtvi nasilja (55,6%), dok je njih 5 izvestilo da su bili počinioci nasilja. Rezultati su pokazali značajan porast znanja nakon radionice ($t(26) = 3.23, p = .003, d = 0.62$). Kada su u pitanju stavovi prema vršnjačkom nasilju utvrđena je statistički značajna promena na ukupno 4 stava ($p < .05$). Dobijeni rezultati pokazuju da preventivna radionica može doprineti unapređenju znanja i u manjoj meri promeni stavova o vršnjačkom nasilju, pri čemu ove nalaze, s obzirom na mali i prigodan uzorak, merne instrumente koji su kreirani za potrebe ovog istraživanja i odsustvo merenja dugoročnih efekata, treba tumačiti sa oprezom kao preliminarne. Takođe, smatra se opravdanim uključivanje mladih u proces osmišljavanja i realizacije preventivnih aktivnosti.

Ključne reči: vršnjačko nasilje, prevencija, adolescencija, stavovi prema vršnjačkom nasilju

When Youth Teach Youth: Preventing Peer Violence

Peer violence constitutes a significant social issue with serious consequences for the mental and physical well-being of young people. Given the increasing prevalence of peer violence among adolescents, there is a growing need for preventive programs aimed at both reducing its occurrence and raising awareness of this phenomenon. The importance of actively involving young people in the design and implementation of such programs has frequently been emphasized, serving as the guiding premise of the present study. This study aimed to examine the effects of a preventive workshop on adolescents' knowledge of and attitudes toward peer violence. The study included a sample of 38 participants. After excluding missing data from both measurements, the final sample consisted of 27 adolescents ($M = 17.15$), of whom 67% were female and 26% were male, and two participants selected the 'other' gender category from three secondary schools in Novi Sad. The preventive workshop was designed and delivered by fourth-year students from the Faculty of Sport and Psychology. It lasted for two and a half hours and it consisted of educational and interactive components addressing peer violence and its consequences. Before and after the workshop, participants completed a battery of questionnaires comprising a demographic questionnaire with items assessing experiences with peer violence, a peer violence knowledge test (containing 8 open-ended questions about the concept, forms, recognition, and consequences of peer violence), an attitudes toward peer violence questionnaire (containing 15 statements addressing stereotypes about perpetrators, victim stigmatization, the role of bystanders, and related issues, with participants responding to each statement on a five-point Likert scale), and the empathy subscale of the Interpersonal Reactivity Index. The majority of adolescents reported that they had not experienced peer violence (70.14%), whereas 8 participants indicated that they had been victims of peer violence, most commonly during primary school (25.9%), either once (11.1%) or sometimes (22.2%). Most participants reported having witnessed peer violence (70.4%) and having intervened to help the victim (55.6%), while five participants reported having engaged in peer violence. The results demonstrated a significant increase in participants' knowledge following the workshop ($t(26) = 3.23, p = .003, d = 0.62$). Regarding attitudes toward peer violence, statistically significant changes were observed for four attitude items ($p < .05$). The results indicate that the preventive workshop may contribute to improving knowledge and, to a lesser extent, changing attitudes toward peer violence. However, given the small sample size, the use of non-standardized measurement instruments developed specifically for this study, the absence of a control group, the convenience sampling approach, and the lack of long-term follow-up, these findings should be interpreted with caution and regarded as preliminary. Furthermore, the results support the value



of involving young people in the design and implementation of preventive interventions

Keywords: peer violence, prevention, adolescence, attitudes toward peer violence

POSTER SEKCIJA

POSTER SECTION

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Poverenje u nauku i povezanost sa stepenom obrazovanja među građanima Srbije

Prema Bernardu Barberu javnost oseća veće poverenje prema nauci nego prema institucijama, međutim, što je veći nivo obrazovanja to je veća potreba za proverom pouzdanosti stručnjaka (Barber, 1987). Achterberg, de Koster i van der Val pretpostavljaju da će jaz u poverenju biti najveći kod najmanje obrazovanih (Achterberg et al., 2015). Imajući u vidu nedosledne nalaze prethodnih istraživanja, kao i različite pretpostavke i teorijska očekivanja u vezi sa ovim odnosom, u ovom istraživanju cilj nam je da utvrdimo da li je stepen obrazovanja značajan prediktor poverenja u nauku među građanima Srbije i, ako da, kako stepen obrazovanja objašnjava varijanse u nivou poverenja u nauku.

Pošle smo od dve pretpostavke: a) postoji povezanost između stepena obrazovanja i poverenja u nauku, b) stepen obrazovanja predstavlja pozitivan prediktor nivoa poverenja u nauku. Naš uzorak čini N=1273 ispitanika, od kojih je 611 žena i 662 muškarca. Prosečan uzrast ispitanika je 42,03 (SD=14.7) godine. Koristile smo sekundarne podatke iz upitnika Instituta za političke studije iz novembra 2017. godine. Zbog nedostajućih podataka, analize korelacije i regresije sprovedene su na 870 ispitanika sa potpunim podacima.

Pirsonovom korelacionom analizom, utvrdile smo nisku pozitivnu korelaciju između varijable poverenje u nauku i stepen obrazovanosti ($r(868) = .127, p < .001$). Rezultati linearne regresione analize pokazali su da je model statistički značajan ($F(1, 868) = 14.32, p < .001, R^2 = .016$), pri čemu stepen obrazovanja predstavlja statistički značajan pozitivan prediktor poverenja u nauku ($B = 0.033, \beta = .127, p < .001$).

Pronašle smo da postoji slaba povezanost između stepena obrazovanosti i poverenja u nauku i potvrdile smo da stepen obrazovanja predstavlja značajan prediktor poverenja u nauku, ali objašnjava mali deo varijanse poverenja u nauku. Naučni doprinos našeg istraživanja ogleda se u razumevanju uloge obrazovanja u formiranju poverenja u nauku među građanima Srbije. Ovi rezultati predstavljaju osnovu za dalje ispitivanje drugih faktora koji mogu biti povezani sa poverenjem u nauku i doprinose boljem razumevanju varijabli i njihovih odnosa unutar socijalne psihologije.

Cljučne reči: obrazovanje, poverenje u nauku, socijalna psihologija

Trust in Science and Its Association with Educational Attainment among Citizens of Serbia

According to Bernard Barber, the public tends to place greater trust in science than in institutions; however, higher levels of education are associated with a greater tendency to critically evaluate the credibility of experts (Barber, 1987). Achterberg, de Koster, and Van der Waal further proposed that the gap in trust is most pronounced among individuals with lower levels of education (Achterberg et al., 2015). Given the inconsistent findings of previous research, as well as differing assumptions and theoretical expectations regarding this relationship, the aim of the present study was to examine whether educational attainment is a significant predictor of trust in science among citizens of Serbia and, if so, to what extent educational attainment accounts for variance in levels of trust in science.

Two hypotheses were formulated: (a) there is an association between educational attainment and trust in science, and (b) educational attainment represents a positive predictor of the level of trust in science. The sample consisted of N = 1,273 participants, including 611 women and 662 men, with a mean

age of 42.03 years ($SD = 14.70$). Secondary data were obtained from a survey conducted by the Institute for Political Studies in November 2017. Due to missing data, the correlation and regression analyses were conducted on 870 participants with complete data.

A Pearson correlation analysis revealed a weak, but statistically significant positive correlation between educational attainment and trust in science ($r(868) = .127, p < .001$). Linear regression was significant ($F(1, 868) = 14.32, p < .001, R^2 = .016$). Educational attainment positively predicted trust in science ($B = 0.033, \beta = .127, p < .001$).

These findings support both hypotheses, demonstrating that higher educational attainment is associated with greater trust in science and can serve as a significant predictor of trust in science, but education only explains a small part of variance of trust in science. The scientific contribution of our study lies in advancing the understanding of the role of education in shaping trust in science among citizens of Serbia. These findings provide a basis for further research into other factors that may be associated with trust in science and contribute to a better understanding of variables and their relationships within social psychology.

Keywords: education, trust in science, social psychology



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Odnos između percepcije korupcije i medijske pismenosti u savremenom društvu

Savremena društva sve više se suočavaju sa problemom korupcije, a mediji igraju ključnu ulogu u oblikovanju percepcije ovog fenomena. Polazeći od nalaza da medijska pismenost razvija veštine kritičke analize i evaluacije medijskih sadržaja i time podstiče kritičniji odnos prema informacijama (Kahne i sar., 2012; Hassan i sar., 2022), pretpostavili smo da viši nivo medijske pismenosti omogućava građanima da tačnije prepoznaju koruptivne prakse.

Cilj ovog istraživanja bio je da ispita odnos između nivoa medijske pismenosti i percepcije korupcije i da utvrdi da li ekonomski status utiče na nivo medijske pismenosti građana Srbije. Postavljene su dve hipoteze: viši nivo medijske pismenosti pozitivno predviđa višu percepciju korupcije i da postoji pozitivna korelacija između ekonomskog statusa i medijske pismenosti.

Istraživanje je sprovedeno na sekundarnoj bazi podataka Instituta za političke studije, na reprezentativnom slučajnom stratifikovanom uzorku od 886 ispitanika uzrasta 18–85 godina, nakon uklanjanja nedostajućih vrednosti, obuhvatao je 680 i 659 ispitanika. Medijska pismenost i percepcija korupcije su merene Likertovom skalom ($\alpha = 0.80, \alpha = 0.90$), ekonomski status je meren jednim ajtemom.

Rezultati regresione analize pokazali su da medijska pismenost statistički značajno predviđa percepciju korupcije ($\beta = .075, p = .05$), ali s veoma slabim efektom ($R^2 = .006$). Pearsonova korelaciona analiza nije potvrdila značajnu vezu između ekonomskog statusa i medijske pismenosti ($r = -.031, p = .433$).

Dobijeni nalazi prevashodno ukazuju na postojanje veze između medijske pismenosti i percepcije korupcije, pri čemu medijska pismenost objašnjava veoma mali deo varijanse u percepciji korupcije. Uprkos ograničenom efektu, nalaz doprinosi razumevanju odnosa ove dve pojave kod građana Srbije, koje su u dosadašnjoj literaturi uglavnom proučavane odvojeno, i ukazuje na potrebu daljeg razvoja medijske pismenosti u obrazovnim programima i za širu javnost.

Ključne reči: medijska pismenost, percepcija korupcije, ekonomski status, Srbija, kritičko mišljenje

The relationship between corruption perception and media literacy in contemporary society

Contemporary societies increasingly face the problem of corruption, and the media play a key role in shaping the perception of this phenomenon. Starting from findings that media literacy develops skills of critical analysis and evaluation of media content and thereby encourages a more critical attitude toward information (Kahne et al., 2012; Hassan et al., 2022), we hypothesized that a higher level of media literacy enables citizens to recognize corrupt practices more accurately. The aim of this study was to examine the relationship between media literacy and the perception of corruption, and to determine whether economic status affects the level of media literacy among citizens of Serbia. Two hypotheses were posed: that a higher level of media literacy positively predicts a higher perception of corruption, and that there is a positive correlation between economic status and media literacy. The study was conducted on a secondary database of the Institute for Political Studies, using a representative random stratified sample of 886 respondents aged 18–85. After the removal of missing values, the analyses included 680 and 659 respondents. Media literacy and perception of corruption were measured using Likert scales ($\alpha = .80$ and $\alpha = .90$, respectively), while economic status was measured with a single item. The results of the regression analysis showed that media literacy statistically significantly predicts the perception of corruption ($\beta = .075$, $p = .05$), but with a very weak effect ($R^2 = .006$). Pearson correlation analysis did not confirm a significant relationship between economic status and media literacy ($r = -.031$, $p = .433$). The findings primarily indicate a relationship between media literacy and the perception of corruption, with media literacy explaining only a very small portion of the variance in the perception of corruption. Despite the limited effect, the finding contributes to the understanding of the relationship between these two phenomena among citizens of Serbia, which have so far been studied mostly separately in the literature, and points to the need for further development of media literacy in educational programs and for the general public.

Keywords: media literacy, perception of corruption, economic status, Serbia, critical thinking



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Autoritarnost kao značajan prediktor konspiratornog mentaliteta

Teorije zavere postaju fenomen koji se sve više pojavljuje u savremenom društvu, dok konspiratorni mentalitet označava opštu sklonost pojedinca da određene događaje objašnjava delovanjem nekih skrivenih i zlonamernih aktera. Dosadašnja istraživanja ukazuju na povezanost autoritarnosti i konspiratornih uverenja, pri čemu se pretpostavlja da potreba za kontrolom i pridržavanjem autoriteta može biti povezana sa sklonošću ka konspiratornim uverenjima. Uprkos našoj slobodi da postavljamo pretpostavke, ova veza ipak nije bila dovoljno ispitana na uzorcima iz Srbije.

Cilj istraživanja je bio da se ispita da li je autoritarnost (RWA - Right Wing Authoritarianism) značajan prediktor konspiratornog mentaliteta, kao i da li su osobe sa izraženijom autoritarnosti sklonije konspiratornom načinu mišljenja. U istraživanju je učestvovalo ukupno $N=1051$ ispitanika. Od ukupnog broja ispitanika, 52,2% su bili muškarci ($n=549$) i 47,8% su bile žene ($n=502$). Starost ispitanika se kretala od 18 do 85 godina, sa prosečnom starošću od $M=42,02$. Najveći broj ispitanika imao je završenu srednju školu (63% od ukupnog broja ispitanika). Autoritarnost je merena skalom RWA ($\alpha = .916$), dok je konspiratorni mentalitet procenjivan pomoću CMQ (Conspiracy Mentality Questionnaire $\alpha = .826$). Za obradu svih podataka korišćena je jednostavna regresiona analiza.

Rezultati su pokazali da autoritarnost statistički značajno predviđa konspiratorni mentalitet, $F(1, 1049) = 12.82$, $p < .001$, pri čemu objašnjava 1,2% varijanse kriterijuma ($R^2 = .012$). Standardizovani regresioni koeficijent bio je pozitivan i statistički značajan ($\beta = .11$), što ukazuje da su više vrednosti autoritarnosti povezane sa višim vrednostima konspiratornog mentaliteta (dobijen je i pozitivni koeficijent korelacije

$r = .11, p < .001$).

Bez obzira što je hipoteza o prediktivnosti potvrđena, veličina efekta je izuzetno mala. Na osnovu rezultata, možemo da zaključimo da je autoritarnost statistički značajan, ali slab prediktor konspiratornog mentaliteta, što ukazuje da su za njegovo objašnjenje važni i razni drugi individualni faktori.

Ovakvi podaci doprinose dodatnom razumevanju odnosa ove dve varijable u domaćem kontekstu i ukazuju na potrebu za daljim istraživanjima koja bi uključivala dodatne prediktore.

Ključne reči: *Autoritarnost, konspiratorni mentalitet, teorije zavere, desničarski autoritarizam (RWA), medijska pismenost*

Authoritarianism as a significant predictor for conspiratorial mentality

Conspiracy theories are becoming an increasingly common phenomenon in modern society, while conspiracy mentality refers to a general tendency of individuals to explain certain events as being caused by hidden and malicious actors. Previous research has shown an association between authoritarianism and conspiracy beliefs, suggesting that the need for control and adherence to authority may be related to a tendency towards conspiracy beliefs. Despite the freedom to make assumptions about this relationship, this connection wasn't sufficiently tested on samples from Serbia.

The aim of this study was to examine whether authoritarianism (RWA – Right-Wing Authoritarianism) is a significant predictor of conspiracy mentality, as well as whether individuals with higher levels of authoritarianism are more prone to conspiratorial thinking. A total of $N = 1051$ participants took part in the study. Of the total sample, 52.2% were men ($n = 549$) and 47.8% were women ($n = 502$). Participants ranged in age from 18 to 85 years, with a mean age of $M = 42.02$. The majority of participants had completed secondary education (63% of the total sample). Authoritarianism was measured using the RWA scale ($\alpha = .916$), while conspiracy mentality was assessed using the Conspiracy Mentality Questionnaire (CMQ; $\alpha = .826$). A simple linear regression analysis was used to analyze the data.

The results showed that authoritarianism significantly predicted conspiracy mentality, $F(1, 1049) = 12.82, p < .001$, explaining 1.2% of the variance in the criterion ($R^2 = .012$). The standardized regression coefficient was positive and statistically significant ($\beta = .11$), indicating that higher levels of authoritarianism were associated with higher levels of conspiracy mentality. A positive and statistically significant correlation coefficient was also obtained ($r = .11, p < .001$).

Although the predictability hypothesis is confirmed, the effect size was very small. Based on the results, it can be concluded that authoritarianism is a statistically significant, but weak, predictor of conspiracy mentality, suggesting that various other individual factors are also important for explaining this tendency.

These findings contribute to a better understanding of the relationship between these two variables in the Serbian context and point to the need for further research that would include additional predictors.

Keywords: *authoritarianism, conspiratorial mentality, conspiracy theories, right wing authoritarianism, media literacy*



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Prediktivna uloga autoritarnosti pri objašnjenju konspiratornog mentaliteta

Značaj istraživanja autoritarnosti i konspiratornog mentaliteta ogleda se u razumevanju psiholoških osnova načina na koji pojedinci tumače društvenu stvarnost i reaguju na percipiranu pretnju i

neizvesnost. Autoritarnost se odnosi na sklonost ka submisivnosti prema autoritetima, autoritarnoj agresivnosti i konvencionalizmu, dok konspiratorni mentalitet predstavlja opštu sklonost ka prihvatanju teorija zavere kao objašnjenja društvenih događaja. Cilj istraživanja bio je ispitati ulogu autoritarnosti u objašnjenju konspiratornog mentaliteta na reprezentativnom uzorku punoletnih građana Republike Srbije, odnosno utvrditi u kojoj meri autoritarnost predstavlja značajan prediktor konspiratornog mentaliteta. Teorijska osnova istraživanja polazi od pretpostavke da su autoritarnost i konspiratorni mentalitet povezani sa potrebom za strukturiranjem sveta i smanjenjem neizvesnosti u uslovima percipirane pretnje, kao i sa tendencijom ka pojednostavljenom i polarizovanom sagledavanju društvene stvarnosti. Istraživanje je sprovedeno na reprezentativnom uzorku od 1154 punoletna ispitanika sa teritorije Republike Srbije, korišćenjem korelaciono-regresionog dizajna i sekundarne baze podataka prikupljene 2017. godine. Autoritarnost je merena Altmejerovom skalom desničarske autoritarne orijentacije (RWA), dok je konspiratorni mentalitet procenjivan pomoću standardizovanog upitnika. Rezultati su pokazali slabu, ali statistički značajnu pozitivnu korelaciju između autoritarnosti i konspiratornog mentaliteta, $r(1135) = .115$, $p < .001$. Autoritarnost je bila statistički značajan prediktor konspiratornog mentaliteta, ali je model objasnio svega 1.3% njegove varijanse ($R^2 = .013$). Nalazi potvrđuju postojanje očekivane povezanosti i u kontekstu građana Republike Srbije, ali istovremeno ukazuju na ograničenu objašnjavajuću moć autoritarnosti, sugerišući da konspiratorni mentalitet zavisi od većeg broja drugih faktora. Rezultati doprinose boljem razumevanju odnosa između autoritarnosti i konspiratornog mentaliteta u srpskom društvenom kontekstu, ukazujući na to da autoritarnost može imati ulogu u prihvatanju teorija zavere, ali da sama po sebi nije dovoljna za objašnjenje ove pojave. Time istraživanje doprinosi preciznijem sagledavanju složenosti psiholoških i društvenih procesa koji oblikuju način na koji građani tumače društvene događaje, pretnje i neizvesnost. Dobijeni nalazi pružaju osnovu za buduća istraživanja u kojima bi se zasebno ispitivao doprinos tri komponente autoritarnosti, kao i potencijalni moderatorski uticaj socio-demografskih, političkih i drugih relevantnih varijabli.

Ključne reči: Autoritarnost, konspiratorni mentalitet, teorije zavere, korelacija

The predictive role of authoritarianism in the explanation of conspiracy mentality

The significance of research on authoritarianism and conspiratorial mentality lies in understanding the psychological foundations underlying the ways in which individuals interpret social reality and respond to perceived threat and uncertainty. Authoritarianism refers to a tendency toward submission to authorities, authoritarian aggression, and conventionalism, whereas conspiratorial mentality represents a general tendency to endorse conspiracy theories as explanations for social events. The aim of this study was to examine the role of authoritarianism in explaining conspiratorial mentality in a representative sample of adult citizens of the Republic of Serbia, specifically by determining the extent to which authoritarianism represents a significant predictor of conspiratorial mentality. The theoretical basis of the study rests on the assumption that authoritarianism and conspiratorial mentality are associated with the need to structure the world and reduce uncertainty under conditions of perceived threat, as well as with a tendency toward simplified and polarized perceptions of social reality. The study was conducted on a representative sample of 1,154 adult participants from the Republic of Serbia, using a correlational-regression research design and a secondary dataset collected in 2017. Authoritarianism was measured using Altemeyer's Right-Wing Authoritarianism (RWA) Scale, while conspiratorial mentality was assessed using a standardized questionnaire. The results indicated a weak but statistically significant positive correlation between authoritarianism and conspiratorial mentality, $r(1135) = .115$, $p < .001$. Authoritarianism was a statistically significant predictor of conspiratorial mentality; however, the model explained only 1.3% of its variance ($R^2 = .013$). These findings confirm the expected association between the constructs among citizens of the Republic of Serbia, while simultaneously indicating the limited explanatory power of authoritarianism and suggesting that conspiratorial mentality is influenced by a broader range of other factors. The findings contribute to a better understanding of the relationship between authoritarianism and conspiratorial mentality within the Serbian social context, indicating that authoritarianism may play a role in the

endorsement of conspiracy theories but is insufficient on its own to explain this phenomenon. Thus, the study contributes to a more precise understanding of the complexity of psychological and social processes that shape how citizens interpret social events, threats, and uncertainty. The findings provide a basis for future research examining the independent contributions of the three components of authoritarianism, as well as the potential moderating effects of sociodemographic, political, and other relevant variables.

Keywords: *authoritarianism, conspiracy mentality, conspiracy theories, correlation*



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Razlike u spremnosti na empatiju i afektivnoj vezanosti između studenata pomagačkih i nepomagačkih profesija

Spremnost na empatiju i afektivna vezanost spadaju u značajne psihološke konstrukte koji mogu biti povezani sa odabirom pomagačkih studija. Dosadašnji nalazi o razlikama između studenata pomagačkih i nepomagačkih profesija, kao i o promenama ovih karakteristika tokom studiranja, ostaju nedosledni, a istraživanja koja istovremeno obuhvataju više pomagačkih profesija su retka, što ukazuje na važnost ispitivanja prirode ovih odnosa kod studenata iz Srbije.

Cilj ovog istraživanja bio je utvrditi da li postoje značajne razlike u spremnosti na empatiju i dimenzijama afektivne vezanosti između studenata pomagačkih i nepomagačkih studija, kao i efekte tipa i faze studiranja i njihove interakcije na navedene karakteristike.

U istraživanju je učestvovalo 523 studenata iz Srbije, uzrasta od 18 do 25 godina ($M_{age} = 20.80$, $SD = 1.48$). Za procenu afektivne vezanosti korišćena je kratka forma Upitnika stilova afektivnih vezanosti (ASQ-SF), dok je za procenu empatije primenjen Upitnik za procenu spremnosti za empatiju (EMI-42). Broj faktora za oba upitnika određen je na osnovu scree dijagrama, čiji je prelom ukazao na izdvajanje dva faktora. Zadržani su ajtemi koji su ispunili kriterijum faktorskog zasićenja $\geq .40$. Na osnovu sadržaja ajtema, njihove konceptualne povezanosti i teorijskog razlikovanja emocionalnog reagovanja na stanja drugih od socijalno usmerene empatijske osetljivosti, dobijeni faktori EMI-42 interpretirani su kao Afektivna i Socijalna empatija. U slučaju ASQ-SF ovi faktori interpretirani su kao Anksiozna i Izbegavajuća vezanost.

Za proveru hipoteza korišćene su multivarijatna analiza varijanse i dvofaktorske analize varijanse. MANOVA je ukazala na postojanje statistički značajnog glavnog efekta tipa studija (Pillai's Trace = .04; $F(4, 490) = 4.73$; $p < .01$; $\eta^2 = .04$), dok efekti faze studiranja ($p > .05$) i interakcije ($p > .05$) nisu bili značajni. Dvofaktorske analize varijanse potvrdile su značajan efekat tipa studija na obe dimenzije empatije: Socijalnu ($F(1, 493) = 16.22$; $p < .001$; $\eta^2 = .03$) i Afektivnu empatiju ($F(1, 493) = 6.53$; $p < .05$; $\eta^2 = .01$), pri čemu su studenti pomagačkih studija ostvarivali više skorove na obe dimenzije. Nije potvrđen očekivani efekat interakcije tipa studija i faze studiranja, niti pretpostavka o postojanju erozije empatije. Značajan efekat faze studiranja utvrđen je samo za Anksioznu vezanost ($F(2, 493) = 5.28$; $p < .01$; $\eta^2 = .02$) sa značajnom razlikom između druge i treće faze studiranja (Bonferroni, $p < .01$), pri čemu su studenti treće faze imali nižu anksioznu vezanost od studenata druge faze.

Nalazi delimično potvrđuju postavljene hipoteze i ukazuju na značaj tipa studija za izraženost empatije, pri čemu razlike između pomagačkih i nepomagačkih studija mogu odražavati početne dispozicije koje su povezane sa izborom studija. Na ispitivanom uzorku nije dobijena podrška za pretpostavljeni obrazac snižavanja empatije u kasnijim fazama studija.

Ključne reči: *empatija, afektivna vezanost, pomagačke profesije, EMI-42, ASQ-SF*

Empathy and Affective Attachment: A Comparative Study of Students in Care-Related and Non-Care-Related Programs

Empathy and attachment are significant psychological constructs that may be related to the choice of care-related profession studies. Previous findings on differences between students of care-related and non-care-related professions, as well as on changes in these characteristics during the course of study, remain inconsistent, and research simultaneously encompassing multiple care-related professions is scarce, highlighting the importance of examining these relationships among students in Serbia.

The aim of this study was to determine whether there are significant differences in empathy and dimensions of attachment between students of care-related and non-care-related studies, as well as the effects of study type, study phase and their interaction on these characteristics.

The study included 523 students from Serbia, aged 18 to 25 ($M_{age} = 20.80$, $SD = 1.48$). Attachment was assessed using the Attachment Style Questionnaire - Short Form (ASQ-SF), while empathy was measured using the Readiness for Empathy Questionnaire (EMI-42). The number of factors for both questionnaires was determined based on the scree plot, where the elbow indicated a two-factor extraction. Items meeting the factor loading criterion of $\geq .40$ were retained. Based on the item content, their conceptual relatedness, and theoretical distinction between emotional reactivity to the states of others and socially oriented empathic sensitivity, the resulting factors of EMI-42 were interpreted as Affective and Social Empathy. In the case of the ASQ-SF, these factors were interpreted as Anxious and Avoidant Attachment.

Hypotheses were tested using multivariate analysis of variance and two-way analyses of variance. MANOVA indicated a statistically significant main effect of study type (Pillai's Trace = .04; $F(4, 490) = 4.73$; $p < .01$; $\eta^2 = .04$), while the effects of study phase ($p > .05$) and interaction ($p > .05$) were not significant. Two-way analyses of variance confirmed a significant effect of study type on both empathy dimensions: Social ($F(1, 493) = 16.22$; $p < .001$; $\eta^2 = .03$) and Affective Empathy ($F(1, 493) = 6.53$; $p < .05$; $\eta^2 = .01$), with students of care-related studies scoring higher on both dimensions. The expected interaction effect between study type and study phase was not confirmed, nor was the assumption of empathy erosion. A significant effect of study phase was found only for Anxious Attachment ($F(2, 493) = 5.28$; $p < .01$; $\eta^2 = .02$), with students in the third phase showing lower anxious attachment than those in the second (Bonferroni, $p < .01$).

The findings partially support the proposed hypotheses and indicate the importance of study type for empathy levels, with differences between care-related and non-care-related studies potentially reflecting pre-existing dispositions associated with the choice of study program. No support was found for the hypothesized pattern of empathy decline in later study phases, indicating that this pattern was not confirmed in the present sample.

Keywords: *empathy, attachment, helping professions, EMI-42, ASQ-SF*

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