vol. 27, br. 2, 2024

PSIHOLOŠKA ISTRAŽIVANJA

Urednici:

Marina Videnović
Darinka Anđelković

Institut za psihologiju

ISSN 0352-7379

UNIVERZITET U BEOGRADU
FILOZOFSKI FAKULTET
1838

psihološka istraživanja

ISSN 0352-7379

vol XXVII, br. 2, decembar 2024.

Institut za psihologiju Filozofskog fakulteta Univerziteta u Beogradu

Psihološka istraživanja, Godina XXVII, br. 2, decembar 2024, str. 169–340, ISSN 0352-7379 (Štampano izd.); ISSN 2560-306X (Online)

Izdavač
Univerzitet u Beogradu - Filozofski fakultet, Institut za psihologiju

Lektura i korektura: Ana Macanović (srpski),
dr Tijana Vesić Pavlović (engleski)

Dizajn korica: Marta Lončar

Štampa: JP Službeni glasnik, Beograd

Tiraž 20

Adresa redakcije
Institut za psihologiju, Filozofski fakultet, Čika Ljubina 18–20, 11000 Beograd, Srbija
Telefon i faks: 011/2639724

Psihološka istraživanja izlaze dva puta godišnje.

email: ps.istrazivanja@gmail.com
Internet adresa: http://scindeks.ceon.rs/journaldetails.aspx?issn=0352-7379&lang=sr

Psychological Research, Volume XXVII, No. 2, December 2024, pp. 169–340, ISSN 0352-7379 (Print); ISSN 2560-306X (Online)

Publisher
University of Belgrade - Faculty of Philosophy, Institute of Psychology

Language Editor: Ana Macanović (Serbian),
Dr. Tijana Vesić Pavlović (English)

Cover design: Marta Lončar

Printed by: JP Službeni glasnik, Beograd

Print run: 20

Address:
Institute of Psychology, Faculty of Philosophy, Čika Ljubina 18–20, 11000 Belgrade, Serbia
Telephone and fax: 011/2639–724

Psychological Research i spublished twice a year.

E-mail: ps.istrazivanja@gmail.com
Web site: http://scindeks.ceon.rs/journaldetails.aspx?issn=0352-7379

Sadržaj

Contents

Psihološka istraživanja, Vol. XXVII (2) 2024.
173–195

UDK 172.15
316.4.066
TIP ČLANKA: Originalni naučni rad
DOI: 10.5937/PSISTRA0-48372

Investigating Ethnic Identity Development through Storytelling: The Conceptual and Methodological Potential of Narrative Approach[1]

Natalija Ignjatović[2]
University of Belgrade – Faculty of Philosophy

Jovan Radosavljević
University of Belgrade – Faculty of Philosophy

Nataša Simić
University of Belgrade – Faculty of Philosophy

This review paper critically reassesses the traditional quantitative approach to ethnic identity research and advocates for an alternative narrative methodology. Using Phinney's status model as a starting point, we propose a shift towards a more comprehensive narrative perspective in investigating ethnic identity development. Despite their contribution, survey-based studies face limitations in explaining the nuanced developmental process and contextual influences on identity changes, particularly ethnic exploration. Embracing ethnic labels shapes adolescents' relations with others, their experiences, actions, and available resources, involving the construction of a narrative about the meaning of belonging to a specific group. The narrative approach explores subjective significance of ethnic experiences, portraying identities as dynamic. It challenges the concept of abrupt transitions, shedding light on the gradual nature and intricacies of ethnic identity changes. Narratives offer a unique lens to understand the content of ethnic identity, revealing attitudes, beliefs, and

1 This research was supported by the Science Fund of the Republic of Serbia, within the project title Narrativization of ethnic identities of adolescents from culturally dominant and minority backgrounds, and the role of the school context (NIdEA) (Grant number 1518) in the scope of program IDENTITIES. It was also supported by the Ministry of Science, Technological Development and Innovation of the Republic of Serbia as part of the financing of scientific research work at the University of Belgrade - Faculty of Philosophy (contract number 451-03-47/2023-01/ 200163).

2 Corresponding author: natalija.ignjatovic@f.bg.ac.rs

cultural behaviours which remain unattainable when assessed using the rating-scale instruments. We examine the studies which use narratives, describe the methodology applied to the field of ethnic identity development and critically evaluate its implementation. In addition to recognizing the transformative potential of the narrative practice, the paper also acknowledges its limitations, including time and resource demands, as well as training requirements and analytical complexity. In conclusion, we suggest the exploration of new directions in ethnic identity development research, highlighting the potential benefits of integrating the qualitative methods, particularly narratives. This alternative approach could play a significant role in fostering deeper understanding of ethnic identity in contemporary landscapes.

Keywords: ethnic identity, identity development, narrative, qualitative methodology, adolescents

The human need for belonging to a group has long been explored in social sciences. Growing interconnectedness of cultures, partly due to increased intergroup interactions and migration, has put forth theoretical considerations and research on ethnic identity in the last couple of decades. Before the 1980s, ethnic identity was often regarded as a demographic characteristic, i.e. an ethnic group label indicating shared ancestry, a common language, national origin and/or culture (Quintana, 2007; Umaña-Taylor et al., 2002). Although "ticking a box on census data questionnaire" does offer some insight into an individual's ethnic identification, such a narrow conceptualization fails to take into account the complexity of ethnic identity as a significant facet of human experience. Social, personality and developmental psychology researchers have subsequently developed broader definitions of the concept, emphasizing its different psychological aspects.

In the field of developmental psychology, ethnic identity is defined as a multidimensional and dynamic concept, which evolves over time (Phinney & Ong, 2007). Ethnic identity is a process of coordinating cognitive, affective, and behavioural dimensions of identification with an ethnic group (Syed, 2015). One's sense of self as a member of an ethnic group involves clarity in terms of belonging to a specific group, emotional significance associated with that belonging (positive affect, attachment), and the activities undertaken to learn about one's own ethnicity. Traditionally, ethnic identity research has relied on quantitative methodology and rating-scale instruments, placing less emphasis on idiosyncratic meaning and significance of the lived ethnicity-related experiences. This review paper follows the line of our previous research (Ignjatović & Radosavljević, 2023), aiming to present the theoretical and methodological contributions of the alternative, narrative approach to ethnic identity development research. We aim at comparing this approach to a widely used conceptual model and the related measurement tools, drawing conclusions on the strengths and limitations of the narrative framework and, finally, considering the prospective future trajectories in the field of ethnic identity development research.

The model of ethnic identity status and its operationalization

The study of ethnic identity formation was heavily grounded in Erik Erikson's identity framework (1968), which pinpointed adolescence and early adulthood as critical developmental periods for the formation of a positive and coherent sense of self. Marcia (1966, 1980) expanded on Erikson's theory, proposing the identity status model. He argued that identity was formed through dynamic and interdependent processes of exploration of alternatives and commitment, resulting in four identity stages: diffusion (low exploration, low commitment), foreclosure (low exploration, high commitment), moratorium (high exploration, low commitment), and achievement (high exploration, high commitment). Building upon this work and the social identity theory (Tajfel & Turner, 1986), Phinney formulated the ethnic identity status model (1989, 1990, 1992, 1996), centred on the extent to which individuals explored the implications of their ethnicity and the sense of pride they experienced as the members of a particular group. In her studies, Phinney identified the so-called *unexamined* status (as undifferentiated diffused and foreclosed identity statuses), *moratorium* and *achieved* ethnic identity status. The unexamined status is characterized by a lack of exploration and no clear understanding of one's ethnicity, either because there is no interest/concern or as a result of basing the views of one's ethnicity on the opinion of others. Moratorium represents active engagement in the exploration and attempts to discern the meaning of one's ethnicity. Individuals with an achieved status are clear and confident about what it means to be a member of their ethnic group; there is a sense of understanding, acceptance and internalization of one's ethnicity as an important part of one's identity.

Empirical evidence has confirmed the fact that ethnic identification unfolds over time, with ethnic identity exploration preceding commitment and pride (Phinney, 2008; Umaña-Taylor et al., 2014). Increased cognitive capacities, in conjunction with the new ethnic-related experiences, lay the ground for the progress through statuses, occurring predominantly during middle to late adolescence and emerging adulthood (French et al., 2006; Pahl & Way, 2006). Although longitudinal data suggest that ethnic identification increases over time, this process is not seen as an invariant sequence of stages, since individuals may regress to a less developed status as a part of the normative identity development (Syed et al., 2007).

Following the described model, the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992) was introduced as an easy-to-administer, self-report instrument assessing the degree of ethnic identification. Its 12-item revised version (Roberts et al., 1999), consisting of the exploration and the commitment subscale, has shown strong validity and reliability. To this day, the MEIM has remained the most widely used tool in the field, leading to a tremendous growth in empirical evidence on ethnic identity (Phinney & Ong, 2007; Syed & Azmitia, 2008). In 2004, another rating-scale measure named the Ethnic Identity Scale (EIS; Umaña-Taylor et al., 2004) was developed, in order to respond to the criticism of certain authors regarding an inadequate representation of the ethnic identity development theory in the MEIM. More recent analyses have shown that these instruments in fact encompass distinct aspects of ethnic identity exploration – specifically, the EIS is more focused on *participation* (i.e. attending social activities or participating in cultural traditions), while the MEIM exploration items can be described as focused on *search* (less specific and referring to talking to others or thinking about one's ethnicity) (Syed et al., 2013).

Strengths and limitations of the ethnic identity status model and operationalization

The status model and the subsequently developed instruments have been crucial in advancing our knowledge on the dynamic of change during ethnic identity formation. This has provided insights into where the individuals are in the process of coming to terms with their ethnicity and strong understanding of developmental trajectories regarding ethnic identity (Pasupathi et al., 2012). Exploration and commitment are perceived as content-free, allowing us to draw conclusions on the common developmental mechanisms of youth from different ethnic groups (Syed & Azmitia, 2010). Additionally, the primary method for data collection and analysis based on quantitative measurement has shed light on the implications of ethnic identity for various aspects of psychological adjustment. For example, the achieved, positive ethnic identity has been consistently associated with psychosocial functioning (well-being and self-esteem, fewer mental disorder symptoms), academic (achievement, engagement, positive attitudes) and health outcomes, especially among ethnic minority adolescents (Rivas-Drake et al., 2014; Smith & Silva, 2011). Similarly, it has been shown that more integrated ethnic identity (operationalized as a higher score on MEIM) significantly contributes to one's ability to cope with racial or ethnic discrimination, buffering its detrimental effects.

Despite the compelling discoveries yielded from this line of research, some of the complexity of ethnic identity development has been left undealt with, restricted by a narrow methodological practice (Schwartz et al., 2014). A quantitative approach typically overlooks the questions of how or why the developmental change takes place and the way this process is dependent on the context through which individuals experience and make meaning of their ethnicity (Syed & McLean, 2023). A specific culture and one's position in it are expected to provide utterly different conditions for identity development compared to a member of another ethnic group, which we would not be able to grasp in the proposed manner. At the same time, the content that makes up one's ethnic identity, such as behaviours, attitudes and beliefs, remains unknown (Syed & Azmitia, 2010). The ethnic identity status approach is unable to identify the experiences that drive adolescents and emerging adults to examine, construct, reconsider and potentially alter the view of their ethnic identity (Syed & Azmitia, 2008). In other words, it is not possible to fully appreciate what it means to belong to a certain ethnic group, with its own specific experiences, and live in a particular community based solely on the ethnic identity status an individual has achieved. To address these drawbacks, some developmental researchers have turned to an alternative, narrative approach to understanding and studying ethnic identity formation.

The narrative approach to identity

The narrative identity tradition, also stemming from Erikson's work, is rooted in McAdams' autobiographical narrative approach (2001), which perceives identities as subjectively constructed through the process of storytelling. The narrative identity allows individuals to reconstruct their autobiographical memories, linking the past, present and future into a coherent life story. Narrative is not considered to be only an account of events occurring over time; the lived experiences make their impact on identity development through the meaning that individuals ascribe to events (McAdams & McLean, 2013). In contrast with the static snapshot of the current state or status of identity development, the narrative approach sees the formation of the self as ever dynamic and evolving, "work in progress" characterized by constant re-evaluating of one's experiences in the light of new occurrences (McAdams et al., 2006). This allows the generating of a sense of temporal continuity and integration, while simultaneously recognizing the decisive points of change (McLean, 2008). Whether individuals are consciously aware of it or not, they perceive their lives through the lens of a narrative structure, wherein there are distinct chapters, rises and falls, turning points, varied protagonists, assorted challenges and diverse resolutions (McAdams & McLean, 2013). Narratives are typically composed of three main elements: an initial point or beginning, a conflict, and a future direction or destination (Bruner, 1990). The essence of one's narrative is its central component – the conflict, understood as a cognitive mismatch between one's current experience and prior understanding. Adolescence is once again highlighted as the crucial stage since the development of a coherent identity is related to adolescents' growing capacity to build a more comprehensive life story beyond particular events (Habermas & Reese, 2015). During this time, cognitive advances allow individuals to reconcile disparate aspects of themselves through a unified narration, making sense of their place in the world.

Another crucial observation must be highlighted at this point: a narrative is not merely a personal expression or an account existing in a contextual vacuum, but rather a window into the way in which humans as intentional agents construe their actions and experiences in a sociocultural setting (Brunner, 1990). Storytelling is inherently a cultural tool for mediating the self-society relationship, a product of complex relational interactions with others, societal structures and power dynamics, as well as our personal needs and aspirations (Daiute, 2014). These ideas rely on the sociocultural approach, which posits that individuals are shaped by diverse cultural systems that include institutions, practices, artefacts, experiences and representations (Cole, 2003; Rogoff, 2003; Vygotsky, 1978; 1986). The personal and the sociohistorical are interdependent, prompting individuals to constantly reconsider and adjust their inner worlds to their respective contexts. Storytelling is, therefore, both an individual and a collective product, co-constructed in the process of sharing autobiographical events with others (Moffitt & Syed, 2021; Reese, Jack, & White, 2010).

Narrative ethnic identity

Considering that storytelling is determined by culture and the communities of discourse, embedded within a web of interpersonal relationships (McAdams, 2018), narratives seem particularly useful for exploring ethnic identity. Unlike interviews, journaling or participant observation, which likewise entail qualitative data, the narrative approach to ethnic identity is specifically and directly focused on the *stories* people tell about the subjective importance of their cultural heritage (Syed, 2015). From this perspective, ethnic identities are seen as continually shifting rather than being the predetermined or fixed aspects of the self, built through circumstances and ethnic group's actions and interpretations as a response to those circumstances (Cornell, 2000). The ethnic labels that individuals identify with carry meanings which shape their relations with others, their experiences, actions and available resources. Taking on ethnic identity always involves creating a story, whose focal point consists of what it means to be a member of a certain group. The story has a subject, an account of what happened or will happen and a value attached to the subject, thereby influencing one's feelings in relation to their group's position in the society. The narrativization process develops in three steps, occurring in no particular order: the selection, plotting, and interpretation. Selection involves choosing the past, anticipated or imagined events for the narrative. Plotting refers to different ways of connecting these events to each other and linking the events to oneself as a person of a particular ethnicity. Interpretation refers to the significance of events and the plot, exploring how specific plot and its constituent events define the individual's ethnic identity.

The narrative approach to ethnic identity research

The use of the narrative framework to data collection and analysis of ethnic identity formation has been significantly less common compared to survey-based studies; it has become somewhat more prevalent in the last 15 years. Nonetheless, its findings have contributed to major advancements in the field. In one of the first studies of this kind, Syed and Azmitia (2008) explored the ethnic identity content of emerging adults via themes in the narratives of ethnicity-related experiences. The narratives were collected by prompting research participants to recall a specific situation when they became aware of their ethnicity in the presence of a close friend. In addition to the instruction to describe this memory, the participants were given open-ended questions related to their age during the episode, who they were with, their reactions, how the situation was resolved, how they felt, and whether this episode influenced their perception of their ethnicity or ethnicity in general. Relying on the inductively generated coding scheme, the authors defined four distinct themes, capturing 95% of the stories. *Experiences of prejudice* referred to the stories discussing the experiences of prejudice, stereotypes, racism or oppression, including any derogatory remarks, social exclusion or behavioural discrimination. *Connection to culture* involved the positive accounts about the teller's ethnic or cultural heritage, e.g. appreciating culture, being involved in cultural practices, belonging, feeling accepted and "at home". *Awareness of difference* consisted of the stories about participants' distinctiveness in terms of ethnicity, race or cultural practices, which included realization of one's ethnicity and awareness of own privilege or marginality. Finally, *awareness of underrepresentation* referred to the participants recognizing the lack of numerical representation of their ethnic group in a particular context. Combining these ethnic identity content indicators with a process–status measure (MEIM), the same study showed that those with an achieved ethnic identity status most frequently told stories about prejudice/discrimination or connection to culture. On the other hand, those with the unexplored status were more likely to focus on awareness of difference or underrepresentation. These results were expanded in a longitudinal study, demonstrating that an increase in ethnic identity exploration was systematically related to the changes in narrative themes over an 18-month period (Syed & Azmitia, 2010). Those with a more developed ethnic identity shifted to the afore-mentioned stories of prejudice and connection, implying that they had a broader set of experiences which were more personally meaningful and impactful (both positively and negatively). The empirically confirmed relationship between the process of ethnic identity exploration and ethnic identity content inspired a theoretical model developed by the same authors (shown in Figure 1).

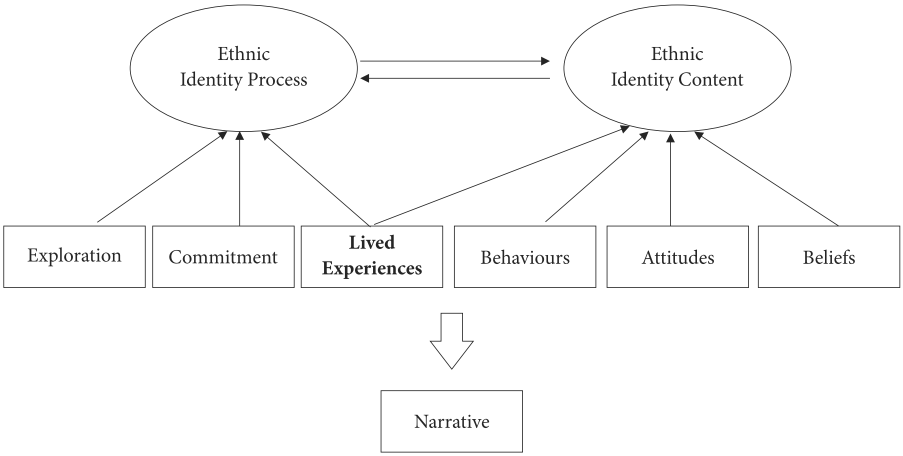

Figure 1. Theoretical model describing the link between ethnic identity process and content.

Note. This model was produced by Syed & Azmitia, in order to describe the link between identity process and content. From Syed, M. and Azmitia, M. (2010). Narrative and ethnic identity exploration: A longitudinal account of emerging adults' ethnicity-related experiences. Developmental Psychology, 46(1), p. 209

The narrative identity approach also sheds light on how such development takes place. Contrary to the common belief about an experiential trigger, a *turning point* which induces progress to a successive identity status, changes in ethnic identity usually unfold slowly, over a period of time (Syed, 2010). Ethnicity-related events are given significance as altering moments in one's life through the cognitive, meaning-making process reported only in the delayed, but not in the immediate account of the occurrence. In other words, our assumption about sudden transitions in ethnic identity formation is probably the result of an individual's reconstruction of past experiences and its embedding into the life story, rather than the actual mechanism through which the change occurs. Similarly, the narrative approach offers a further insight into the process of ethnic exploration. Adolescents' narratives about their ethnic identity reveal that exploration can take various forms, either as searching (learning about one's identity) or as participating (learning about identity by active involvement in specific cultural practices), verified by MEIM and EIS factor analysis (Syed et al., 2013). Moreover, these two aspects have been related to differing outcomes, the former predicting lower well-being, and the latter predicting higher well-being.

Another essential contribution of this line of research is its focus on the context, both in terms of the wider sociocultural setting, and the immediate surrounding involving personal relations with others. The narrative approach has revealed that what matters in the process of ethnic identity development is not only ethnic density, i.e. a numerical representation of a particular ethnic group on a specific territory; individuals can perceive the degree of diversity in a vastly different manner based on the way they construe the same context (Syed, 2010). Existing research indicates that the subjective context (the meanings ascribed to one's respective context) has a stronger predicting power than the so-called objective context (e.g. census data on the relative proportion of certain ethnicity) (Syed & Juan, 2012). Furthermore, diverse positions based on socioeconomic circumstances shape the sense-making of events depicting unfairness and exclusion (Daiute et al., 2001) and pointing to the necessity of considering intersectionality in research and living experience (e.g., Moffitt et al., 2020). The less privileged, ethnic minority adolescents narrate about injustice more directly, demonstrate greater attunement to the perspective of others and flexibility in adjusting their experiences and communication style to different audiences while narrating (Jović, 2020). Youth from non-dominant ethnic communities thus show a better understanding of power structure within a society, affirming the constitutive role of context in psychological development and functioning. Finally, studies that rely on the narrative methodology also showcase how adolescents' ethnic identity narratives are related to personal interactions within their social networks. Their results suggest that almost half of ethnicity-related memories may remain untold, while the shared stories differ in content depending on whom they are told to: the accounts of discrimination are usually disclosed to peers, while the instances of learning about one's heritage are most likely expressed to parents (Syed, 2012). Recent research has confirmed that peers are particularly important in the process of narrating one's ethnicity lived experiences (Moffitt & Syed, 2021). Ethnic-racial exploration takes place through emerging adults' conversation with friends, with the content and structure of their stories being largely dependent on the ethnic minority/majority status. When talking to their ethnic minority friends, ethnic majority participants have shown more frequent engagement in conversations containing the themes of *awareness of difference*, *awareness of underrepresentation* and *not thinking about/valuing ethnicity and race*. They rarely reflected on the issue of systemic oppression or the way their identity was shaped by being a member of an ethnic majority group, with only few *positive connections to culture* codes. Not surprisingly, the members of ethnic minority groups told stories consisting of *discussion of racism/discrimination* (including personal experiences), as well as a *positive connection to culture* (including familial and community influence), showing that peer interactions can also reinforce a sense of ethnic belonging and pride. In such co-constructed narrations about ethnicity, ethnic minority youth have once again demonstrated more nuanced understanding of ethnic identity, often even taking the burden of educating their ethnic majority friends.

Narrative as a methodological tool

Narratives are simultaneously seen as a theoretical framework and as a methodological technique for understanding the ethnic identity development (Syed, 2015; Westberg, 2022). To access stories about the subjective importance of one's cultural background, researchers usually draw narrative prompts from McAdams' (2007) Life Story Interview. Participants are asked to describe life chapters and key scenes (e.g. high point, low point, turning point) or self-defining memories pertaining to their ethnicity, such as:

> "*Please describe an experience in which you became particularly aware of your ethnicity while in the company of close friends.*" (Syed & Azmitia, 2008)
>
> "*Please describe a particular time in your life, either positive or negative, when you felt aware of your race/ethnicity. Tell us how old you were when this happened, where you were, whom you were with, what happened, and how you reacted. Include details that would help us see and feel as you did.*" (Moffitt & Syed, 2021)

The prompt may also be applied in the form of the *telling memory*, which consists of the participant's memory about sharing a significant ethnicity-related memory to someone else (Syed, 2012). As a first step, participants write down an ethnicity-related memory, and, further on, they recall telling that specific memory to someone in their life.

Another useful methodological tool is the *dynamic narrative approach*, extensively described by Daiute (2014). Participants are invited to interpret an ambiguous social situation and elaborate on it from different stakeholders' perspectives. The situation is presented via a hypothetical vignette describing a fictional scenario, eliciting complex and often contradictory meanings in a subtle, non-confrontational way. This methodology was used in the afore-mentioned study by Jović (2020) about sense-making of unfairness: adolescents were presented with a vignette depicting a classic high school situation – a field trip where three individuals arrange who will share a double room with whom, and one person acts unjustly and unfairly to achieve their desire. In this story, the protagonists are presented as a clear victim and as a perpetrator. The participants' task in the study was to read the vignette describing the ambiguous circumstance and then create their own story from four different perspectives, for different audiences. The first perspective was direct – a narrative about personal experience, describing whether they had been in a similar situation. The second perspective involved taking the role of the perpetrator (culprit), where the participants had to adopt his/her perspective and write a letter to a third person, explaining what happened. The third perspective was that of the victim, also writing a letter to a third person about the incident. Finally, the fourth perspective involved taking the stance of the victim in the case of writing a complaint letter to an authority figure. This kind of self-positioning inside the shoes of the protagonists inevitably elicits one's own experiences and worldviews about inequality, which become incorporated in the narrative, thus telling a story about their (ethnic) identity.

Regardless of the prompts used in a particular study, the narrative ethnic identity research would benefit from following certain steps in narrative acquisition, organization and analysis (Syed, 2015):

1. **Data collection**: after conducting a pilot study, participants should actively contribute their stories, either by writing them on a computer, by hand, or through oral narration. The method selection should take into account the nature of elicited memories. Specifically, for highly sensitive recollections such as discrimination, which participants may be reluctant to disclose, the written methods offering privacy are preferable over oral interviews. However, the limitation of not being able to probe further with follow-up questions in this way should be carefully considered. The number of participants should align with the study's objectives, ranging from single-case study narration to involving several hundred contributors.
2. **Data transcription**: For the handwritten or verbal accounts, transcription should be meticulous. The goal is to capture the words exactly as they were said or written, maintaining accuracy and staying true to the original stories.
3. **Coding system development**: a coding system can be formed by taking over or modifying an existing one (from previous research) or creating a completely new one. Deciding on the number of coding categories is considered one of the most challenging steps, which once again depends on the goals of the study. The coding scheme should not be too broad and overly general, rendering the few generated categories meaningless for the specific research questions. On the other hand, using too many categories carries the risk of making the scheme too narrow and specific, resulting in difficulties in achieving accordance across different researchers. The narrative literature points to four general categories of coding which should be included, regardless of the research topic: motivational themes (individual's needs, goals and strivings), affective themes (emotional valence of the narrative), structural elements (narrative coherence) and themes of integrative meaning (individual's sense making of the narrated events). Additionally, examining narrative content (what the story is about) is necessary in order to understand what makes up one's identity and, more specifically, ethnic identity.

4. **Training the coders and data coding**: Coders should undergo extensive training on the use of the coding manual to ensure satisfactory interrater reliability. The coding team should consist of less experienced professionals (e.g. students), in addition to coding experts. This diversity is crucial to incorporate various perspectives into the analysis, thus encompassing different interpretations of the data derived from participants' stories.

At this point, it should be added that we consider that there must be a prerequisite to any such road map, a step zero of a sort: research should always be conducted in a responsible, culturally sensitive way. The cultural competence imperative is incorporated into formal education of future psychologists in certain parts of the world (e.g. American Psychological Association, 2017) in order to ensure our understanding of ethnic and racial diversity and avoid misconceptions or, even worse, discriminatory attitudes towards the participants' cultural background. Moreover, our research experience suggests that employing peer interviewers may be critical when discussing ethnicity and discrimination with the members of significantly marginalized ethnic groups, such as the Roma. Empirical evidence indicates that interviewers sharing the same cultural background are more effective in facilitating data collection, ensuring accurate representation of the community's perspectives, as well as minimizing distress among participants, thereby enhancing the overall quality and authenticity of the research findings (Bhabha et al., 2017; Condor et al., 2023). The subsequent data analysis is considered to be dependent on particular research objectives and cannot be fully defined prior to engaging with the material itself (Butina, 2015). However, it is not clear how the decision on one of the various analysis approaches is made. A possible strategy we propose is undertaking a thorough review of the participants' narratives by re-reading their stories, guided by diverse research questions of interest. This iterative process of engaging with the narratives, framed by specific inquiries, aims to facilitate a more informed and nuanced selection of analytical methods.

The strengths of the narrative approach to ethnic identity development research

Based on the conceptualization of the narrative ethnic identity and the results stemming from this line of research, we will draw some conclusions on the strengths of the narrative approach. As highlighted before, the narrative framework allows us to gain insights into the interrelated and dynamic aspects of ethnic identity, otherwise unattainable to researchers. It goes beyond static or categorical views of ethnicity development to capture the dynamic and evolving nature of how individuals come to the understanding of what it means to be a member of their respective ethnic group. The formation of ethnic identity thus becomes **broader conceptually**, involving more than just the adoption of an ethnic label or being at a specific stage, but also encompassing the way in which developmental changes take place. The sense-making process of a specific individual is reflected in an integrated story of a lived ethnic experience, which includes the past events, current self-perception and future aspirations. The narrative approach offers a ground for the participant's ethnic story analysis. It enables researchers to examine the plot types or narrative structures and the attribution of causes to events, as well as the temporal dimension of narration: how distant events are interconnected, sequenced and paced within one's story. Furthermore, it gives us the opportunity to understand the **content** of ethnic identity, which remains invisible if we rely solely on survey data. In this way, we can become aware of what ethnic identity "looks like" – what constitutes ethnicity of a specific person, i.e. which aspects are put forth when thinking about the membership to his/her ethnic group in terms of attitudes, beliefs, cultural behaviours etc. Therefore, the narratives about the lived experiences and the individual's interpretations of these experiences help us get considerably closer to the subjective point of view compared to the traditional positivist approaches. At the same time, the narrative framework places a strong emphasis on the **context** which constantly (re)shapes the meanings individuals ascribe to their ethnicity, both in terms of interactions with one's immediate surroundings and wider sociocultural influences. Finally, applying the narrative methodology can be considered **complementary** to quantitative, rating-scale instruments (as shown in some of the studies described here), offering a more comprehensive look into the complex questions of ethnic identity development, its processes and contents.

Equally significant, albeit beyond the scope of the current review, the narrative approach to ethnic identity has significant practical implications. As explained, meanings are seen as idiosyncratic, a unique and diverse combination of cultural expressions and lived experiences, allowing individuals to have their own way of "doing" ethnic identity. This notion of heterogeneity invites us to adopt a **less pathologizing**, not-knowing stance, taking into account the varying identity configurations, while understanding that a more mature ethnic identity is not the sole developmental outcome as was once understood (Syed, 2015). Additionally, the narratives about ethnic identity are powerful tools which can **give voice** to the members of the marginalized and underrepresented groups, silenced by the systems of power, privilege and oppression (Rogers & Syed, 2021). Narrating about one's own ethnicity can be a transformational experience when youth are supported in rethinking their ethnicity and creating alternative stories, not constrained by cultural expectations and/or based on discriminatory attitudes (Keddell, 2009;

Syed & McLean, 2020). The so-called narrative practice approach which relies on this idea can be applied to educational, mental health and community settings. For instance, in an educational context the narrative practice can contribute to the development of a methodology that would comprehensively examine how ethnic minority students create a relationship with the academic curriculum content typically written from the perspective of the dominant ethnic group. Through a narrative approach, students from minority groups can be encouraged to reconsider how their sense of belonging to their ethnic group changes depending on the different content included (or not) in the curriculum and the multicultural school practices. Furthermore, interacting with ethnic minority communities and analysing the narratives from those who are minorities at the state level versus those in local communities, as well as the groups that are minorities state-wide but majorities locally, can reveal context-specific insights not accessible through quantitative methods. Finally, the narrative approach can be a significant way of exploring sensitive ethnic identity themes, particularly among the marginalized groups, where shame is easily activated. Shame associated with ethnic identity is a common theme in the psychotherapeutic process, where storytelling becomes a crucial tool for integrating the disowned aspects of the self. The therapy session transcripts can serve as valuable resources for understanding the developmental dynamics of ethnic identity, offering perspectives on the protective and risk factors for the construction of a stable and coherent sense of self. Applying the narrative methodology within these diverse contexts that adolescents and emerging adults navigate can have a profound impact on their well-being, enabling a deeper understanding of ethnic identity and fostering a greater sense of belonging and acceptance.

The limitations of the narrative approach to ethnic identity development research

Compared to conducting traditional self-report survey research, the main practical and most commonly cited disadvantage of applying the narrative methodology is that it requires a great amount of time and resources. As pointed out by Syed (2015), the narrative approach entails complex and lengthy research procedures, from the first phase of data collection up to the final stage of formulating meaningful study results. The task of training research collaborators on applying the once developed coding scheme often proves to be increasingly difficult because of the lack of or insufficient formal education on qualitative methodology. Furthermore, research planning and narrative analysis pose unique challenges due to the absence of standardized steps, with relatively vague guidelines and insights, usually garnered from researchers' experience. Similarly, the position of the researcher in terms of ontological and epistemological assumptions and its implications for ethnic identity research have not been discussed.

Apart from these concerns, the described narrative approach is sometimes criticized because of its conceptual challenges. Firstly, can narratives be a valid measure of complex ethnic identity when we take into account that they usually consist of subjective accounts of only one significant, ethnicity-related memory as a prompt? Moreover, the narratives of pivotal, life-changing moments (the so-called "Big stories") are considered unlikely to be shared spontaneously or even deemed artificial, typically elicited through elaborate techniques in highly controlled, quasi-experimental settings (Bamberg, 2006b; Georgakopoulou, 2006). The critics of the prototypical, biographical approach to narrative research suggest that the "Big story" is unable to capture the dynamic process of developmental change while it is ongoing; rather, participants are expected to reflect on their lives retrospectively, by orienting their memory backward, after the transformation has already taken place (Bamberg, 2006a). Secondly, the narratives per se vary vastly in terms of the nature of individual responses (e.g. format, type of memory elicited) to the same prompt, making it sometimes troublesome to compare the results or draw more general conclusions. Deppermann (2013) argues that non-narrative, perceptual, action-oriented aspects of experience which are not narrativized are conceptually excluded from being the facets of identity. Additionally, while narratives are expected to unveil the personal meanings individuals ascribe to various aspects of their ethnic identities, gathering data on their behaviours, rituals, and beliefs may prove challenging, as participants are not explicitly prompted to discuss them. The absence of the specific content in narratives, such as the omission of cultural practices, does not allow definitive conclusions; it remains ambiguous whether participants do not engage in these practices in their everyday lives or if they simply do not see them as significant within the context of their interaction with the researcher. Qualitative data on ethnic identity have also been harder to relate directly to psychological outcomes, thus giving us little information on the link between the narrative elements and commonly used measures of well-being, distress or academic functioning. Finally, although adolescents become more capable of self-reflection and perspective-taking (Blakemore & Mills, 2014), we may add that individuals vary in terms of their writing skill levels (e.g. vocabulary, fluency, elaboration), making some more adept at narrative writing than others.

Complementary and prospective research trajectories

In recent years, researchers have become increasingly interested in exploring the structural societal factors more directly, underscoring the overly emphasized individual-level analysis present in diversity science (Syed & McLean, 2023). One framework which places the individual-structural relation as its main focus is the *master narrative approach*. The master narrative is a cultural script readily available to the members of a specific ethnic group in the society they live in (Hammack, 2008; McLean & Syed, 2016; Syed et al., 2020). The focus is on the interaction between individual-level and societal-level narratives or, more precisely, on the way in which personal identity is influenced by and often limited to cultural values and expectations. Research questions revolve around understanding the process of dynamic engagement with the stories of collective identity and individual deviations from master narratives. The master narrative approach is expected to help us come to a more detailed and nuanced recognition of the ways in which those with varying levels of power in a society negotiate their positions and develop their ethnic identity.

The issues of power and dominance, along with moral orders, rights, and duties, are thoroughly theorized within the positioning theory. Initially developed as an ontological constructionist discursive approach by Harre and colleagues (e.g., Harre & Van Langenhove, 1999), the positioning theory drew focus on cultural contexts and collective construction of norms and social representation. The limitation of this perspective is that it makes cognitive assumptions about discourse and social action; in other words, it overlooks the action orientation of positioning in order to tap into the realm of the shared belief system, moral norms and social rules. In contrast, there is a discursive psychological approach to positioning, relying on epistemological constructivism. This approach poses a different question: not about a 'storehouse' of rules underlying people's actions, but about describing the discursive actions and rhetorical strategies used to create a sense of identity that aligns with or resists certain norms and conventions (Korobov, 2010). In line with the alternative approach to positioning, there have been voices about its complementarity with the narrative approach given that it offers a discourse-based, interactional understanding of identities (Deppermann, 2013; Hyvärinen et al., 2021). For example, Bamberg and Georgakopoulou (2008) suggest analysing three levels in narratives: how characters are positioned within the story (level 1), how the speaker/narrator positions him/herself (and is positioned) within the interactive situation (level 2), and how the speaker/narrator positions a sense of self/identity with regard to the dominant discourses or master narratives (level 3).

The proponents of the "Small story" approach see a great potential for identity research in a shift towards the stories we tell in everyday settings about mundane things and recent occurrences (Bamberg, 2006b). These events, often shared immediately either through face-to-face or mediated communication, are sometimes referred to as "breaking news" by Georgakopoulou (2006), in order to highlight their ongoing and dynamic nature. In contrast to the "Big story" inquiry focused on the content (the *about* of the story), the emphasis is placed on *the telling moment*: how narratives are constructed and managed within immediate interactions and what conversational objectives they fulfil while shared. Stories are social practices not only of what is coherent and deeply reflected upon, but also of the fragmented or that which is left unspoken (McLean et al., 2007). Thus, identities are "done" in a local interactional environment which is now available for empirical examination, rather than only theoretically posed as co-constructed with a researcher or the "imagined other" to whom the participant writes as the audience. In ethnic identity research, the "Small story" approach may be particularly effective for delving into the topics that participants might find challenging to articulate directly to an unknown researcher, such as the experiences of discrimination and ethnicity-based microaggressions, which might be more readily shared within their own social context.

Another line of research gaining popularity is the exploration of the intersection of social identities (e.g. ethnicity and gender) via storytelling (Rogers & Way, 2016). Narratives are seen as personal accounts which can reveal how various aspects of the self interact in the process of identity development and how important a certain aspect of identity is to a particular individual.

More generally, different authors suggest that the field should focus more directly on the developmental process of ethnic identity by conducting longitudinal studies, which are particularly scarce in narrative research. This would allow further insights into how stories about ethnic identity change over time, as individuals explore and gain new perspectives through the lived experiences (Syed, 2015).

Taking into consideration the ideas presented in this paper, we argue that no matter the specific focus of future studies, moving away from a narrow and rigid methodological perspective may be the most crucial thing for the advancement of our understanding of ethnic identity development. A pivotal moment in this evolution has precisely been the integration of qualitative research into the field and, more specifically, the use of narratives to tell a deep personal story of what it means to identify with one's ethnicity. This is particularly relevant in complex socio-historical landscapes, saturated with interethnic tensions typically perpetuated top-down, from politicians and the media nowadays. Although rarely applied in Serbia, the narrative and similar approaches to identities in general and ethnic identities in particular have already shown great research and transformation potential in diverse contexts, including mental health and education (see e.g., Đorđević, 2023; Milivojević & Nikolić, 2017; Simić et al., 2017; Simić et al., 2019; Sremac & Radić, 2010). Hence, we propose an increased incorporation of this conceptual and methodological approach in the field of psychology and other social sciences, as well as in professional, educational and mental health practice.

References:

American Psychological Association. (2017). *Multicultural Guidelines: An Ecological Approach to Context, Identity, and Intersectionality*. Retrieved from: http://www.apa.org/about/policy/multicultural-guidelines.pdf

Bamberg, M. (2006a). Biographic-Narrative Research, Quo Vadis? A Critical Review of 'Big Stories' from the Perspective of 'Small Stories'. In K. Milnes, C. Horrocks, N. Kelly, B. Roberts, & D. Robinson (Eds.), *Narrative, memory and knowledge: Representations, aesthetics and contexts* (pp. 63–80). University of Huddersfield Press.

Bamberg, M. (2006b). Stories: Big or small: Why do we care?. *Narrative inquiry, 16*(1), 139-147. https://doi.org/10.1075/ni.16.1.18bam

Bamberg, M., & Georgakopoulou, A. (2008). Small stories as a new perspective in narrative and identity analysis. *Text & Talk*, *28*(3), 377-396. https://doi.org/10.1515/TEXT.2008.018

Bamberg, M. (1997). Positioning between structure and performance. *Journal of Narrative and Life History, 7*(1–4), 335–342. https://doi.org/10.1075/jnlh.7.42pos

Bhabha, J., Fuller, A., Matache, M., Vranješević, J., Chernoff, M. C., Spasić, B., & Ivanis, J. (2017). Reclaiming adolescence: A Roma youth perspective. *Harvard educational review, 87*(2), 186-224. https://doi.org/10.17763/1943-5045-87.2.186

Blakemore, S. J., & Mills, K. L. (2014). Is adolescence a sensitive period for sociocultural processing?. *Annual review of psychology, 65*, 187-207. https://doi.org/10.1146/annurev-psych-010213-115202

Bruner, J. (1990). *Acts of meaning.* Harvard University Press.

Butina, M. (2015). A narrative approach to qualitative inquiry. *Clinical Laboratory Science, 28*(3), 190-196. https://doi.org/10.29074/ascls.28.3.190

Cole, M. (2003). Culture and cognitive science. Outlines. *Critical Practice Studies, 5*(1), 3-15. https://doi.org/10.7146/ocps.v5i1.2159

Condon, L., Curejova, J., Morgan, D. L., Miles, G., Barry, D., & Fenlon, D. (2023). Public involvement in participatory research: the experiences of peer interviewers from Roma, Gypsy and Traveller communities. *Nurse Researcher, 31*(4), 17-23. https://doi.org/10.7748/nr.2022.e1818

Cornell, S. (2000). That's the story of our life. In P.R. Spickard & W. J. Burroughs (Eds.), *We are a People: Narrative and Multiplicity in Constructing Ethnic Identity* (pp. 41-53). Temple University Press.

Daiute, C. (2014). *Narrative Inquiry: A Dynamic Approach*. SAGE Publications.

Deppermann, A. (2013). Editorial: Positioning in narrative analysis. *Narrative Inquiry*, *23*(1), 1-15. http://dx.doi.org/10.1075/ni.23.1.01dep

Đorđević, A. (2023). *Miris ajvara, i miris lavande [The Smell of Ajvar, and the Smell of Lavender]*. Akademska knjiga.

Erikson, E. H. (1968). *Identity: Youth and Crisis*. Norton.

French, S. E., Seidman, E., Allen, L., & Aber, J. L. (2006). The development of ethnic identity during adolescence. *Developmental Psychology, 42*(1), 1–10. https://doi.org/10.1037/0012-1649.42.1.1

Georgakopoulou, A. (2006). Thinking big with small stories in narrative and identity analysis. *Narrative inquiry, 16*(1), 122-130. https://doi.org/10.1075/ni.16.1.16geo

Habermas, T., & Reese, E. (2015). Getting a life takes time: The development of the life story in adolescence, its precursors and consequences. *Human Development, 58*(3), 172-201. https://doi.org/10.1159/000437245

Hammack, P. L. (2008). Narrative and the Cultural Psychology of Identity. *Personality and Social Psychology Review, 12*(3), 222-247. https://doi.org/10.1177/1088868308316892

Hyvärinen, M., Hatavara, M., & Rautajoki, H. (2021). Positioning with master and counter-narratives. *Narrative Inquiry, 31*(1), 97-125. https://doi.org/10.1075/ni.20014.hyv

Ignjatović, N., & Radosavljević, J. (2023). Narativni pristup kao okvir za razumevanje razvoja etničkog idetiteta – teorijski i praktični doprinosti. *Knjiga rezimea 71. Kongresa psihologa Srbije* (str. 102). Društvo psihologa Srbije.

Jović, S. (2020). The narrative games we play: Varied use of narrative strategies across genres and socioeconomic positions. *Language & Communication, 74*, 87–102. https://doi.org/10.1016/j.langcom.2020.06.001

Keddell, E. (2009). Narrative as identity: Postmodernism, multiple ethnicities, and narrative practice approaches in social work. *Journal of Ethnic & Cultural Diversity in Social Work, 18*(3), 221-241. https://doi.org/10.1080/15313200903070973

Korobov, N. (2010). A discursive psychological approach to positioning. *Qualitative Research in Psychology*, *7*(3), 263–277. https://doi.org/10.1080/14780880902822321

Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of personality and social psychology, 3*(5), 551-558. https://doi.org/10.1037/h0023281

Marcia, J. E. (1980). Identity in adolescence. In J. Adelson (Ed.), *Handbook of Adolescent Psychology* (pp. 159-187). Wiley.

McAdams, D. P. (2001). The Psychology of Life Stories. *Review of General Psychology, 5*(2), 100-122. https://doi.org/10.1037/1089-2680.5.2.100

McAdams, D. P. (2007). *The life story interview.* The Foley Center for the Study of Lives, Northwestern University. Retrieved from: https://cpb-us-e1.wpmucdn.com/sites.northwestern.edu/dist/4/3901/files/2020/11/The-Life-Story-Interview-II-2007.pdf

McAdams, D. P. (2018). Narrative Identity: What Is It? What Does It Do? How Do You Measure It? Imagination, *Cognition and Personality, 37*(3), 359–372. https://doi.org/10.1177/027623661875670

McAdams, D. P., & McLean, K. C. (2013). Narrative Identity. *Current Directions in Psychological Science, 22*(3), 233–238. https://doi.org/10.1177/0963721413475622

McAdams, D., Bauer, J. J., Sakaeda, A. R., Anyidoho, N. A., Machado, M. A., Magrino-Failla, K., & Pals, J. L. (2006). Continuity and change in the life story: A longitudinal study of autobiographical memories in emerging adulthood. *Journal of Personality, 74*(5), 1371–1400. https://doi.org/10.1111/j.1467-6494.2006.00412.x

McLean, K. C. (2008). The Emergence of Narrative Identity. *Social and Personality Psychology Compass, 2*(4), 1685–1702. https://doi.org/10.1111/j.1751-9004.2008.00124.x

McLean, K. C., Pasupathi, M., & Pals, J. L. (2007). Selves creating stories creating selves: A process model of self development. *Personality and Social Psychology Review, 11*(3), 262-278. https://doi.org/10.1177/1088868307301034

McLean, K. C., & Syed, M. (2016). Personal, master, and alternative narratives: An integrative framework for understanding identity development in context. *Human Development, 58*(6), 318-349. https://doi.org/10.1159/000445817

Milivojević, T. & Nikolić, J. (2017). Narrative self: The stories that enslave or liberate us. *Komunikacije, mediji, kultura, 9*(9), 37-60. https://doi.org/10.5937/gfkm1709037M

Moffitt, U., & Syed, M. (2021). Ethnic-racial identity in action: Structure and content of friends' conversations about ethnicity and race. *Identity, 21*(1), 67-88. https://doi.org/10.1080/15283488.2020.1838804

Moffitt, U., Juang, L. P., & Syed, M. (2020). Intersectionality and Youth Identity Development Research in Europe. *Frontiers in Psychology, 11*(78), 1-14. https://doi.org/10.3389/fpsyg.2020.00078

Pahl, K., & Way, N. (2006). Longitudinal trajectories of ethnic identity among urban Black and Latino adolescents. *Child Development, 77*(5), 1403–1415. https://doi.org/10.1111/j.1467-8624.2006.00943.x

Pasupathi, M., Wainryb, C., & Twali, M. (2012). Relations between narrative construction of ethnicity-based discrimination and ethnic identity exploration and pride. *Identity, 12*(1), 53-73. https://doi.org/10.1080/15283488.2012.632393

Phinney, J. S. (2008). Bridging Identities and Disciplines: Advances and Challenges in Understanding Multiple Identities. *New Directions for Child and Adolescent Development, 2008*(120), 97-109. https://doi.org/10.1002/cd.218

Phinney, J. S., & Ong, A. D. (2007). Conceptualization and Measurement of Ethnic Identity: Current Status and Future Directions. *Journal of Counseling Psychology, 54*(3), 271–281. https://doi.org/10.1037/0022-0167.54.3.271

Phinney, J. S. (1989). Stages of Ethnic Identity Development in Minority Group Adolescents. *Journal of Early Adolescence, 9*(1-2), 34–49. https://doi.org/10.1177/0272431689091004

Phinney, J. S. (1990). Ethnic Identity in Adolescents and Adults: A Review of Research. *Psychological Bulletin, 108*(3), 499–514. https://doi.org/10.1037/0033-2909.108.3.499

Phinney, J. S. (1992). The multigroup ethnic identity measure: A new scale for use with diverse groups. *Journal of Adolescent Research, 7*(2), 156–176. https://doi.org/10.1177/07435548927200

Phinney, J. S. (1996). Understanding Ethnic Diversity: The Role of Ethnic Identity. American *Behavioral Scientist, 40*(2), 143-152. https://doi.org/10.1177/0002764296040002005

Quintana, S. M. (2007). Racial and Ethnic Identity: Developmental Perspectives and Research. *Journal of Counseling Psychology, 54*(3), 259-270. https://doi.org/10.1037/0022-0167.54.3.259

Reese, E., Jack, F., & White, N. (2010). Origins of Adolescents' Autobiographical Memories. *Cognitive Development, 25*(4), 352-367. https://doi.org/10.1016/j.cogdev.2010.08.006

Rivas-Drake, D., Seaton, E. K., Markstrom, C., Quintana, S., Syed, M., Lee, R. M., ... & Ethnic and Racial Identity in the 21st Century Study Group. (2014). Ethnic and racial identity in adolescence: Implications for psychosocial, academic, and health outcomes. *Child Development, 85*(1), 40-57. https://doi.org/10.1111/cdev.12200

Roberts, R. E., Phinney, J. S., Masse, L. C., Chen, Y. R., Roberts, C. R., & Romero, A. (1999). The structure of ethnic identity of young adolescents from diverse ethnocultural groups. *The Journal of Early Adolescence, 19*(3), 301-322. https://doi.org/10.1177/0272431699019003001

Rogers, L. O., & Way, N. (2016). "I have goals to prove all those people wrong and not fit into any one of those boxes" paths of resistance to stereotypes among Black adolescent males. *Journal of Adolescent Research, 31*(3), 263-298. https://doi.org/10.1177/07435584156000

Rogers, L. O., & Syed, M. (2021). Conceptualizing the multiple levels of identity and intersectionality. In M. Bamberg, C. Demuth, & M. Watzlawik (Eds.), *Handbook of Identity* (pp. 604-626). Cambridge University Press.

Rogoff, B. (2003). *The Cultural Nature of Human Development*. Oxford University Press.

Schwartz, S. J., Syed, M., Yip, T., Knight, G. P., Umaña-Taylor, A. J., Rivas-Drake, D. & Lee, M. R. (2014). Methodological Issues in Ethnic and Racial Identity Research With Ethnic Minority Populations: Theoretical Precision, Measurement Issues, and Research Designs. *Child Development, 85*(1), 58–76. https://pubmed.ncbi.nlm.nih.gov/24490892/

Simić, N., Jokić, T., & Vukelić, M. (2017). Personal Construct Psychology in Preservice Teacher Education: The Path Toward Reflexivity. *Journal of Constructivist Psychology, 32*(1), 1-17. https://doi.org/10.1080/10720537.2017.1336137

Simić, N., Vranješević, J., & Ilić, I. (2019). Muslim refugees in Serbia: Narrating gender role identity change. *Etnoantropološki problemi, 14*(4), 1273-1293. https://doi.org/10.21301/eap.v14i4.10

Singer, J. A. (2004). Narrative identity and meaning making across the adult lifespan: An introduction. *Journal of Personality, 72*(3), 437-460. https://pubmed.ncbi.nlm.nih.gov/15102034/

Smith, T. B., & Silva, L. (2011). Ethnic Identity and Personal Well-being of People of Color. *Journal of Counseling Psychology, 58*(1), 42-60. https://doi.org/10.1037/a0021528

Sremac, S., & Radić, T. (2010). "Bio sam navučen" – Transformativno iskustvo bivših zavisnika: Uloga narativnog identiteta, religijske konverzije i socijalne podrške u procesu rehabilitacije ["I was hooked on it" – Transformative experience of recovered drug addicts: The role of narrative identity, religious conversion and social support in the recovery process]. *Antropologija, 10*(3), 49-71.

Syed, M. (2012). College students' storytelling of ethnicity-related events in the academic domain. *Journal of Adolescent Research, 27*(2), 203–230. http://dx.doi.org/10.1177/0743558411432633

Syed, M. (2015). Theoretical and methodological contributions of narrative psychology to ethnic identity research. In C. E. Santos & A. J. Umaña-Taylor (Eds.), *Studying ethnic identity: Methodological and conceptual approaches across disciplines* (pp. 27–54). American Psychological Association. https://doi.org/10.1037/14618-003

Syed, M., & Azmitia, M. (2008). A narrative approach to ethnic identity in emerging adulthood: bringing life to the identity status model. *Developmental Psychology, 44*(4), 1012-1027. https://doi.org/10.1037/0012-1649.44.4.1012

Syed, M., & Azmitia, M. (2010). Narrative and ethnic identity exploration: A longitudinal account of emerging adults' ethnicity-related experiences. *Developmental Psychology, 46*(1), 208-219. https://doi.org/10.1037/a0017825

Syed, M., & Juan, M. J. D. (2012). Discrimination and psychological distress: Examining the moderating role of social context in a nationally representative sample of Asian American adults. *Asian American Journal of Psychology, 3*(2), 104–120. http://dx.doi.org/10.1037/a0025275

Syed, M., & McLean, K. C. (2023). Master narrative methodology: A primer for conducting structural-psychological research. *Cultural Diversity and Ethnic Minority Psychology, 29*(1), 53-63. https://doi.org/10.1037/cdp0000470

Syed, M., Azmitia, M., & Phinney, J. S. (2007). Stability and change in ethnic identity among Latino emerging adults in two contexts. *Identity: An International Journal of Theory and Research, 7*(2), 155–178. https://doi.org/10.1080/15283480701326117

Syed, M., Pasupathi, M., & McLean, K. C. (2020). Master narratives, ethics, and morality. In L. A. Jensen (Ed.), *The Oxford Handbook of Moral Development: An Interdisciplinary Perspective* (pp. 500-515). Oxford University Press.

Syed, M., Walker, L. H., Lee, R. M., Umaña-Taylor, A. J., Zamboanga, B. L., Schwartz, S. J., Armenta, B.E., & Huynh, Q. L. (2013). A two-factor model of ethnic identity exploration: Implications for identity coherence and well-being. *Cultural Diversity and Ethnic Minority Psychology, 19*(2), 143–154. http://dx.doi.org/10.1037/A0030564

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. Austin (Eds.), *Psychology of intergroup relations* (pp. 7–24). Nelson-Hall.

Umaña-Taylor, A. J., Diversi, M., & Fine, M. A. (2002). Ethnic identity and self-esteem of Latino adolescents: Distinctions among the Latino populations. *Journal of Adolescent Research, 17*(3), 303-327. https://doi.org/10.1177/07435584021730

Umaña-Taylor, A. J., Quintana, S. M., Lee, R. M., Cross, W. E., Rivas-Drake, D., Schwartz, S. J., Syed, M., Yip, T., Seaton, E. (2014). Ethnic and racial identity during adolescence and into young adulthood: An integrated conceptualization. *Child Development, 85*(1), 21-39. https://doi.org/10.1111/cdev.12196

Van Langenhove, L., & Harre, R. (1999). Introducing positioning theory. In: L. Van Langenhove & R. Harre (Eds.), *Positioning theory: Moral contexts of intentional action*. Basil Blackwell.

Vygotsky, L. S. (1978). *Mind in Society: Development of Higher Psychological Processes.* Harvard University Press.

Vygotsky, L.S (1986). *Thought and Language*. The MIT Press.

Westberg, D. W. (2022). *Who Am I? Exploring Narrative Identity Through an Intersectional Framework.* University of California, Riverside.

DATUM PRIJEMA RADA: 2023/12/22 DATUM PRIHVATANJA RADA: 2024/05/21

Istraživanje razvoja etničkog identiteta kroz pripovedanje: konceptualni i metodološki potencijal narativnog pristupa

Natalija Ignjatović
Univerzitet u Beogradu, Filozofski fakultet

Jovan Radosavljević
Univerzitet u Beogradu, Filozofski fakultet

Nataša Simić
Univerzitet u Beogradu, Filozofski fakultet

Ovim preglednim radom kritički se preispituje tradicionalni kvantitativni pristup istraživanju etničkog identiteta i predstavljaju se argumenti za korišćenje alternativne narativne metodologije. Oslanjajući se na model statusa Finijeve kao polazne tačke, predlažemo prelazak ka sveobuhvatnijoj narativnoj perspektivi radi ispitivanja razvoja etničkog identiteta. Uprkos svojim doprinosima, istraživanja zasnovana na upitnicima ograničena su u pogledu objašnjavanja nijansiranog procesa razvoja i kontekstualnih uticaja na promene identiteta, naročito kada je reč o etničkoj eksploraciji. Prihvatanje etničkih odrednica oblikuje odnose adolescenata s drugima, njihova iskustva, akcije i raspoložive resurse, što podrazumeva konstrukciju narativa o značenju pripadnosti određenoj grupi. Narativnim pristupom ispituje se subjektivni značaj etničkih iskustava, prikazujući identitete kao dinamične. Koncept naglih prelaza se preispituje, dok se rasvetljava postepenost i složenost promena etničkog identiteta. Narativi nude jedinstvenu perspektivu za razumevanje sadržaja etničkog identiteta, otkrivajući stavove, verovanja i ponašanja unutar određene kulture koja ostaju nedostupna kada se procenjuju putem instrumenata koji koriste skale procene. Prikazane su studije koje uključuju narativnu metodologiju u području razvoja etničkog identiteta i kritički je procenjena njena primena. Pored prepoznavanja transformativnog potencijala narativne prakse, u radu se uzimaju u obzir njena ograničenja, uključujući vremenske zahteve, kao i zahteve u pogledu resursa, neophodne obuke istraživača i složenosti obrade rezultata. Dakle, u radu se predlaže eksplorisanje novih pravaca u istraživanju razvoja etničkog identiteta, uz isticanje potencijalne koristi uključivanja kvalitativnih metoda, posebno narativa. Ovaj alternativni pristup mogao bi igrati značajnu ulogu u produbljivanju razumevanja etničkog identiteta u savremenim kontekstima.

Ključne reči: etnički identitet, razvoj identiteta, narativi, kvalitativna metodologija, adolescenti

Psihološka istraživanja, Vol. XXVII (2) 2024. 197–222

UDK: 159.947.2:305
TIP ČLANKA: Originalni naučni rad
DOI: 10.5937/PSISTRA27-49718

Exploring situated expectancy-value theory: A study of gendered higher education choices[1]

Ivana Pikić Jugović[2]

Institute for Social Research in Zagreb, Centre for Educational Research and Development, Zagreb, Croatia

Karin Doolan

Department of Sociology, University of Zadar, Croatia

Branislava Baranović

Institute for Social Research in Zagreb, Centre for Educational Research and Development, Zagreb, Croatia

The paper explores the way in which motivational beliefs, gender roles and stereotypes, cultural resources and practices shape students' choices of university courses in technical sciences and social sciences and humanities. It is grounded in Eccles et al.'s situated expectancy-value theory, with an emphasis on the importance of its gender dimension, as well as sociocultural background as expressed through cultural capital indicators. Questionnaire data were collected from 1301 secondary school students in Croatia. Results indicate that motivational beliefs, especially utility values, are the strongest predictors of study choice for both young women and men. Traditional gender roles predict weaker intentions to choose gender non-stereotypical courses. Endorsing gender stereotypes about a lesser talent of one's own gender for occupations in technical sciences or social sciences and humanities predicts weaker intentions to choose courses in those fields of study. Finally, reading practices, serving as an indicator of cultural capital, add to the explanation of social science and humanities course choices for both young women and men. The implication of the study is the need to create intervention programmes aimed at deconstructing gender roles and challenging pupils' stereotypes about educational domains and occupations.

Keywords: situated expectancy-value theory, educational choices, gender, motivation, secondary school students

1 This paper has been fully supported by the Croatian Science Foundation under the project "*Social identities, higher education access and course choice*" (09.01/404).

2 jugovic@idi.hr

Introduction

Available data have consistently shown that women are underrepresented as graduates in STEM courses, especially in computer sciences and engineering, whereas men are underrepresented in social sciences and humanities (Eurostat, 2024; Verdugo-Castro et al., 2022). This is a problem which has been addressed by researchers and policy-makers alike (Council of Europe, 2018), and our research is an attempt to contribute to understandings of this gender gap from an educational psychology perspective, by using situated expectancy-value theory, developed by Eccles and associates, as a framework (Eccles et al., 1983; Eccles & Wigfield, 2020).

The existing literature suggests that the role of motivation in educational choices has been consistently confirmed in numerous studies, but also that the role of gender stereotypes, gender roles, as well as sociocultural background, has been under-researched within situated expectancy-value theory (Eccles & Wigfield, 2020, 2024). Therefore, we wish to further explore the gender dimension of education choices and to additionally examine certain indicators of cultural capital within this theoretical approach. Cultural capital is a widely-used sociological concept introduced by Pierre Bourdieu (1973, 1984, 1986) in order to capture the educational effects of family sociocultural background. Using indicators of cultural capital to explore the role of students' sociocultural background is a novel approach within situated expectancy-value theory. Our goal is to explore factors that shape young women's and men's choices of higher education courses in stereotypically male (technical sciences) and stereotypically female (social sciences and humanities) fields of study, based on research encompassing a nationally representative sample of final-year secondary school students from Croatia. Although the article peruses the data from Croatia to examine this dynamic, gendered higher education choices can be observed across many other educational contexts (e.g. Eurostat, 2024).

Theoretical and empirical overview

Eccles' situated expectancy-value theory has been widely used in empirical research in order to examine gendered educational choices and academic achievement. The theory proposes that educational choices and academic achievement are directly influenced by two sets of motivational beliefs: expectancies of success and subjective task values. Expectancies of success are defined as individual beliefs in how successful one will be at a particular activity in the future. Expectancies are measured similarly to Bandura's (1997) self-efficacy, defined as the personal judgment of one's capabilities to produce specific performance attainments. Expectancies are also closely related to the ability self-concept, which is considered to encapsulate broader beliefs about competence in a certain field (Eccles & Wigfield, 2002). Although expectancies of success are theoretically distinguished from the ability self-concept, they are usually not separable empirically and are measured via one instrument (Eccles & Wigfield, 2020).

Subjective task values are values an individual attaches to a certain task or activity. Situated expectancy-value theory proposes four components of task values: utility value, intrinsic value, attainment value and cost (Eccles & Wigfield, 2020). Utility value is conceptualised as perceived usefulness of the task in meeting immediate or long-term goals, such as pursuing an educational path or choosing a career, pleasing parents' desires, or spending time with friends. Students will engage in an activity if they find it useful, no matter how interested in it they are. Intrinsic value or interest is anticipated enjoyment one expects to experience from performing a task or choosing an activity. A person will be more motivated for a task that has higher intrinsic value. Attainment value is defined as personal importance or identity-based importance of doing well at the task. The authors consider that an activity is perceived as more important if engaging in it provides an opportunity to confirm prominent aspects of one's own identity, such as masculinity, femininity or competence. Perceived cost is conceptualised in terms of negative aspects of engaging in a task (e.g. amount of effort required to succeed in a task).

The authors further propose that expectancies of success and subjective task values are shaped by one's goals and general self-schemata, gender roles and gender stereotypes related to activities. Eccles et al. (1983) have defined gender roles as behaviours that are in accordance with a set of social prescriptions for gender-appropriate conduct. Furthermore, studies have examined gender stereotypes about performance in school subjects or talent for educational domains or careers (Eccles et al., 1983; Greene et al., 1999). Situated expectancy-value theory hypothesises that negative gender stereotypes about talent or performance of one's own gender in mathematics, sciences or languages can have adverse effects on educational choices and achievement in the related domains (Eccles, 1987). It is hypothesised that girls who endorse stereotypes about maths and science as male domains are less likely to study these domains, because their expected (feminine) gender role is incongruent with the masculine image of the STEM field (Eccles, 1987). Finally, it is expected that educational choices are shaped by sociocultural factors, such as the cultural milieu, parents' and teachers' beliefs, as well as student's previous achievement-related experiences.

Recent research conducted in the United States has highlighted the importance of both the expectancies of success and task values in predicting educational choices or the intentions (Fong et al., 2021; Lauermann et al., 2017). Other studies from the United States (Lauermann et al., 2015) and

Croatia (Jugović, 2017) have additionally shown that subjective task values were stronger predictors of educational choices than expectancies of success. A longitudinal study conducted in Germany and England showed that students' high ability self-concept in mathematics predicted entry into STEM university courses, whereas the high ability self-concept in the English language predicted entry into the social sciences and humanities (Parker et al., 2012).

The findings from China, Croatia and the United States also indicate that students' stereotypes about mathematics and physics as male domains predicted female students' lower academic achievement and expectancy of success, weaker intentions to pursue higher education in these domains, as well as stronger fear of mathematics (Jugović, 2017; Jugović et al., 2012; Song et al., 2017; Simon et al., 2016; Star et al., 2023; Starr & Simpkins, 2021). Endorsing a more feminine gender role predicted young men's and women's decision not to study STEM university courses in the Croatian education context (Jugović, 2017), as well as young women's decision not to participate in 'masculine' sports in France (Guillet et al., 2006). Some studies have also shown that motivational beliefs mediated the effect of gender roles and stereotypes on educational choices (e.g. Guillet et al., 2006; Song et al., 2017; Wegemer & Eccles, 2019). However, in some other less recent research, gender roles made little or no contribution to explaining educational outcomes (DeBacker & Nelson, 1999; Greene et al., 1999). The literature review suggests that motivational beliefs have been shown to be stronger predictors of educational outcomes than gender related variables (Greene et al., 1999; Jugović, 2017). In addition, the results on the impact of gender roles and stereotypes on educational outcomes have been inconsistent, and gender role measures used in some studies were of questionable validity (Jugović, 2010c), which calls for further elaboration and exploration of this part of the model.

Recent studies within situated expectancy-value theory have motioned to the importance of socioeconomic status and parental educational level for students' academic motivation and achievement (Harackiewicz et al., 2016; Parker et al., 2020). However, in their recent papers, Eccles and Wigfield (2020, 2024) have argued that more theoretical elaboration of the "left side" of the model and the exploration of how sociocultural background contributes to gendered educational choices is still needed. Recent theoretical and empirical work has explored the concept of "cultural milieu" as a means of addressing cultural, racial, ethnic, and gender influences within situated expectancy-value theory. For instance, Tonks et al. (2018) and Wigfield and Gladstone (2019) have initiated discussions on the significance of culture and ethnicity in shaping students' expectancies and values. Additionally, Matthews and Wigfield (2024) have suggested incorporating a racial perspective into the model by expanding the cultural milieu and socialisation elements to gain a deeper understanding of the development of Black students' motivational beliefs.

In order to acknowledge the importance of sociocultural influences in shaping higher education choices within situated expectancy-value theory, we explored certain indicators of cultural capital in our research study. The concept of cultural capital was introduced by the sociologist Pierre Bourdieu (1986, 1973, 1984) to explain the differences in the educational pathways of pupils who come from different class backgrounds. He found that the students from the "dominant class", who had high cultural capital, were more likely to continue to higher education and choose prestigious higher education institutions and courses since their cultural capital "fitted" with such institutional options. For Bourdieu (1986), such cultural capital existed in three forms: embodied (linguistic competences and cultural tastes), objectified (cultural goods such as paintings and books) and institutionalised (educational qualifications). Subsequent operationalisations of cultural capital have not been uniform. Variables have included cultural activities and tastes, such as the frequency of theatre going, museum going, reading books and musical preferences (e.g. Albert et al., 2018), as well as parents' educational level and educational field (e.g. Flemmen, 2012).

In educational research, Lareau and Weininger (2005) and Reay (2004) have identified a tendency to operationalise cultural capital as "highbrow" cultural activities. DiMaggio's (1982) influential work on school success, for example, defined cultural capital as an interest in art, classical music, literature, frequency of attending art events and cultural knowledge. Ganzeboom et al. (1990), as well as De Graaf et al. (2000), have also measured cultural capital in terms of consumption of "high" culture, which manifests itself as the frequency of visits to theatres and museums, while incorporating reading practices as an activity which is specific to educational experiences. Our exploration of certain indicators of cultural capital (reading practices, cultural practices) leans on this dominant, quantitative approach to operationalising cultural capital. However, we have integrated such operationalisations of embodied cultural capital with indicators of institutionalised cultural capital (parental educational level), as well as objectified capital (the number of books in one's home). This approach provides insight into how "conventional" cultural capital indicators compare across different studies. For example, writing about youth and culture in Croatia, Krolo et al. (2016) found that parents' embodied cultural capital (e.g. visiting museums, classical music concerts) predicted more significantly children's cultural preferences than the educational level of their parents or the number of books in their household. However, we also acknowledge criticism of this conventional approach and the value of expanded understanding of cultural capital as "much more than the high status activities that have traditionally been operationalised in empirical research within education" (Reay, 2004, p. 75).

In terms of the specific focus of our study, educational research has shown that, in the Danish context, students from the culturally privileged classes tended to choose courses in the arts, humanities and "soft" social science programmes (Thomsen, 2012), as well as that higher parental education predicted young men's choice of female-dominated occupations in the United

States (Hardie, 2015). Furthermore, in the Chinese context, students with higher cultural capital (operationalised through variables such as books in the household, fathers' educational level and participation in cultural activities) were more likely to choose a higher education course in the liberal arts fields than in the STEM fields (Hu & Wu, 2019). Thomsen (2012) has offered a possible explanation of such findings: unlike their peers with lower levels of cultural capital, students with higher levels are less focussed on obtaining a qualification which is societally constructed as "useful" for the labour market. Finally, in his work, Bourdieu did not engage with the gender dimension of such classed educational dispositions. However, as Evans (2009, p. 351) has pointed out, "a dynamic model of cultural capital must be one that integrates the gendered aspirations that individuals have".

The present study

Our literature review has pointed to several issues: a) motivational beliefs as stronger predictors of educational outcomes in the STEM field than gender-related variables, b) negative effects of gender stereotypes in the STEM field on female students' educational outcomes, and c) mixed findings on the impact of gender roles on educational outcomes (Greene et al., 1999; Guillet et al., 2006; Jugović, 2017; Starr & Simpkins, 2021). In addition, d) higher cultural capital was shown to predict students' choices in the arts, humanities and social science programs (Hu & Wu, 2019; Thomsen, 2012). Our literature review additionally suggests that there is a need to further explore the role of masculinity, femininity and gender stereotypes in shaping educational choices in stereotypically male and stereotypically female educational domains in a comprehensive way, since most studies have focussed on one or the other domain. In addition, and, given that "cultural milieu" has been under-researched within situated expectancy-value theory, we also explore whether certain indicators of cultural capital additionally explain educational choices within situated expectancy-value theory.

The aim of this study is to explore how expectancies of success and task values for mathematics and the Croatian language, gender stereotypes and gender roles, as well as cultural resources and practices, shape students' choices of courses in technical sciences (TS) and social sciences and humanities (SSH). Given that the depictions of the sociocultural aspect of the situated expectancy-value theory model vary (see Eccles, 2009; Eccles & Wigfield, 2020), but nevertheless open a possibility to include such factors as cultural capital at the far-left side of the model, we decided to position cultural capital in the first block in the regression analysis (Figure 1). Students' gender roles and stereotypes were included in the second block, following Eccles' (1987) depiction, and motivational beliefs in the third. Mathematics as a school subject and technical sciences courses were selected to represent a stereotypically male educational domain, whereas the Croatian language as a school subject and social sciences and humanities courses were chosen to represent a stereotypically female domain. In the Croatian context, at the tertiary level, women are underrepresented in the field of technical sciences (28.9% of students are women), whereas men are underrepresented in the social sciences (34.1% of students are men) and humanities (27.2% are men) (Croatian Bureau of Statistics, 2023).

Based on Eccles' situated expectancy-value theory, as well as available research (e.g. Hu & Wu, 2019; Jugović, 2017; Starr & Simpkins, 2021), the following hypotheses are proposed:

> H1: Motivational beliefs are the strongest predictors of educational choices, compared to other predictors.
>
> H2: Endorsing negative stereotypes about the talent of one's own gender in occupations in technical sciences and social sciences and humanities is related to weaker intentions of choosing higher education courses in these domains.
>
> H3: Traditional gender roles (higher femininity and/or lower masculinity for young women, and vice versa for young men) are related to a weaker intention to choose gender non-stereotypical courses (technical sciences for young women or social sciences and humanities for young men).
>
> H4: Having higher cultural capital is related to stronger intentions to choose courses in social sciences and humanities.

The regression model containing three blocks of predictors and criterion variables explored in this paper is depicted in Figure 1. It is based on a simplified version of Eccles et al. situated expectancy-value model (Eccles, 1987; Eccles & Wigfield, 2020), with added cultural capital indicators, including only the variables explored in the current study.

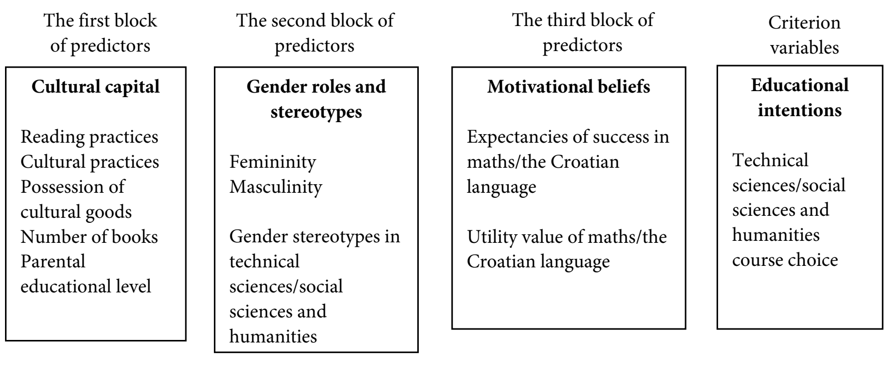

Figure 1. The regression model containing three blocks of predictors and criterion variables explored in this study

Methods

Participants and procedure

The sample included 1301 final-year secondary school students from grammar schools (46.7%) and four-year vocational schools (53.3%) from across Croatia. There were 679 young women (52.2%) and 622 young men (47.8%) in the sample. On average, students were 18 years old. This sample was a part of a larger study on the decisions to continue to higher education conducted in 2014 on a 5% nationally representative sample of Croatian final-year secondary school students (N=2106 from 98 schools) (for more details on the project, see Baranović, 2015). Only those students who intended to continue to higher education were included in our analysis. Students filled in the questionnaire in their classrooms after they had provided their informed consent: participation was voluntary and anonymous.

The study was conducted in strict adherence to the Code of Ethics for Research with Children (Ajduković & Kolesarić, 2003). The approval for conducting the study was obtained from the relevant Ministry of Education, as well as from the participating schools. To uphold the principles of voluntary participation and anonymity, all students were informed about the study's objectives, procedures, and their rights prior to participation. Informed consent was obtained from each participant, and all the participants were made aware of their right to withdraw from the study at any point without any repercussions and their freedom to omit responses to any questions they found uncomfortable. It was emphasised to the participants that their teachers, school staff and parents would not have access to their individual data. Parents or guardians were also notified about the study in advance. Students filled in the questionnaire in their classrooms during the time that was reserved for this study. Data collection was conducted by trained survey administrators, who had received training from the research team to ensure adherence to ethical and methodological standards. To maintain participant confidentiality, the data were analysed and reported solely at the aggregate level, with individual data accessible only to the research team.

Instruments

Educational intentions to choose technical sciences (TS) and social sciences and humanities (SSH). Participants were asked the following: 'How likely is it that you are going to try to enrol into the following university courses of study?'. The first item was 'Course in technical sciences, e.g., electrical engineering, computer science, mechanical engineering, naval architecture, civil engineering', and the second 'Course in social sciences and humanities, e.g., economics, law, political science, sociology, psychology, philosophy, pre-school education'. Participants could respond on a five-point Likert type scale to both questions (1 = extremely unlikely; 5 = extremely likely).

Motivational beliefs.

Expectancies of success in mathematics/Croatian language[3] were measured with 6 items for each subject (e.g. 'How successful do you think you would be in a university course where knowledge of mathematics/the Croatian language is important?'). Participants responded on a five-point bipolar scale (1 = completely unsuccessful; 5 = completely successful). Factor structures of scales in both school subjects were unidimensional (α_{Maths}=.90; α_{Cro}=.93).

Subjective task values of mathematics/the Croatian language were measured with three items on interest (e.g. 'How interested are you in mathematics/the Croatian language?'), three items on attainment value (e.g. 'How important is it for you personally to get high grades in mathematics/the Croatian language?'), and three items on utility value (e.g. 'How much will what you are learning in mathematics/the Croatian language be useful to you in the future?'). Responses were provided on a five-point bipolar scale (1 = not at all; 5 = fully). Factor analysis revealed a two-factor structure for each school subject: a) utility value (α_{Maths}=.84; α_{Cro}=.87) and b) interest/attainment value (α_{Maths}=.89; α_{Cro}=.91) (for more details on all instruments see Baranović, 2015).

Gender stereotypes about talent in occupations. Participants were asked to indicate who was more talented in occupations in the technical sciences domain and occupations in the social sciences and humanities domain. Possible answers were the following: 1 = Women, 2 = Women and men equally, 3 = Men. The indicator of a gender stereotypical response for the first question was the answer 'Men', and for the second 'Women'.

Gender Roles in Adolescence Scale. Femininity and masculinity were each measured with 10 items about adolescents' behaviours, traits and interests across various aspects of their lives including family, school, leisure, appearance and intimate relationships (Jugović, 2010a; Jugović & Kamenov, 2008) (e.g. 'I am very sensitive', 'I like to watch sports competitions'). Participants were asked how typical of them each of the behaviours and traits was on a five-point Likert scale (1 = not at all; 5 = fully). Reliability was high ($\alpha_{\mathrm{Feminity}}$=.86; $\alpha_{\mathrm{Masculinity}}$=.80). Higher scores indicated being more feminine/masculine.

Institutionalised cultural capital – The highest level of education completed by students' parents. Participants were asked to indicate the highest educational level completed by their mother and father (from 1 = Incomplete primary school, to 8 = Master's or doctorate degree). A new variable for the combined mother's and father's highest educational level was created, with four categories: 1 = Both parents have in/complete primary schooling, 2 = At least one parent has completed three-year vocational schooling, 3 = At least one parent has completed grammar schooling/four-year vocational schooling,

3 The items measuring the expectancies of success, subjective task values and gender stereotypes were in part based on the items used in empirical studies drawing on situated expectancy-value theory (e.g. Eccles & Wigfield, 1995), which were modified to fit the Croatian context (e.g. Jugović, 2010a).

4 = At least one parent has completed college/university education. Higher scores indicate higher cultural capital.

Embodied cultural capital – Students' reading practices. Participants were asked how often they read 'daily or weekly newspapers articles about politics or culture', 'popular-scientific journals or magazines with topics from culture', 'fiction', and 'prose and poetry' that were not a part of their school obligations. Possible answers ranged from 1 = never or almost never to 5 = a few times a week or every day (α=.67). Higher scores indicate higher cultural capital.

Students' cultural practices. Students indicated how often they 'visited museums or art galleries', 'went to the theatre', and 'visited the opera, ballet or classical concerts' during the last year (from 1 = never to 4 = more than four times). The scale was unidimensional (α=.77).

Objectified cultural capital – Possession of cultural goods. Participants were asked whether they had 'professional books or manuals', 'classical literature books', 'books written in a foreign language', 'works of art like paintings or sculptures' and 'CDs or other recordings of classical or jazz music' in their home (0 = no, 1 = yes). The overall result was created by adding the values of all five items. Higher scores indicate higher cultural capital.

The number of books in the household. Students estimated the number of books in their homes on a six-point scale (1 = '0–10', 2 = '11–25', 3 = '26–100', 4 = '101–200', 5 = '201–500', and 6 = 'more than 500 books').

Results

General descriptive results

A one-way multivariate analysis of variance (MANOVA) with gender as an independent variable and course choices, indicators of cultural capital, gender roles and motivational beliefs as dependent variables was statistically significant (F=110.83, p=.001). Results of the tests of between-subjects' effects are presented in Table 1. Chi-square tests for gender differences in endorsing gender stereotypes are presented in Table 2.

Table 1
Means, Standard Deviations and One-Way Multivariate Analysis of Variance in Course Choices, Indicators of Cultural Capital, Gender Roles and Motivational Beliefs

	Young women		Young men		F(1/1156)	η_p^2
	M	SD	M	SD		
TS course choice	1.80	1.29	3.33	1.61	319.22***	.219
SSH course choice	3.24	1.56	2.19	1.46	137.46***	.108
Reading practices	2.50	0.89	2.53	0.92	0.36	.000
Cultural practices	1.94	0.71	1.77	0.70	17.56***	.015
Possession of cultural goods	3.65	1.35	3.65	1.35	0.05	.000

Number of books	3.28	1.40	3.37	1.43	1.13	.001
Parental educational level	3.22	0.74	3.27	0.76	1.43	.001
Femininity	3.72	0.64	2.75	0.73	577.24***	.336
Masculinity	2.87	0.60	3.54	0.68	313.47***	.216
Expectancies of success in mathematics	3.06	0.84	3.13	0.86	1.48	.001
Utility value of mathematics	2.64	1.04	2.83	1.10	9.33**	.008
Interest/attainment value of mathematics	2.99	1.02	2.87	1.06	3.99*	.003
Expectancies of success in the Croatian language	3.77	0.74	3.11	0.77	220.65***	.162
Utility value of the Croatian language	3.36	0.99	2.69	1.06	122.32***	.097
Interest/attainment value of the Croatian language	3.44	0.91	2.67	0.96	189.64***	.143

$\eta_p 2$=partial eta-squared. TS = technical sciences; SSH = social sciences and humanities.

* *p*<.05. ** *p*<.01. *** *p*<.001.

Table 2

Frequencies and Chi-Square Results for Gender Stereotypes about Occupations in Technical Sciences (N=1298) and in Social Sciences and Humanities (N=1299)

	Young women		Young men		$\chi^2(1)$	Cramer's V
	n	%	n	%		
Stereotype about TS occupations	535	79.0	530	85.3	8.79**	.082
Stereotype about SSH occupations	450	66.5	317	51.0	32.23***	.158

TS = technical sciences; SSH = social sciences and humanities.

** *p*<.01. *** *p*<.001.

Compared to young men, young women were more likely to choose social sciences and humanities courses and less likely to choose technical sciences courses; they had higher expectancies of success, interest/attainment value, and utility value of the Croatian language (with effects sizes ranging from medium to large[4]). Young women had a slightly higher interest/attainment value, but a lower utility value of mathematics (with small effect sizes), whereas no gender differences were found in expectancies of success in mathematics[5]. Gender differences in motivational beliefs in mathematics were either statistically insignificant or, where significant, their effect sizes were small, pointing to similar motivational patterns of young men and women in mathematics. Young women scored higher on femininity and lower on masculinity, with large effect sizes. Gender stereotypes about occupations in technical sciences were more prevailing than the stereotypes

4 Cohen's recommendations (1992) and MRC CBU instructions (2018) were used for the interpretation of effect sizes.

5 Young women had higher grades in the Croatian language (*t*=4.14, *p*<.001) and mathematics (*t*=11.48, *p*<.001), but grades were not included in the regression analysis due to high correlations with the expectancies of success.

about occupations in social sciences and humanities, and, although young men were slightly more likely to endorse the former and young women the latter, the effects sizes were modest. No gender differences were found in the indicators of cultural capital, except for cultural practices, in which women participated more often, but that difference was modest in size.

Correlations between criterion variables and their predictors are shown in Table 3. As expected, the technical sciences course choice was positively related to expectancies of success, utility value and interest/attainment value in maths, while the social sciences and humanities course choice was positively related to all three motivational beliefs in the Croatian language for both samples. Where statistically significant, gender roles and stereotypes were related to course choices in the expected direction. All indicators of cultural capital were positively related to young men's social sciences and humanities course choices (and the parental educational level negatively with the technical sciences course choice). For young women, reading practices were positively correlated with both course choices, and cultural practices with the technical sciences course choice. The above-described correlations between the course choices and motivational beliefs were moderate, while those between the course choices and indicators of cultural capital, gender roles and stereotypes were modest.

Considering that the cultural capital indicators serve as an addition to the variables typically examined within the framework of situated expectancy-value theory, we considered it noteworthy to explore their associations as well. A consistent trend emerged here, showing positive correlations between young women's and young men's reading practices, cultural practices, and the possession of cultural goods with nearly all motivational variables. Additionally, a negative correlation was observed between gender stereotypes and the cultural capital indicators, including reading practices, cultural practices, and possession of cultural goods for both young men and women, as well as the number of books in the household for young women. Most cultural capital indicators, with the exception of parental educational level, were positively associated with the expressions of femininity in young men and masculinity in young women.

Predictors of course choices

Separate hierarchical regression analyses were carried out in order to examine what predicts the intentions to choose courses in technical sciences (Table 4) and in social sciences and humanities (Table 5), each for young men and young women[6].

6 In order to avoid multicollinearity which is expected when several motivational beliefs are simultaneously explored, two motivational beliefs were chosen for our analyses: expectancies of success and utility value.

Table 3

Intercorrelations for Study Variables Disaggregated by Gender

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. TS course choice	-	-.39***	.12**	.11**	.07	.05	.08	-.26***	-.16***	-.10*	.11**	.36***	.43***	.34***	-.07	-.16***	-.10*
2. SSH course choice	-.45***	-	.10**	-.04	.03	.03	-.02	.11**	.10**	-.02	-.06	-.35***	-.28***	-.30***	.12**	.32***	.18***
3. Reading practices	.01	.23***	-	.37***	.30***	.34***	.11**	-.17***	-.14***	-.04	.24***	.11**	.12**	.16**	.29***	.17***	.30***
4. Cultural practices	-.07	.15***	.39***	-	.34***	.37***	.23***	-.16***	-.14***	-.03	.15***	.15***	.09*	.11**	.23***	.02	.17***
5. Possession of cultural goods	-.07	.16***	.33***	.31***	-	.50***	.36***	-.13**	-.08*	.00	.14***	.06	.07	.02	.09*	.01	.05
6. Number of books	-.04	.10*	.21***	.30***	.49***	-	.36***	-.11**	-.14***	-.12**	.10*	.14**	.04	.05	.17***	-.03	.06
7. Parental educational level	-.09*	.09*	.03	.14**	.33***	.37***	-	-.02	-.04	-.07	.06	.15***	.03	.07	.12**	-.10*	.02
8. Stereotype about TS occupations	.04	-.07	-.07	-.10*	-.15***	-.04	-.04	-	.37***	.16***	-.04	-.13**	-.09*	-.10**	.00	.15***	.02
9. Stereotype about SSH occupations	.11**	-.19***	-.10*	-.11**	-.16***	-.04	-.03	.31***	-	.12**	-.04	-.17***	-.13**	.13**	.01	.06	-.01
10. Femininity	-.03	.13**	.26***	.24***	.18***	.11*	-.06	-.03	-.04	-	.19***	-.01	.07	.03	.08*	.19***	.14***
11. Masculinity	.19***	-.02	.18***	.04	.06	-.02	-.14**	.20***	.07	.45***	-	.16***	.15***	.18***	.05	.09*	.05
12. Expectancies of success in maths	.34***	-.26***	.03	.04	-.01	.14**	.09*	.04	-.13***	-.01	.07	-	.62***	.77***	.14***	-.11**	-.04
13. Utility value of maths	.43***	-.20***	.12**	.05	.01	.08	-.07	.03	.13**	.08	.17***	.64***	-	.68***	.04	.03	.01
14. Interest/attainment value of maths	.34***	-.27***	.11**	.07	.01	.13**	-.02	.02	-.12**	.11**	.17***	.74***	.71***	-	.12**	-.02	.10**
15. Expectancies of success in the Croatian language	-.14**	.27***	.31***	.26***	.16***	.08	.04	-.01	-.06	.12**	.06	.03	.04	.07	-	.41***	.70***
16. Utility value of the Croatian language	-.27***	.36***	.27***	.23***	.14***	.03	-.05	-.05	-.08*	.27***	.07	-.18***	-.04	-.04	.49***	-	.55***
17. Interest/attainment value of the Croatian language	-.25***	.26***	.34***	.25***	.15***	.05	-.04	-.06	.05	.26***	.06	-.16**	-.00	.07	.65***	.67***	-

Note. The results for the female sample (n=679) are shown above the diagonal. The results for the male sample (n=622) are shown below the diagonal.

TS = technical sciences; SSH = social sciences and humanities. Stereotypes: 1 = do not accept stereotype, 2 = accept stereotype.

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

Table 4
Hierarchical Regression Results for the Technical Sciences Course Choices

	Young women					Young men				
Variable	**B**	**S.E.**	**β**	R^2	ΔR^2	**B**	**S.E.**	**β**	R^2	ΔR^2
Step 1 (Cultural capital)				.02	.02*				.01	.01
Constant	1.04	0.27				3.89	0.35			
Reading practices	0.15*	0.07	.10*			0.11	0.08	.07		
Cultural practices	0.11	0.08	.06			-0.14	0.11	-.06		
Possession of cultural goods	-0.01	0.05	-.01			-0.09	0.06	-.08		
Number of books	0.00	0.05	.00			0.02	0.06	.02		
Parental educational level	0.07	0.08	.04			-0.10	0.10	-.05		
Step 2 (Gender roles and stereotypes)				.10	.08***				.06	.05***
Constant	2.84	0.48				2.74	0.60			
Reading practices	0.07	0.06	.05			0.07	0.08	.04		
Cultural practices	0.05	0.08	.03			-0.10	0.11	-.04		
Possession of cultural goods	-0.01	0.05	-.01			-0.10	0.06	-.09		
Number of books	-0.02	0.05	-.02			0.04	0.06	.04		
Parental educational level	0.06	0.08	.04			-0.07	0.10	-.03		
Gender stereotype in TS	-0.80***	0.13	-.26***			-0.10	0.20	-.02		
Femininity	-0.17*	0.08	-.09*			-0.30**	0.11	*-.14***		
Masculinity	0.23**	0.09	.11**			0.58***	0.11	.25***		
Step 3 (Motivational beliefs)				.26	.16***				.24	.18***
Constant	1.66	0.45				1.20	0.56			
Reading practices	0.04	0.06	.03			0.00	0.08	.00		
Cultural practices	0.02	0.07	.01			-0.10	0.10	-.04		
Possession of cultural goods	-0.01	0.04	-.01			-0.06	0.06	-.05		
Number of books	-0.02	0.04	-.02			-0.03	0.05	-.02		
Parental educational level	0.04	0.07	.02			-0.05	0.09	-.02		
Gender stereotype in TS	-0.64***	0.12	-.20***			-0.08	0.18	-.02		
Femininity	-0.22**	0.07	-.11**			-0.26**	0.10	*-.12***		
Masculinity	0.12	0.08	.05			0.43***	0.10	.18***		
Expectancies for success in maths	0.17*	0.07	.11*			0.22*	0.09	.12*		
Utility value of maths	0.41***	0.06	.33***			0.50***	0.07	.35***		
R_{Adj}^2					.25					.22

Note. B = unstandardised regression coefficients; S.E. = standard error; β = standardised regression coefficients; R^2 = squared multiple correlation; R_{Adj}^2 = adjusted squared multiple correlation. * $p<.05$. ** $p<.01$. *** $p<.001$.

Stereotypes: 1 = do not accept stereotype, 2 = accept stereotype. TS = technical sciences.

Table 5
Hierarchical Regression Results for the Social Sciences and Humanities Course Choices

	Young women					Young men				
Variable	**B**	**S.E.**	**β**	***R***^{2}	**Δ*R***^{2}	**B**	**S.E.**	**β**	***R***^{2}	**Δ*R***^{2}
Step 1 (Cultural capital)				.02	.02*				.07	.07***
Constant	3.06	0.32				0.69	0.31			
Reading practices	0.23**	0.08	.13**			0.28***	0.07	.17***		
Cultural practices	-0.25*	0.10	*-.11**			0.14	0.10	.07		
Possession of cultural goods	0.05	0.06	.05			0.10	0.05	.09		
Number of books	0.00	0.06	-.00			-0.02	0.05	-.02		
Parental educational level	-0.03	0.10	-.02			0.08	0.09	.04		
Step 2 (Gender roles and stereotypes)				.04	.02**				.11	.04***
Constant	3.99	0.56				0.18	0.48			
Reading practices	0.27**	0.08	.15**			0.26***	0.07	.17***		
Cultural practices	-0.21*	0.10	*-.10**			0.08	0.10	.04		
Possession of cultural goods	0.05	0.06	.05			0.06	0.05	.06		
Number of books	0.01	0.06	.01			-0.01	0.05	-.01		
Parental educational level	-0.03	0.09	-.01			0.09	0.09	.05		
Gender stereotype in SSH	0.40**	0.13	.12**			-0.49***	0.12	-.17***		
Femininity	0.00	0.10	.00			0.23*	0.10	.11*		
Masculinity	-0.22	0.11	-.08			-0.19	0.10	-.09		
Step 3 (Motivational beliefs)				.14	.10***				.19	.08***
Constant	2.98	0.58				-0.70	0.49			
Reading practices	0.17*	0.08	.09*			0.16*	0.07	.10*		
Cultural practices	-0.21*	0.10	*-.09**			-0.02	0.09	-.01		
Possession of cultural goods	0.04	0.05	.04			0.04	0.05	.04		
Number of books	0.03	0.05	.03			0.01	0.05	.01		
Parental educational level	0.07	0.09	.04			0.13	0.08	.07		
Gender stereotype in SSH	0.34**	0.13	.10**			-0.47***	0.12	-.16***		
Femininity	-0.16	0.10	-.07			0.11	0.09	.06		
Masculinity	-0.24*	0.10	*-.09**			-0.15	0.10	-.07		
Expectancies for success in the Cro. lang.	-0.10	0.09	-.05			0.14	0.09	.08		
Utility value of the Cro. lang.	0.56***	0.07	.35***			0.36***	0.06	.26***		
R_{Adj}^2					.13					.17

Note. B = unstandardised regression coefficients; S.E. = standard error; β = standardised regression coefficients; R^2 = squared multiple correlation; R_{Adj}^2 = adjusted squared multiple correlation. * *p*<.05. ** *p*<.01. *** *p*<.001.

Stereotypes: 1 = do not accept stereotype, 2 = accept stereotype. SSH = social sciences and humanities.

The chosen predictors explained between 12.9% (for young women's choice of the social sciences and humanities courses) and 24.9% (for young women's choice of the technical sciences courses) of the total variance of course choices.

Hypothesis 1 that motivational beliefs are the strongest predictors of both course choices was confirmed for both samples: the motivational block explained the most variance compared to other blocks of predictors, while utility value was the strongest predictor in all regression analyses, compared to other predictors. Young men and women who perceived mathematics as useful, and who expected to be successful in mathematics and related careers, were more likely to choose the technical sciences courses. The utility value of the Croatian language predicted the choice of the social sciences and humanities courses, while expectancies of success in the Croatian language did not contribute to that choice.

Hypothesis 2 was also confirmed: young women who endorsed gender stereotypes about occupations in technical sciences were less likely to choose the technical sciences courses, whereas young men who endorsed stereotypes about occupations in social sciences and humanities were less likely to choose the social sciences and humanities courses. Young women who believed that women were more talented for occupations in social sciences and humanities had a stronger intention to choose the social sciences and humanities courses, while no such effect was found for young men's stereotypes and course choices in the technical sciences domain.

As proposed by Hypothesis 3, traditional gender roles predicted weaker intentions to choose gender non-stereotypical courses. More precisely, for young women, high femininity (in the 2nd and 3rd steps) and low masculinity scores (in the 2nd step) predicted their weaker intentions to choose the technical sciences courses; for young men, a low femininity score predicted their weaker intention to choose the social sciences and humanities courses. When inspecting gender stereotypical higher education choices, the results show that young men's higher masculinity score, i.e. adherence to the traditional male gender role, predicted their choice of the technical sciences courses. Femininity was a significant predictor of young men's technical sciences course choice due to the suppression effect of masculinity[7], while masculinity and cultural practices predicted young women's social sciences

7 Femininity had a statistically non-significant negative zero-order correlation with young men's technical sciences course choice (r=-.03, p>.05), whereas its beta coefficient in the regression analysis for the explanation of young men's technical sciences course choice was statistically significant (β=-.14, p<.01 in the 2nd step; β=-.12, p<.01 in the 3rd step). This could be due to a significant zero-order correlation between femininity and masculinity (r=.45, p>.001). Masculinity was the only predictor variable that, when removed from the regression analysis, resulted in the decrease and statistical non-significance of the beta coefficient for femininity (β=-.03, p>.05 in the 2nd step; β=-.04, p>.05 in the 3rd step). This implies that masculinity is a suppressor variable because it enhances the importance of femininity by virtue of suppression of irrelevant variance in them.

and humanities course choice due to the suppression effects of reading practices[8].

Hypothesis 4 was only partially confirmed since only reading practices contributed to the explanation of the social sciences and humanities courses choice for both samples (in all three steps), and not the other frequently used indicators of cultural capital. No cultural capital indicators contributed to the explanation of young men's intentions to choose the technical sciences courses, whereas reading practices explained young women's intentions to choose the technical sciences courses only in the first step.

Discussion

This article examined the complex processes that underpin gendered higher education choices. Theoretically, it explored facets of Eccles et al.'s situated expectancy-value theory, especially its gender dimension and the role of sociocultural background. The aim of the study was to examine the role of family educational background, as well as the role of cultural resources and cultural and reading practices, alongside motivational beliefs, gender roles and gender stereotypes, in shaping educational choices.

As hypothesised by situated expectancy-value theory, we found motivation for mathematics and the Croatian language, or, more precisely, the utility value, to be the best predictor of students' course choices in technical sciences and social sciences and humanities, respectively. Additionally, expectancies of success were found to be an important predictor of students' course choices in the technical sciences. These results are in line with the studies from the United States and Croatia that have shown that subjective task values were stronger predictors of educational choices than the expectancies of success (e.g. Jugović, 2017; Lauermann et al., 2015). One of possible

8 Cultural practices had a statistically non-significant negative zero-order correlation with young women's social sciences and humanities course choice (r= –.04, p>.05). Its beta coefficients in the regression analysis for the explanation of young women's social sciences and humanities course choice were statistically significant (β=-.11 p<.05 in the 1st step; β=-.10 p<.05 in the 2nd step; and β=-.09, p<.01 in the 3rd step). Similarly, masculinity had a statistically non-significant negative zero-order correlation with young women's social sciences and humanities course choice (r=-.06, p>.05), whereas its beta coefficient was statistically significant (β=-.09, p<.05 in the 3rd step). This could be due to significant zero-order correlation of reading practices with both cultural practices (r=.37, p<.001) and masculinity (r=.24, p<.001). Reading practices was the only predictor variable that, when removed from the regression analysis, resulted in the decrease and statistical non-significance of the beta coefficient for cultural practices (β=-.08, p>.05 in the 1st step; β=-.06, p>.05 in the 2nd step; β=-.08, p>.05 in the 3rd step) and masculinity (β=-.06, p>.05 in the 2nd step; β=-.08, p>.05 in the 3rd step). This implies that reading practices is a suppressor variable because it enhances the importance of cultural practices and masculinity by virtue of suppression of irrelevant variance in them.

reasons explaining why expectancies of success in the Croatian language are not significant for explaining the choice of social sciences and humanities courses might be that students assumed that being successful in the Croatian language was important for some social sciences and humanities courses (e.g. languages), but not for all social sciences and humanities courses (e.g. psychology, sociology, history, economics). On the other hand, given that mathematics is a part of every technical sciences course curriculum, students were aware that it was important to be successful in mathematics in the future if they chose that career path.

Endorsing gender stereotypes about a lesser talent of one's own gender in an occupational sense predicted weaker intentions to choose a course in a given domain, which is also hypothesised by situated expectancy-value theory. These results are in line with the findings of numerous studies, including the ones from China, Croatia and the United States, on the adverse effects of negative stereotypes on adolescents' educational and career choices, but also on their academic achievement, motivational beliefs, (science) identity or sense of belonging (e.g. Jugović, 2010b, 2017; Jugović et al., 2012; Master et al., 2016; Song et al., 2017; Star et al., 2023; Starr & Simpkins, 2021).

Our results that point to the negative effect of traditional gender roles on gender non-stereotypical course choices are in line with the situated expectancy-value theory hypothesis that the likelihood of choosing a specific educational domain decreases when there is a conflict between pupils' gender roles and their perception of the educational domain as either masculine or feminine (Eccles et al., 1983). In addition, these findings could also be explained by gender identity theory (Vantieghemet et al., 2013) and 'doing gender' theory (West & Zimmerman, 1987). Young women could be affirming their femininity by not choosing the technical science courses, whereas young men could be affirming their gender identity by choosing the technical sciences courses and avoiding the social sciences and humanities courses.

A contribution of this study is that it has examined the way in which family educational background, ownership of books and students' reading and cultural practices might shape their educational choices within situated expectancy-value theory. There are two main findings related to the addition of these indicators of cultural capital into the model. First, the usual indicators of cultural capital, such as parental educational level, cultural practices and ownership of books and cultural goods, which had predicted educational outcomes such as preference of liberal arts as a college major, science literacy or grades in mathematics in China, Croatia and Denmark (Baranović et al., 2014; Hu & Wu, 2019; Thomsen, 2012; Puzić et al., 2018), were not found to be significant for explaining the choices of the social sciences and humanities and technical sciences courses in our study. This might be due to broadness of these fields of study; therefore, future research might consider examining common indicators of cultural capital in relation to specific university courses, and, in particular, differentiating between the courses which carry different prestige. We would hypothesise that the more common indicators of cultural capital could play an important role in choosing more prestigious courses for both men and women. Another possible explanation lies in the complexity of our regression analyses, which included numerous intercorrelated variables, thereby reducing the likelihood of each variable emerging as a statistically significant predictor. Indeed, other studies either: (1) used composite measures of objectified or embodied cultural capital (e.g. Hu & Wu, 2019), whereas we used two indicators for each of these forms of cultural capital, and, additionally, parental educational level as an indicator of institutionalised cultural capital, or (2) did not explore the role of motivational beliefs, gender stereotypes or gender roles in addition to cultural capital (e.g. Baranović et al., 2012; Puzić et al., 2018), as we did.

Secondly, reading practices as an indicator of cultural capital in this study did increase the explanatory potential of the regression model for the choice of the social sciences and humanities courses. Contrary to available research on the gender gap in reading practices and literacy (e.g. OECD, 2015; Thums et al., 2021), in our study young men and young women did not differ in their reading practices, and reading practices contributed to both young women's and young men's social sciences and humanities course choice. Future research could explore what would be the equivalent of reading practices for the choice of the technical sciences courses. Certain digital skills, as an indicator of cultural capital in a broader sense, might be a promising venue to start with.

Finally, we would like to point out that many indicators of cultural capital were correlated with the variables from situated expectancy-value theory in a meaningful way. Where statistically significant, cultural capital indicators were related to higher motivation for mathematics and the Croatian language, as well as lower acceptance of gender stereotypes. It was also interesting to notice that most cultural capital indicators were positively associated with young men's expression of femininity and young women' expression of masculinity. We see the potential in further exploration of the role of cultural capital indicators, preferably in studies with fewer variables, a greater focus on specific topics (e.g. the links between students' cultural capital and motivation) and more complex analyses (e.g. exploring mediations or the moderator role).

Study limitations and future directions

One of the study limitations is the correlational nature of the data, which does not allow for causal conclusions, and prevents inferences about temporal precedence. Further studies should use longitudinal designs to test the effects of motivation, gender roles, stereotypes and cultural capital on subsequent educational choices. Our study employed hierarchical regression analysis, but future research should consider more advanced techniques, such as structural equation modelling, to explore potential mediation effects in the relationship between gender and educational intentions, e.g., the mediation role of gender stereotypes, gender roles or motivational beliefs. Another limitation of our study is the exclusion of one of the subjective task values in situated expectancy-value theory – namely, the concept of cost. This aspect of motivation has received less attention in the studies based in situated expectancy-value theory compared to other subjective values, but Eccles and Wigfield (2020, 2024) have recently emphasised its importance, proposing its inclusion in future studies. As Flake et al. (2015) have noted, it should no longer be regarded as the "forgotten" component of the theory. As criterion variables in the model, we used the measures of educational intentions and not the actual enrolment into university courses. Although educational intentions provide information on the direction of future educational paths, a more precise measure of the actual educational choice would be more suitable in future research. Finally, our study leans on a dominant, quantitative approach to operationalising cultural capital. Future studies might consider cultural capital in terms of academic skills, as well as its more "subjective" aspects frequently captured in qualitative research.

Conclusion

This study on gendered higher education choices has contributed to the existing literature in several ways. Firstly, it has added to different examinations of Eccles et al.'s situated expectancy-value theory, especially its sociocultural aspect, by considering certain indicators of cultural capital as expressions of young people's socioeconomic background. Furthermore, it has highlighted the importance of gender stereotypes, but also the frequently neglected concept of gender roles in the explanation of gendered educational choices. Finally, educational choices in both typically male and typically female domains have been explored, unlike in other numerous studies that have usually explored the choice of STEM as a typically male domain.

As a final conclusion, we would like to situate our findings in relation to current educational policies. Our results show that gender stereotypes, as well as stereotypical gender roles, are pervasive among youth in contemporary Croatia. The gender dimension of course choices therefore inevitably needs to be unpacked and engaged with by policy makers and others engaged in the educational system. Importantly, 'light' policy measures at school-level, such as encouraging young women through gender-sensitive career advice to study courses in STEM areas (see e.g. Caprile et al., 2015) and young men to study social sciences and humanities, seems insufficient in the context of our data. More radical educational policies and intervention programmes aimed at deconstructing the traditional ideas of masculinity and femininity, challenging students' stereotypes about educational domains and occupations and raising students' awareness of the negative influence of stereotypes on educational choices are required.

References

Albert, F., David, B., Kmetty, Z., Kristof, L., Robert, P., & Szabo, A. (2018). Mapping the post-communist class structure. Findings from a new multidimensional Hungarian class survey. *East European Politics and Societies and Cultures*, *32*(3), 544–565. https://doi.org/10.1177/0888325417739954

Baranović, B. (Ed.) (2015). *Koji srednjoškolci namjeravaju studirati? – Pristup visokom obrazovanju i odabir studija* [Which high school students intend to study? – Access to higher education and choice of study]. Institute for Social Research in Zagreb.

Baranović, B., Jugović, I., & Puzić, S. (2014). Važnost obiteljskog podrijetla i uspjeh iz matematike i odabir srednje škole [The importance of family background and gender for mathematics achievement and secondary school choice]. *Revija za socijalnu politiku*, *21*(3), 285-307. https://doi.org/10.3935/rsp.v21i3.1174

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.

Boiché, J. C. S., Guillet, E., Bois, J. E., & Sarrazin, P. G. (2011). Antecedents, accuracy and consequences of parents' behaviours. A cross sectional study based on Eccles expectancy value model. *International Journal of Sport Psychology, 42*(4), 368–389.

Bourdieu, P. (1973). Cultural reproduction and social reproduction. In R. Brown (Ed.) (1979), *Knowledge, education and cultural change* (pp. 56–68). Tavistock.

Bourdieu, P. (1984). *Distinction: A Social Critique of the Judgement of Taste*. Routledge.

Bourdieu, P. (1986). The forms of capital. In A. H. Halsey, H. Lauder, P. Brown, & A. Stuart Wells (Eds.) (1997), *Education, culture, economy and society* (pp. 241–258). Oxford University Press.

Bourdieu, P., & Passeron, J. C. (1977). *Reproduction in education, society and culture*. Sage.

Caprile, M., Palmén, R., Sanz, P., & Dente, G. (2015). *Encouraging STEM studies. Labour market situation and comparison of practices targeted at young people in different member states*. European Parliament. http://www.europarl.europa.eu/RegData/etudes/STUD/2015/542199/IPOL_STU%282015%29542199_EN.pdf.

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155–159. https://doi.org/10.1037//0033-2909.112.1.155

Council of Europe (2018-2023). *Council of Europe Gender Equality Strategy 2018-2023.* https://www.coe.int/en/web/genderequality/gender-equality-strategy

Croatian Bureau of Statistics (2023). *Women and men in Croatia, 2023.* Croatian Bureau of Statistics. https://podaci.dzs.hr/media/cr5nm1o5/women_and_man_2023.pdf.

DeBacker, T. K., & Nelson, R. M. (1999). Variations on an expectancy-value model of motivation in science. *Contemporary Educational Psychology, 24*, 71-94. https://doi.org/10.1080/00220670009598713

De Graaf, N. D., De Graaf, P. M., & Kraaykamp, G. (2000). Parental cultural capital and educational attainment in the Netherlands: A refinement of the cultural capital perspective. *Sociology of Education, 73*, 92–111. https://doi.org/10.2307/2673239

Dillabough, J.-A. (2004). Class, culture and the 'predicaments of masculine domination': Encountering Pierre Bourdieu. *British Journal of Sociology of Education*, *25*(4), 489–506. https://doi.org/10.1080/0142569042000236970

DiMaggio, P. (1982). Cultural capital and school success: The impact of status culture participation on the grades of U.S. high school students. *American Sociological Review, 47*(2), 189–201. https://doi.org/10.2307/2094962

Eccles, J. S. (1987). Gender roles and women's achievement-related decisions. *Psychology of Women Quarterly, 11,* 135–172. https://doi.org/10.1111/j.1471-6402.1987.tb00781.x

Eccles, J. (2009). Who am I and what am I going to do with my life? Personal and collective identities as motivators of action. *Educational Psychologist, 44*(2), 78–89. https://doi.org/10.1080/00461520902832368

Eccles, J. S., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J. L., & Midgley, C. (1983). Expectancies, values and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives* (pp. 78–146). W. H. Freemen.

Eccles, J. S., & Wigfield, A. (1995). In the mind of the actor: The structure of adolescents' achievement task values and expectancy-related beliefs. *Personality and Social Psychology Bulletin, 21*(3), 215–225. https://doi.org/10.1177/0146167295213003

Eccles, J. S. & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology, 53*, 109-132. https://doi.org/10.1146/annurev.psych.53.100901.135153

Eccles, J. S., & Wigfield, A. (2020). From expectancy-value theory to situated expectancy-value theory: A developmental, social cognitive, and sociocultural perspective on motivation. *Contemporary Educational Psychology, 61*(4), 101859. https://doi.org/10.1016/j.cedpsych.2020.101859

Eccles, J. S., & Wigfield, A. (2024). The development, testing, and refinement of Eccles, Wigfield, and colleagues' situated expectancy-value model of achievement performance and choice. *Educational Psychology Review, 36*(2), Article 51. https://doi.org/10.1007/s10648-024-09888-9

Eurostat (2024). *Students Enrolled in Tertiary Education by Education Level, Programme Orientation, Sex and Field of Education* (educ_uoe_enrt03) [database]. Luxembourg: statistical office of the European Union. https://ec.europa.eu/eurostat/databrowser/product/page/educ_uoe_enrt03.

Evans, S. (2009). In a different place: Working-class girls and higher education. *Sociology*, *43*(2), 340–355. https://doi.org/10.1177/00380385081011

Flake, J. K., Barron, K. E., Hulleman, C., McCoach, D. B., & Welsh, M. E. (2015). Measuring cost: The forgotten component of expectancy-value theory. *Contemporary Educational Psychology, 41,* 232–244. https://doi.org/10.1016/j.cedpsych.2015.03.002

Flemmen, M. (2012). The structure of the upper class: A social space approach. *Sociology*, *46*(6), 1039–1058. https://doi.org/10.1177/0038038512437899

Fong, C., J., Kremer, K. P., Hill-Troglin Cox, C., & Lawson, C. A. (2021). Expectancy-value profiles in math and science: A person-centered approach to cross-domain motivation with academic and STEM-related outcomes. *Contemporary Educational Psychology, 65*, 101962. https://doi.org/10.1016/j.cedpsych.2021.101962

Ganzeboom, H. B. C., De Graaf, P. M., & Robert, P. (1990). Cultural reproduction theory on socialist ground: lntergenerational transmission of inequalities in Hungary. *Research in Social Stratification and Mobility, 9,* 79–104. https://doi.org/10.1556/RevSoc.9.2003.1.1

Greene, B. A., DeBacker, T. K., Ravindran, B., & Krows, A. J. (1999). Goals, values, and beliefs as predictors of achievement and effort in high school mathematics classes. *Sex Roles, 40*(5/6), 421–458. https://doi.org/10.1023/A:1018871610174

Guillet, E., Sarrazin, P., Fontayne, P., & Brustad, R. J. (2006). Understanding female sport attrition in a stereotypical male sport within the framework of Eccles's expectancy-value model. *Psychology of Women Quarterly, 30*, 358–368. https://doi.org/10.1111/j.1471-6402.2006.00311.x

Harackiewicz, J. M., Canning, E. A., Tibbetts, Y., & Priniski, S. J., & Hyde, J. S. (2016). Closing achievement gaps with a utility-value intervention: Disentangling race and social class. *Journal of Personality and Social Psychology, 111*(5), 745-765. https://doi.org/10.1037/pspp0000075

Hardie, J. H. (2015). Women's work? Predictors of young men's aspirations for entering traditionally female-dominated occupations. *Sex Roles, 72*, 349–362. https://doi.org/10.1007/s11199-015-0449-1

Hu, A., & Wu, X. (2019). Science or liberal arts? Cultural capital and college major choice in China. *British Journal of Sociology, 70*(1), 190–213. https://doi.org/10.1111/1468-4446.12342

Jugović, I. (2010a). *The importance of gender roles and stereotypes in the explanation of academic achievement and vocational choices*. [Unpublished doctoral dissertation]. Faculty of Humanities and Social Sciences, University of Zagreb, Zagreb.

Jugović, I. (2010b). The role of motivation and gender stereotypes in explanation of the intention of a study choice in stereotypically male domain. *Sociologija i prostor, 186*(1), 77–98. https://hrcak.srce.hr/55439

Jugović, I. (2010c). What is measured under the concept of gender roles? The review and evaluation of gender role scales and attitudes toward gender roles scales. *Suvremena psihologija, 13*(1), 113-135. https://hrcak.srce.hr/83030

Jugović, I. (2017). Students' gender-related choices and achievement in physics. *Center for Educational Policy Studies Journal*, *7*(2), 71-95. https://doi.org/10.26529/cepsj.170

Jugović, I., Baranović, B. i Marušić, I. (2012). The role of gender stereotypes and motivation in the explanation of mathematics achievement and anxiety. *Suvremena psihologija*, *15*(1), 65-79. https://hrcak.srce.hr/index.php/84661

Jugović, I. & Kamenov, Ž. (2008). The development of an instrument for measuring gender roles in adolescence. S*uvremena psihologija, 11*(1), 93–106. https://hrcak.srce.hr/81401

Krolo, K., Marcelić, S., & Tonković, Ž. (2016). Roditeljski kulturni kapital kao odrednica kulturnih preferencija mladih. *Društvena istraživanja*, *25*(3), 329-351. https://doi.org/10.5559/di.25.3.03

Lareau, A., & Weininger, E. B. (2003). Cultural capital in educational research: A critical assessment. *Theory and Society*, *32*(5-6), 567–606. https://doi.org/10.1023/B:RYSO.0000004951.04408.b0

Lauermann, F., Chow, A., & Eccles, J. S. (2015). Differential effects of adolescents' expectancy and value beliefs about math and English on math/science-related and human services-related career plans. *International Journal of Gender, Science and Technology, 7*(2), 205-228. https://genderandset.open.ac.uk/index.php/genderandset/article/view/393

Lauermann, F., Tsai, Y.-M., & Eccles, J. S. (2017). Math-related career aspirations and choices within Eccles et al.'s expectancy–value theory of achievement-related behaviors. *Developmental Psychology, 53*(8), 1540–1559. https://doi.org/10.1037/dev0000367

Lovell, T. (2000). Thinking feminism with and against Bourdieu. In B. Fowler (Ed.), *Reading Bourdieu on Society and Culture* (pp. 27–48). Blackwell.

Master, A., Cheryan, S., & Meltzoff, A. N. (2016). Computing whether she belongs: Stereotypes undermine girls' interest and sense of belonging in computer science. *Journal of Educational Psychology, 108*, 424–437. https://doi.org/10.1037/edu0000061

Matthews, J. S., & Wigfield, A. (2024). Past due! Racializing aspects of situated expectancy-value theory through the lens of critical race theory. *Motivation Science, 10*(3), 182–196. https://doi.org/10.1037/mot0000337

MRC CBU (2018). *Rules of thumb on magnitudes of effect sizes*. MRC Cognition and Brain Sciences Unit, University of Cambridge. http://imaging.mrc-cbu.cam.ac.uk/statswiki/FAQ/effectSize.

OECD (2015). *The ABC of Gender Equality in Education: Aptitude, Behaviour, Confidence*. PISA, OECD Publishing. http://dx.doi.org/10.1787/9789264229945-en.

Parker, P. D., Schoon, I., Tsai, Y. M., Nagy, G., Trautwein, U., & Eccles, J. S. (2012). Achievement, agency, gender, and socioeconomic background as predictors of postschool choices: A multicontext study. *Developmental Psychology, 48*(6), 1629–1642. https://doi.org/10.1037/a0029167

Parker, P. D., Van Zanden, B., Marsh, H. W., Owen, K., Duineveld, J. J., & Noetel, M. (2020). The intersection of gender, social class, and cultural context: a meta-analysis. *Educational Psychology Review, 32,* 197–228. https://doi.org/10.1007/s10648-019-09493-1

Puzić, S., Gregurović, M., & Košutić, I. (2018). Kulturni kapital i obrazovne nejednakosti u Hrvatskoj, Njemačkoj i Danskoj: usporedna analiza PISA 2009 podataka [Cultural Capital and Educational Inequality in Croatia, Germany and Denmark: A Comparative Analysis of the PISA 2009 Data]. *Revija za socijalnu politiku, 25*(2), 133-156. https://doi.org/10.3935/rsp.v25i2.1463

Reay, D. (1998). Cultural reproduction: Mother's involvement in their children's primary schooling. In M. Grenfell, & D. James (Eds.), *Bourdieu and education: Acts of Practical theory* (pp. 55–71). Falmer Press. https://doi.org/10.1177/136548020200500306

Reay, D. (2004). Education and cultural capital: The implications of changing trends in education policies. *Cultural Trends*, *13*(2), 73-86. https://doi.org/10.1080/0954896042000267161

Song, J., Zuo, B., Wen, F., & Yan, L. (2017). Math-gender stereotypes and career intentions: an application of expectancy–value theory. *British Journal of Guidance & Counselling*, *45*(3), 328–340. https://doi.org/10.1080/03069885.2017.1283680

Simon, R. M., Wagner, A., & Killion, B. (2016). Gender and choosing a STEM major in college: femininity, masculinity, chilly climate, and occupational values. *Journal of Research in Science Teaching, 54*(3), 1-25. https://doi.org/10.1002/tea.21345

Starr, C. R., Gao, Y., Rubach, C., Lee, G., Safavian, N., Dicke, A.-L., Eccles, J. S., & Simpkins, S. D. (2023)."Who's better at math, boys or girls?": Changes in adolescents' math gender stereotypes and their motivational beliefs from early to late adolescence. *Education Sciences, 13*(9), 866. https://doi.org/10.3390/educsci13090866

Starr, C. R., & Simpkins, S. D. (2021). High school students' math and science gender stereotypes: relations with their STEM outcomes and socializers' stereotypes. *Social Psychology of Education, 24*, 273–298. https://doi.org/10.1007/s11218-021-09611-4

Thomsen, J. P. (2012). Exploring the heterogeneity of class in higher education: social and cultural differentiation in Danish university programmes. *British Journal of Sociology of Education*, *33*(4), 565–585. https://doi.org/10.1080/01425692.2012.659458

Thums, K., Artelt, C., & Wolter, I. (2021). Reading for entertainment or information reception? Gender differences in reading preferences and their impact on text-type-specific reading competences in adult readers. *European Journal of Psychology of Education, 36*, 339–357. https://doi.org/10.1007/s10212-020-00486-1

Tonks, S. M., Wigfield, A., & Eccles, J. S. (2018). Expectancy value theory in cross-cultural perspective: What have we learned in the last 15 years? In G. A. D. Liem, & D. McInerney (Eds.), *Recent advances in sociocultural influences on motivation and learning: Big theories revisited* (2nd Ed, pp. 91-116). Information Age Publishers.

Vantieghem, W., Vermeersch, H., & Van Houtt, M. (2013). Why "gender" disappeared from the gender gap: (re-)introducing gender identity theory to educational gender gap research. *Social Psychology of Education, 17,* 357–381. https://doi.org/10.1007/s11218-014-9248-8

Verdugo-Castro, S., García-Holgado, A., & Sánchez-Gómez, M. C. (2022). The gender gap in higher STEM studies: A systematic literature review. *Heliyon, 8*(8), e10300. https://doi.org/10.1016/j.heliyon.2022.e10300

Wegemer, C. M. & Eccles, J. S. (2019). Gendered STEM career choices: Altruistic values, beliefs, and identity. *Journal of Vocational Behavior, 110*, 28-42. https://doi.org/10.1016/j.jvb.2018.10.020

West, C., & Zimmerman, D. H. (1987). Doing gender. *Gender & Society, 1*(2), 125-151. https://doi.org/10.1177/0891243287001002002

Wigfield, A., & Gladstone, J. (2019). How students' expectancies and values relate to their achievement in times of global change and uncertainty. In E. N. Gonida & M. Lemos (Eds.), *Motivation in education at a time of global change: Theory, research, and implications for practice* (pp. 15-32). Emerald. https://doi.org/10.1108/S0749-742320190000020002

DATUM PRIJEMA RADA: 2024/03/08 DATUM PRIHVATANJA RADA: 2024/10/15

Istraživanje teorije situiranih očekivanja i vrednosti: studija rodno zasnovanih odabira visokog obrazovanja

Ivana Pikić Jugović

Institut za društvena istraživanja u Zagrebu, Centar za istraživanje i razvoj obrazovanja, Zagreb, Hrvatska

Karin Doolan

Odel za sociologiju, Univerzitet u Zadru, Hrvatska

Branislava Baranović

Institut za društvena istraživanja u Zagrebu, Centar za istraživanje i razvoj obrazovanja, Zagreb, Hrvatska

U članku se ispituje kako motivaciona uverenja, rodne uloge i stereotipi, kao i kulturni resursi i prakse oblikuju učeničke odabire univerzitetskih kurseva u tehničkim, te društvenim i humanističkim naukama. Njegova teorijska okosnica je teorija situiranih očekivanja i vrednosti Eccles i saradnika, sa naglaskom na važnost njene rodne dimenzije, kao i socio-kulturne pozadine izražene kroz indikatore kulturnog kapitala. Podaci iz upitnika prikupljeni su od 1301 srednjoškolca u Hrvatskoj. Rezultati pokazuju da su motivaciona uverenja, posebno utilitarna vrednost, bili najjači prediktori izbora studija i za devojke i za mladiće. Tradicionalne rodne uloge predviđale su slabije namere da se izaberu rodno nestereotipni kursevi. Podržavanje rodnih stereotipa o manjem talentu sopstvenog roda za zanimanja u tehničkim ili društvenim i humanističkim naukama predviđalo je slabije namere da se izaberu kursevi u tim oblastima studija. Konačno, čitalačke prakse, kao pokazatelj kulturnog kapitala, dodatno su objasnile odabir kurseva društvenih i humanističkih nauka za devojke i mladiće. Implikacija istraživanja je potreba za kreiranjem intervencijskih programa čiji je cilj dekonstrukcija rodnih uloga i propitivanje učeničkih stereotipa o obrazovnim domenima i zanimanjima.

Ključne reči: teorija situiranih očekivanja i vrednosti, obrazovni odabiri, rod, motivacija, učenici srednjih škola

Psihološka istraživanja, Vol. XXVII (2) 2024. 223–247

UDK: 159.922.62
TIP ČLANKA: Originalni naučni rad
DOI: 10.5937/PSISTRA27-49677

Između adolescencije i odraslosti: karakteristike nadolazećeg odraslog doba u Srbiji

Antonije Jojić[1]
Univerzitet u Beogradu, Filozofski fakultet, Odeljenje za psihologiju

Ksenija Krstić
Univerzitet u Beogradu, Filozofski fakultet, Odeljenje za psihologiju

Džefri Arnet je definisao nadolazeće odraslo doba (NOD) kao razvojni period smešten između adolescencije i odraslog doba. Istraživanja u različitim državama potvrdila su prisustvo NOD, uz odstupanja od Arnetovih dimenzija koja autori objašnjavaju kulturološkim i socioekonomskim specifičnostima podneblja u kojima je sprovedeno ispitivanje. Cilj našeg istraživanja bio je da potvrdi postojanje NOD na uzorku ispitanika u Srbiji na osnovu utvrđivanja razlika između uzrasnih kategorija prema dimenzijama NOD i merama odraslosti, uz proveru metrijskih karakteristika IDEA skale. Uzorak je obuhvatio 1049 ispitanika (78,6% ženskog pola) uzrasta 18–30 godina (M = 23,72, SD = 3,212), mahom iz većih gradova u Srbiji. Faktorska analiza je uglavnom potvrdila definisanu strukturu IDEA upitnika. Analiza kovarijanse ukazuje na to da su NOD ispitanici pokazali izraženije indikatore NOD od odraslih (značajne razlike na 5 od 6 dimenzija IDEA). NOD ispitanici u većoj meri od odraslih aktuelno životno razdoblje doživljavaju kao period neodređenosti, nestabilnosti, eksploracije i samootkrivanja. Naspram NOD ispitanika, odrasli su pokazali izraženiju posvećenost drugima, samodovoljnost i nezavisnost. NOD ispitanici su pokazali veću fokusiranost na sebe u odnosu na adolescente. Na merama odraslosti, odrasli ispitanici ispoljavaju veći stepen (materijalne) samostalnosti, autonomije i relacione zrelosti u odnosu na mlađe uzrasne kategorije. Doprinos ovog istraživanja jeste potvrda prisustva distinktivnog životnog razdoblja smeštenog između adolescencije i odraslog doba na uzorku mladih u Srbiji prema karakteristikama NOD koje je opisao Džefri Arnet. Potvrda prisustva indikatora NOD i validnosti IDEA upitnika otvara vrata za dalja istraživanja specifičnosti iskustava mladih u periodu NOD, kao i različitih faktora koji oblikuju karakteristike ovog životnog razdoblja u Srbiji.

Ključne reči: nadolazeće odraslo doba, Srbija, IDEA upitnik, indikatori odraslosti

1 antonijejojic1@gmail.com

Uvod

Džefri Arnet (2000) je tvorac teorije o postojanju razdoblja koje deli izvesne karakteristike sa adolescencijom i odraslim dobom, ali sadrži i odlike koje ga čine kvalitativno različitim od njih. *Emerging adulthood*, odn. nadolazeće odraslo doba (NOD), predstavlja period u razvoju pojedinca koji počinje nakon adolescencije (oko 18. godine) i traje do ranog odraslog doba (oko 29. godine; Arnett et al., 2014). Posmatrajući prosečan uzrast u kome mladi Amerikanci stupaju u brak i dobijaju prvo dete, Arnet je uočio značajno odlaganje u odnosu na sedamdesete godine prošlog veka. Tokom sedamdesetih bilo je uobičajeno da se mlada osoba venča, zaposli i dobije dete već u svojim ranim dvadesetim godinama (Arnett, 2004). Savremeno doba je, usled potrebe za produženim školovanjem, ali i ekonomskih ograničenja, ova razvojna dostignuća izmestilo bliže 30. godini života. Odlaganje odgovornosti odraslog doba otvorilo je prostor za slobodu i istraživanje na račun strukture i izvesnosti koju pružaju uloge odraslih. Tako se omladina u novom životnom razdoblju zatekla u međuprostoru, oslobođena stega roditeljskog nadzora adolescencije, kao i obavezujućih dužnosti odraslog doba (Arnett, 2000).

Arnet (2004) opisuje pet dimenzija nadolazećeg odraslog doba:

1. Eksploracija identiteta – istraživanje i razmatranje različitih mogućnosti (u domenu odnosa, posla i uverenja) u svrhu pronalaženja opredeljenja koja će se ustanoviti u okviru jasnog i stabilnog doživljaja ličnog identiteta.
2. Nestabilnost – nestalnost, odn. česte promene (radnih mesta, partnera, prebivališta...) voljom pojedinca (kao pratilac eksperimentisanja) ili pod uticajem spoljašnjih okolnosti (otkaz, raskid...).
3. Fokusiranost na sebe – mlade osobe tokom NOD nisu pod stalnim roditeljskim nadzorom kao adolescenti, a nemaju ni odgovornosti prema partneru ili deci kao odrasli. To im omogućava da se fokusiraju najpre na sebe, kao i da strukturišu svoje vreme i aktivnosti kako žele.
4. Osećanje neodređenosti – doživljaj pojedinca da nije adolescent, ali da nije u potpunosti ni odrastao. Takav nedefinisan status ukazuje na postepen prelaz iz adolescencije u odraslo doba.
5. Eksperimentisanje i mogućnosti – doživljaj slobode, nepredvidivosti i izobilja mogućnosti, najčešće praćen optimističnim očekivanjima od budućnosti.

Mlade osobe u periodu NOD ne svrstavaju sebe među adolescente ili odrasle, već „negde između". Nalik psihosocijalnom moratorijumu koji je opisao Erikson (Erikson, 1968), Arnet sugeriše da su socioekonomske promene stvorile okolnosti koje su omogućile period eksploracije nakon adolescencije tokom kog mlada osoba može da ispita različite mogućnosti tražeći svoje mesto u društvu. Ipak, dijapazon prilika tokom NOD nije univerzalan, već je uslovljen socioekonomskim faktorima (Arnett, 2000). U tim okolnostima pronalazimo raznolikost iskustava omladine u NOD – neki žive sa roditeljima, a neki od njih sa cimerima, partnerom ili sami; jedni studiraju, drugi su zaposleni, a pojedini se istovremeno školuju i rade; neki su potpuno materijalno zavisni od roditelja, drugi su pak dostigli određeni stepen finansijske nezavisnosti... Samostalnost odraslog doba nije u potpunosti osvojena, ali je napuštena potpuna zavisnost adolescentnog uzrasta. Pored toga, NOD prate česte promene (u domenu romantičnih odnosa, poslova, interesovanja, aktivnosti) kojima se odraslo doba uglavnom ne odlikuje.

Pojavu NOD Arnet vezuje za ekonomski i tehnološki napredak i postindustrijska društva, odn. za tržište koje za poželjna radna mesta traži visok obrazovni stepen od zaposlenih, što dovodi do toga da veliki broj adolescenata nastavlja edukaciju nakon srednje škole kako bi stekao potrebne kvalifikacije za učešće i napredak u kompetitivnoj sredini (Arnett, 2014). Dalje školovanje neretko odlaže materijalno osamostaljenje, stalno zaposlenje i stupanje u brak, te Arnet sugeriše da je prisustvo NOD verovatnije u društvima čija ekonomija dozvoljava pojavu takvog razvojnog međuprostora. Samim tim, u slabije razvijenim državama period traganja i preispitivanja nakon adolescencije predstavlja privilegiju viših socioekonomskih klasa i urbanijih sredina (Arnett, 2011).

Kultura takođe ima značajan udeo u određivanju prirode i granica NOD (Arnet & Eisenberg, 2007). Na primer, istraživanje sprovedeno u Kini registrovalo je prisustvo indikatora NOD, uz sugestiju da kolektivistička priroda društva nadjačava težnju ka individuaciji, stavljajući u prvi plan odgovornost prema porodici i društvu (Nelson & Chen, 2007). Autori sugerišu da će dalji sociokonomski razvoj biti praćen većom izraženošću karakteristika NOD, s obzirom na to da najveći broj mladih i dalje funkcioniše u siromašnijim, ruralnim regijama Kine.

Posmatranje okolnosti razvoja mladih u Latinskoj Americi ponavlja sugestiju da je period nalik NOD izgledniji među pojedincima iz imućnijih porodica i ekonomski razvijenijih regija (Galambos & Martínez, 2007). Autori ukazuju na pretežno kolektivističke vrednosti u Latinskoj Americi koje mogu učiniti dimenzije NOD derivirane iz iskustava severnoameričke omladine manje adaptivnim i, stoga, manje verovatnim.

Na tlu Evrope mogu se zapaziti sličnosti između različitih regija koje ukazuju na prisustvo perioda nalik na NOD što prethodi odraslom dobu – odlaganje stupanja u brak i stvaranja porodice, produženo školovanje, ali i individualizacija i istraživanje (Douglass, 2007). Uvaživši socioekonomske faktore, Daglas se osvrće i na ulogu kulture, navodeći da ona u velikoj meri prebojava karakteristike tranzicije evropske omladine u odraslo doba. Na primer, rano osamostaljenje skandinavske omladine koja veoma rano napušta porodični dom kontrastirano je značajnom upućenošću na porodicu i kasnijom separacijom u mediteranskim državama. Produžena kohabitacija sa roditeljima može biti proizvod ličnog izbora, ali i ekonomskih ograničenja, a doživljavanje takvih okolnosti stanovanja kao voljne odluke je značajno za dobrobit i doživljaj autonomije pojedinca (Kins et al., 2009).

Prethodna istraživanja karakteristika NOD izrodila su rezultate koji u velikoj meri potvrđuju izvorne Arnetove dimenzije, ali ukazuju i na pojedina odstupanja od njih. Na primer, Macek i saradnici (Macek et al., 2007) sproveli su istraživanje NOD u Češkoj, na osnovu kog su izdvojili pet faktora koji dele sličnosti sa prvobitnim nalazima Arneta. Ti faktori uključuju: istraživanje identiteta, centriranost na sebe, difuznu orijentaciju (neprihvatanje posledica sopstvenih postupaka, odsustvo planiranja, izbegavanje odgovornosti), izdiferenciranost sistema vrednosti (jasna opredeljenost za određene vrednosti) i emocionalnu stabilnost (raspoloženje i nivo distresa). Istraživanje koje su u Holandiji sproveli Hill i saradnici (Hill et al., 2015) rezultovalo je izostajanjem dimenzije neodređenosti, dok se eksploracija identiteta razdvojila na dve dimenzije (doživljaj aktuelnih i istraživanje potencijalnih aspekata ličnog identiteta). Takođe, dimenzija fokusiranosti na sebe bila je manje izražena u odnosu na istraživanja u SAD, dok je dimenzija fokusiranosti na druge pokazala nezadovoljavajuću pouzdanost. Istraživanje sprovedeno na uzorku mladih iz Španije i Meksika ukazuje na sedam dimenzija NOD: odlaganje odrastanja, nestabilnost, autonomija, eksploracija, viđenje budućnosti i mogućnosti, zabrinutost, moratorijum identiteta (Fierro Arias & Moreno Hernández, 2007). Istraživanja u drugim državama takođe su u manjoj ili većoj meri pokazala podudaranje sa dimenzijama IDEA skale (Reifman, et al., 2007), a odstupanja su se najčešće ogledala u broju izdvojenih faktora i isključivanju pojedinih ajtema. Tako je istraživanje u Turskoj izdvojilo tri faktora: negativnost–nestabilnost, eksploracija identiteta – osećanje neodređenosti, eksperimentisanje – fokusiranost na sebe (Atak & Çok, 2008). I istraživanje IDEA upitnika u Grčkoj izdvojilo je tri faktora: eksploracija identiteta – osećanje neodređenosti, eksperimentisanje – mogućnosti – fokusiranost na sebe, negativnost–nestabilnost (Leontopoulou et al., 2016). Dakle, nalazi navedenih istraživanja uglavnom su saglasni u pogledu postojanja distinktivnih karakteristika NOD, kako ih je opisao Arnet, i ukazuju na to da IDEA instrument na validan i pouzdan način registruje opisane karakteristike, uz izvesna odstupanja od inicijalno predložene faktorske strukture.

Čini se da su prisustvo i izraženost perioda nalik NOD veoma zavisni od socioekonomskih faktora, kao i da su karakteristike životnog razdoblja između adolescencije i odraslog doba u značajnoj meri određene kulturom podneblja u kome se ono opservira. Arnet nas upućuje i na uticaj globalizacije, koji neretko rezultuje stvaranjem kompozitnog, odn. „bikulturalnog" ili „hibridnog" identiteta (Arnett, 2002). Stega tradicije popušta, što istovremeno vodi u slobodu i konfuziju usled izobilja novonastalih mogućnosti. Ipak, kultura ima značajnu ulogu u izraženosti i načinu manifestacije NOD, a razilaženja sa Arnetovim opisima, između ostalog, odslikavaju i razlike u specifičnostima konteksta u kome se odvija razvoj.

Kakva je situacija u Srbiji? U poslednje vreme i na našim prostorima raste interesovanje za period NOD (Tomanović, 2012; Krstić i Mrkobrada, 2021; Nikitović i sar., 2018). Iako je kod nas urađen veliki broj istraživanja na populaciji mladih nadolazećeg odraslog doba, prisustvo Arnetovih dimenzija NOD nije empirijski potvrđeno u našoj sredini.

Za početak, osvrnućemo se na demografske podatke o formiranju bračnih zajednica i ostvarenom obrazovnom nivou stanovnika Srbije kako bismo razmotrili trend „odlaganja“ uzrasta stupanja u brak tokom prethodnih decenija, kao i veće zastupljenosti visokog obrazovanja, koje je Arnet uočio među mladima u SAD i koje su drugi autori potvrdili u različitim državama (npr. Češka – Macek et al., 2007; Belgija – Kins et al., 2009; Argentina – Facio et al., 2007; Italija i Japan – Crocceti et al., 2015).

Posmatranjem podataka od sedamdesetih godina XX veka do danas primećujemo progresivno smanjenje broja brakova sklopljenih između pojedinaca mlađih od 25 godina (a naročito mlađih od 19 godina) tokom prethodnih decenija, kao i upadljivu razliku u domenu visokoobrazovanih stanovnika (a naročito visokoobrazovanih žena) (Prilog 2). Uopšteno gledano, procenat nepismenih je opao sa 17,2% (1971) na 1,96% (2011) (Statistički godišnjak Republičkog zavoda za statistiku, 1980, 2022). Predstavljeni podaci sugerišu da su promene koje je Arnet opservirao među omladinom u SAD prisutne i u našoj državi: „odlaganje“ odluka kao što je formiranje bračne zajednice i znatno veća zastupljenost visokoobrazovanih pojedinaca (naročito žena). Razmatranje demografskih podataka postavlja osnov za pretpostavke o socioekonomskim promenama i redefinisanju normi za pojedina životna dostignuća, ali ne i za uvid u specifičnosti fenomenologije razvojnog perioda koji smeštamo između adolescencije i odraslog doba.

Malobrojni nalazi upućuju na postojanje NOD i u našoj populaciji. Naime, u jednom kvalitativnom istraživanju, utvrđeno je postojanje dimenzija koje odgovaraju Arnetovim definišućim karakteristikama (Krstić i Mrkobrada, 2021). Govoreći o tom razdoblju svog života, mladi su opisivali NOD kao fazu koja se može okarakterisati kao „nešto između“ adolescencije i odraslog doba. Pokazalo se da ispitanici doživljavaju NOD kao period neodređenosti i neodlučnosti koji odlikuje specifičan način razmišljanja i pogleda na život, u kome dominira motiv pronalaženja/definisanja sebe kao jedinstvenog pojedinca. Pored toga, mladi doživljavaju NOD kao period postavljanja temelja za „kasniji život“, kao fazu izgradnje i upotpunjavanja svoje ličnosti, uz odlučivanje o značajnim pitanjima koja će u velikoj meri definisati njihov celokupan život. Iz odgovora ispitanika može se zaključiti da ove teme odgovaraju Arnetovim dimenzijama *osećanja neodređenosti, fokusiranosti na sebe, nestabilnosti i eksploracije identiteta*. Dimenzija koja je izostala (u odgovorima ispitanika) u ovom istraživanju odnosi se na doživljaj obilja mogućnosti, slobode i prilika za eksperimentisanje.

Kao veoma značajan aspekt sazrevanja ispitanici su izdvojili uticaj sredine. Mladi su govorili o specifičnom vaspitnom stilu roditelja – prezaštićivanju, kao i o nepovoljnoj ekonomskoj situaciji u društvu koja ograničava raspon mogućnosti i restriktivno utiče na proces osamostaljivanja. Upravo zbog takvih ograničenja mladi na našim prostorima u manjoj meri doživljavaju NOD kao period obilja mogućnosti i ispoljavaju manje optimizma u odnosu na budućnost (Krstić i Mrkobrada, 2021; Pew Research Center, 2022; Ungar, 2009; Yap et al., 2014).

Drugim rečima, navedeni podaci nas poučavaju da su se odvile određene promene na nivou društva, a cilj našeg istraživanja jeste provera kako omladina u Srbiji doživljava te promene, odn. da li su dimenzije NOD koje je definisao Džefri Arnet validna reprezentacija njihovih doživljaja (uzevši u obzir značaj kulturoloških i socioekonomskih faktora).

Šta znači biti odrastao? Pored provere izraženosti dimenzija nadolazećeg odraslog doba među mladima u Srbiji, ispitaćemo i njihovu procenu ostvarenosti različitih životnih dostignuća i aspekata funkcionisanja koji predstavljaju indikatore odraslog doba. Arnet u svom istraživanju navodi da je na pitanje: „Da li sebe smatrate odraslom osobom?“ potvrdno odgovorilo 19% adolescenata, 46% ispitanika uzrasta 20–29 godina (NOD) i 86% ispitanika uzrasta 30–55 godina (Arnett, 2001). Pored pitanja da li sebe smatraju odraslim, Arnet je ispitao koje aspekte funkcionisanja smatraju najvažnijim obeležjima dostignutog odraslog doba. Sve tri uzrasne grupe su kao najvažnije kriterijume izdvojili mere samostalnosti pojedinca: preuzimanje odgovornosti za posledice vlastitih postupaka, samostalno donošenje odluka, ravnopravan odnos sa roditeljima i finansijsku nezavisnost. U našem istraživanju ispitaćemo u kojoj meri pojedinci uzrasta 18–30 godina procenjuju da su dostigli različite pokazatelje odraslog doba, koristeći instrument baziran na Arnetovim idejama i izvornom materijalu (Arnett, 1994, 2001; Fosse et al., 2015; Sharon, 2015). Očekujemo da će mere odraslosti zabeležiti jasne razlike između odgovora adolescenata, NOD ispitanika i odraslih.

Metod

Uzorak

Istraživanje je obuhvatilo 1049 ispitanika (78,6% ženskog i 20,7% muškog pola) uzrasta 18–30 godina (M = 23,72, SD = 3,212) iz nekoliko velikih gradova u Srbiji (80%). Prosečna samoprocena materijalnog statusa ispitanika na celom uzorku iznosi 5,99, na skali od 1 do 10. Detaljna struktura uzorka u odnosu na ispitivane sociodemografske varijable data je u Prilogu 3.

Cilj i hipoteze

Cilj istraživanja je da se utvrdi postojanje perioda nadolazećeg odraslog doba na našem uzorku, na osnovu provere pretpostavke o većoj izraženosti indikatora NOD među ispitanicima koji sebe svrstavaju u period između adolescencije i odraslog doba u odnosu na ispitanike koji sebe doživljavaju kao odrasle, odn. kao adolescente. Pored toga, kako bismo proverili postojanje NOD, najpre ćemo proveriti faktorsku strukturu IDEA skale na uzorku u Srbiji.

> H1. S obzirom na to da je NOD potvrđen u istraživanjima u različitim zemljama i kulturama, očekujemo da će se i u našoj sredini utvrditi postojanje NOD s karakterističnim dimenzijama koje je opisao Arnet (2004).
>
> H2. U skladu sa definišućim karakteristikama NOD, očekujemo da će se ispitanici koji sebe doživljavaju kao odrasle, kao i oni koji sebe doživljavaju kao adolescente, razlikovati po ostvarenosti indikatora odraslosti (H2a) i dimenzijama nadolazećeg odraslog doba (H2b), u odnosu na ispitanike koji sebe svrstavaju „negde između" adolescencije i odraslog doba.

Instrumenti i varijable

Inventory of the Dimensions of Emerging Adulthood – IDEA (Reifman et al., 2007). Supskale IDEA upitnika predstavljaju operacionalizaciju dimenzija NOD koje je definisao Arnet. Upitnik se sastoji od 31 ajtema raspoređenih na šest supskala (nestabilnost, fokusiranost na sebe, fokusiranost na druge, eksperimentisanje i mogućnosti, osećanje neodređenosti, istraživanje identiteta), uz četvorostepenu skalu Likertovog tipa. Skor na dimenzijama predstavlja sumu odgovora na pripadajućim ajtemima. Instrument je preveden metodom dvostrukog prevoda od strane autora istraživanja. Skala je pokazala zadovoljavajuću pouzdanost sa vrednošću Kronbahove alfe od .847.

Po uzoru na prethodna istraživanja koja su ispitivala prisustvo dimenzija NOD, sprovedena je eksploratorna faktorska analiza IDEA upitnika (Češka – Macek et al., 2007; Turska – Atak & Çok, 2008; Holandija – Hill et al., 2015; Španija i Meksiko – Fierro Arias & Moreno Hernández, 2007). Rezultati faktorske analize skale potvrđuju izvornu strukturu dimenzija, uz manja odstupanja. Koristili smo kosougaonu oblimin rotaciju. KMO vrednost je iznosila 0.888, dok je Bartletov test sfericiteta bio značajan na nivou 0.000, te su ostvareni uslovi za analizu. Nisu zabeležene visoke korelacije između faktora – samo jedna korelacija je prekoračila vrednost od 0.3.

Tabela 1
Faktorska analiza IDEA skale – matrica sklopa

Period	1	2	3	4	5	6
Faktor 1: **Eksperimentisanje i mogućnosti**						
2. ... istraživanja	.806					
1. ... raznih mogućnosti	.773					
4. ... eksperimentisanja	.720					
21. ... za isprobavanje novih stvari	.648					
16. ... u kome imate mnogo izbora	.631					
5. ... lične slobode	.572				.372	
10. ... optimizma	.512	-.368				
12. ... u kome pronalazite sebe	.469			-.430		
Faktor 2: **Nestabilnost**						
8. ... stresa		.808				
9. ... nestabilnosti		.803				
20. ... ispunjen mnogim brigama		.801				
11. ... velikog pritiska		.786				
3. ... zbunjenosti		.585				
6. ... u kom se osećate sputano		.557				
17. ... koji je nepredvidiv	.335	.548				
Faktor 3: **Fokusiranost na druge**						
14. ... preuzimanja odgovornosti za druge			.747			
18. ... u kome ste posvećeni drugima			.715			
13. ... da se skrasite			.683			
Faktor 4: **Eksploracija identiteta**						
27. ... u kome se opredeljujete za svoja uverenja i vrednosti				-.750		
24. ... u kome definišete ko ste				-.740		
26. ... u kome tragate za smislom				-.673		
25. ... planiranja budućnosti				-.555		
28. ... u kome učite da razmišljate svojom glavom				-.540		.441
Faktor 5: **Fokusiranost na sebe**						
19. ... u kome ste sami sebi dovoljni			-.304		.686	
15. ... nezavisnosti					.561	
22. ... u kome ste usredsređeni na sebe			-.386		.491	
7. ... preuzimanja odgovornosti za sebe					.442	
23. ... odvajanja od roditelja				-.318	.334	
Faktor 6: **Osećanje neodređenosti**						
29. ... u kome se na neki način osećate odraslim, a na neki način još uvek ne						.869
31. ... u kome niste sigurni da li ste potpuno odrasli						.817
30. ... u kom postepeno postajete odrasli						.807

Tri označena ajtema u tabeli izvorno ne pripadaju faktoru koji zasićuju u ovoj analizi. Svi ostali ajtemi prvog faktora pripadaju dimenziji „Eksperimentisanje i mogućnosti". Ostali faktori odgovaraju izvornim dimenzijama IDEA skale – ajtemi rasporedili su se u skladu sa originalnom postavkom. Nakon toga smo sproveli i faktorsku analizu za svaku od dimenzija pojedinačno kako bismo proverili njihovu strukturu. Analiza je potvrdila njihovu homogenost (ajtemi su se svrstali na jedan faktor), izuzev dimenzije „Fokusiranosti na sebe" (Tabela 1). Kao problematičan se pokazao ajtem 19 („Period u kome ste sami sebi dovoljni"), a njegovim isključivanjem potvrđena je jednofaktorska stuktura dimenzije „Fokusiranosti na sebe". Stoga je ajtem 19 isključen iz daljih analiza. Dobijeni faktori odgovaraju originalnim dimenzijama koje je opisao Arnet, uz manja odstupanja o kojima će se diskutovati u nastavku rada.

Markings of Adulthood Scale – MoA (Sharon, 2015). Skala obeležja odraslog doba procenjuje koja životna dostignuća i aspekte funkcionisanja ispitanici vrednuju kao najznačajnije pokazatelje odraslosti, a zatim i ostvarenost tih pokazatelja. MoA skalu smo primenili u svrhu ispitivanja stepena u kom ispitanik procenjuje sebe kao odraslog, ne tražeći prethodnu evaluaciju ajtema kao podobne mere dostignutog odraslog doba. Instrument je preveden metodom dvostrukog prevoda od strane autora istraživanja.

Skala se sastoji od 20 ajtema, odn. 4 supskale (nezavisnost, prihvatanje normi, relaciona zrelost, tranzicija uloga). Na 5 ajtema se odgovara „da/ne", dok se na ostale ajteme odgovara slaganjem na trostepenoj Likertovoj skali. Odgovori *u potpunosti* i *donekle tačno* kodiraju se kao ostvaren zadatak, nasuprot *nimalo tačno* (Sharon, 2015), a na osnovu sume odgovora računaju se 4 dimenzije indikatora odraslosti. Skorovi se kreću od 0 do 4 ili do 6, u zavisnosti od broja ajtema u okviru dimenzije. Viši skor ukazuje na to da je ostvareno više zadataka. Skala je pokazala zadovoljavajuću pouzdanost sa vrednošću Kronbahove alfe od .714.

MoA skala nastala je na osnovu psiholoških i socioloških procena o markerima tranzicije u odraslo doba, a tvrdnje su organizovane u supskale na osnovu svoje teorijske veze, a ne statističkih analiza (Arnett, 2001; Norman et al., 2023). Zbog toga smo se odlučili da se u analizama pridržavamo originalne organizacije dimenzija, bez provere faktorske strukture, kao što je rađeno u velikom broju drugih istraživanja (Badger et al., 2006; Faas et al., 2019; Fosse et al., 2015; Nelson & Barry, 2005; Norman et al., 2023; Sharon, 2015).

Subjektivni doživljaj pripadanja uzrasnoj grupi. Doživljaj ispitanika kom uzrasnom periodu pripadaju, operacionalizovan kroz odgovor na pitanje:

„Da li sebe smatrate adolescentom ili odraslom osobom?", sa ponuđenim odgovorima: adolescent; nešto između; odrasla osoba; bez odgovora.

Sociodemografske varijable. Istraživanje je obuhvatilo i sledeće podatke: pol, uzrast, socioekonomski status, obrazovanje, zaposlenje, stambeni i finansijski status.

Procedura

Uzorak je prikupljen putem online upitnika preko društvenih mreža, metodom snežne grudve u periodu februar–mart 2021. godine.

Nakon što su dobili informacije o cilju istraživanja, dobrovoljnosti i anonimnosti učešća u istraživanju, kao i o svojim pravima, ispitanici su davali saglasnost za učešće u istraživanju, a zatim su pristupili upitniku. Finalni uzorak obuhvata ispitanike koji su popunili upitnik u celosti. Istraživanje je odobreno od strane Komisije za ocenu etičnosti istraživanja Odeljenja za psihologiju Filozofskog fakulteta u Beogradu (broj odobrenja #2021-05, datum izdavanja 28. 1. 2021. godine).

Rezultati

S obzirom na samoprocenu uzrasne kategorije u koju ispitanici sebe svrstavaju, dobili smo sledeće podatke: 111 adolescenata (10,6%, M_{god} = 21.01, SD = 2.473), 474 ispitanika koji su svrstali sebe „negde između" adolescencije i odraslog doba (45,1%, M_{god} = 22.81, SD = 2707) i 465 odraslih (44,3%, M_{god} = 25.25, SD = 3.07). Prema rezultatima jednosmerne analize varijanse, ovako definisane grupe se statistički značajno razlikuju po prosečnom uzrastu: $F(2, 1046) = 141.631$, $p < .001$, $\eta^2 = .213$), a veličina razlike između grupa spada u velike (Cohen, 1988). Dalje, post hok analiza (*Tukey HSD*) je pokazala da je razlika u uzrastu značajna između sve tri grupe: oni koji sebe doživljavaju kao adolescente su mlađi od „NOD ispitanika" ($M_{dif} = -1.80$, $p < .001$, 95% *C.I.* = [-2.5, −1.09]), kao i da su „NOD ispitanici" mlađi od onih koji sebe doživljavaju kao odrasle ($M_{dif} = -2.45$, $p < .001$, 95% *C.I.* = [-2.9, −2.01]).

Analiza sociodemografskih karakteristika mladih koji su se svrstali u period između adolescencije i odraslog doba ukazuje na to da su uglavnom u pitanju studenti osnovnih i master studija koji su nezaposleni ili rade privremene i honorarne poslove, žive sa roditeljima i oni ih i finansijski izdržavaju (Prilog 4).

Nadolazeće odraslo doba

U svrhu poređenja razlika između grupa definisanih subjektivnim doživljajem pripadanja uzrasnoj grupi (u daljem tekstu: uzrasne grupe) u odnosu na dimenzije NOD, sprovedena je jednosmerna multivarijantna analiza kovarijanse (MANCOVA). Hronološki uzrast je tretiran kao kovarijat kako bi se kontrolisao potencijalni efekat godina života na razlike između uzrasnih grupa na dimenzijama IDEA.

Tabela 2
Prosečne vrednosti i standardne devijacije uzrasnih grupa na dimenzijama IDEA

			Adolescenti		Nešto između		Odrasli	
	min	max	M	SD	M	SD	M	SD
Eksploracija identiteta	7	28	22.099	3.378	22.495	3.347	21.112	4.307
Eksperimentisanje	5	20	15.568	2.984	15.319	3.095	14.454	3.204
Nestabilnost	7	28	22.063	3.859	21.717	3.683	19.369	4.464
Neodređenost	3	12	10.081	1.663	10.190	1.700	8.099	2.545
Fokusiranost na druge	3	12	6.306	1.715	6.541	1.901	7.471	2.085
Fokusiranost na sebe	5	20	14.757	2.649	15.197	2.432	15.338	2.552

Analiza razlika između uzrasnih grupa prema dimenzijama IDEA obuhvatila je šest zavisnih varijabli: eksploracija identiteta, eksperimentisanje, nestabilnost, neodređenost, fokusiranost na druge, fokusiranost na sebe. Kontrolišući uticaj kovarijata (hronološkog uzrasta), MANCOVA je ukazala na značajne razlike između adolescenata, NOD i odraslih u odnosu na kombinovane zavisne varijable: $F(12, 2082) = 16.641$, $p = .000$, $\eta p2 = .088$, $V = .175$. Rezultati su takođe pokazali da između uzrasnih grupa postoje značajne razlike na 5 od 6 zavisnih varijabli (na svim dimenzijama izuzev eksperimentisanja i mogućnosti). Spomenućemo da je utvrđen značajan efekat hronološkog uzrasta na varijansu ispitanika na dimenzijama IDEA.

Analiza kovarijanse ukazala je na značajne razlike između uzrasnih grupa u odnosu na sledeće varijable: eksploracija identiteta: $F(2, 1045) = 5.001$, $p = .007$, $\eta p2 = .009$; nestabilnost: $F(2, 1045) = 27.932$, $p = .000$, $\eta p2 = .051$; fokusiranost na druge: $F(2, 1045) = 10.778$, $p = .000$, $\eta p2 = .020$; fokusiranost na sebe: $F(2, 1045) = 8.524$ $p = .000$, $\eta p2 = .016$; neodređenost: $F(2, 1045) = 69.869$, $p = .000$, $\eta p2 = .118$.

Post hok testovi (Bonferroni) ukazuju na to da su zabeležene razlike između uzrasnih grupa u očekivanom smeru – odrasli su pokazali niže vrednosti od mlađih uzrasnih grupa na varijablama eksploracije identiteta (u odnosu na NOD ispitanike), nestabilnosti i neodređenosti (u odnosu na NOD ispitanike i adolescente). Na dimenziji fokusiranosti na druge takođe beležimo razlike u očekivanom smeru – kategorija odraslih je pokazala više vrednosti u odnosu na mlađe kategorije.

Nalaz koji odstupa od očekivanog opserviramo na dimenziji fokusiranosti na sebe, gde su odrasli ispitanici pokazali više vrednosti od mlađih uzrasnih kategorija.

Na kraju, značajne razlike između grupe NOD ispitanika i adolescenata registrujemo samo na varijabli fokusiranosti na sebe (NOD ispitanici pokazuju više vrednosti).

Indikatori odraslog doba

MANCOVA je sprovedena i radi poređenja razlika između uzrasnih grupa u odnosu na indikatore odraslog doba. Ponovo, hronološki uzrast je tretiran kao kovarijat kako bi se kontrolisao potencijalni efekat ove varijable na razlike između uzrasnih grupa prema supskalama MoA upitnika. Tabela 3 sadrži podatke o deskriptivnoj statistici uzrasnih grupa prema dimenzijama MoA.

Tabela 3
Prosečne vrednosti i standardne devijacije uzrasnih grupa prema supskalama MoA

			Adolescenti		Nešto između		Odrasli	
	min	max	M	SD	M	SD	M	SD
Tranzicija uloga	0	5	.631	.725	.915	.845	1.705	1.354
Nezavisnost	1	6	2.568	.880	3.148	1.295	4.153	1.502
Relaciona zrelost	1	4	2.675	.776	2.824	.628	3.131	.645
Prihvatanje normi	0	4	3.522	.630	3.600	.650	3.632	.605

Analiza razlika između uzrasnih grupa prema dimenzijama MoA obuhvatila je četiri zavisne varijable: tranzicija uloga, nezavisnost, relaciona zrelost, prihvatanje normi. Kontrolišući uticaj kovarijata (hronološkog uzrasta), MANCOVA je ukazala na značajne razlike između adolescenata, NOD i odraslih u odnosu na kombinovane zavisne varijable: $F(8, 2086) = 9.737$, $p = .000$, $\eta p2 = .036$, $V = .072$. Rezultati su pokazali da između uzrasnih grupa postoje značajne razlike na 3 od 4 zavisnih varijabli (na svim dimenzijama izuzev prihvatanja normi). Ponovo, utvrđene su i značajne razlike na dimenzijama MoA s obzirom na hronološki uzrast ispitanika.

Analiza kovarijanse ukazala je na značajne razlike između uzrasnih grupa u odnosu na sledeće varijable: tranzicija uloga: $F(2, 1045) = 15.122$, $p = .000$, $\eta p2 = .028$; nezavisnost: $F(2, 1045) = 28.575$, $p = .000$, $\eta p2 = .052$; relaciona zrelost: $F(2, 1045) = 12.831$, $p = .000$, $\eta p2 = .024$.

Post hok testovi (Bonferroni) ukazuju na to da su zabeležene razlike između uzrasnih grupa u očekivanom smeru – odrasli su pokazali više vrednosti od mlađih uzrasnih grupa na varijablama tranzicije uloga, nezavisnosti i relacione zrelosti. Između grupa adolescenata i NOD ispitanika nisu zabeležene značajne razlike prema vrednostima dimenzija MoA.

Diskusija

Cilj našeg istraživanja bio je provera postojanja distinktivnog životnog razdoblja između adolescencije i odraslog doba na uzorku mladih u Srbiji, posredstvom dimenzija NOD koje je definisao Džefri Arnet, a koje su operacionalizovane u vidu IDEA upitnika. Rezultati su potvrdili postojanje NOD sa svim definišućim karakteristikama tog perioda koje su opisane u literaturi (Arnett, 2004). Najpre, videli smo da značajan broj mladih, uzrasta od 18 do 25 godina (50% uzorka), doživljava period u kome se nalaze kao „nešto između“ – nisu više adolescenti, ali još uvek nisu odrasli. Prosečan uzrast mladih koji su se svrstali „negde između“ iznosi oko 23 godine. Ovaj nalaz je u skladu sa Arnetovim pretpostavkama o prosečnim uzrastima koji odgovaraju NOD (Arnett et al., 2014). Iako postoji značajna razlika u uzrastu ispitanika koji sebe doživljavaju kao adolescente, odrasle ili „nešto između", naši nalazi pokazuju da se ne radi o uzrasno definisanom periodu, već o subjektivnom doživljaju. Neki mladi se već sa 18 ili 19 godina osećaju kao odrasli, neki sa 30 godina sebe još uvek doživljavaju kao adolescente, ali većina njih prolazi kroz period traganja i premišljanja, eksploracije različitih mogućnosti i postepenog osamostaljivanja. Arnet je pokazao da su karakteristike NOD u velikoj meri zavisne od socioekonomskih faktora, te specifičnosti ovog razdoblja ne možemo posmatrati kao univerzalne (Arnett, 2000). Jedan deo omladine iz praktičnih razloga neće imati mogućnost da odlaže preuzimanje uloga i odgovornosti odraslih. S druge strane, nalazi iz brojnih kros-kulturnih istraživanja govore o sličnosti doživljaja i iskustava mladih koji se nalaze „negde između" adolescencije i odraslog doba (Arnett & Eisenberg, 2007). Sveukupno, u razmatranju nalaza treba uzeti u obzir i sugestiju da su odrastanje i ispunjavanje razvojnih zadataka karakterističnih za NOD „oivičeni“ kulturološkim i socioekonomskim specifičnostima koje će odrediti raspon i varijetet mogućnosti.

Faktorska analiza podataka prikupljenih IDEA upitnikom potvrdila je postojanje šest međusobno koreliranih dimenzija, u skladu sa nalazima ranijih istraživanja (Reifman et al., 2007). Originalne dimenzije IDEA (eksploracija identiteta, eksperimentisanje i mogućnosti, nestabilnost, osećanje neodređenosti, fokusiranost na druge i fokusiranost na sebe) potvrđene su na našem uzorku, sa minimalnim odstupanjima pojedinih tvrdnji u okviru faktora. Ovakvi nalazi bliži su originalnim Arnetovim rezultatima nego većini kros-kulturnih istraživanja sprovedenih u brojnim evropskim državama (Češka, Holandija, Španija, Turska, Grčka). Naime, iako su istraživanja većinom potvrdila postojanje NOD, broj i sadržaj izdvojenih faktora često je odstupao od dimenzija IDEA skale (Atak & Çok, 2008; Fierro Arias & Moreno Hernández, 2007; Hill et al., 2015; Leontopoulou et al., 2016; Macek et al., 2007). Drugim rečima, rezultati ovog istraživanja potvrđuju validnost IDEA skale na uzorku mladih u Srbiji.

Razmatranjem izdvojenih dimenzija primećujemo da i omladina u Srbiji doživljava NOD kao period neodlučnosti i neodređenosti, kao doba kada mogu da se posvete samo sebi u isprobavanju različitih opcija koje im stoje na raspolaganju. Drugim rečima, ovo razdoblje pruža mogućnost za preispitivanje, traganje i pronalaženje sebe, što je sloboda kakvu odgovornosti odraslog doba ne dozvoljavaju. Uporedo, NOD podrazumeva i postepeno osvajanje nezavisnosti u odnosu na primarnu porodicu i donošenje važnih odluka koje će postaviti temelj odraslosti. Dimenzije slične navedenim izdvojile su se i u spontanim opisima mladih u Srbiji, sa izuzetkom doživljaja obilja mogućnosti izbora i prilika za eksperimentisanje (Krstić i Mrkobrada, 2021). Na sličan način, u ovom istraživanju se dimenzija „eksperimentisanja i mogućnosti" nije pokazala kao diskriminativna za različite uzrasne grupe. Nepovoljna socioekonomska situacija u državi ograničava raspoložive mogućnosti i otežava kako ekonomsku, tako i psihološku nezavisnost od roditelja. Najveći broj mladih koji sebe svrstavaju „negde između" jesu studenti osnovnih ili master studija, koji su nezaposleni i žive sa roditeljima od kojih su i finansijski zavisni. Ovi podaci su u skladu sa Arnetovim pretpostavkama da period NOD nastaje kao rezultat potrebe za produženim obrazovanjem, što povlači sa sobom odlaganje osamostaljivanja i zasnivanja sopstvene porodice. U tom smislu, NOD jeste „privilegija" mladih koji studiraju i koji imaju prilike da odlože preuzimanje odgovornosti i da se posvete sebi i eksploraciji različitih mogućnosti (Arnett, 2011; Hendry & Kloep, 2010). Istovremeno, to je „privilegija" mladih iz više srednje klase i urbanih sredina, kojima je univerzitetsko obrazovanje dostupno i koji, u procesu separacije i započinjanja samostalnog života, još uvek ne postižu potpunu (finansijsku) nezavisnost, već odlažu zaposlenje i zasnivanje vlastite porodice (Douglass, 2007; Galambos & Martínez, 2007). Zbog otežanih ekonomskih uslova u našoj državi, primarnu porodicu možemo posmatrati kao sistem podrške koji pruža praktičnu pomoć mladoj osobi tokom postepenog osvajanja autonomije u okviru suboptimalne razvojne sredine. Sa druge strane, nalaz o tendenciji ka produženoj habitaciji u okviru primarne porodice i kasnijem osamostaljivanju možemo razumeti i kao rezultat tradicionalnog vaspitanja i prezaštićivanja od strane roditelja, nalik situaciji u nekim mediteranskim zemljama gde je odložena separacija odraz kulture u kojoj se potencira izražena usmerenost na porodicu („mediteranski obrazac tranzicije" – Fierro Arias & Moreno Hernández, 2007; Douglass, 2007; Kins et al., 2009; Krstić i Mrkobrada, 2021).

U okviru dimenzije fokusiranosti na sebe IDEA upitnika upadljivo je odstupao ajtem 19 („Period u kome ste sami sebi dovoljni") i menjao je značenje cele dimenzije. Promene u strukturi faktora do kojih dovodi ova tvrdnja ukazuju na specifično značenje koje joj pridaju ispitanici. Izvorno, tvrdnja bi trebalo da opisuje doživljaj ispitanika da su samostalni i nezavisni, što bi sa drugim ajtemima (Tabela 1) činilo dimenziju fokusiranosti na sebe. Međutim, moguće je da su ispitanici drugačije razumeli ovu tvrdnju (npr. kao doživljaj izolovanosti, nezainteresovanosti za druge, čak i sebičnosti), zbog čega su odgovarali na drugačiji način u odnosu na ostatak dimenzije. Ovu hipotezu trebalo bi proveriti u narednim istraživanjima – korišćenjem drugačije formulacije pomenute tvrdnje ili traženjem objašnjenja ispitanika o značenju koje pridaju tvrdnjama u okviru IDEA upitnika.

Kada se uporedi izraženost dimenzija IDEA između ispitanika iz tri uzrasne grupe (adolescenti, odrasli i oni „između") – nalazi su u skladu sa očekivanjima, u pogledu razlike između odraslih ispitanika i onih koji to nisu. Dakle, rezultati našeg istraživanja pokazuju da ispitanici koji sebe opisuju kao odrasle trenutni period svog života u manjoj meri doživljavaju kao period neodređenosti, neodlučnosti, eksploracije, a istovremeno percipiraju da su u tom periodu više usmereni na druge – u odnosu na ispitanike koji sebe ne doživljavaju kao odrasle osobe. Ovi nalazi potpuno su u skladu sa očekivanjima baziranim na Arnetovim pretpostavkama – NOD (za razliku od odraslog doba) karakterišu neodlučnost, neodređenost i razmatranje različitih mogućnosti i opredeljenja (Arnett, 2001; Erikson et al., 2020; Gyberg et al., 2019; Reifman et al., 2023).

Po pitanju dimenzije fokusiranosti na sebe, deskriptivni podaci (Tabela 2) pokazuju da se skorovi ispitanika sve tri uzrasne kategorije nalaze u gornjoj polovini skale, bliže maksimalnim vrednostima. To ukazuje da se svi ispitanici, na sličan način, doživljavaju kao fokusirani na sebe. Ovakav nalaz može ukazivati na izraženost individualističkih vrednosti mladih ljudi u Srbiji, bez obzira na to da li sebe doživljavaju kao adolescente, odrasle ili nešto između. Podaci iz našeg istraživanja ne daju osnov za argumentaciju takve pretpostavke, pa bi buduća istraživanja mogla da se usmere na dalju eksploraciju dimenzije fokusiranosti na sebe, pri čemu bi koristan uvid pružilo i razmatranje uloge kulture i društvenih vrednosti u manifestaciji dimenzija NOD u Srbiji.

Osvrnućemo se na nalaz da dimenzije IDEA upitnika ne registruju značajne razlike između vrednosti adolescenata i ispitanika svrstanih u NOD, izuzev na skali fokusiranosti na sebe. Izostajanje razlika na ispitivanim dimenzijama između ove dve grupe ispitanika može se jednim delom objasniti razlikama u veličini uzorka. Naime, samo oko 10% ispitanika u istraživanju se izjasnilo kao adolescent – dakle, njih 111 u odnosu na preko 400 ispitanika u druge dve uzrasne kategorije. Nedovoljan broj ispitanika u kategoriji adolescenata može biti razlog zašto nisu dobijene razlike u doživljajima ovih ispitanika u odnosu na mlade u NOD. Pored toga, moguće je i da doživljaji životnog perioda ispitanika ove dve uzrasne kategorije zaista nisu dovoljno diferencirani. Ispitanici u ove dve kategorije imaju veliki broj sličnih sociodemografskih odlika (raspon uzrasta od 18 do 30 godina, većinom studenti osnovnih studija, nezaposleni, žive sa roditeljima u urbanoj sredini). Zapravo, jedinu razliku možemo pronaći u tome da li sebe procenjuju kao adolescenta ili „negde između". Dakle, ta arbitrarnost svrstavanja u jednu ili drugu kategoriju može biti razlog nedovoljne diferencijacije ovih grupa po ispitivanim dimenzijama. Naime, kao što rezultati ukazuju, ove dve grupe ispitanika na isti način opisuju period u kome se nalaze (kao period neodlučnosti, neodređenosti i eksploracije) i samo ga drugačije imenuju (adolescencija nasuprot „nečemu između“). Treba uzeti u obzir i da period NOD smeštamo u raspon od 18 do 29 godina (Arnett et al., 2014), a da je donja uzrasna granica našeg uzorka upravo 18 godina, što ne ostavlja dovoljno prostora za jasno razdvajanje uzrasnih kategorija adolescencije i NOD. Drugim rečima, možemo hipotezirati da značajne razlike nisu registrovane zbog nedovoljnog broja ispitanika mlađih od 18 godina, čija bi zastupljenost učinila kategoriju adolescenata obuhvatnijom.

Pored dimenzija IDEA upitnika, poredili smo ispitanike iz tri uzrasne kategorije prema indikatorima odraslog doba operacionalizovanim u formi Markings of Adulthood instrumenta (Sharon, 2015). Dimenzije MoA skale su: tranzicija uloga, prihvatanje normi, nezavisnost i relaciona zrelost. U skladu sa očekivanjima, rezultati su ukazali na to da mlađe grupe ispitanika pokazuju niže vrednosti u odnosu na odrasle ispitanike, i to na dimenzijama tranzicije uloga, nezavisnosti i relacione zrelosti. Dimenzija tranzicije uloga odnosi se na ispunjenost niza razvojnih zadataka karakterističnih za odraslo doba: završetak školovanja, zaposlenje, odvajanje od roditelja, stupanje u brak (stabilan partnerski odnos) i rođenje dece. Iako su utvrđene značajne razlike između grupa prema ostvarenosti razvojnih zadataka u okviru tranzicije uloga, apsolutne vrednosti na ovoj dimenziji su niske za sve tri uzrasne kategorije. Ovakvi rezultati u skladu su sa nalazima novijih istraživanja koji ukazuju da prekretnice kao što su venčanje, rođenje deteta, nalaženje stalnog zaposlenja – gube na značaju, odnosno, ne opažaju se kao ključni pokazatelji odraslog doba (Walczak, 2023). Dimenzija nezavisnosti odnosi se na doživljaj osobe da je sposobna da samostalno donosi odluke i da preuzme odgovornost za svoje postupke, ali i da se stara o drugima (briga o deci, finansijsko izdržavanje porodice). Dimenzija relacione zrelosti opisuje razvijenost kapaciteta za uspostavljanje i održavanje zrelih, stabilnih odnosa i adekvatnu regulaciju emocija (Larsson et al., 2020). Takva razvojna dostignuća podrazumevaju preuzimanje uloge, funkcije i odgovornosti odrasle osobe. Samim time, učestalost ostvarenosti ovih zadataka raste sa uzrastom ispitanika, doprinoseći doživljaju zrelosti i odraslosti.

Na kraju, u ovom istraživanju nisu dobijene razlike između uzrasnih kategorija u domenu dimenzije prihvatanja normi. Ova dimenzija odnosi se na niz rizičnih ponašanja: zloupotreba alkohola i droga, vožnja u pijanom stanju, nezaštićeni seksualni odnosi. Nepromišljenost u postupanju češće se vezuje za manje zrele godine adolescencije, dok je izbegavanje nepotrebnih rizika u skladu sa društvenim očekivanjima o ponašanju odraslih (Arnett, 2012; Santrock, 2013). Iz te perspektive, vrlo je neobičan nalaz da se ispitanici iz tri uzrasne kategorije ne razlikuju na dimenziji prihvatanja normi – najveći broj ispitanika negira gorenavedene rizične sklonosti. Objašnjenje za ovakav nalaz možemo potražiti razmatrajući specifičnosti uzorka (prigodan uzorak, prikupljen metodom snežne grudve putem društvenih mreža), ali i moguću sklonost ispitanika da odgovaraju na socijalno poželjan način.

Zaključak

Doprinos ovog istraživanja jeste potvrda postojanja distinktivnog perioda nadolazećeg odraslog doba u Srbiji sa karakteristikama koje je opisao Džefri Arnet, kao i potvrda validnosti IDEA skale. Mladi koji sebe svrstavaju između adolescencije i odraslog doba razlikuju se od onih koji sebe smatraju odraslim po većini dimenzija NOD, kao i indikatora odraslosti. Ispitanici koji se svrstavaju u NOD aktuelni period svog života doživljavaju kao period eksploracije identiteta, nestabilnosti i neodređenosti, kao i manje fokusiranosti na druge u odnosu na odrasle. Takođe, ispitanici u NOD ostvarili su manji broj razvojnih zadataka koji čine indikatore odraslosti (prema dimenzijama tranzicije uloga, nezavisnosti i relacione zrelosti) u odnosu na ispitanike koji sebe posmatraju kao odrasle. Sa druge strane, rezultati ukazuju na manje jasnu razgraničenost doživljaja adolescenata i mladih u nadolazećem odraslom dobu.

Na kraju, iako nalazi potvrđuju postojanje specifičnih odlika razvojnog perioda NOD utvrđenih i u drugim istraživanjima, ustanovljene su i neke specifičnosti karakteristične za mlade u Srbiji – nisu registrovane značajne razlike između vrednosti različitih uzrasnih grupa na dimenziji eksperimentisanja i mogućnosti IDEA skale. Isti nalaz, odn. odsustvo značajnih razlika, opserviramo i na supskali prihvatanja normi MoA instrumenta. Drugim rečima, iako je prisustvo većine indikatora NOD potvrđeno i na našem uzorku, rezultati ovog istraživanja nas poučavaju da je potrebna dalja eksploracija specifičnih načina na koji se NOD manifestuje na našim prostorima, kao i identifikacija ključnih prekretnica koje naši mladi opažaju kao markere odraslosti.

Ograničenja i preporuke za buduća istraživanja

Ograničenja našeg istraživanja se najpre tiču karakteristika uzorka. Uzorak u istraživanju je bio prigodan i prikupljen putem interneta. Pored toga, primećujemo i veću zastupljenost određenih kategorija: ženski pol, socioekonomski status koji odgovara srednjoj/višoj srednjoj klasi, urbana sredina (odn. mesta sa većim brojem stanovnika), studenti i fakultetski obrazovani ispitanici. Arnet je govorio o „zaboravljenoj polovini", odn. mladim ljudima koji ne nastavljaju obrazovanje nakon srednje škole, zbog čega su neretko zanemareni u istraživanjima koja se oslanjanju na prigodne uzorke sastavljene mahom od studenata (Arnett, 2000). „Zaboravljena polovina" nije dovoljno zastupljena ni u našem istraživanju i veća uključenost ovih ispitanika u budućim istraživanjima značajno bi doprinela razumevanju NOD u Srbiji. Takođe, naše istraživanje nije utvrdilo značajne razlike prema dimenzijama IDEA između adolescenata i ispitanika u NOD. Kako bi se otklonila mogućnost da je ovakav nalaz posledica karakteristika uzorka, savetno je da buduća istraživanja obuhvate veći broj adolescenata. Pored toga, uključivanje ispitanika mlađih od 18 godina pružilo bi širi opseg uzrasne kategorije adolescencije, kao i uvid u fenomenologiju mlađih adolescenata. Buduća istraživanja mogu se usmeriti i na dalju proveru dimenzija IDEA upitnika (konkretno – supskala eksperimentisanja i mogućnosti i fokusiranosti na sebe) kako bi se ispitao način na koji ispitanici doživljavaju ove faktore, uz razmatranje njihovih utisaka u kontekstu kulturoloških specifičnosti i društvenih vrednosti. Uz IDEA skalu, preporuka bi bila revidirati i validirati na našem uzorku i MoA skalu. Naime, u skladu sa preporukama u skorijoj literaturi o sociološki i kulturološki specifičnim markerima odraslosti koji obeležavaju tranziciju ka odraslom dobu, bilo bi važno i na našem uzorku ispitati šta su ključni pokazatelji te tranzicije, te razviti skalu koja bi odgovarala specifičnostima našeg uzorka i imala dobra psihometrijska svojstva. Na kraju, preporuka bi bila sprovesti i longitudinalno istraživanje, prateći različite grupe mladih (s obzirom na obrazovni status, mesto življenja, socioekonomski status) od adolescencije do odraslog doba, kako bi se utvrdile trajektorije njihovih tranzicija ka odraslom dobu i specifičnosti prelaznih perioda, u kontekstu njihovih sociodemografskih karakteristika.

Literatura

Arnett, J. J. (1994). Are college students adults? Their conceptions of the transition to adulthood. *Journal of Adult Development*, *1*(4), 213–224. https://doi.org/10.1007/bf02277582

Arnett, J. (2000). Emerging adulthood. A theory of development from the late teens through the twenties. *American Psychologist*, *55*(5), 469–480. https://doi.org/10.1037//0003-006X.55.5.469

Arnett, J. J. (2001). Conceptions of the transition to adulthood: Perspectives from adolescence through midlife. *Journal of Adult Development*, *8*(2), 133–143. https://doi.org/10.1023/a:1026450103225

Arnett, J. J. (2002). The psychology of globalization. *American Psychologist, 57*(10). 774–783. https://doi.org/10.1037/0003-066x.57.10.774.

Arnett, J. (2004). *Emerging adulthood: The winding road from the late teens through the twenties* (3–8). New York: Oxford University Press.

Arnett, J. J. (2011). Emerging adulthood(s): The cultural psychology of a new life stage. U: L. A. Jensen (Ed.), *Bridging cultural and developmental approaches to psychology: New syntheses in theory, research, and policy* (255–275). Oxford University Press.

Arnett, J. J. (2012). *Adolescence & Emerging Adulthood: A Cultural Approach*. Pearson.

Arnett, J. J., & Eisenberg, N. (2007). Introduction to the Special Section: Emerging Adulthood Around the World. *Child Development Perspectives*, *1*(2), 66–67. https://doi.org/10.1111/j.1750-8606.2007.00015.x

Atak, H. & Çok, F. (2008). The Turkish version of inventory of the dimensions of emerging adulthood (The IDEA), *International Journal of Human and Social Sciences*, *2*(3), 464–470.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. 2nd edition. New York: Academic Press.

Crocetti, E., Tagliabue, S., Sugimura, K., Nelson, L. J., Takahashi, A., Niwa, T., Sugiura, Y., & Jinno, M. (2015). Perceptions of emerging adulthood: A study with Italian and Japanese university students and young workers. *Emerging Adulthood, 3(*4), 229–243. https://doi.org/10.1177/2167696815569848

Douglass, C. (2007). From duty to desire: Emerging adulthood in Europe and its consequences. *Child Development Perspectives*, *1*(2), 101–108. https://doi.org/10.1111/j.1750-8606.2007.00023.x

Erikson, E. (1968). *Identity, youth and crisis*. New York: Norton.

Eriksson, P. L., Wängqvist, M., Carlsson, J., & Frisén, A. (2020). Identity development in early adulthood. *Developmental Psychology, 56,* 1968–1983. https://doi.org/10.1037/dev0001093

Faas, C., McFall, J., Peer, J. W., Schmolesky, M. T., Chalk, H. M., Hermann, A., Chopik, W. J., Leighton, D. C., Lazzara, J., Kemp, A. H., DiLillio, V., & Grahe, J. E. (2018). Emerging adulthood MoA/IDEA-8 scale characteristics from multiple institutions. *Emerging Adulthood*. *8*(4), https://doi.org/10.1177%2F2167696818811192

Facio, A., Resett, S., Micocci, F., & Mistrorigo, C. (2007). Emerging adulthood in Argentina: An age of diversity and possibilities. *Child Development Perspectives*, *1*(2), 115-118. https://doi.org/10.1111/j.1750-8606.2007.00025.x

Fierro Arias, D., & Moreno Hernández, A. (2007). Emerging Adulthood in Mexican and Spanish Youth. *Journal of Adolescent Research*, *22*(5), 476–503. https://doi.org/10.1177/0743558407305774

Fosse, N., Grahe, J. E., & Reifman, A. (2015). *Markers of Adulthood Subscale Development: Comparative Review and Assessment of Inductive and Deductive Psychometrics*. Preuzeto sa: https://osf.io/p8nwq/

Galambos, N., & Martínez, M. (2007). Poised for emerging adulthood in Latin America: A pleasure for the privileged. *Child Development Perspectives*, *1*(2), 109–114. https://doi.org/ 10.1111/j.1750-8606.2007.00024.x

Gyberg, F., Frisén, A., & Syed, M. (2019). Being stuck between two worlds – Identity configurations of occupational and family identities. *Identity*: *an International Journal of Theory and Research, 19,* 330–346. https://doi.org/10.1080/15283488.2019.1681997

Hendry, L. B., & Kloep, M. (2010). How universal is emerging adulthood? An empirical example. *Journal of Youth Studies, 13*(2), 169–179. https://doi.org/10.1080/13676260903295067

Hill, J. M., Lalji, M., van Rossum, G., van der Geest, V. R., & Blokland, A. A. J. (2015). Experiencing emerging adulthood in the Netherlands. *Journal of Youth Studies*, *18*(8), 1035–1056. https://doi.org/10.1080/13676261.2015.1020934

Kins, E., Beyers, W., Soenens, B. and Vansteenkiste, M. (2009). Patterns of home leaving and subjective well-being in emerging adulthood: The role of motivational processes and parental autonomy support. *Developmental Psychology*, *45*(5), 1416–1429. https://doi.org/10.1037/a0015580

Krstić, K., & Mrkobrada, A. (2021). Somewhere "In-Between"– Emerging Adulthood In Serbia. *Empirical Studies in Psychology*, May 13–16. 2021, Faculty of Philosophy Belgrade, Serbia, Book of Abstracts pp. 61. http://empirijskaistrazivanja.org/wp-content/uploads/2021/05/KNJIGA-REZIMEA-2021_f.pdf

Larsson, H., Eriksson, P. L., & Frisén, A. (2020). "It's a new chapter now": Establishing commitments in the romantic domain during young adulthood. *Identity, 20,* 37–57. https://doi.org/10.1080/15283488.2019.1704759

Leontopoulou, S., Mavridis, D., & Giotsa, A. (2016). Psychometric Properties of the Greek Inventory of the Dimensions of Emerging Adulthood (IDEA): University Student Perceptions of Developmental Features. *Journal of Adult Development*, *23*(4), 226–244. https://doi.org/10.1007/s10804-016-9239-4

Macek, P., Bejček, J., & Vaníčková, J. (2007). Contemporary Czech emerging adults. *Journal of Adolescent Research*, *22*(5), 444–475. https://doi.org/10.1177/0743558407305417

Minkin, R. & Horowitz, J. (2023). Parenting in America Today. Preuzeto sa https://www.pewresearch.org/social-trends/2023/01/24/parenting-in-america-today/.

Nikitović, T., Petrović, S., Petrović. Lj., Čolić, M. & Žeželj, I. (2018). Uloga pozitivnih i negativnih sećanja u izgradnji identiteta mladih u nadolazećem odraslom dobu. U V. Džinović i S. Grbić (ur.), *Zbornik saopštenja sa XXIII naučne konferencije Pedagoška istraživanja i školska praksa – Kvalitativna istraživanja u društvenim naukama: od ličnog iskustva do socijalnih praksi* (str. 31–35). Beograd: Institut za pedagoška istraživanja i Institut za psihologiju Filozofskog fakulteta.

Nelson, L. J., & Barry, C. M. (2005). Distinguishing Features of Emerging Adulthood: The Role of Self-Classification as an Adult. *Journal of Adolescent Research*, *20*(2), 242–262. https://psycnet.apa.org/doi/10.1177/0743558404273074

Norman, K. B., Grahe, J. E., & Lee, S. (2023). Reconstructing Adulthood: Revising the Markers of Adulthood Scale for Increased Ecological Validity. *Psychological Reports*, *126*(2), 1042–1061. https://doi.org/10.1177/00332941211061700

Reifman, A., Arnett, J. J., & Colwell, M. J. (2007). Emerging adulthood: Theory, assessment, and application. *Journal of Youth Development*, *2*(1), 30–48. doi: 10.5195/jyd.2007.359

Reifman, A., Niehuis, S. (2023). Extending the Five Psychological Features of Emerging Adulthood into Established Adulthood. *Journal of Adult Development, 30*, 6–20. https://doi.org/10.1007/s10804-022-09412-9

Santrock, J. W. (2014). *Adolescence (15th ed.)*. McGraw-Hill Education.

Sharon, T. (2015). Constructing adulthood, *Emerging Adulthood, 4*(3), 161–167. https://doi.org/10.1177/2167696815579826.

Tomanović, S. (2012). Changes in transition to adulthood of young people in Serbia between 2003 and 2011. *Sociologija*, *54*(2), 227–243. https://doi.org/10.2298/SOC1202227T

Ungar, M. (2009). Overprotective parenting: Helping parents provide children the right amount of risk and responsibility. *The American Journal of Family Therapy*, *37*(3), 258–271. https://doi:10.1080/01926180802534247

Walczak, A. (2023). What Does It Mean to be an Adult? Adulthood Markers in the Perspective of Emerging Adults. *Emerging Adulthood, 11*(6), 1335–1345. https://doi.org/10.1177/21676968231194887

Yap, M. B. H., Pilkington, P. D., Ryan, S. M., & Jorm, A. F. (2014). Parental factors associated with depression and anxiety in young people: A systematic review and meta-analysis. *Journal of affective disorders*, *156*, 8–23. https://doi:10.1016/j.jad.2013.11.007

DATUM PRIJEMA RADA: 2024/03/06 DATUM PRIHVATANJA RADA: 2024/10/08

Antonije Jojić
University of Belgrade, Faculty of Philosophy, Department of Psychology

Ksenija Krstić
University of Belgrade, Faculty of Philosophy, Department of Psychology

Between Adolescence and Adulthood: Emerging Adulthood in Serbia

Jeffrey Arnett has defined emerging adulthood (EA) as a developmental period set between adolescence and adulthood. Research conducted in different countries has mostly confirmed the presence of EA dimensions around the world, with certain discrepancies which are believed to reflect the cultural and socioeconomic differences between nations. Our research set out to examine the presence of emerging adulthood in Serbia by exploring the differences between age groups (adolescents, emerging adults, adults) in relation to the dimensions of EA and Markers of Adulthood, as well as the psychometric characteristics of the IDEA scale. The participants were 1049 young people (78.6% female) aged 18 to 30 (M = 23.72, SD = 3.212), mostly from major cities. Factor analysis, for the most part, confirmed the structure of the IDEA scale. The results suggest that the indicators of emerging adulthood are more pronounced among emerging adults compared to adults (significant differences on five out of six IDEA subscales). Compared to adults, emerging adults are more likely to describe the current phase of their lives as unpredictable, undefined, and driven by exploration and the search for answers and meaning. On the other hand, adults have shown a more other-oriented approach and a higher degree of self-sufficiency. Finally, emerging adults have shown themselves to be more self-focused than adolescents. Measures of adulthood point to significant differences between age groups on three out of four indicators. Adults are more likely to view themselves as independent, autonomous and relationally mature, compared to younger age groups.

Keywords: emerging adulthood, Serbia, IDEA scale, markers of adulthood

Prilog 1

Zaključeni brakovi Srbiji prema uzrastu partnera

Mladoženja																
Uzrast, u godinama	1953		1961		1971		1981		1991		2001		2011		2021	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
15–19	12.551	19,20	6.464	9,96	5.476	7,67	1.789	2,84	1.395	2,66	533	1,50	260	0,86	202	0,77
20–24	29.703	45,44	26.258	40,45	36.733	51,43	25.521	40,52	19.071	36,41	9.026	25,34	4.521	14,91	3.043	11,66
25–29	16.221	24,81	21.912	33,76	17.675	24,75	25.390	40,32	19.592	37,40	14.995	42,10	11.929	39,33	9.413	36,07
30–34	5.183	7,93	7.343	11,31	7.863	11,01	8.142	12,93	8.817	16,83	7.799	21,90	9.625	31,73	8.876	34,01
35–39	1.710	2,62	2.934	4,52	3.674	5,14	2.136	3,39	3.506	6,69	3.267	9,17	3.996	13,17	4.563	17,48
Ukupno	65.368		64.911		71.421		62.978		52.381		35.620		30.331		26.097	
Mlada																
	1953		1961		1971		1981		1991		2001		2011		2021	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
15–19	22.228	32,67	19.735	29,42	29.016	39,47	17.740	27,32	12.921	23,95	4.881	12,96	2.104	6,53	1.133	4,06
20–24	31.998	47,03	29.521	44,00	31.359	42,66	29.022	44,69	23.301	43,18	15.017	39,87	8.935	27,73	6.182	22,13
25–29	9.616	14,13	11.391	16,98	7.305	9,94	12.689	19,54	11.619	21,53	11.450	30,40	12.152	37,71	10.886	38,96
30–34	3.231	4,75	4.200	6,26	3.619	4,92	4.086	6,29	4.135	7,66	4.460	11,84	6.490	20,14	6.577	23,54
35–39	964	1,42	2.240	3,34	2.209	3,01	1.399	2,15	1.984	3,68	1.858	4,93	2.545	7,90	3.160	11,31
Ukupno	68.037		67.087		73.508		64.936		53.960		37.666		32.226		27.938	

Prilog 2

Broj stanovnika srednjeg, višeg i visokog obrazovanja

	1971			2011		
	Ukupno	Muško	Žensko	Ukupno	Muško	Žensko
Kvalifikovani i visokokvalifikovani	573.215	450.847	122.368			
Srednja škola i gimnazija	456.910	239.688	217.222	3.015.092	1.613.356	1.401.736
Viša i visoka škola	212.059	148.664	63.395	1.000.569	481.956	518.613

Statistički godišnjak Republičkog zavoda za statistiku 1980/2022.

Napomena: kvalifikovani radnici su III, a visokokvalifikovani su V stepen stručne spreme. Srednja škola može biti III, IV ili V stepen stručne spreme.

Prilog 3
Demografske karakteristike uzorka

Varijabla	n	%
Pol		
Žensko	824	78.6
Muško	216	20.7
Drugo	9	.9
Samoprocena uzrasta		
Adolescent	111	10.6
Nešto između	473	45.1
Odrasli	465	44.3
Obrazovanje		
Srednja škola	102	9.8
Viša škola	42	4
Osnovne studije	587	56
Master studije	200	19.1
Doktorske studije	56	5.3
Drugo	62	5.9
Zaposlenost		
Puno radno vreme	326	31.1
Honorarni ili privremeni poslovi	248	23.7
Nezaposlen/a, ne tražim posao	356	33.9
Nezaposlen/a, tražim posao	119	11.3
Stambeni status		
Sa roditeljima	462	44
Sam/a ili sa cimerima	385	36.7
Studentski/učenički dom	102	9.7
Drugo	100	9.5
Finansijska zavisnost od roditelja		
Potpuno sam nezavisan/nezavisna	222	21.1
Većinu troškova pokrivam sam/a	146	13.9
Ponekad mi je potrebna finansijska pomoć	125	11.9
Često mi je potrebna finansijska pomoć	127	12.1
Izdržavaju me roditelji	429	40.9
Mesto stanovanja		
Beograd	485	47.6
Ostala mesta preko 50.000	363	35.7
Ostala mesta ispod 50.000	170	16.7

Prilog 4
Sociodemografske karakteristike ispitanika po uzrasnim kategorijama

Obrazovanje

		N	%
adolescent	srednja škola	14	12.6
	osnovne studije	86	77.5
	master	6	5.4
	doktorske	1	0.9
	bez odgovora	4	3.6
nešto između	srednja škola	34	7.2
	osnovne studije	314	66.4
	master	83	17.5
	doktorske	15	3.2
	bez odgovora	27	5.7
odrasla osoba	srednja škola	54	11.6
	osnovne studije	229	49.2
	master	111	23.9
	doktorske	40	8.6
	bez odgovora	31	6.7

Zaposlenje

		N	%
adolescent	radim puno radno vreme	9	8.1
	radim honorarne poslove	22	19.8
	nezaposlen	80	72.1
nešto između	radim puno radno vreme	91	19.2
	radim honorarne poslove	131	27.7
	nezaposlen	251	53.1
odrasla osoba	radim puno radno vreme	226	48.6
	radim honorarne poslove	95	20.4
	nezaposlen	144	31

Stambeni status

		N	%
adolescent	živim sa roditeljima	62	55.9
	živim sam/a ili sa cimerima	32	28.8
	živim u studentskom domu	14	12.6
	nešto drugo	3	2.7
nešto između	živim sa roditeljima	225	47.6
	živim sam/a ili sa cimerima	152	32.1
	živim u studentskom domu	72	15.2
	nešto drugo	24	5.1
odrasla osoba	živim sa roditeljima	183	39.4
	živim sam/a ili sa cimerima	193	41.5
	živim u studentskom domu	16	3.4
	nešto drugo	73	15.7

Finansijski status

		N	%
adolescent	potpuno sam nezavisan/na	3	2.7
	većinu troškova mogu sam/a da finansiram	7	6.3
	ponekad mi je potrebna finansijska pomoć	8	7.2
	često mi je potrebna finansijska pomoć	15	13.5
	izdržavaju me roditelji	78	70.3
nešto između	potpuno sam nezavisan/na	55	11.6
	većinu troškova mogu sam/a da finansiram	54	11.4
	ponekad mi je potrebna finansijska pomoć	57	12.1
	često mi je potrebna finansijska pomoć	68	14.4
	izdržavaju me roditelji	239	50.5
odrasla osoba	potpuno sam nezavisan/na	164	35.3
	većinu troškova mogu sam/a da finansiram	85	18.3
	ponekad mi je potrebna finansijska pomoć	60	12.9
	često mi je potrebna finansijska pomoć	44	9.5
	izdržavaju me roditelji	112	24.1

Mesto stanovanja

		N	%
adolescent	Beograd	45	42,5
	mesto preko 50.000	44	41,5
	mesto ispod 50.000	17	16,0
nešto između	Beograd	225	48,6
	mesto preko 50.000	164	35,4
	mesto ispod 50.000	74	16
odrasla osoba	Beograd	215	47,9
	mesto preko 50.000	155	34,5
	mesto ispod 50.000	79	17,6

Psihološka istraživanja, Vol. XXVII (2) 2024.
249–266

UDK: 316.654:615.371
TIP ČLANKA: Originalni naučni rad
DOI: 10.5937/PSISTRA0-49707

Trust in science and COVID-19 vaccination: the role of institutional trust[1,2]

Ognjen Janić[3]
Educons University, Faculty for Sports and Psychology

Milica Lazić
University of Novi Sad, Faculty of Philosophy

Milica Ljevaja
Institute of Social Sciences, Belgrade

This study aims to investigate the moderating role of institutional trust (i.e., trust in the authorities and trust in the healthcare system) in the relationship between trust in science/official modern medicine and the attitudes of young people towards getting the COVID-19 vaccine. The sample consisted of 791 participants from Serbia (59.9% female), with an age range between 15 and 25 (M = 18.25, SD = 2.670). All trust-related measures, including trust in science, official modern medicine, the authorities and healthcare system had significant main effects in all tested models, indicating that, with an increase in the trust-related measures, the attitudes towards getting the COVID-19 vaccine tended to get more positive. Two out of four tested interactive effects were statistically significant: the inte-

1 Part of the sample was used in the preparation of the first author's Master thesis: Janić, O. (2022). *Institucionalno poverenje kao moderator u relaciji između poverenja u nauku i stavova mladih prema vakcinaciji protiv COVID-19* [Master rad, Filozofski fakultet, Univerzitet u Novom Sadu]. http://remaster.ff.uns.ac.rs/materijal/punirad/Master_rad_20220908_psi_320017_2021.pdf

The results were presented in the proceedings of the conference:

Janić, O. (2023). Institutional trust as a moderator in the relationship between trust in science and youths' attitudes towards COVID-19 vaccination. In the *Proceedings of the XXIX Scientific Conference Empirical Studies in Psychology* (pp. 144-5), University of Belgrade, Faculty of Philosophy, Institute of Psychology and Laboratory of Experimental Psychology.

2 The research was conducted as a part of the project (Project ID: 142-451-2303/2022-01): "COVID-19 vaccine hesitancy among adolescents: determinants and implications for public health", funded by Provincial Secretariat for Higher Education and Scientific Research, Autonomous Province of Vojvodina, Republic of Serbia.

3 Correspondence: ognjen.janić@tims.edu.rs

ractive effect of trust in science and trust in healthcare, and trust in the official modern medicine and trust in healthcare on the attitudes towards getting COVID-19 vaccine. The study results suggest that distrust in the healthcare system is a vulnerability factor in the afore-mentioned relationship. This prompts a critical examination of the factors and conditions contributing to the pervasive lack of trust among young people in Serbia towards the institutional entities that shape and perpetuate perceptions and attitudes towards vaccination.

Keywords: attitudes towards getting the COVID-19 vaccine, institutional trust, trust in science, adolescents

Introduction

Long-term efficacy of public health policies against a pandemic, such as that of COVID-19, depends on reaching herd immunity within a significant portion of the population. This immunity can be achieved either through natural exposure to the virus over time or through mass vaccination efforts (Randolph et al., 2020). However, the first approach places a considerable strain on healthcare resources (Paul et al., 2021) and contributes to a substantial global mortality rate (Randolph et al., 2020). Consequently, mass immunization is advocated as a necessary measure to effectively control the spread of the virus (Paul et al., 2021). Since the COVID-19 vaccination is not mandatory in most countries, the success of vaccination programmes critically depends on the public intention to partake in immunization. This intention, in turn, is heavily influenced by individual attitudes towards the safety, efficacy, and utility of the available vaccines (e.g., Seddig et al., 2022; Soares et al., 2021).

In December 2020, Serbia joined the ranks of the European countries that initiated the COVID-19 vaccination campaigns, following the lead of Great Britain and Switzerland (Šiđanin et al., 2021). From that point until mid-September 2021, approximately 2.7 million individuals (roughly 43.64% of the population) received the vaccine in Serbia (Šiđanin et al., 2021). However, according to the data released by the Institute of Public Health in July 2021, the individuals aged 18 to 24 had the lowest vaccination coverage (approximately 15%), which had significant consequences for managing the progression of the pandemic (Šiđanin et al., 2021). Although the youth population may not have been initially considered a high-risk group from a public health perspective, achieving successful outbreak mitigation requires a coordinated effort across generations (Ilić et al., 2022). In terms of long-term vaccination behaviour, today's youth are the ones who will later create and comply with the public vaccination policies, not only for COVID-19 immunization, but also for the vaccination their children will receive (Frech, 2012). Given the relatively low vaccination coverage observed among the youth population, it becomes imperative to undertake a thorough investigation into the factors that influence their intention to receive the COVID-19 vaccine. By identifying these factors, evidence-based programmes can be developed and implemented to effectively increase the vaccination coverage within this specific group.

Trust in science and attitudes towards COVID-19 vaccination

In the context of a pandemic, the importance of trust in science becomes crucial amid collective distress and confusion, potentially fuelling the spread of conspiracy theories (Lamot et al., 2022). Trust in science involves an individual's decision to depend on science and scientists, even with limited understanding of scientific principles. This entails acknowledging the risk of not personally grasping the entirety of the truth and consequential vulnerability. It is grounded in the expectation that scientists will make well-founded claims and that science will bring benefits to the society (Wintterlin et al., 2022).

The COVID-19 pandemic has highlighted the pivotal role of science and scientists in a society. Research across various countries suggests that people are more likely to trust and follow the guidance of experts, especially scientists, during a pandemic compared to the non-pandemic situations (Wissenschaft im Dialog/Kantar, 2020; ARC Rinek i Opinia, 2020; Edelman Trust Barometer, 2020; Kossowka et al., 2021). For example, Germany experienced a significant rise in the public trust in science following the onset of the COVID-19 pandemic (Bromme et al., 2022). However, a longitudinal study including 12 countries unveiled a substantial decline in trust in scientists in certain countries, such as Italy, France, Brazil, and the USA, during the pandemic. This decline in trust was associated with an increase in public resistance to non-pharmaceutical preventive measures and a decrease in willingness to get vaccinated against COVID-19 (Algan et al., 2021).

Numerous studies have pointed to the positive association between trust in science and favourable attitudes towards COVID-19 vaccination, ultimately resulting in a higher intention to get vaccinated (Allington et al., 2021; Jennings et al., 2021; Jensen et al., 2021; Petravić et al., 2021; Thaker, 2021; Troiano & Nardi, 2021). Conversely, distrust in science has been found to be positively associated with negative attitudes towards COVID-19 vaccination and reluctance to receive the vaccine (e.g. Seddig et al., 2022; Soares et al., 2021; Troiano & Nardi, 2021; Carrieri et al., 2023). Furthermore, research indicates that distrust in medicine and the outcome of medical research is positively associated with the negative attitudes towards COVID-19 vaccination (Cook et al., 2021).

Institutional trust and attitudes towards COVID-19 vaccination

Institutional trust pertains to the conviction held by individuals "that entities like the government, judicial system, and medical establishment function in a manner that is predictable, just, fair, and transparent, ultimately serving the best interests of citizens" (Seddig et al., 2022). Therefore, trust in institutions is intricately connected to how these institutions are perceived in terms of legitimacy and their commitment to the laws or regulations and social expectations (Seddig et al., 2022).

In contemporary societies, maintenance of social and political stability and the advancement of democratic principles heavily rely on the public's trust in institutions (Džunić et al., 2020). Yet, in Eastern and Central European post-socialist nations, a prevailing sense of scepticism and distrust towards almost all institutions persists (Pjesivac, 2016). The Republic of Serbia ranks low on the list of European countries, exhibiting one of the lowest levels of institutional trust (Pešić et al., 2021), as well as a worrisome pattern of diminishing confidence in national institutions (Gallup Balkan Monitor, 2010). This lack of trust is especially pronounced among the younger population (Popadić et al., 2019).

In the context of the COVID-19 pandemic, the significance of institutional trust has become pivotal in effectively executing large-scale vaccination initiatives, with a particular emphasis on trustworthiness of recommendations from the authorities (Gonzalez-Melado et al., 2021). Numerous studies have demonstrated a positive association between trust in political institutions and favourable attitudes towards COVID-19 vaccination, as well as the individuals' intention to get vaccinated (Seddig et al., 2022; Troiano & Nardi, 2021). Similar associations have been found between trust in the healthcare system (Al-Amer et al., 2021; Jennings et al., 2023), trust in doctors (Stasiuk et al., 2021), trust in health worker recommendations (Al-Amer et al., 2021), and individuals' intention to receive the COVID-19 vaccine.

The role of institutional trust in the relationship between trust in science and the attitudes towards getting COVID-19 vaccine

Attitudes towards COVID-19 vaccination are contingent upon various levels of trust. Initially, individuals must believe in the existence of the disease, recognize its severity, and view it as a significant threat to their personal health and well-being. Subsequently, confidence in vaccines as a product becomes paramount, encompassing trust in medicine as a scientific discipline, as well as faith in vaccine manufacturers. Furthermore, trust in the regulatory bodies overseeing the vaccine development and distribution, as well as trust in the healthcare professionals and their counterparts involved in administering the vaccines, play an important role. In spite of this, the general public primarily receives information regarding the diseases and their corresponding vaccines through political authorities, medical practitioners, and health officials tasked with conveying and implementing recommendations from the scientific community (Mousoulidou et al., 2022).

Therefore, trust in vaccines (their safety, efficacy, and utility) is derived from the trust individuals place in the systems, institutions, and agencies involved in the immunization programmes. Consequently, it would be overly simplistic to assume that the association between trust in the official medical science and attitudes towards COVID-19 vaccination remains unaffected by other entities participating in immunization programmes, such as legitimacy of political institutions or the healthcare system (Velikonja et al., 2021). Particularly, this holds true when considering the politicization of the pandemic evident in various Eastern European countries, where institutional trust is generally low, as observed in the case of Serbia (Mihelj et al., 2022; Štětka, & Mihelj, 2024). This situation prompts a re-evaluation of the idea that science operates independently of its political environment. Thus, the objective of this research is to explore whether institutional distrust acts as a vulnerability factor in the relationship between trust in science/official modern medicine and the attitudes towards COVID-19 vaccination.

The present study

This study aims to identify the factors that encourage or hinder greater coverage of vaccination in the youth population. Specifically, it has a twofold purpose: (1) to investigate the moderating role of trust in the authorities in the relationship between trust in science/official modern medicine and the attitudes towards vaccination; (2) to examine whether trust in the health system moderates the relationship between trust in science/official modern medicine and the attitudes towards COVID-19 vaccination among young people.

Method

Sample and procedure

The sample consisted of 791 young people from Serbia (59.9% female), with an age range between 15 and 25 (M = 18.25, SD = 2.670). The questionnaires were administered in two ways: 1) online via the Facebook platform, and 2) in a group setting during class time using a paper-and-pencil format. Only the participants who signed an informed consent and indicated willingness to participate in the study were included. Completing the questionnaire required approximately 15 to 20 minutes. Data collection was conducted in the summer of 2022. The study was approved by the Ethics Committee at the Department of Psychology, Faculty of Psychology, University of Novi Sad (Approval Code: 202206142223_p3JQ).

Instruments

At the beginning of the survey, participants were asked to imagine that the number of COVID-19 infections increased over the next few months (with several thousand new cases and about a hundred deaths due to COVID-19 per day) and that health experts had unanimously agreed that adolescents aged 15 and older should receive the COVID-19 vaccine. After that, participants were asked to respond to the items designed to measure the following variables:

Attitudes towards COVID-19 vaccination. Attitudes were assessed using five items that measured both the positive and negative attitudes towards vaccination. Participants were asked to rate on a 7-point scale the extent to which vaccination against COVID-19 would be *harmful – beneficial*, *unnecessary – necessary*, *bad – good*, *not enjoyable – enjoyable*, and *stressful – relaxing* (Lueck & Spiers, 2020). In the present sample, internal consistency reliability was high ($\alpha = .95$).

Trust in science. Trust in science was measured using a single-item scale ("*How much trust do you have in science?*"), rated on an 11-point scale from 0 = *I have no trust at all* to 10 = *I have complete trust*.

Trust in official modern medicine. Trust in official modern medicine was measured with a single-item scale ("*How much trust do you have in official modern medicine?*"), rated on an 11-point scale from 0 = *I have no trust at all* to 10 = *I have complete trust*.

Trust in the authorities. Trust in the authorities was measured using a four-item scale (trust in the government, trust in the President, trust in politicians and trust in crisis headquarters), rated on an 11-point scale from 0 = *I have no trust at all* to 10 = *I have complete trust*. In our sample, internal consistency reliability was adequate ($\alpha = .903$).

Trust in healthcare. Trust in healthcare was measured using a two-item scale (trust in doctors and trust in the healthcare system), rated on an 11-point scale from 0 = *I have no trust at all* to 10 = *I have complete trust*. The correlation between these two items was very high and positive ($r = .76$), and the Spearman-Brown reliability coefficient was .89.

Data analysis

The afore-mentioned assumptions were tested using the hierarchical regression analysis (HRA) in JASP 0.11.1.0 (JASP Team, 2019). In Step 1 of the HRA, we entered the main effects of the predictor (e.g., trust in science) and moderator (e.g., trust in the authorities) variables in the model, followed by the two-way interaction (i.e., the interactive effect between the predictor and moderator variable) entered in Step 2. To facilitate the interpretation of two-way interactions, we followed the procedure recommended by Dawson and Richter (2006). In other words, we conducted a simple slope test to evaluate the significance of the slope, "whether the relationship between the independent variable and the dependent variable is significant in the case of different levels of the moderator" (Dawson & Richter, 2006). Different levels of the moderator (high and low) corresponded to +/-1 standard deviation. In addition, to facilitate the interpretation and gain better understanding of the interactions, we plotted the significant interactions.

The missing data percentage was low (2.14%), and these data were handled using the multiple imputation method.

Results

Descriptive statistics and correlations between the study variables

Descriptive statistics and correlations between the study variables are shown in Table 1. The participants reported the attitudes towards getting vaccinated, trust in science and trust in official modern medicine above the theoretical average, and trust in the authorities and trust in healthcare below the theoretical average. All variables had a statistically significant and positive correlation with each other (p <.01), in the range between .28 and .79.

Table 1
Descriptive statistics and correlations between the study variables

	1	2	3	4	5
1. Attitudes towards COVID-19 vaccination	-				
2. Trust in science	.432**	-			
3. Trust in official modern medicine	.470**	.787**	-		
4. Trust in the authorities	.235**	.237**	.304**	-	
5. Trust in healthcare	.323**	.542**	.641**	.411**	-
M	3.47	6.05	5.69	1.66	4.20
SD	1.82	3.22	3.24	2.38	3.03
Skewness	.243	-.527	-.418	1.50	.106
Kurtosis	-.878	-.853	-.976	1.69	-1.02

**p <.001

The moderating role of trust in the authorities and healthcare in the relationship between trust in science/official medicine and the attitudes towards getting a vaccine

Trust in science and trust in official modern medicine had significant main effects in all tested models, indicating that, with an increase in trust in science and official modern medicine, the attitudes towards getting COVID-19 vaccine get more positive. Similarly, trust in the authorities and trust in healthcare had significant main effects in all tested models, indicating that, with the growth of institutional trust, the attitudes towards getting the COVID-19 vaccine also increase. Two statistically significant interactive effects were registered: the interactive effect of trust in science and trust in healthcare, and trust in official modern medicine and trust in healthcare on the attitudes towards getting a vaccine against the coronavirus.

Table 2
Hierarchical regression analysis

	R	ΔR^2	B	SE	β
Model 1					
Step 1	.216**	.047**			
Trust in science			.705	.062	.383**
Trust in the authorities			.375	.071	.178**
Step 2	.218**	.001			
Trust in science			.737	.067	.400**
Trust in the authorities			.329	.080	.157**
Interactive effect			.108	.086	.047
Model 2					
Step 1	.215**	.046**			
Trust in science			.541	.078	.294**
Trust in healthcare			.435	.085	.217**
Step 2	.229**	.006**			
Trust in science			.638	.082	.346**
Trust in healthcare			.408	.085	.203**
Interactive effect			.232	.063	.127**
Model 3					
Step 1	.241**	.058**			
Trust in official modern medicine			.770	.062	.419**
Trust in the authorities			.315	.071	.150**
Step 2	.241**	.000			
Trust in official modern medicine			.793	.069	.431**
Trust in the authorities			.281	.086	.133**
Interactive effect			.061	.088	.027
Model 4					
Step 1	.229**	.052**			
Trust in official modern medicine			.692	.088	.376**
Trust in healthcare			.258	.096	.129**
Step 2	.234**	.002*			
Trust in official modern medicine			.750	.092	.407**
Trust in healthcare			.244	.096	.122**
Interactive effect			.146	.068	.075*

**$p<.001$; *$p<.05$

The moderating role of trust in healthcare in the relationship between trust in science and the attitudes towards getting the COVID-19 vaccine

Trust in healthcare had a statistically significant moderating role in the relationship between trust in science and the attitudes towards getting the COVID-19 vaccine (Table 2, Figure 1). Young people with higher trust in healthcare generally had a higher score on the attitudes towards getting the COVID-19 vaccine, both in the conditions of low and high trust in science. With the increase in trust in science, the attitudes towards getting the COVID-19 vaccine get more positive, but with the stronger correlation between trust in science and the attitudes towards vaccine among those with higher trust in healthcare.

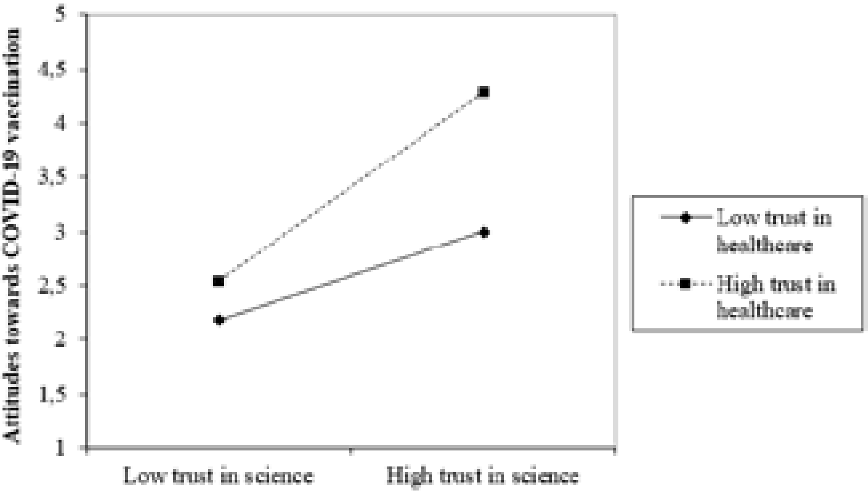

Figure 1
The moderating role of trust in healthcare in the relationship between trust in science and the attitudes towards getting the COVID-19 vaccine

The moderating role of trust in the healthcare system in the relationship between trust in official modern medicine and the attitudes towards getting COVID-19 vaccine

Trust in healthcare had a statistically significant moderating role in the relationship between trust in official modern medicine and the attitudes towards getting the vaccine against coronavirus (Table 2, Figure 2). Young people with higher trust in healthcare generally had higher score on the attitudes towards getting the COVID-19 vaccine, both in conditions of low and high trust in official modern medicine. With the increase in trust in official modern medicine, the attitudes towards getting vaccine get more positive, but with the stronger correlation between trust in official modern medicine and the attitudes towards getting the vaccine among those with higher trust in healthcare.

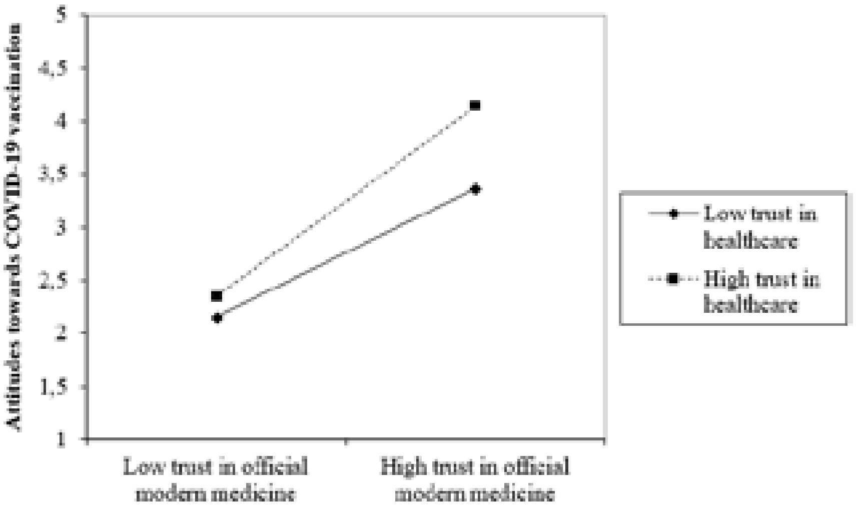

Figure 2
The moderating role of trust in healthcare in the relationship between trust in official modern medicine and the attitudes towards getting the COVID-19 vaccine.

Discussion

The main goals of the present study were to investigate the moderating role of institutional trust (i.e., trust in the authorities and trust in the healthcare system) in the relationship between trust in science and official modern medicine and the attitudes towards getting the COVID-19 vaccine among young people. The present study aimed to enhance our understanding of the attitudes of young people towards vaccination against the coronavirus, as well as the factors that contributed, but also represented a barrier to greater coverage of vaccination in this demographic group.

Attitudes towards getting the COVID-19 vaccine: the importance of trust

Our findings suggest that trust in science, official modern medicine, the authorities and the healthcare system positively predicts positive attitudes towards getting the COVID-19 vaccine. These findings are in line with the study conducted by Seddig and colleagues (Seddig et al., 2022), who found that trust in science and trust in politics positively predicted the intention to get the COVID-19 vaccine. Seddig and colleagues (Seddig et al., 2022) emphasized that the importance of trust in science in explaining the vaccination attitudes and intentions suggests that public health policies should be created in such a way as to include scientifically credible, precise, and persuasive messages, which were at the same time easy to understand. These authors (Seddig et al., 2022) also suggested that, in the context of public debates in the media, scientists should be more involved in supporting the transfer of vaccination knowledge. Similarly, previous studies found that low trust in science contributed to the COVID-19 vaccine hesitancy (Allington et al., 2021), poor knowledge about vaccines (Battiston et al., 2021), low vaccine confidence (Sturgis et al., 2021), and low vaccine acceptance across multiple countries (Rozek et al., 2021). In accordance with the findings of their study conducted on the samples from 17 countries, Rozek et al. (2021) suggested that the best way to start developing the approaches for reducing vaccine hesitancy was by boosting trust in science and domestic healthcare professionals. These authors also argued that, in cases where that was possible, politicians should delegate the communication of vaccine safety, efficacy, utility, and distribution protocols to scientists and healthcare professionals. This conclusion is especially meaningful in the context of high trust in science, and low trust in politicians and political institutions in a large number of primarily poor countries (e.g., Wintterlin et al., 2022).

In the conditions of low trust in the authorities and healthcare system in our country, institutional trust is a significant predictor of young people's positive attitudes towards getting the COVID-19 vaccine. The established positive contribution of institutional trust in explaining young people's attitudes towards vaccination is in line with the studies that showed that trust in the government can reduce vaccine hesitancy (De Freitas et al., 2021) and increase vaccination intention (Trent et al., 2021). According to De Freitas and colleagues (2021), people who trust the government and state institutions will also have more trust in their ability to deliver or distribute vaccines efficiently and fairly. Our findings are also in line with the previous studies that showed that COVID-19 hesitancy was associated with low trust in scientists and healthcare providers, but the correlation was weaker between vaccine hesitancy and trust in government (Bajos et al., 2022). However, in the conditions of extremely low institutional trust in Serbia (Jovanović, 2016), the question arises whether it is even possible to rely on this aspect of trust when creating public health policies, as well as whether it would be the best strategy, given the lower association between trust in the authorities and attitudes towards vaccination.

Moderation role of institutional trust in the relationship between trust in science/official modern medicine and attitudes towards getting the COVID-19 vaccine

Our findings suggest that trust in the healthcare system moderates the relationship between trust in science/official modern medicine and youth's attitudes toward vaccination. More precisely, in the conditions of low trust in the healthcare system, the association between trust in science/official modern medicine and positive attitudes towards vaccination is weaker. This finding suggests that low trust in the healthcare system, which is consistently recorded in our country, may represent a vulnerability factor in the relationship between trust in science and positive attitudes towards vaccination. This result is in line with the previous findings (Chen et al., 2022) which suggested that a lower level of trust in healthcare professionals might strengthen the association between belief in misinformation and getting vaccinated against COVID-19. According to Larson and colleagues (Larson et al., 2018), in poorer countries, it is particularly important to examine the interaction effects between different dimensions of trust in the context of vaccination, due to years of experience of inequality and injustice in the healthcare system. Trust in the product (vaccine) or the creator of the product (e.g. scientists) may have a lower effect on the intention to vaccinate if the product needs to be applied in a system that we perceive as corrupt (Larson et al., 2018).

Our findings also suggest that trust in the authorities (the government, the President of the country, politicians, and crisis headquarters) does not moderate the relationship between trust in science/official modern medicine and the attitudes towards vaccination among youth. Although this finding is contrary to our expectations, it can be explained by the fact that young people are rarely informed via the sources of information (e.g., television, mass media) through which politicians communicate about the pandemic (Astigarraga-Agirre, 2016). Additionally, previous research indicated that although young people obtained political information primarily through social media, their trust in political information was extremely low (Saleh, 2020). The results of this study (Saleh, 2020) also showed that mistrust in politicians led to lower interest among young people to follow political information, fewer interactions with other net users regarding the topic of politics and a decline in social and political engagement.

Limitations and directions for future studies

Previous studies (e.g., Damnjanović et al., 2023) that tackled the trust-related measures as moderators in the Serbian vaccination context focused mainly on the relationship between the attitudes towards immunization and vaccination intention. To our knowledge, this is the first study in our area that has examined the moderating role of institutional trust in the relationship between trust in science/official modern medicine and young people's attitudes towards vaccination against the coronavirus. This study offers important findings on how to organize the communication of prevention and promotion programmes in the crisis context.

Nevertheless, our study has several limitations. First, it was conducted on a convenient sample and in only one cultural setting, so it could be replicated on a representative sample of youth and in diverse cultural and cross-cultural contexts. The second, and possibly the most significant limitation of this study, is that it is cross-sectional, which makes it difficult to draw cause-and-effect inferences or assess the behaviour (vaccination) itself. Finally, this study should be replicated on the sub-samples for which vaccination information is more difficult to get, and on those with less control over the vaccination procedure (for example, hard-to-reach, marginalized, and rural communities). Also, comparing the subsamples of secondary-school students and adults and young people in Serbia could be potentially useful. Future studies could also address potential predictive effects of the attitudes towards the COVID-19 vaccine on other vaccine-related attitudes.

Conclusion

Overall, this study highlighted the significance of institutional trust and trust in science/official modern medicine in encouraging the positive attitudes towards vaccines among young people. The study also showed that low trust in the healthcare system might represent a vulnerability factor in the relationship between trust in science/official modern medicine and positive attitudes towards vaccination.

Practical implications of our research encompass the necessity for addressing the issues of trust in facilitating health-protective behaviours among young people. Some of the guidelines would certainly include developing the interventions based on theoretical models and empirical research findings, using multiple strategies as opposed to a single strategy, and tailoring the intervention strategies to the context and specificities of the target group (for a more elaborate view, see Lazić et al., 2023).

Still, it is paramount that we do not frame institutional distrust as a personal deficit and solely focus on the strategies to enhance trust within a particular group of people with perceived "deficiencies", while remaining oblivious to the socio-political dimension of (dis)trust. The findings of this study (e.g., low registered trust in the political authorities and the healthcare system) also highlight the issues at the societal (state/institutional) level that need to be addressed. This paves the way for taking into consideration the studies conducted in other social and humanistic sciences (such as sociology, political science, history, etc.) that unravel the socio-political dynamics shaping our health behaviour. This also implies considering the concept of change and intervention not just at the individual and group level, but at the socio-political and institutional level as well.

References

Al-Amer, R., Maneze, D., Everett, B., Montayre, J., Villarosa, A. R., Dwekat, E., & Salamonson, Y. (2021). COVID-19 vaccination intention in the first year of the pandemic: A systematic review. *Journal of Clinical Nursing*, *31*(1–2), 62–86. https://doi.org/10.1111/jocn.15951

Algan, Y., Cohen, D., Davoine, E., Foucault, M., & Stantcheva, S. (2021). Trust in scientists in times of pandemic: Panel evidence from 12 countries. *Proceedings of the National Academy of Sciences*, *118*(40). https://doi.org/10.1073/pnas.2108576118

Allington, D., McAndrew, S., Moxham-Hall, V., & Duffy, B. (2023). Coronavirus conspiracy suspicions, general vaccine attitudes, trust and coronavirus information source as predictors of vaccine hesitancy among UK residents during the COVID-19 pandemic. *Psychological Medicine, 53*(1), 236–247. https://doi.org/10.1017/S0033291721001434

Astigarraga Agirre, I., Pavon Arrizabalaga, A., & Zuberogoitia Espilla, A. (2016). Active audience?: interaction of young people with television and online video content. *Communication & Society*, *29*(3), 133-147. https://doi.org/10.15581/003.29.35828

Bajos, N., Spire, A., Silberzan, L., Sireyjol, A., Jusot, F., Meyer, L., Franck, J., & Warszawski, J. (2022). When lack of trust in the government and in scientists reinforces social inequalities in vaccination against COVID-19. *Frontiers in Public Health*, *10*, 908152. https://doi.org/10.3389/fpubh.2022.908152

Battiston, P., Kashyap, R., & Rotondi, V. (2020). Reliance on scientists and experts during an epidemic: Evidence from the COVID-19 outbreak in Italy. *SSM – Population Health*, *13*, 100721. https://doi.org/10.1016/j.ssmph.2020.100721

Bromme, R., Mede, N. G., Thomm, E., Kremer, B., & Ziegler, R. (2022). An anchor in troubled times: Trust in science before and within the COVID-19 pandemic. *PLOS ONE*, *17*(2), e0262823. https://doi.org/10.1371/journal.pone.0262823

Carrieri, V., Guthmuller, S., & Wübker, A. (2023). Trust and COVID-19 vaccine hesitancy. *Scientific Reports, 13*(1), 9245. https://doi.org/10.1038/s41598-023-35974-z

Chen, C., Haupert, S. R., Zimmermann, L., Shi, X., Fritsche, L. G., & Mukherjee, B. (2022). Global Prevalence of Post-Coronavirus Disease 2019 (COVID-19) Condition or Long COVID: A Meta-Analysis and Systematic Review. *The Journal of Infectious Diseases*, *226*(9), 1593–1607. https://doi.org/10.1093/infdis/jiac136

Cook, N., & Lauer, M. (2021). Biomedical Research COVID-19 Impact Assessment: Lessons Learned and Compelling Needs. *NAM Perspectives*. https://doi.org/10.31478/202107e

Damnjanović, K., Ilić, S., Kušić, M., Lazić, M., & Popović, D. (2023). Psychological Factors of Vaccination Intent among Healthcare Providers, Parents, and Laypeople. *Vaccines, 11*(12), 1816. https://doi.org/10.3390/vaccines11121816

Dawson, J. F., & Richter, A. W. (2006). Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test. *Journal of Applied Psychology, 91*(4), 917–926. https://doi.org/10.1037/0021-9010.91.4.917

De Freitas, L., Basdeo, D., & Wang, H. (2021). Public trust, information sources and vaccine willingness related to the COVID-19 pandemic in Trinidad and Tobago: an online cross-sectional survey. *The Lancet Regional Health – Americas*, *3*, 100051. https://doi.org/10.1016/j.lana.2021.100051

Džunić, M., Golubović, N., & Marinković, S. (2020). Determinants of institutional trust in transition economies: Lessons from Serbia. *Ekonomski Anali*, *65*(225), 135–161. https://doi.org/10.2298/eka2025135d

Frech, A. (2012). Healthy behavior trajectories between adolescence and young adulthood. *Advances in Life Course Research*, *17*(2), 59–68.https://doi.org/10.1016/j.alcr.2012.01.003

Gallup Balkan Monitor. (2010). *Insights and Perceptions: Voices of the Balkan*. http://reforma.bezbednost.org/wp-content/uploads/downloads/2012/09/2010-Balkan-Monitor-Insights-and-Perceptions-Voices-of-the-Balkans-GALLUP-i-European-Fund-for-the-Balkans.pdf

González-Melado, F. J., & di Pietro, M. L. (2021). The vaccine against COVID-19 and institutional trust. *Enfermedades Infecciosas y Microbiologia Clinica (English Ed.)*, *39*(10), 510–515. https://doi.org/10.1016/j.eimce.2021.09.001

Ilić, S., Lep, Ž., Damnjanović, K., Teovanović, P. & Hacin Beyazoglu, K. (2022). The generational differences in the perceptions of the pandemic: were emerging adults less alert and more trusting? Presented at the *17th European Congress of Psychology*, Book of Abstracts, pg. 143, Društvo psihologov Slovenije, Ljubljana.

Jennings, W., Valgarðsson, V., McKay, L., Stoker, G., Mello, E., & Baniamin, H. M. (2023). Trust and vaccine hesitancy during the COVID-19 pandemic: A cross-national analysis. *Vaccine: X*, *14*, 100299. https://doi.org/10.1016/j.jvacx.2023.100299

Jovanović, V. (2016). Trust and subjective well-being: The case of Serbia. *Personality and Individual Differences*, *98*, 284-288. https://doi.org/10.1016/j.paid.2016.04.061

Kossowska, M., Szwed, P., & Czarnek, G. (2021). Ideology shapes trust in scientists and attitudes towards vaccines during the COVID-19 pandemic. *Group Processes & Intergroup Relations*, *24*(5), 720–737. https://doi.org/10.1177/13684302211001946

Lamot, M., Kerman, K., & Kirbiš, A. (2022). Distrustful, Dissatisfied, and Conspiratorial: A Latent Profile Analysis of COVID-19 Vaccination Rejection. *International Journal of Environmental Research and Public Health*, *19*(16), 10096. https://doi.org/10.3390/ijerph191610096

Larson, H. J., Clarke, R. M., Jarrett, C., Eckersberger, E., Levine, Z., Schulz, W. S., & Paterson, P. (2018). Measuring trust in vaccination: A systematic review. *Human vaccines & immunotherapeutics*, *14*(7), 1599-1609. https://doi.org/10.1080/21645515.2018.1459252

Lazić, M., Jovanović, V., Gavrilov-Jerković, V., Zotović-Kostić, M., & Obradović, V. (2023). *Informativni list o vakcinaciji protiv koronavirusa i smernice za rad sa mladima*. Filozofski fakultet. https://digitalna.ff.uns.ac.rs/sadrzaj/2023/978-86-6065-763-5

Lueck, J. A., & Spiers, A. (2020). Which Beliefs Predict Intention to Get Vaccinated against COVID-19? A Mixed-Methods Reasoned Action Approach Applied to Health Communication. *Journal of Health Communication, 25*(10), 790–798. https://doi.org/10.1080/10810730.2020.1865488

Mihelj, S., Kondor, K., & Štětka, V. (2022). Establishing Trust in Experts During a Crisis: Expert Trustworthiness and Media Use During the COVID-19 Pandemic. *Science Communication*, *44*(3), 292–319. https://doi.org/10.1177/10755470221100558

Mousoulidou, M., Christodoulou, A., Argyrides, M., Siakalli, M., & Constantinou, L. (2022). Trust in Science and COVID-19. *Encyclopedia*, *2*(1), 602–616. https://doi.org/10.3390/encyclopedia2010040

Pjesivac, I. (2016). The Effects of Culture and Performance on Trust in News Media in Post-Communist Eastern Europe: The Case of Serbia. *Journalism & Mass Communication Quarterly*, *94*(4), 1191–1214. https://doi.org/10.1177/1077699016674185

Popadić, D., Pavlović, Z., & Mihailović, S. (2019). *Youth study Serbia 2018/2019*. Friedrich Ebert Stiftung. https://ssrn.com/abstract=3514181

Paul, E., Steptoe, A., & Fancourt, D. (2021). Attitudes towards vaccines and intention to vaccinate against COVID-19: Implications for public health communications. *The Lancet Regional Health – Europe*, *1*, 100012. https://doi.org/10.1016/j.lanepe.2020.100012

Pešić, J., Birešev, A., & Petrović-Trifunović, T. (2021). Political disaffection and disengagement in Serbia. *Sociologija*, *63*(2), 355-380. https://doi.org/10.2298/soc2102355p

Randolph, H. E., & Barreiro, L. B. (2020). Herd Immunity: Understanding COVID-19. *Immunity*, *52*(5), 737–741. https://doi.org/10.1016/j.immuni.2020.04.012

Rozek, L. S., Jones, P., Menon, A., Hicken, A., Apsley, S., & King, E. J. (2021). Understanding vaccine hesitancy in the context of COVID-19: the role of trust and confidence in a seventeen-country survey. *International journal of public health*, 66, 636255. https://doi.org/10.3389/ijph.2021.636255

Saleh, A. (2020). Do youth trust in political news on social media? Impacts of trust or distrust on the Egyptian young citizens political engagement. *Egyptian Journal of Public Opinion Research*, *19(*1), 47–86. https://doi.org/10.21608/joa.2020.127814

Seddig, D., Maskileyson, D., Davidov, E., Ajzen, I., & Schmidt, P. (2022). Correlates of COVID-19 vaccination intentions: Attitudes, institutional trust, fear, conspiracy beliefs, and vaccine skepticism. *Social Science & Medicine*, *302*, 114981. https://doi.org/10.1016/j.socscimed.2022.114981

Soares, P., Rocha, J. V., Moniz, M., Gama, A., Laires, P. A., Pedro, A. R., Dias, S., Leite, A., & Nunes, C. (2021). Factors Associated with COVID-19 Vaccine Hesitancy. *Vaccines*, *9*(3), 300. https://doi.org/10.3390/vaccines9030300

Stasiuk, K., Polak, M., Dolinski, D., & Maciuszek, J. (2021). The Credibility of Health Information Sources as Predictors of Attitudes toward Vaccination—The Results from a Longitudinal Study in Poland. *Vaccines*, *9*(8), 933. https://doi.org/10.3390/vaccines9080933

Sturgis, P., Brunton-Smith, I., & Jackson, J. (2021). Trust in science, social consensus and vaccine confidence. *Nature Human Behaviour*, *5*(11), 1528-1534. https://doi.org/10.1038/s41562-021-01115-7

Šiđanin, I., Njegovan, B. R., & Soković, B. (2021). Students' Views on Vaccination against COVID-19 Virus and Trust in Media Information about the Vaccine: The Case of Serbia. *Vaccines*, *9*(12), 1430. https://doi.org/10.3390/vaccines9121430

Štětka, V., Mihelj, S. (2024). *The Illiberal Public Sphere: Media in polarized societies*. Palgrave Macmillan.

Trent, M., Seale, H., Chughtai, A. A., Salmon, D., & MacIntyre, C. R. (2022). Trust in government, intention to vaccinate and COVID-19 vaccine hesitancy: A comparative survey of five large cities in the United States, United Kingdom, and Australia. *Vaccine*, *40*(17), 2498-2505. https://doi.org/10.1016/j.vaccine.2021.06.048

Troiano, G., & Nardi, A. (2021). Vaccine hesitancy in the era of COVID-19. *Public Health*, *194*, 245–251. https://doi.org/10.1016/j.puhe.2021.02.025

Velikonja, N., Dobrowolska, B., Stanisavljević, S., Erjavec, K., Globevnik Velikonja, V., & Verdenik, I. (2021). Attitudes of Nursing Students towards Vaccination and Other Preventive Measures for Limitation of COVID-19 Pandemic: Cross-Sectional Study in Three European Countries. *Healthcare*, *9*(7), 781. https://doi.org/10.3390/healthcare9070781

Wintterlin, F., Hendriks, F., Mede, N. G., Bromme, R., Metag, J., & Schäfer, M. S. (2022). Predicting Public Trust in Science: The Role of Basic Orientations Toward Science, Perceived Trustworthiness of Scientists, and Experiences With Science. *Frontiers in Communication*, *6*. https://doi.org/10.3389/fcomm.2021.822757

DATUM PRIJEMA RADA: 2024/03/07 DATUM PRIHVATANJA RADA: 2024/10/04

Poverenje u nauku i vakcinacija protiv COVID-19: uloga institucionalnog poverenja

Ognjen Janić
Univerzitet Edukons, Fakultet za sport i psihologiju

Milica Lazić
Univerzitet u Novom Sadu, Filozofski fakultet

Milica Ljevaja
Institut društvenih nauka, Beograd

Cilj ovog istraživanja je da ispita moderirajuću ulogu institucionalnog poverenja (tj. poverenja u vlast i poverenja u zdravstveni sistem) u odnosu između poverenja u nauku / zvaničnu savremenu medicinu i stavova mladih prema vakcinaciji protiv COVID-19. Uzorak se sastojao od 791 mlade osobe iz Republike Srbije (59,9% žena), uzrasta između 15 i 25 godina (AS = 18.25, SD = 2.670). Sve mere vezane za poverenje, uključujući poverenje u nauku, zvaničnu savremenu medicinu, vlast i zdravstveni sistem, imaju statistički značajne glavne efekte u svim testiranim modelima, što ukazuje na to da sa povećanjem mera povezanih sa poverenjem stavovi prema vakcinaciji protiv COVID-19 postaju pozitivniji. Dva od četiri testirana interaktivna efekta bila su statistički značajna: interaktivni efekat poverenja u nauku i poverenja u zdravstveni sistem, kao i poverenja u zvaničnu savremenu medicinu i poverenja u zdravstveni sistem u vezi sa stavovima prema vakcinaciji protiv COVID-19. Rezultati istraživanja sugerišu da je nepoverenje u zdravstveni sistem faktor vulnerabilnosti u pomenutom odnosu. Ovi nalazi otvaraju prostor za kritičko ispitivanje faktora i uslova koji doprinose rasprostranjenom nedostatku poverenja među mladima u Srbiji prema institucionalnim entitetima koji oblikuju percepcije i stavove prema vakcinaciji.

Ključne reči: stavovi prema vakcinaciji protiv COVID-19, institucionalno poverenje, poverenje u nauku, adolescenti

Psihološka istraživanja, Vol. XXVII (2) 2024.
267–295

UDK: 316.644:502/504
TIP ČLANKA: Originalni naučni rad
DOI: 10.5937/PSISTRA0-47664

Psychometric properties of the New Ecological Paradigm Scale (NEP)[1]

Milica Vdović[2]
Singidunum University, Faculty of Media and Communication

Mina Hagen
Singidunum University, Faculty of Media and Communication

Anja Simonović
Singidunum University, Faculty of Media and Communication

Nađa Avramović
Clarivate

Jasna Milošević Đorđević
Singidunum University, Faculty of Media and Communication

Climate change is a growing threat to humanity. Coping with its potentially disastrous effects will require a widespread behavioural change at both the societal and individual levels. Theory and empirical research have emphasised the role of pro-environmental attitudes as antecedents of pro-environmental behaviour. Using a large community Serbian sample (N=871 of adult population), assessed with face-to-face interviews, we searched for the psychometric characteristics of the New Ecological Paradigm scale (NEP), a widely used instrument for assessing the pro-environmental attitudes worldwide. The dimensionality of Dunlap's NEP scale has been called into question frequently, because previous studies revealed three, four, or only one dimension. Hence, there is an ongoing call for the scale's further validation. This has been the first time that the psychometric characteristics of the NEP scale were tested on a large adult sample in Serbia. Further, we tested its predictive power to explain environmental behaviour (using the Environmental Behaviour Questionnaire).

1 Link to the preprint: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4022218

2 milica.vdovic@fmk.edu.rs

The results of parallel analysis on the Serbian sample pointed to the following three-factor structure: Human is (not) above nature, Ecological crisis and Human's (non-)exception from nature, which is similar to the previous findings from the region. The three-factor solution explained about one half of variance. The factor Ecological crisis emerged as the only significant predictor for the pro-environmental behaviour. Further analysis of the pro-environmental attitudes and behaviour is needed in order to better understand and communicate the importance and urgency for the protection of planet Earth.

Key words: NEP scale, psychometric analysis, pro-ecological attitudes, pro-environmental behaviour.

Introduction

1.1. The Serbian environmental issues context

Climate change is a growing threat to humanity. Coping with its potentially disastrous effects will require a widespread behavioural change at both the societal and individual levels (Hornsey, Harris, Bain, & Fielding, 2016). Environmental issues in Serbia are no different than those found globally. It is important to include the individual level change, consisting of individuals who would take responsibility for their role in the environmental crisis, along with the social and political changes. In this study, we aim to investigate the pro-environmental attitudes and behaviour by measuring the level of environmental awareness and, additionally, by testing the psychometric characteristics of a widely used scale for measuring the pro-environmental attitudes.

Nowadays, there is a lot of concern about various issues related to the environment in Serbia. Air pollution is six times above the permitted levels, which may be classified as an extreme case of pollution that has been far from allowed in recent years (Ministry of Environmental Protection, 2019). Care about the environment was integrated as part of the Constitution, pointing out that every citizen has the right to a healthy environment and the right to know the state of the environment at any time (Madzkal, Gasić, Ivanović, 2018).

However, even if wider national laws and policies get accepted by communities, it is still important to encourage the individual level pro-environmental behaviour as a means for change. One of the first individual level policies that was implemented in Serbia was the introduction of a fixed tax for those individuals who used solid fuels as their heat source during the winter, as well as for the companies who pollute the environment (Ministry of Environmental Protection, 2019). A more recently introduced behavioural policy, the plastic bag ban, has had positive effects across the world (Convery, McDonnell, & Ferreira, 2007; Ruggeri, et al. 2018). When it comes to recycling, one of the central green policies in the world, Serbia is among the countries with the lowest recycling rate in the EU (GIZ, 2019). There is a wide range of problems with institutionalised recycling, one of them being the lack of resources to make it possible for all households to recycle. The cities in Serbia offer its citizens the option to recycle, but the number of places where they can do so are limited; even the households that would be willing to separate their garbage often fall short. Besides country policies, some environmentally conscious companies take actions to increase pro-environmental behaviours (e.g. the company "Globaltel" with its *Reciklomat* – a machine that collects recyclable packaging).

Since every policy is based on the attitudes and behaviour of individuals, in this paper, we attempt to describe the endorsement of pro-environmental attitudes in Serbia, but also to explore the characteristics of the scale that is most often used to examine this type of attitudes in the world. Additionally, we aim at examining the scale's predictive value for predicting pro-environmental behaviours.

1.2. Measuring the pro-environmental attitudes – the New Ecological Paradigm (NEP) scale

The New Ecological Paradigm (NEP) Scale is a tool used to measure individuals' attitudes towards the environment, specifically focusing on their beliefs about human-environment interactions. It was developed to capture a shift in the worldviews towards recognising the interconnectedness of human societies and the environment, reflecting a more ecologically conscious perspective (Hart, 2020). The NEP scale is mostly used to assess pro-environmental attitudes worldwide. The original primary scale was called the **New Environmental Paradigm Scale** and it consisted of 12 items, which were claimed to have a unidimensional structure (Dunlap, Van Liere, 1978). Dunlap and Van Liere's New Environmental Paradigm Scale, published in 1978, has become a widely used measure of pro-environmental orientation. More recently, the **New Ecological Paradigm (NEP)** has been created as a response to the Dominant Social Paradigm (DSP) (Dunlap, 2008); it consists of 15 items, claiming multi-dimensionality. This NEP brought a different view of nature and human behaviour related to it through highlighting human beliefs about the possibility of affecting the balance of nature, the limitations of nature and the rights that humans have to rule the rest of the system (Dunlap, Van Liere, Merig, & Jones, 2000). In the original NEP scale, five factors of an ecological worldview were hypothesised, each consisting of three items. Likewise, the predictive validity and wide usage of the NEP scale showed scientific grounding. However, the dimensionality of Dunlap's NEP scale has been frequently called into question, because different researchers found three, four, or only one dimension. In line with inconsistent findings, the authors of the scale considers that dimensionality of the NEP scale should be based on the aim and the results of each particular study (Dunlap et al., 2000).

Three research streams are important for our analysis in Serbia: the endorsement of the pro-environmental attitudes and behaviour, the analysis of the psychometric characteristics of the NEP scale and the interplay between attitudes and pro-environmental behaviour. Research on pro-environmental attitudes and behaviour in the Balkan region is rare. One of the studies, conducted on Croatian citizens, showed that more than half of the participants had low environmental conscientiousness (Karajić, 1999). Serbian citizens proved to be amongst the most "eco-centric" out of 25 countries included in the research (IPSOS, 2018). However, the assumptions made in the afore-mentioned study were based only on several questions. The study conducted in Serbia in 2023 set out to determine if there were any significant sociodemographic differences (such as gender, age, and level of education) that could predict pro-environmental behaviour and ecological activism. The results of this study indicated that older individuals, as well as those with higher levels of education, were more likely to engage in both pro-ecological behaviour and ecological activism (Popov, Zorić & Bodroža, 2023). Interestingly, this research found no significant gender differences in either pro-ecological behaviour or ecological activism, suggesting that both men and women were equally likely to engage in these behaviours (Popov, et al., 2023). Furthermore, several studies were conducted in Serbia using the NEP scale, investigating the endorsement of pro-environmental attitudes amongst secondary school and university students and prospective teachers (Stanišić, 2021; Srbinovski & Stanišić, 2020; Petrović & Škrbić, 2016). Research conducted on primary and secondary school students indicated that respondents had a slight tendency towards a pro-ecological view, with a total NEP score of 45 (Stanišić, 2021). These tendencies were also shown in the sample of future teachers and educators, with the average value of the total level of pro-environmental attitudes of 3.28 (SD=0.57) (Miščević Kadijević & Vasilijević, 2019). In another study, with the average values on the NEP scale individual items ranging from 2.15 to 4.13, the authors concluded that the respondents, students from three different groups of faculty (social studies, geological studies and geographical studies) had well-developed environmental values, which is a prerequisite for pro-environmental behaviour and the activities to protect the environment (Petrović & Škrbić, 2016). On the other hand, a cross-cultural study conducted on the sample of Serbian and Macedonian children (Srbinovski & Stanišić, 2020) found that there was no widespread adoption of the NEP orientation among them, with Macedonian pupils displaying more pro-ecological conceptions (2.83) than their Serbian peers (2.50) (Hart, 2020). Additionally, this study also revealed that the sense of responsibility towards the environment significantly predicted ecological activism but not pro-ecological behaviour, indicating a difference in what motivates activism versus everyday environmental actions (Popov i sar., 2023).

Concerning the dimensionality of the NEP scale, after several conducted analyses, Stanišić (2021) decided to suggest keeping three factors: Environmental Crisis, (Anti)anthropocentrism and (Anti)exemptionalism. Likewise, in the study conducted by Petrović and Škrbić (2016), principal components analysis (PCA) showed the existence of three factors: Human negligence for nature, Nature resistance and the right to exploitation and the Impact of science and technology. On the other hand, PCA and the examination of the scree plot in another cross-cultural study supported four dimensions of the NEP scale, named the Balance of nature, Humans over nature, Limits to growth and Environmental Philosophy (Srbinovski & Stanišić, 2020).

Although the mentioned studies are quite informative concerning the pro-environmental attitudes and the factor structure of the NEP scale, the generalisability of the findings is limited due to the size and the nature of the sample leading to issues with the gained conclusions.

1.3. Relationship between pro-environmental attitudes and pro-environmental behaviour

In order to change certain behaviour, we need to change attitudes. This is regularity that can also be applied to environmental issues. Theory and research have emphasised the role of pro-environmental attitudes as antecedents of pro-environmental behaviour. A meta-analysis of more than 100 environmental behaviour studies showed a moderate positive correlation ($r = .49$) between pro-environmental attitudes and pro-environmental behaviours (Hines, Hungerford and Tomera, 1986), while subsequent studies found more uncertainties in this association (Hini, Gendall, & Kearns, 1995; Bronfman, Cisternas, López-Vázquez, de la Maza, Oyanedel, 2015; Casey & Scott, 2006). High pro-environmental attitudes are also associated with the support for willingness to participate in pro-environmental activities for changes (Ek, 2005). A study done by Kennedy, Beckley, McFarlane, and Nadeau (2009) showed that 72% of respondents self-reported a gap between their intentions and their actions. This seems to be common in literature, suggesting that there are other factors at play when predicting pro-environmental behaviour (Hini, Gendall, & Kaerns, 1995; Steg & Vlek, 2009). Some factors are motivational (such as moral and normative concerns, affects, weighing costs and benefits), and others can be labelled as contextual (availability of recycling facilities, the quality of public transport, the market supply of goods), and/or habitual behaviour (such as automated cognitive processes) (Steg & Vlek, 2009).

There is a well-established theory of planned behaviour that can provide a useful psychological framework to explain (the lack of) pro-ecological behaviour. This theory argues that, besides attitudes, subjective norms and perceived behavioural control are shown to be related to a set of behavioural answers (Ajzen, 1991). The study conducted by De Groot and Steg (2007) has shown that pro-environmental intentions are strongly related to positive attitudes, positive subjective norms, and high perceived behaviour control, while environmental concerns have no direct relationship with pro-environmental intentions. The research by IPSOS Serbia has confirmed that environmentally friendly norms exist, and also showed high endorsement of pro-ecological thinking (IPSOS, 2018). On the other hand, even though pro-environmental attitudes and assumed positive norms are high, behavioural control and unclear relationships between attitudes and behaviour are lacking in order to predict pro-environmental behaviour. That is the reason why the aim of this study is to expand from the NEP scale validation to its relationship with pro-ecological behaviour.

1.4. Cross-cultural assessment of pro-environmental attitudes and pro-environmental behaviour

Attitudes, behaviours and support for pro-environmental changes do not exist in a vacuum, but rather depend on a broader cultural context. For example, Schultz and Zelezny (1998) found that although the norm-activation model efficiently predicted environmental behaviour in a US sample, it did not work on the samples from other countries. The variable pro-environmental behaviour involves action intended to lower the negative effects of human activities on the environment. People and cultures differ in their willingness to engage in these behaviours in order to protect the environment; however, there is also intercultural variation in respect to their behaviour. Several factors have been marked as important in cross-cultural studies in terms of their connection with pro-environmental behaviour (traditional values, economic development).

In the Netherlands, the respondents who are more traditional engage in individual level pro-environmental behaviours, such as energy saving (Aoyagi-Usui, Vinkeni Kuribayashi, 2003). On the other hand, Japanese people with traditional values engage in both individual pro-environmental behaviour and in taking part in the activities for implementing pro-environmental policies (Aoyagi-Usui, Vinkeni Kuribayashi, 2003).

Similar results have been obtained in other studies – in the less developed countries, traditional values predict high environmental concern, while in the more developed countries traditional values lead to lower regard for the environment (Nawrotzki, 2012). Trying to explain those differences, older studies argue that developing countries cannot afford to be concerned with the environment since they struggle with more basic human needs; however, more recent studies have shown that it is not necessarily the case everywhere (Rauwal and Moore, 2002). A study comparing the United States of America with the Hispanic countries showed that the latter, although poorer, had a higher score on the pro-environmental attitudes scale (Rauwal and Moore, 2002). Research conducted in Nigeria found very low scores on the environmental attitudes (Ogunbode, 2013), while the studies from Turkey, one of the most polluted countries in Europe, established high polarisation concerning the environment, with only around half of the sample endorsing pro-environmental attitudes. Finally, a study comparing multiple countries on the environmental concern showed different patterns within different countries (Schultz, et al., 2005).

It is clear that it is necessary to conduct more studies that would investigate not only pro-environmental behaviour, but also the attitudes, as the obtained results are country dependent. Our study follows this call. We need better pro-environmental measures and the collected publicly available data about environmental attitudes and behaviour of the citizens in Serbia at this moment. This is of vital importance, since Serbian citizens are currently exposed to various types of systematic environmental disregard. In this study, we measure the pro-environmental attitudes and behaviour on a large community sample of the Serbian citizens for the first time, trying to understand the interplay between them.

Hence, the aims of the current study are the following: a) to provide data about environmental issues collected from the citizens of Serbia (on both their attitudes and behaviour), b) to explore the psychometric characteristics of the Serbian version of the NEP scale, and c) to investigate the NEP scale predictive relationship with pro-environmental behaviour. In order to include the perceived behaviour control, we measure pro-environmental behaviour in the form of different individual level behaviours that are easily implemented and do not depend on the outside factors, such as policy or availability of communal resources.

2. Method

2.1 Sample

A total of 871 participants formed the sample and were included in the analysis (the sample's demographic parameters are shown in Table 1). Initially, 1182 adult citizens of Serbia (aged 18+) were recruited for the study. Although the number of missing values in the Environmental Behaviour scale was not high (2.5%), in line with the recommendations of Jakobsen, Gluud, Wetterslev and Winkel (2017), since the MNAR assumption was plausible, we opted for the list-wise deletion. List-wise deletion of all missing values was implemented, and we ended up with 871 sample size, in total.

In our sample, 60.1% participants were employed (full-time or part time), 12% unemployed, 7.7% were students and 18.7% retired. The participants were recruited for face-to-face interviewing in a stratified three-stage probability sampling procedure in September 2019. Statistical analysis was performed on the secondary data from the survey and database, primarily conducted to provide information on different issues than environmental.

The sampling frame was based on the data from the 2011 Census. Sampling was performed in three stages. The first stage sampling was done by the polling station territory. The second stage included households selected by the random route technique, starting from the randomly selected addresses (seven households by sampling points). The third stage included the respondents randomly selected within households. The average length of the interview was approximately 30 minutes. Research procedures adhered to the APA (American Psychological Association) ethical guidelines. The research was first approved by the Ethical Board of the Institute of Political Studies.

Table 1
Demographic characteristics of the sample

		Percent %
Gender	Male	53.3
	Female	46.7
Education	Primary school and lower	8.3
	Secondary school	51.9
	University and higher	23.6
Average age	44.6 (16.56)	
Average number of years spent in education	12.97 (2.67)	
Average financial situation (1–5 scale)	2.83 (.88)	
Total number of respondents	871	

2.2 Measures

The New Ecological Paradigm Scale: The New Environmental Paradigm was firstly introduced with a 12-item scale, which was later revised into the New Ecological Paradigm scale. This scale has 15 items with joined five-point Likert scales (1 – I do not agree at all; 5 – I completely agree). It is organised into five facets: 1) the reality of limits to growth; 2) anti-anthropocentrism; 3) the fragility of nature's balance; 4) rejection of exemptionalism; 5) the possibility of an ecocrisis.

Both scales were cited in the academic literature more than any other environmental attitude scale: the New Environmental Paradigm scale has 3365 citations and the New Ecological Paradigm scale 4314 (Cruz & Manata, 2020). Some typical NEP scale items include: "We are approaching the limit of the number of people the Earth can support", which defines the eco-limit; "Plants and animals have as much right as humans to exist"', which defines anti-anthropocentrism; "The balance of nature is very delicate and easily upset", which defines eco-balance; "Humans will eventually learn enough about how nature works to be able to control it", which defines eco-domination; "If things continue on their present course, we will soon experience a major ecological catastrophe", defining the factor called eco-crisis (Dunlap et al., 2000) (Table 1 in the Supplementary material).

Reliability of the total NEP score was α = .83 in the study of Dunlap and colleagues (Dunlap et al., 2000). In other studies, the average alpha was α = .71, while it was higher in the developing nations (its value was .900) (Dunlap, 2008). Regarding the number of dimensions, Dunlap and colleagues (Dunlap et al., 2000) suggested using a single NEP scale, stating that all 15 items loaded heavily (from .40 to.73) on the first unrotated factor, but encouraged different factor structures to be tested in other populations, believing that NEP views might be multidimensional.

The translation process for the NEP scale: The NEP scale whose psychometric characteristics we tested was taken from a publicly available journal article (Dunlap, Van Liere, Mertig, & Jones, 2005). The NEP was translated using the back translation technique (Maneesriwongul & Dixon, 2004). It was first translated from English into Serbian by two researchers separately. Another expert and a researcher reviewed the Serbian translations together with the original English form for inconsistencies and meaning, taking the context and culture into account. Subsequently, the questionnaire was translated back from Serbian to English by a bilingual language expert. All translations were reviewed, and the Serbian version was developed by a selected team of specialists.

The Environmental Behaviour Questionnaire (shortened): The Ecological Behaviour Questionnaire was constructed using the ecological behaviours recommended by Greenpeace Australia (2001) as desirable. The items in this scale were designed to cover a range of recycling, consuming, and conserving behaviours. Also, the behaviours included in the revised scale used in Serbia were only those deemed to be easily performed by everybody in everyday life. The original questionnaire consisted of 17 items, but we excluded two items that were not applicable to the Serbian context. The questionnaire consists of 15 items assessing different levels of environmental behaviour. These are illustrative examples of items of this scale: "Where possible, I buy products made from recycled materials as opposed to those items not made from recycled materials"; "I reuse plastic shopping bags for future shopping and/or other purposes"; "I avoid using aerosol sprays"; "I turn the television off when it is not in use"; "I take short showers to limit water use"; "I recycle newspapers"; "I use the washing machine only when it has a full load"; "When writing, I use both sides of the paper"; "When cleaning my teeth, I turn the tap off rather than leaving it run". Responses were given on a four-point Likert scale, ranging from 1 – never to 4 – always, with the scores ranging from 15 to 60; the first factor accounting for 21.567% of the variance (Casey, & Scott, 2006). In our sample, reliability was $\alpha = .88$, with the scores ranging from 15 to 60 ($M = 36.5$; $SD = 9.42$). The results of principal component analysis in our sample showed that the first component explained 37.47% of variance. All 15 items had substantial loadings on the first component, ranging from .73 ("I buy products with minimal packaging") to .44 ("When travelling short distances (approx. 1–2 kilometres) I walk as opposed to driving or taking a bus"). The scale with item means, standard deviations and loadings from the component matrix on the first component is shown in Table 2 in the Supplementary material.

3. Results

3.1. Reliability analysis of the NEP scale

The 15-item New Ecological Paradigm Scale has shown a different factorial structure from the multi-faceted structure of five interrelated facets corresponding to an ecological worldview to one-dimension factor structure. Table 1 in the Supplementary material shows descriptive measures for each item from the NEP scale that we validated in this study.

Before calculating the total NEP score, we assessed the internal consistency of the scale, following the notion that, in different cultures and samples, some items were not understood well and hence were removed from further analysis. In a couple of previous studies, NEP6 was removed, and in some studies, NEP1 and NEP11 were removed (Erdogan, 2009; Rideout et al., 2005; Srbinovski, 2016; Srbinovski & Stanišić, 2020; Van Petegem & Blieck, 2006).

Fifteen selected items showed marginal internal consistency (Cronbach Alpha = .70). Inspecting the corrected item-total correlations, they ranged from .16 (NEP1) to .45 (NEP8). The only exception was item NEP6 with a negative corrected item-total correlation (-.037). We agreed with other researchers that the item "The Earth has plenty of natural resources if we just learn how to develop them" was probably misunderstood (Dunlap et al., 2000; Rideout et al., 2005; Van Petegem & Blieck, 2006; Stanisic, 2006); therefore, we decided to remove it from the total score calculation. The Cronbach Alpha calculated on the retained 14 items was .72. This level of internal consistency was similar to the one obtained in the samples from Eastern European/

transitional countries (Shultz et al., 2005), such as the Czech Republic (α = .74) and Russia (α = .68).

3.2. The ecological worldview in Serbia

The total mean score (n = 871) on fourteen NEP items (without NEP6) was 3.55 (SD = .54), ranging from 1.86 to 5.00. To determine the worldview in our sample, we calculated a pro-NEP score. This score is a mean percentage of the positive answers (agree and strongly agree) after reverse items were recoded. A boundary pro-NEP total score between a pro-ecological perspective and a human-dominance one equals 45 (Rideout et al., 2005). In our sample, the mean pro-NEP total score was 53.39, which suggests the NEP worldview (less in favour of the DSP worldview). The percentage distribution for the NEP items (N = 871) and the mean pro-NEP score are shown in Table 2. We calculated the positive answers for NEP6 after recoding and the sum was 9.5%. This is another reason to believe that this item was misinterpreted since the sum of positive answers was much smaller compared to the other items (the sum of negative scores was also unusually high – 73.7%).

Table 2
Percentage distribution for the 14 New Ecological Paradigm (NEP) items (N = 871), without the item NEP6

Item	SD (strongly disagree) %	D (disagree) %	U (undecided) %	A (agree) %	SA (strongly agree) %	pro-NEP score
NEP1	14.1	12.6	20.3	26.9	26.1	53
NEP2	29.3	24.5	18.3	15	13	53.8
NEP3	4.4	9.9	27.3	28.4	30.1	58.5
NEP4	19.5	20.7	29.9	20.3	9.6	40.2
NEP5	1.5	4.2	16.5	27.4	50.3	77.7
NEP7	1.7	4.2	16.8	21.7	55.6	77.3
NEP8	20.7	21.6	34	15.8	7.9	42.3
NEP9	4.8	6.4	31.8	28.6	28.4	57
NEP10	18.4	26.2	30.9	16.8	7.8	44.6
NEP11	9.5	10	35.2	26.4	18.8	45.2
NEP12	25	21.8	30.1	16.2	6.9	46.8
NEP13	1.7	7	27.6	29.2	34.6	63.8
NEP14	11	16.1	37	22.5	13.4	27.1
NEP15	4.7	7.2	28	27.8	32.3	60.1
Mean pro-NEP						53.39

Note: The NEP score was calculated as the sum of the positive response frequencies for each item: strongly agree plus agree for the ecological items (1, 3, 5, 7, 9, 11, 13, 15), disagree plus strongly disagree for the anthropocentric items (2, 4, 8, 10, 12, 14).

3.3. Content validity

In order to assess content validity of the scale, the questionnaire was reviewed by the authors of the study and four environmental activists were interviewed. We provided the definitions of relevance, comprehensiveness and clarity to the activists in order to equalise their conceptions. The content of each item was rated using three four-point Likert scales (from 1 = low level of relevance/comprehensiveness/clarity to 4 = high level of relevance/comprehensiveness/clarity). Content validity was calculated by considering the ratio of three or four points of all items, and the ratio higher than .80 was interpreted as high content validity (Polit & Hunglar, 1999). There was a dispute about the meaning of the content of the NEP6 item, "The Earth has plenty of natural resources if we just learn how to develop them", and this item had the lowest validity score. We did not rewrite the question, being afraid that we could completely change the meaning and the distribution of items across the facets. In total, the whole inventory had a score higher than 0.80; hence, we decided to keep the original item and eventually proposed the change of the content of the item after the empirical evidence in the Serbian sample.

3.4. Dimensionality of the scale

The dimensionality of the NEP scales has been called into question and assessed many times, resulting in one– (Dunlap, 2008), two– (Nooney, Woodrum, Hoban & Clifford, 2003; Wu et al., 2012), three– (Manoli, Johnson & Dunlap, 2007; Van Petegem & Blieck, 2006), four– (Erdogan, 2009) and five-factor structure (Amburgey & Thoman, 2012).

Our analyses were conducted in three steps. First, we conducted exploratory factor analysis (principal component analysis; PCA) with varimax rotation on 15 items, without the number of factors being constrained. The measure of sample adequacy (KMO =.748) and significant Bartlett's Test of Sphericity (p<.01) indicated suitability of these data for factor analytic procedures. Three items failed to have significant loading on their first unrotated principal component. Twelve items had loadings higher than .30, ranging from .34 (NEP9) to .64 (NEP5). Based on eigenvalues higher than one, there were five factors extracted, explaining 62.2% of variance. The first factor explained 21.57% of variance. The rotated factor solution is presented in Table 3.

Table 3
Principal component analysis of the NEP items with Varimax Rotation – a five-factor solution

		Factors				
Item	facet	1	2	3	4	5
NEP4	anti-exempt	.72			.13	-.17
NEP12	anti-anthro	**.71**	-.12	.19	-.25	.25
NEP2	anti-anthro	.67		.13		
NEP8	balance	.67		-.16	.33	
NEP10	eco-crisis	**.61**	.15			
NEP14	anti-exempt	**.57**	.16	-.21	**-.51**	.19
NEP5	eco-crisis	.30	**.54**	**.41**	.21	
NEP1	limits	-.17	**.71**	-.20		.26
NEP3	balance		**.77**	.21		
NEP7	anti-anthro	.17		**.67**	.17	**.42**
NEP6	limits	.16		**-.83**	-.11	
NEP13	balance	.13		.21	**.70**	.29
NEP15	eco-crisis	.18	.32		.70	
NEP11	limits		**.42**	-.30	.33	**.52**
NEP9	anti-exempt			.14	.10	**.82**
Eigenvalue		3.235	2.384	1.556	1.091	1.064
Percentage of variance		21.6	15.9	10.4	7.3	7.1

Note: The loadings above .40 are given in bold.

The results show that two anti-anthro, two anti-exempt, one balance and one eco-crisis item have primary loadings on the first factor. One limits, one balance and one eco-crisis item load most heavily on the second factor. Inspecting the content of the third factor, we can notice that only one item (anti-anthro) had a primary positive loading, and the eco-crisis (NEP5) that loads primarily on Factor 2 had secondary loadings. The reason for the NEP6 negative loading is most certainly the misinterpretation of the items, which has already been mentioned. Another reverse coded limits item (NEP11) had a small and negative loading on the third factor. One balance and one eco-crisis had prominent loadings on the fourth. The fifth factor comprised two items – one from balance, and one from the eco-crisis facet, while one anti-anthro item had a secondary loading. The limits item from the fifth factor had a secondary loading on Factor 2. This factor structure did not match the facet level order of the inventory. Of note, each factor consisted of the items measuring the construct in the same direction (either positive or reversed items). In order to compare this structure, we checked the findings of previous studies, but none of them had obtained the five factor solution – they revealed four factors or fewer (Dunlap et al., 2000). Aiming to interpret the results, we mostly struggled with the third factor, given the fact that, when we excluded the NEP6 item due to its lack of clarity, it left the factor with solely one item loading primarily on it (NEP7). Given the following assumptions: 1) the five factors encompassed items from multiple facets that loaded heavily on them; 2) the number of items per factor varied from six to two; and 3) the fourth and fifth factors exhibited marginal importance (with eigenvalues scarcely exceeding 1.0), we were disinclined to develop five new NEP subscales corresponding to the factors identified through principal-components analysis and varimax rotation.

Further, we compared our results to the ones obtained by Stanišić (2021),where the scale dimensionality was tested on the Serbian sample of primary and secondary school students. Their results of principal component analysis without the fixed number of factors demonstrated a four-factor structure, explaining 47.86% of variance. In this paper, Factor 4 had only one item with a strong loading, and the authors proceeded with parallel analysis, which suggested a three-factor solution. These authors decided to retain it for further analysis. Following the same logic, we aimed to test whether a different number of factors might better fit the data, result in more balanced scales in terms of item numbers, and provide more meaningful interpretations.

In the second step, in order to determine the appropriate number of factors to retain, we relied on previous studies and interpretability, but also followed empirical guidance. Since the Kaiser-Guttman rule ("eigenvalue> 1"; Kaiser, 1960) tends to overextract, we conducted a parallel analysis (Horn, 1965), one of the most recommended methods for determining the number of factors (O'Connor, 2000; Velicer et al., 2000; Zwick & Velicer, 1986). The results of the parallel analysis and the comparison between the eigenvalues are presented in Table 4. The logic of the parallel analysis is to keep only the factors where initial eigenvalue is larger than the one obtained in the parallel analysis, since the factors in parallel analysis are obtained from random numbers (Hayton et al., 2004; Montanelli & Humphreys, 1976; Turner, 1998). Thus, we should discard the factors that do not account for more variance than the parallel factor.

Table 4
Actual and random eigenvalues (the mean and 95th percentile) from the parallel analysis

Factor	Actual eigenvalue	Mean eigenvalue	The 95th percentile eigenvalue	Decision
1	3.23	1.22	1.26	keep
2	2.38	1.17	1.21	keep
3	1.55	1.14	1.17	keep
4	1.09	1.10	1.13	discard
5	1.06	1.07	1.10	discard

The results of the parallel analysis pointed to a three-factor structure. In the next step, we conducted the EFA PCA with varimax rotation and the number of factors fixed to three. The three-factor solution explained 47.84% of variance, a bit less than the five-factor solution. All variables had positive loadings on the first unrotated factor, except for the NEP6 item (-.133), but only twelve had loadings larger than .30, ranging from .34 (NEP9) to .64 (NEP5). The rotated factor solution is presented in Table 5, with the new names and old initial dimensions (Dunlap, 2008).

Table 5

Principal component analysis of the NEP items with Varimax Rotation – the three-factor solution, with the representation of items and dimensions

		Factors		
		Human is (not) above nature	Ecological crisis	Human's (non-) exception from nature
Item	Original Dimensions (Dunlap, 2008)	1	2	3
NEP 4 – Human ingenuity will insure that we do not make the Earth unliveable. (R)	Human's (non-) exception from nature	.71		
NEP 12 – Humans were meant to rule over the rest of nature. (R)	Human is (not) above nature	.71		
NEP 8 – The balance of nature is strong enough to cope with the impacts of modern industrial nations. (R)	Natural balance	.67		
NEP 2 – Humans have the right to modify the natural environment to suit their needs. (R)	Human is (not) above nature	.66		
NEP 10 – The so-called "ecological crisis" facing humankind has been greatly exaggerated. (R)	The possibility of ecological crisis	.61		
NEP 14 – Humans will eventually learn enough about how nature works to be able to control it. (R)	Human's (non-) exception from nature	.60		-.36
NEP 11 – The Earth has plenty of natural resources if we just learn how to develop them. (R)	Growth limits		.76	
NEP 1 – We are approaching the limit of the number of people the Earth can support.	Growth limits		.74	
NEP 3 – When humans interfere with nature, it often produces disastrous consequences.	Natural balance		.54	
NEP 15 – If things continue on their present course, we will soon experience a major ecological catastrophe.	The possibility of ecological crisis		**.52**	.37
NEP 9 – Despite our abilities, humans are still subject to the laws of nature.	Human's (non-) exception from nature		.44	
NEP 5 – Humans are severely abusing the environment.	The possibility of ecological crisis		.43	.46
NEP 13 – The balance of nature is very delicate and easily upset.	Natural balance		.36	**.53**
NEP 7 – Plants and animals have as much right as humans to exist.	Human is (not) above nature			.72
NEP 6 – The Earth is like a spaceship with very limited room and resources.	Growth limits			-.77
Eigenvalue		3.23	2.38	1.56
Percentage of variance		21.6	15.9	10.4

Note: Loadings above .40 are given in bold.

Our results revealed three factors: 1) Human is (not) above nature, 2) Ecological crisis, and 3) Human's (non-)exception from nature (Table 5). This factorial structure is similar to the previous research conducted in Serbia on smaller samples. However, there are some differences in the items representation of the factors (Table 5), which can still be a tolerable difference in psychometric characteristics from the previous studies (Stanišić, 2021).

When it comes to the factor Human is (not) above nature, the items with the highest loading were the following: "Human ingenuity will insure that we do not make the Earth unliveable." (R), and "Humans were meant to rule over the rest of nature". The Ecological crisis factor was best represented by the following items: "The Earth has plenty of natural resources if we just learn how to develop them." (R), and "We are approaching the limit of the number of people the Earth can support". The Human's (non-)exception from nature factor was best represented with the item "Plants and animals have as much right as humans to exist".

Our study has confirmed the three-factor structure of the NEP scale, obtained in earlier research conducted in Serbia (Stanišić, 2021). However, the belonging of items to different factors is not identical. The representation of the comparison of the three factors solution with all the items between our study and the other study conducted in Serbia (Stanišić, 2021) is shown in Table 6. As can be seen, most of the items, with their dimensions, fit into the three-factor structure, supporting the previous study (Stanišić, 2021). However, out of fifteen items, only three of them are placed differently. In our study, the item "Human ingenuity will insure that we do not make the Earth unliveable" found its place in a factor called Human is (not) above nature, while the item "Despite our abilities, humans are still subject to the laws of nature" belongs to the Ecological crisis factor. Both items belong to the factor called Human's (non-)exception from nature in the other study (Stanišić, 2021). The third item, "The balance of nature is very delicate and easily upset", belongs to Human's (non-)exception from nature factor in our study, while in the other study it belonged to Ecological crisis factor.

According to Stanišić (2021), five dimensions can all be found in three factors: human's (non-)exception from nature, the possibility of ecological crisis, natural balance, growth limits and human is (not) above nature. Therefore, the names given to the factors depend on the representation of these dimensions in the factors. In our study, two factors adhere to this principle: Human is (not) above nature and Ecological crisis. However, since our third factor consists of three items that belong to three different dimensions, but two of them match items from Stanišić's (2021) Human's (non-)exception from nature factor, we decided to follow the consistency of the studies conducted in Serbia and named it as Stanišić (2021) did: Human's (non-)exception from nature.

Table 6
Comparison of the three-factor solutions

Factors	Items	Original Dimensions (Dunlap, 2008)	Factors (Stanišić, 2021)
Human is (not) above nature	NEP 14 – Humans will eventually learn enough about how nature works to be able to control it. (R)	Human's (non-) exception from nature	Human is (not) above nature
	NEP 12 – Humans were meant to rule over the rest of nature. (R)	Human is (not) above nature	Human is (not) above nature
	NEP 8 – The balance of nature is strong enough to cope with the impacts of modern industrial nations. (R)	Natural balance	Human is (not) above nature
	NEP 2 – Humans have the right to modify the natural environment to suit their needs. (R)	Human is (not) above nature	Human is (not) above nature
	NEP 10 – The so-called "ecological crisis" facing humankind has been greatly exaggerated. (R)	The possibility of ecological crisis	Human is (not) above nature
	NEP 4 – Human ingenuity will insure that we do not make the Earth unliveable. (R)	Human's (non-) exception from nature	**Human's (non-) exception from nature**
Human's (non-) exception from nature	NEP 6 – The Earth is like a spaceship with very limited room and resources.	Growth limits	Human's (non-) exception from nature
	NEP 7 – Plants and animals have as much right as humans to exist.	Human is (not) above nature	Human's (non-) exception from nature
	NEP 13 – The balance of nature is very delicate and easily upset.	Natural balance	**Ecological crisis**
Ecological crisis	NEP 9 – Despite our abilities, humans are still subject to the laws of nature.	Human's (non-) exception from nature	**Human's (non-) exception from nature**
	NEP 11 – The Earth has plenty of natural resources if we just learn how to develop them. (R)	Growth limits	Ecological crisis
	NEP 1 – We are approaching the limit of the number of people the Earth can support.	Growth limits	Ecological crisis
	NEP 3 – When humans interfere with nature, it often produces disastrous consequences.	Natural balance	Ecological crisis
	NEP 15 – If things continue on their present course, we will soon experience a major ecological catastrophe.	The possibility of ecological crisis	Ecological crisis
	NEP 5 – Humans are severely abusing the environment.	The possibility of ecological crisis	Ecological crisis

3.5. Predictive validity of the scale

Table 2 in the Supplementary material represents each item means and standard deviations for the Environmental Behaviour Questionnaire; the average mean for the whole scale is 2.44 (on the scale from 1 to 4), with standard deviation for the whole scale being .62. These results show that environmental behaviour, when easy to exhibit, was performed by the adult population in Serbia with a slight tendency towards a pro-ecological behaviour.

In order to assess the predictive validity of the NEP, we ran a linear regression analysis with the Environmental Behaviour Questionnaire as a criterion, and three extracted NEP factor scores, Human is (not)above nature (α = .75), Ecological crisis (α = .62) and Human's (non-)exception from nature (α = .63), as predictors. The results presented in Table 7 reveal that the NEP is a weak, but significant predictor of environmental behaviour ($F(3{,}732) = 2.778$; $p <.50$; $R^2 = .01$). Factor 2 (Ecological crisis) emerged as the sole significant predictor in the analysis (β = .08; $p <.05$).

Table 7
Regression analysis testing the NEP factors in predicting environmental behaviour

	F (3,732) = 2.778*; R^2 = .01	
	beta	sig
Human is (not) above nature	-.02	.66
Ecological crisis	.08	.04
Human's (non-)exception from nature	.07	.06

Note. * – p <.05.

4. Discussion

In this study, we assessed the ecological worldview of Serbian adult citizens on a large community sample and established the psychometric characteristics of the NEP scale, thus investigating its predictive power for environmental behaviour. Serbian citizens seem to endorse high pro-environmental attitudes. We suppose that the high pro-environmental attitude among the Serbian citizens is the first step to achieving ecological changes in the country.

Although widely used in various studies and literature, the NEP performed inconsistently in the cross-cultural factorial structure empirical checking (Cruz & Manata, 2020). Different authors called for the psychometric investigation of the NEP dimensionality to assure a validated measure of environmental worldviews that can further be used for cross-cultural studies (Cruz & Manata, 2020), also arguing that the empirical response to this demand was slow. Initially, a one-dimension structure for the NEP scale was established (Fleury-Bahi, et al., 2015), but was later followed by a five-factor solution (Amburgey and Thoman, 2012). Nevertheless, additional reviews revealed a poor fit for the proposed NEP five-factor structure (Cruz & Manata, 2020), as well as the fact that factors were not differentiated (Ogunbode, 2013). Hence, researchers proposed a three-factor solution. Our study is thus in line with the call for further validation of the factor structure of the scale in Serbia.

The results of this research confirmed the three-factor structure of the NEP scale that had been previously determined in the studies from Serbia (on smaller samples, reported by Stanišić, 2021). Although the items describing the three factors were not exactly the same in all studies from Serbia, we can conclude that in our context it is best to accept the three-factor structure of the NEP scale. The environmental crisis factor has a significant predictive power for predicting pro-environmental behaviours (the items that saturate this factor to the greatest extent belong to the initial factor Limits to growth).

Some authors have criticised the NEP scale, and we can group these critical remarks into three broad categories: 1) varying dimensionalities, 2) inadequate inclusion of topics that measure the environmental paradigm, and 3) a weak correlation between the NEP and behavioural measures (Anderson, 2012). Varied dimensionality could be a product of cultural differences. It is worthy to explore whether the included topics in the NEP should be the same in every cultural context. Watson and Halse (2005) noted challenges in using the NEP questionnaire to measure environmental attitudes in non-Western cultures, as the scale's Western-centric framework may not accurately reflect attitudes in these contexts. For instance, a study in Mexico found that individuals held both pro-NEP and pro-Human Exception Paradigm attitudes simultaneously, contrary to the NEP's assumption of mutual exclusivity (Watson & Halse, 2005). In our study, three general topics (dimensions) were identified: 1) Human is (not) above nature; 2) Ecological crisis; and 3) Human's (non-) exception from nature, with only one item being identified as not being clear (NEP6: "Earth has plenty of natural resources if we just learn how to develop them"). Clearer understanding of this item could be a consequence associated with the Western capitalism, which views natural resources as abundant and exploitable through technological development. This perspective suggests that the Earth's resources are essentially limitless, and any scarcity can be overcome through human ingenuity and advancement. It implies a belief in the ability of technology and innovation to continually extract and exploit resources without significant consequences, aligning with a worldview that prioritises economic growth and development over environmental concerns.

Previous literature shows that pro-environmental attitudes (including those measured by the NEP scale) are not highly correlated with pro-environmental behaviours (Hines, Hungerford and Tomera, 1987; Hini, Gendall, & Kearns, 1995; Bronfman, Cisternas, López-Vázquez, de la Maza, Oyanedel, 2015; Casey & Scott, 2006). The study's findings also indicate a weak but significant relationship between the NEP scale and pro-environmental behaviour, with Factor 2 (Ecological crisis) emerging as the sole significant predictor. This factor includes questions such as the belief that the Earth has abundant resources if developed properly, concerns about reaching the Earth's carrying capacity, the perception of disastrous consequences when humans interfere with nature, the anticipation of a major ecological catastrophe if the current trends persist, the acknowledgment of human limitations against the laws of nature, and the recognition of severe environmental abuse by humans. These results are in line with previous research that showed a weak, but existing relationship between attitudes (as measured by the NEP) and behaviour. The findings suggest that while attitudes towards the environment play a role in predicting certain behaviour, other factors may also be significant, thus highlighting the complex nature of the relationship between attitudes and actions in environmental contexts. The NEP scale seems to be a reasonable choice when measuring pro-environmental attitudes, with some predictive power in explaining pro-environmental behaviour. Our findings suggest that Serbian citizens align more with the New Ecological Paradigm (NEP) worldview than the Dominant Social Paradigm (DSP) worldview. As pointed by Erdogan (2009), the prevailing social paradigm in Serbia is anthropocentric, which implies viewing humans as superior to nature, and perceiving abundance of resources that do not require protection. This anthropocentric perspective has led to the global ecological crisis affecting the world and humanity as a whole. Relatively high NEP scores are accompanied by a slight positive skew in pro-environmental behaviour in the Serbian sample. This shows that Serbian citizens have a potential to help deal with the environmental crisis that exists on the local and international level. These positive regards towards the environment could stem from the fact that Serbia is facing significant environmental challenges, with the air pollution levels far exceeding the permitted limits. These attitudes could potentially be explained using the risk hypothesis, which is based on the assertion that higher risk makes people more future-focused (Rojas-Rivas, et al. 2020). Even though the measured behaviours can be easily achieved there may be a possibility that citizens would easily adapt to the environmental system changes, given their positive NEP worldview.

Despite the criticism, the NEP scale has been validated in Serbia and can be used as a valid measure of pro-environmental attitudes, even with its shortcomings. Studies have demonstrated that the NEP scale reliably captures the environmental worldview of Serbian citizens and correlates with their pro-environmental behaviours, albeit to a moderate extent. This validation underscores the scale's applicability in diverse cultural contexts, providing a valuable tool for researchers and policymakers who want to assess and promote environmental attitudes and behaviours in Serbia.

4.2 Limitations and further studies

The current research has its limitations. There are several variables that we thought might be useful to explore, but were not included in the study, such as support for policy, knowledge on environmental issues and a broader value context. Another thing that could be explored is the predictive potential of the NEP scale in support of different environmental policies, both the individual level policies, and broader, system level policies. In this study, we found low, but positive predictive power for easy personal actions, such as recycling and energy conservation. Nevertheless, the NEP scale should be tested for large scale initiatives, like regulatory measures, carbon pricing and sustainable development policies (Stern, 2000). This dual focus on individual and systemic levels could provide a comprehensive insight into the scale's effectiveness in fostering a more sustainable future. In further studies, different scales for pro-environmental behaviour should be used. Our study measured behaviour as frugal actions more than pro-environmental behaviour, since the motivation behind the behaviours was not taken into account. We assessed the environmental attitude gap, but it would also be interesting to assess the knowledge-action gap that has shown up as relevant in previous studies (Zak & Munson, 2008). Finally, it would be useful to include some questions concerning the broader value context in which these attitudes and behaviours are situated. Understanding the underlying values that shape the environmental perspectives, such as altruism, biospheric values, and social justice concerns, can provide a more nuanced view of the motivations driving pro-environmental actions (Schwartz, 1992; Stern, Dietz, & Kalof, 1993). This broader value context can help identify the foundational beliefs that support the environmental policies and behaviours and offer insights into framing environmental issues in such a way as to resonate with diverse value systems. For example, linking environmental sustainability with economic equity or public health can broaden the support across different demographic groups (Leiserowitz, Kates, & Parris, 2006).

4.3 Conclusion

Environmental challenges have become one of the greatest global concerns. Therefore, environmental movements around the world are on the rise and struggling to point out the importance of ecological issues, as well as to provide the general support of the broad public and policy makers to introduce green policies. Scientists explore the factors and mechanisms that could enhance pro-environmental behaviours and minimise the negative effects of human actions on the environment. Serbia is a vulnerable country when it comes to these issues for different reasons: the current state of pollution, poor endorsement of pro-environmental behaviour on an individual level and the green policies on the state level.

Our study is one attempt to validate the NEP scale and bring it to light by making it more accessible for academic research in this area. Hence, we attempted to respond to the academic demand for the improvement of the existing measurements of general environmental attitudes, especially the calls for testing them in different social contexts (on which our analysis was based) (Cruz & Manata, 2020). Psychometric analysis of the NEP scale on a large community sample in Serbia has revealed three factors: 1) Human is (not) above nature; 2) Ecological crisis; and 3) Human's (non-)exception from nature. Only the second factor significantly predicted environmental behaviour. Besides the descriptive importance of our data for a country that has been understudies in the context of environmental issues, the findings can be used for facilitaSting further academic and social communication. Opinion makers and official institutions should communicate environmental issues to the public by relying on three main clusters: humanity and humans are not above nature, they form an integral part of it, and great ecological crisis is the reality of our lives. It is of essential interest for future human generations to compromise with the nature and build sustainable societies by developing protective types of living styles, especially in disadvantaged underdeveloped countries.

Disclosure statement: The authors report there are no competing interests to declare.

Declaration of interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Data availability: Data available on request from the authors.

References

Anderson, M. (2012). The New Environmental Paradigm (NEP) Scale. In: Spellerberg, I. et al. (Eds.). *The Berkshire Encyclopedia of sustainability: measurements, indicators, and research methods for sustainability* (260–262). Massachusetts, US: Berkshire Publishing Group. Retrieved March 22, 2022. https://umaine.edu/%20soe/wp-content/uploads/sites/199/2013/01/NewEcologicalParadigmNEPScale1.pdf

Amburgey, J. W., &Thoman, D. B. (2012). Dimensionality of the new ecological paradigm: Issues of factor structure and measurement. *Environment and Behavior*, *44*(2), 235-256. https://doi.org/10.1177/0013916511402064

Aoyagi-Usui, M., Vinken, H., Kuribayashi, A., (2003). Pro-environmental attitudes and behaviors: an international comparison. *Human Ecology Review, 10(1)*, 23-31. https://www.jstor.org/stable/24707084

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211. https://doi.org/10.1016/0749-5978(91)90020-T

Bronfman, N., Cisternas, C.P., López-Vázquez, E., de la Maza, C. &Oyanedel, C. (2015). Understanding Attitudes and Pro-Environmental Behaviors in a Chilean Community. *Sustainability, 7,* 14133-14152; https://doi.org/10.3390/su71014133

Casey, P. J., & Scott, K. (2006). Environmental concern and behaviour in an Australian sample within an ecocentric–anthropocentric framework. *Australian Journal of Psychology*, *58*(2), 57-67. https://doi.org/10.1080/00049530600730419

Convery, F., McDonnell, S., & Ferreira, S. (2007). The most popular tax in Europe? Lessons from the Irish plastic bags levy. *Environ Resource Econ*., *38*, 1–11. https://doi.org/10.1007/s10640-006-9059-2

Cruz, S. M., & Manata, B. (2020). Measurement of environmental concern: A review and analysis. *Frontiers in Psychology*, *11*, 363. https://doi.org/10.3389/fpsyg.2020.00363

Dunlap, R.E. (2008). The New Environmental Paradigm Scale: From Marginality to Worldwide Use. *The Journal of Environmental Education, 40*(1), 3-18. https://doi.org/10.3200/JOEE.40.1.3-18

Dunlap, R. E., Van Liere, K. D., Mertig, A. G., & Jones, R. E. (2000). Measuring endorsement of the new ecological paradigm: a revised NEP scale. *Journal of social issues*, *56*(3), 425-442. https://doi.org/10.1111/0022-4537.00176

Dunlap, R. E., & Van Liere, K. D. (1978). The new environmental paradigm. *Journal of Environmental Education, 9,* 10-19. https://doi.org/10.1080/00958964.1978.10801875

De Groot, J. & Steg, L. (2007). General Beliefs and the Theory of Planned Behavior: The Role of Environmental Concerns in the TPB. *Journal of Applied Social Psychology. 37.* 1817 – 1836. https://doi.org/10.1111/j.1559-1816.2007.00239.x

Globaltel (2021). Retrieved from http://reciklomat.rs/, on 12.11.2021

Ek, K. (2005). Public and private attitudes towards "green" electricity: the case of Swedish wind power. *Energy policy, 33*(13), 1677-1689. https://doi.org/10.1016/j.enpol.2004.02.005

Erdogan, N. (2009). Testing the new ecological paradigm scale: Turkish case. African *Journal of Agricultural Research, 4*(10), 1023–1031. https://academicjournals.org/article/article1380883767_Erdogan%202.pdf

Fleury-Bahi, G., Marcouyeux, A., Renard, E., &Roussiau, N. (2015). Factorial structure of the New Ecological Paradigm scale in two French samples. *Environmental Education Research*, *21*(6), 821-831. https://doi.org/10.1080/13504622.2014.913127

GIZ, (2019), *Assessment of the effects of the introduction of the circular economy – the plastic packaging sector*, Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) project "Waste menagement in the context of climate change – DKTI". https://www.giz.de/en/downloads/plastic-packaging-sector-danijela-bobic.pdf

Hayton, J. C., Allen, D. G., & Scarpello, V. (2004). Factor Retention Decisions in Exploratory Factor Analysis: a Tutorial on Parallel Analysis. *Organizational Research Methods, 7*(2), 191-205. https://doi.org/10.1177/1094428104263675

Hornsey, M., Harris, E., Bain, P., & Fielding, K. (2016). Meta-analyses of the determinants and outcomes of belief in climate change. *Nature Climate Change, 6,* 622–626, https://doi.org/10.1038/NCLIMATE2943

Hines, J. M., Hungerford, H. R., & Tomera, A. N. (1987). *Analysis and Synthesis of Research on Responsible Environmental Behavior: A Meta-Analysis. The Journal of Environmental Education, 18*(2), 1–8. https://doi.org/10.1080/00958964.1987.9943

Hini, D., Gendall, P., & Kearns, Z. (1995). The Link between Environmental Attitudes and Behaviour. *Marketing Bulletin, 6,* 22-31. http://marketing-bulletin.massey.ac.nz/v6/mb_v6_a3_hini.pdf

IPSOS (2018). A throwaway world: the challenge of plastic packaging and waste. *An Ipsos survey. https://www.ipsos.com/en/throwaway-world-challenge-plastic-packaging-and-waste*

Jakobsen, J. C., Gluud, C., Wetterslev, J., & Winkel, P. (2017). When and how should multiple imputation be used for handling missing data in randomised clinical trials – a practical guide with flowcharts. *BMC Medical Research Methodology, 17*(1). https://doi.org/10.1186/s12874-017-0442-1

Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement, 20,* 141–151. https://doi.org/10.1177/001316446002000116

Karajić, N. (1999). Vrijednosne preferencije kao determinante ekološkog ponašanja u Hrvatskoj. *Socijalna ekologija, 8*(1-2), 1-21. https://hrcak.srce.hr/141672

Kennedy, E. H., Beckley, T., Mcfarlane, B.L., Nadeau, S. (2009). Why We Don't "Walk the Talk": Understanding the Environmental Values/Behaviour Gap in Canada. *Human ecology review, 16*(2),151-160. /https://www.jstor.org/stable/pdf/24707539.pdf?casa_token=c8X_K7aT53AAAAAA:0id6F6XhNnvdV292LfnUb8cnztY4_7hkLSWRHgmvweJ027nPno6NHR9EhE2Cq7S_NB9b7i74JsyX8JlXQ83DygdB8rf2xOj8G8QnkGBbqx1c3BpNeiBg

Leiserowitz, A. A., Kates, R. W., & Parris, T. M. (2006). Sustainability Values, Attitudes, and Behaviors: A Review of Multinational and Global Trends. *Annual Review of Environment and Resources, 31,* 413-444. https://doi.org/10.1146/annurev.energy.31.102505.133552

Manoli, C. C., Johnson, B., & Dunlap, R. E. (2007). Assessing children's environmental worldviews: Modifying and validating the New Ecological Paradigm Scale for use with children. *The Journal of Environmental Education, 38*(4), 3–13. https://doi.org/10.3200/JOEE.38.4.3-13

Madzkal, M., Gasic, M., & Ivanovic, I. (2018). *Ekološka politika Srbije i Evropske unije*. Istaknuti tematski zbornik radova vodećeg nacionalnog značaja Istočna evropa i postmoderni izazovi, Centar za strateška istraživanja nacionalne bezbednosti CESNA B, Beograd u saradnji sa Fakultetom za pravo, bezbednost i menadžment ''Konstantin Veliki" Niš Univerziteta Union Nikola Tesla u Beogradu, pp 241-257.

Maneesriwongul W, Dixon JK. Instrument translation process: a methods review. Journal of Advanced Nursing. 2004 Oct;48(2):175-86. https://doi.org/10.1111/j.1365-2648.2004.03185.x. PMID: 15369498.

Ministry of Environmental Protection. (2020). Ministarstvo zaštite životne sredine (2020). Ekotaksa. https://www.ekologija.gov.rs/saopstenja/vesti/eko-taksa

Miščević Kadijević, G., Vasilijević, D. (2019). Utvrđivanje proekoloških pogleda budućih vaspitača i učitelja. U: Pavlović Breneselović, D., Spasenović, V. i Alibabić, Š. (ur.). *Obrazovna politika i praksa: u skladu ili u raskoraku* (103–107). Zbornik radova sa nacionalnog skupa Susreti pedagoga, 25. i 26. januar 2019. Beograd: Filozofski fakultet Univerziteta u Beogradu i Pedagoško društvo Srbije. https://doi.org/10.5937/inovacije2301033V

Montanelli, R. G., & Humphreys, L. G. (1976). Latent roots of random data correlation matrices with squared multiple correlations on the diagonal: A Monte Carlo study. *Psychometrika, 41*(3), 341–348. https://doi.org/10.1007/BF02293559

Nawrotzki, R. J. (2012). The Politics of Environmental Concern: A Cross-National Analysis. *Organization & Environment, 25*(3), 286-307. https://doi.org/10.1177/1086026612456535

Nooney, J. G., Woodrum, E., Hoban, T. J., & Clifford, W. B. (2003). Environmental Worldview and Behavior: Consequences of Dimensionality in a Survey of North Carolinians. *Environment and Behavior, 35*(6), 763-783. https://doi.org/10.1177/0013916503256246

O'Connor, B. P. (2000). SPSS and SAS programs for determining the number of components using parallel analysis and Velicer's MAP test. *Behavior Research Methods, Instruments & Computers, 32*(3), 396–402. https://doi.org/10.3758/BF03200807

Ogunbode, C. A. (2013). The NEP scale: measuring ecological attitudes/worldviews in an African context. *Environment, Development and Sustainability, 15*(6), 1477–1494. https://doi.org/10.1007/s10668-013-9446-0

Petrović, N., Škrbić, B. (2016). Ekološke vrednosne orijentacije i spremnost na aktivizam u Srbiji. *Zbornik radova Geografskog fakulteta Univerziteta u Beogradu, 64*, 47–71. https://doi.org/10.5937/zrgfub1664047P

Popov, B., Zorić, J. i Bodroža, B. (2023). Ekološki aktivizam i proekološko ponašanje u Srbiji: determinante i relacije sa subjektivnim blagostanjem. *Psihološka istraživanja, 2,* 323–342. https://doi.org/10.5937/PSISTRA26-46307

Polit, D.F. and Hungler, B.P. (1999). Nursing Research: Principle and Method. Philadelphia: Lippincott Company, P.P. 416-417.

Rauwald, K. S., & Moore, C. F. (2002). *Environmental Attitudes as Predictors of Policy Support across Three Countries. Environment and Behavior, 34*(6), 709–739. https://doi.org/10.1177/001391602237243

Rideout, B. E. (2005). The Effect of a Brief Environmental Problems Module on Endorsement of the New Ecological Paradigm in College Students. *The Journal of Environmental Education*, *37*(1), 3–11. https://doi.org/10.3200/JOEE.37.1.3-12

Rojas-Rivas, E., Antúnez, L., Cuffia, F., Otterbring, T., Aschemann-Witzel, J., Giménez, A., Ares,G. (2020). Time orientation and risk perception moderate the influence of sodium warnings on food choice: Implications for the design of communication campaigns. *Appetite, 147. https://doi.org/10.1016/j.appet.2019.104562*

Ruggeri, K., Immonen, J., Benzerga, A., Kacha, O., & van der Linden, S. (2018). Energy and environment. In Rugerri, K. (Ed.), *Behavioral Insights for Public Policy*. Routledge: New York

Schultz, P. W., & Zelezny, L. C. (1998). Values and proenvironmentalbehavior: A five-country survey. *Journal of Cross-Cultural Psychology, 29*(4), 540-558. https://doi.org/10.1177/002202219829400

Schwartz, S. H. (1992). Universals in the Content and Structure of Values: Theoretical Advances and Empirical Tests in 20 Countries. *Advances in Experimental Social Psychology*, 25, 1-65. https://doi.org/10.1016/S0065-2601(08)60281-6

Srbinovski, M., & Stanišić, J. (2020). Environmental worldviews of Serbian and Macedonian school students. *Australian Journal of Environmental Education, 36*(1), 20–43. https://doi.org/10.1017/aee.2020.1

Stanišić, J. M. (2021). Ekološki pogledi na svet učenika osnovne i srednje škole – primena NEP skale. *Inovacije u nastavi – časopis za savremenu nastavu, 34*(3), 76-94. https://doi.org/10.5937/inovacije2103076S

Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behavior: An integrative review and research agenda. *Journal of Environmental Psychology, 20,* 309-317. https://doi.org/10.1016/j.jenvp.2008.10.004

Stern, P. C. (2000). Toward a Coherent Theory of Environmentally Significant Behavior. *Journal of Social Issues, 56*(3), 407-424. https://doi.org/10.1111/0022-4537.00175

Stern, P. C., Dietz, T., & Kalof, L. (1993). Value Orientations, Gender, and Environmental Concern. *Environment and Behavior, 25(*5), 322-348. https://doi.org/10.1177/0013916593255002

Schultz, P. W., Gouveia, V. V., Cameron, L. D., Tankha, G., Schmuck, P., &Franěk, M. (2005). *Values and their Relationship to Environmental Concern and Conservation Behavior. Journal of Cross-Cultural Psychology, 36*(4), 457–475. https://doi.org/10.1177/0022022105275962

Srbinovski, M. S. (2016). Rodne razlike i ekološki pogled na svet – studija slučaja iz Makedonije. *Inovacije u nastavi – časopis za savremenu nastavu, 29*(4), 101-114. https://doi.org/10.5937/inovacije1604101S

Turner, N. E. (1998). The effect of common variance and structure pattern on random data eigenvalues: Implications for the accuracy of parallel analysis. *Educational and Psychological Measurement, 58*(4), 541–568. https://doi.org/10.1177/0013164498058004001

Van Petegem, P., & Blieck, A. (2006). The environmental worldview of children: a cross-cultural perspective. *Environmental Education Research, 12*(5), 625–635. https://doi.org/10.1080/13504620601053662

Velicer, W. F., Eaton, C. A., & Fava, J. L. (2000). Construct explication through factor or component analysis: A review and evaluation of alternative procedures for determining the number of factors or components. In R. D. Goffin & E. Helmes (Eds.), *Problems and solutions in human assessment: Honoring Douglas N. Jackson at seventy* (pp. 41–71). Kluwer Academic/Plenum Publishers. https://doi.org/10.1007/978-1-4615-4397-8_3

Watson, K., & Halse, C.M. (2005). Environmental attitudes of pre-service teachers: A conceptual and methodological dilemma in cross-cultural data collection. *Asia Pacific Education Review, 6,* 59–71. https://doi.org/10.1007/BF03024968

Wu, Y., He, Y., Jiang, X., Zhao, Y., Cui, Y., Wang, H. (2023). Assessing ecosystem health of floodplain lakes using an Integrated Bioassessment Index. *Ecological Indicators, 154*(1-2):110644. https://doi.org/10.1016/j.ecolind.2023.110644

Zak, K. & Munson, B. (2008). An exploratory study of elementary preservice teachers' understanding of ecology using concept maps. *Journal of Environmental Education, 39*(3), 32–46. http://dx.doi.org/10.3200/JOEE.39.3.32-46

Zwick, W. R., & Velicer, W. F. (1986). Comparison of five rules for determining the number of components to retain. *Psychological Bulletin, 99*(3), 432–442. https://doi.org/10.1037/0033-2909.99.3.432

DATUM PRIJEMA RADA: 2023/11/11 DATUM PRIHVATANJA RADA: 2024/08/08

Psihometrijske karakteristike *Skale nove ekološke paradigme* na srpskom uzorku

Milica Vdović
Univerzitet Singidunum, Fakultet za medije i komunikacije

Mina Hagen
Univerzitet Singidunum, Fakultet za medije i komunikacije

Anja Simonović
Univerzitet Singidunum, Fakultet za medije i komunikacije

Nađa Avramović
Clarivate

Jasna Milošević Đorđević
Univerzitet Singidunum, Fakultet za medije i komunikacije

Klimatske promene predstavljaju sve veću pretnju čovečanstvu i suočavanje sa njihovim potencijalno katastrofalnim efektima zahtevaće promenu ponašanja na društvenom i individualnom nivou. Teorije i empirijska istraživanja naglašavaju ulogu proekoloških stavova kao prethodnika proekoloških ponašanja.

Koristeći veliki uzorak građana Srbije (N = 871 odrasle populacije), ispitanih intervjuisanjem licem u lice, pokušavali smo da utvrdimo psihometrijske karakteristike *Skale nove ekološke paradigme* (NEP skala), u svetu dominantnog instrumenta za merenje proekoloških stavova. Ovo je prvi put da su psihometrijske karakteristike NEP skale proveravane na velikom uzorku punoletnih građana Srbije, uz testiranje njene prediktivne moći za objašnjavanje proekološkog ponašanja (koristeći upitnik ekološkog ponašanja).

U skladu sa prethodnim istraživanjima u regionu, rezultati ukazuju na postojanje tri faktora: „ekološka kriza", „čovek (ni)je iznad prirode", „čovekova (ne)izuzetost iz prirode". Ovi faktori objašnjavaju oko polovinu varijanse. Faktor „ekološka kriza" je jedini značajan za predviđanje proekološkog ponašanja.

Potrebna je dalja analiza proekoloških stavova i ponašanja kako bi se bolje razumelo i s odgovornošću brzo i organizovano pristupilo zaštiti planete.

Ključne reči: NEP skala, psihometrija, proekološki stavovi, proekološko ponašanje

SUPPLEMENTARY MATERIAL

Table 1:
Item means and standard deviations for the New Ecological Paradigm Scale among the Serbian population

The New Ecological Paradigm (NEP) items and item numbers	M	SD
Balance of nature		
When humans interfere with nature, it often produces disastrous consequences. [NEP 3]	3.70	1.13
The balance of nature is strong enough to cope with the impacts of modern industrial nations. (R) [NEP 8]	3.31	1.19
The balance of nature is very delicate and easily upset. [NEP 13]	3.88	1.02
Ecocrisis		
Humans are severely abusing the environment. [NEP 5]	4.21	.96
The so-called “ecological crisis” facing humankind has been greatly exaggerated. (R) [NEP 10]	3.30	1.18
If things continue on their present course, we will soon experience a major ecological catastrophe. [NEP 15]	3.76	1.12
Anti-exceptionalism		
Human ingenuity will insure that we do not make the Earth unliveable. (R) [NEP 4]	3.20	1.24
Despite our abilities, humans are still subject to the laws of nature. [NEP 9]	3.69	1.09
Humans will eventually learn enough about how nature works to be able to control it. (R) [NEP 14]	2.89	1.16
Limits to growth		
We are approaching the limit of the number of people the Earth can support. [NEP 1]	3.38	1.36
The Earth is like a spaceship with very limited room and resources. [NEP 6]	4.11	1.10
The Earth has plenty of natural resources if we just learn how to develop them. (R) [NEP 11]	2.65	1.17
Anti-anthropocentrism (human domination)		
Humans have the right to modify the natural environment to suit their needs. (R) [NEP 2]	3.42	1.38
Plants and animals have as much right as humans to exist. [NEP 7]	4.25	.99
Humans were meant to rule over the rest of nature. (R) [NEP 12]	3.42	1.22

Table 2:
Item means and standard deviations and factor loadings on the first component for the Pro-ecological behaviour among the Serbian population

Environmental Behaviour Questionnaire (scale 1 to 4)	MEAN (SD)	loadings
Where possible, I buy products made from recycled materials as opposed to those items not made from recycled materials.	2.03 (.90)	.71
I re-use plastic shopping bags for future shopping and/or other purposes.	2.62 (1.03)	.55
I avoid using aerosol sprays.	2.30 (1.07)	.51
I turn the television off when it is not in use.	2.93 (1.10)	.57
I take short showers to limit water use.	2.33 (1.08)	.67
I recycle newspapers.	1.82 (1.02)	.70
I buy products with minimal packaging (e.g., products that are packaged in a minimal amount of plastic).	1.90 (.94)	.73
When inside, and if sufficient sun light is shining through the windows, I use sunlight as opposed to artificial light.	3.15 (1.08)	.54
I use the washing machine only when it has a full load.	3.01 (1.04)	.57
When writing, I use both sides of the paper.	2.95 (1.03)	.54
When travelling short distances (approx. 1–2 kilometres), I walk as opposed to driving or taking a bus.	2.89 (1.01)	.44
When cleaning my teeth, I turn the tap off rather than leaving it running.	2.64 (1.10)	.59
I recycle glass materials.	1.68 (.96)	.65
When I buy a few items at the store, I say no to plastic bags.	2.43 (1.06)	.68
When available, I half flush the toilet as opposed to full flush.	1.99 (1.04)	.67

Psihološka istraživanja, Vol. XXVII (2) 2024.
297–314

UDK: 159.922.8
TIP ČLANKA: Originalni naučni rad
DOI: 10.5937/PSISTRA27-50841

The development and preliminary validation of a social-emotional skills assessment instrument for lower secondary school students[1]

Piret Einpaul[2]
University of Tartu, Institute of Education

Äli Leijen
University of Tartu, Institute of Education

Aleksandar Baucal
University of Belgrade, Faculty of Philosophy

Given the necessity of existence of comprehensive and psychometrically sound instruments that measure students' social-emotional skills (SEMS) in school context and facet-level, this study aims to develop and evaluate a SEMS assessment instrument for lower secondary school students. The initial version of the instrument was developed based on the descriptions of skills from the SEMS frameworks by Primi et al. and OECD and consisted of 48 items. After confirmatory factor analysis (CFA) with a sample of 204 students from Estonia, a 9-factor and 34-item instrument has been refined. This model has been confirmed with acceptable fitness by CFA with another sample of 521 students. Strict measurement invariance has been established between grade groups (grades 6 and 9). In conclusion, while analyses show promise and the instrument allows assessing students' SEMS in lower-secondary schools, further research is required.

Key words: social-emotional skills, student evaluation, instrument development, confirmatory factor analysis, measurement invariance

---

1 We would like to thank all schools, teachers and students who have given their time to participate in our study. This study has been supported by the DIGIVARA5 project "The effect of using digital learning materials for learning and teaching in the context of Estonian basic school (1.05.2020 – 30.04.2023)" financed by the Ministry of Education and Research in Estonia.

2 Corresponding author: piret.einpaul@ut.ee

Social-emotional skills (SEMS) have received increasing attention in educational research due to their contribution to students' mental and physical well-being, academic success and employability (e.g. Chernyshenko et al., 2018; Moffitt et al., 2011; The Organisation for Economic Co-operation and Development, 2021). In order to achieve positive outcomes in school, in life and at work, students need both cognitive and social-emotional skills (OECD, 2015). The development of SEMS as an explicit outgrowth in education has become a new important focus, next to supporting students' mastery in sciences, languages, math and arts (Abrahams et al., 2019). Scholars and policy makers have argued for paying more attention to students' SEMS in recent years. The need for SEMS such as self-management, collaboration, emotion regulation and stress resistance, among others, has been highlighted (De Fruyt, 2019) in order to cope with the challenges of today's volatile, uncertain, complex, and ambiguous world (Primi et al., 2021) and to be able to apply their knowledge in unknown and evolving circumstances (OECD, 2018).

Social-emotional skills have been commonly defined as individual characteristics that "(a) originate in the reciprocal interaction between biological predispositions and environmental factors; (b) are manifested in consistent patterns of thoughts, feelings, and behaviours; (c) continue to develop through formal and informal learning experiences; and (d) influence well-being as well as important socioeconomic outcomes throughout the individual's life" (De Fruyt et al., 2015, OECD, 2015). This definition states that SEMS can be developed through social relationships in formal education. Consequently, there is a need to define the key skills and design the instruments for the assessment and monitoring of the development of students' SEMS.

However, despite the importance of SEMS, the assessment of these skills is still associated with several conceptual and methodological challenges, e.g. no consensus on the nature and number of the constructs necessary to cover the social-emotional competencies (Abrahams et al., 2019; Kyllonen et al., 2014; Primi et al., 2016).

Over the past decades, several authors have proposed more than a hundred SEMS taxonomies and frameworks (Berg et al., 2017), which differ by the number and nature of the domains and facets included. Detailed overviews and comparisons of the prominent comprehensive frameworks can be found in Soto et al. (2021), Abrahams et al. (2019), Chernyshenko et al. (2018) and Primi et al. (2021). Having many different SEMS frameworks in use interferes with the educators' needs to enhance understanding and measuring of students' SEMS. There have been several initiatives towards a unified framework of SEMS in order to overcome this lack of consensus on key social and emotional skills and to support the development of reliable assessment instruments of students' SEMS and comprehensive inclusion of the SEMS development in the school curriculum (Abrahams et al., 2019; Kyllonen et al., 2014; Walton et al. 2021). In recent years, growing consensus has emerged, as multiple researchers (e.g., Kyllonen et al., 2014; Primi et al., 2016; Soto et al., 2021; Walton, et al. 2021) have argued that the empirically supported and cross-culturally validated taxonomy of the Big Five can be used to make conceptual sense of the hundreds of the SEMS models frameworks, as well as for building an integrative model, as SEMS can be organized within the domains of the Big Five in terms of their behavioural referents (Abrahams et al., 2019; OECD, 2015).

Aiming to develop a comprehensive set of skills that covers the social-emotional functioning of children and youth, based on the reviews of different SEMS frameworks, and empirical analyses of several SEMS inventories, Primi, John, Santos, and De Fruyt (2017, as cited in Abrahams et al., 2019) proposed an integrative model of SEMS. The model distinguishes among five broad social-emotional skill domains, which are conceptually related to the well-researched Big Five model: *Self-management* (related to Conscientiousness), *Engaging with Others* (related to Extraversion), *Amity* (related to Agreeableness), *Negative-Emotion Regulation* (associated with Neuroticism) and *Open-mindedness* (associated with Openness to experience) (Abrahams et al., 2019). In line with that, the conceptual framework for the OECD's Survey on Social and Emotional Skills (SSES), a large-scale, international study of SEMS of 10– and 15-year-old students also drew on the Big Five model and distinguished five dimensions of SEMS: task performance, emotional regulation, open-mindedness, collaboration, and engaging with others (Kankaraš & Suarez-Alvarez, 2019). Each of these five broad domains was divided into subdomains, which were more descriptive and specific, and thus easier to assess. In addition to more specific social and emotional skills, the SSES framework includes compound skills, making it possible to assess a total of 15 skills (Chernyshenko et al, 2018).

As SEMS are seen as the skills that can be developed and stimulated in formal education, schools and teachers play an important role with this respect. In educational systems, the learning objectives related to students' SEMS in curricula usually refer to broad descriptions that might merge several skills into multidimensional or "hybrid" constructs, such as "global citizenship", "entrepreneurship", or "leadership" (Abrahams et al., 2019). In the Estonian *National Curriculum for Basic Schools* (2011), general competences that schools are expected to monitor and develop, include, for example, "social competence", "self-management competence" and "entrepreneurship competence" – broad constructs consisting of multiple skills, whose alignment with comprehensive knowledge of conceptualization and measurement demands further analyses. Using comprehensive frameworks as a basis could help to make reliable and evidence-based decisions on defining, monitoring and supporting of the development of social-emotional skills in educational settings (Abrahams et al., 2019).

Furthermore, there is a strong empirical support for choosing the facet-level approach in modelling the social-emotional skills, as it offers multiple potential advantages over the domain approach, including not only theory development, but also the development of effective and more precise interventions for the educational context (Guo et al., 2023; Primi et al., 2021). In line with that, Napolitano et al. (2021) have also highlighted the need for targeted and timely interventions and have strongly argued for the importance of investigating the social, emotional and behavioural skill development during adolescence as a focal period for future research.

In summary, as stated above, SEMS are important for academic and life success, while schools are considered to be crucial settings for the development of those skills. In order to empower teachers to effectively include SEMS in their school curriculum, as well as to systematically support and monitor the development of students' SEMS at schools, to start with, the valid assessment tools are needed (Abrahams et al., 2019). However, on the assessment side, many of the instruments available for children and adolescents have been developed for specific aims and concerns (e.g. conduct problems), and thus do not enable a comprehensive assessment of the social and emotional attributes relevant in the educational context and for long-term outcomes in life (Primi et al., 2016).

Therefore, in order to better understand and systematically enhance the development of students' SEMS, educators need valid tools that enable them to assess and monitor students' SEMS. Considering that an appropriate assessment tool needs to be relevant to the context in which it is applied, there is a need for the instruments enabling the assessment of SEMS in the school context and on the facet level, rather than assessing SEMS in general, in an unspecified context and on the broad domains level. As both of these previously mentioned representative frameworks – Primi's et al. and OECD's SSES – focus on specific skills of school-aged children and youth (Abrahams et al., 2019, Chernyshenko et al., 2018) on the facet level rather than the broad skill domains, it offers potential for deeper understanding of social and emotional skill development. In addition, it can provide insights for educational settings on developing and monitoring those skills in schools and classrooms. Given the reasons mentioned above, we have chosen these two frameworks as a basis of our SEMS assessment instrument development.

The current study aims to develop and evaluate the SEMS assessment instrument for lower secondary school students. Self-reported inventories, in which each item represents a specific social-emotional skill, are recognized as one possible way to assess SEMS. Based on the two prominent frameworks on students' SEMS – Primi et al.'s (2017) and OECD's SSES framework – a self-reported instrument is developed to assess nine selected social-emotional skills: self-control, responsibility, persistence, emotional control, stress resistance, empathy, cooperation, trust, and assertiveness. This set of nine skills has been selected according to the results of previous research and the *Estonian National Curriculum for Basic Schools*. Considering relatedness with students' academic performance (Chernyshenko et al., 2018), we include self-control, persistence, responsibility, emotional control and stress resistance. Since being able to co-operate, having empathy and trusting others are underlying markers of collaboration, considered to be highly relevant skills for students (Kankaraš & Suarez-Alvarez, 2019) and stressed as an important part of social competencies expected to be developed in schools stated in the *Estonian National Curriculum for Basic Schools*, we have also included those skills. In developing the first version of the instrument, we have decided not to include the skills from the domain of Open-mindedness (Openness), as the results for the associations between openness and academic achievement from most studies so far have not been clear (Gatzka, 2021), and there is still a need for deeper understanding of the exact underlying mechanisms. After comparing the descriptions of skills from the two selected frameworks, we have decided to include descriptions from both, as we have noticed some differences in the content as possibly helpful in connecting the items of our instrument with a variety of aspects of learning and classroom context. The nine social-emotional skills and their descriptions are presented in Table 1.

Table 1
Social-emotional skills included in the current study

Domain	Skills		Descriptions/definitions		Sample items from the instrument developed (translated for publication)
	OECD	Primi et al.	OECD	Primi et al.	
Task Performance/ Self-management	self-control	focus	Able to avoid distractions and focus attention on the current task in order to achieve personal goals.	Focusing attention on the current task, and avoiding distractions.	*I think before I start doing something.*
	responsibility	responsibility	Able to honour commitments, and be punctual and reliable.	Possessing time-management skills, being punctual, honouring commitments.	*I make sure (for myself) that my school assignments have been submitted on time.*
	persistence	persistence	Persevering in tasks and activities until they get done.	Overcoming obstacles to reach important goals.	*I can continue with the task I have started even when some obstacles arise.*

Domain	Skills		Descriptions/definitions		Sample items from the instrument developed (translated for publication)
	OECD	Primi et al.	OECD	Primi et al.	
Emotional Regulation	stress resistance	stress modulation	Effectiveness in modulating anxiety and being able to calmly solve problems (is relaxed, handles stress well).	Modulating anxiety and response to stress.	*I can handle stress well.*
	emotional control	frustration tolerance	Effective strategies for regulating temper, anger and irritation in the face of frustrations.	Regulating temper, anger and irritation, maintaining tranquillity and equanimity in the face of frustration.	*I can remain calm even in tense situations.*
Collaboration/ Amity	empathy	compassion	Kindness and caring for others and their well-being that leads to valuing and investing in close relationships.	Using empathy and perspective taking skills to understand the needs and feelings of others, acting on this understanding with kindness and consideration of others.	*When my classmate is upset, I offer him/her support.*
	trust	trust	Assuming that others generally have good intentions and forgiving those who have done wrong.	Assuming that others generally have good intentions and forgiving those who have done wrong.	I trust my classmates.
	cooperation	respect	Living in harmony with others and valuing interconnectedness among all people.	Treating others with respect and politeness.	*I help my classmates when they need help.*
Engaging with others	assertiveness	assertiveness	Able to confidently voice opinions, needs, and feelings, and exert social influence.	Speaking up, voicing opinions, need, and feelings, and exerting social influence.	*I boldly voice my opinions while communicating with my classmates.*

Note. OECD's SSES framework was derived from Chernyshenko et al. (2018) and Kankaraš & Suarez-Alvarez (2019). Primi's et al. (2017) framework was derived from Abrahams et al. (2019).

Our aim in this study is to develop an instrument for assessing lower secondary school students' SEMS in school context and on facet level, as well as to evaluate the psychometric properties of the instrument, focusing on its internal validation. To approach this aim, we formulated the following three research questions:

1. Which factors can be empirically specified in characterizing students' SEMS according to the frameworks and skills chosen for the developed SEMS instrument?
2. Does the instrument enable invariant measurement of SEMS in two grades (the 6th and 9th grade)?
3. Are there any differences between the self-reported levels of SEMS of the 6th and 9th grade students?

Method

Sample and procedure

In this article, we use data the collected from 6th and 9th grade students from January to April 2022 as a part of a larger research project, namely Digiefekt. Participants were from 12 schools in different regions of Estonia. The schools were purposively selected for the Digiefekt project, considering specific variables for forming the sample (e.g., the results in academic tests and the level of digital competence of students), so that the selected schools represented different levels of those variables.

Initially, 542 students filled out the scale online. The data file was then cleaned based on two criteria: (1) whether the grade was the 6th or 9$^{th;}$ (2) whether the respondent selected the same answer for every item in the instrument. After clearing out the unqualified cases, 521 valid participants were retained. The final sample thus encompassed 272 sixth-grade and 249 ninth-grade students, out of whom 240 were males and 281 females. In regard to the number of classes, there were 19 classes of sixth-graders and 17 classes of ninth-graders. The typical age of Estonian sixth-grade students is either 12 or 13 years, and of ninth-graders either 15 or 16 years. Informed consent was obtained from students and their parents. Ethics committee approval was obtained for the study.

The questionnaire was completed in the Estonian language. Data were collected electronically, using the LimeSurvey software. The link to the questionnaire was sent to the teachers of the participating schools. Participants responded to the questionnaire voluntarily. They were allowed to take the survey at school or at home and there was no time limit. Most students completed the scale in about 12 to 20 minutes.

Instrument

A self-report instrument was developed to assess students' social and emotional skills in nine selected dimensions: self-control, responsibility, persistence, emotional control, stress resistance, empathy, cooperation, trust, and assertiveness. The instrument was based on two comprehensive frameworks of social-emotional skills – Primi's et al. framework (2017, as cited in Abrahams et al., 2019) and OECD's SSES framework (Chernyshenko et al., 2018 and OECD, 2021). The development of the SEMS instrument consisted of two phases: 1) the selection of frameworks and skills and development of items, and 2) the pilot study.

In the first phase, an expert group of three researchers from the social-emotional skills workgroup of the Digiefekt project decided on the SEMS frameworks and specific skills to include. The initial set of items was created by the same expert group. Each expert independently developed a list of items to assess social-emotional skills (at least 3-4 items per each skill), based on the frameworks' key aspects and skills descriptions and considering situations from the school context (e.g., collaboration with classmates, setting goals for learning, coping with distractions while learning). After each expert had finished the item development separately, they compared and discussed the content and wordings of the items together to resolve disagreements; after that, they finalized 48 items for the initial instrument, consisting of self-control (4 items), persistence (5 items), responsibility (7 items), emotional control (7 items), stress resistance (4 items), empathy (8 items), cooperation (4 items), trust (3 items), and assertiveness (6 items). The differences in the initial number of items were related to the lengths of skills descriptions of the frameworks selected, as more detailed descriptions allowed to generate more items. The items had a five-point Likert type agree/disagree response scale, with answers ranging from 1 (*completely disagree*) to 5 (*completely agree*). The option *don't know/can't answer* was also offered.

As a part of this phase, the initial set of items was tested with four teachers and five students (two sixth-grade and three ninth-grade students) to ensure that all items were understandable. Teachers and students were asked to evaluate clarity of the items. As none of the items were reported as "difficult to understand" or "meaning not clear", no changes were made. Most students completed the scale in less than 10 minutes.

In the second phase, the initial version of the developed students' SEMS instrument was used in the pilot study (N=204), whose purpose was to test: (1) the factor structure and psychometric properties of the items of the initial version of instrument developed, and (2) the procedure of the survey in preparation for the main study. Data were collected electronically from 204 students in Estonian schools – sixth-grade students (77) and ninth-grade students (127). Data collection took place in two phases – from May to June 2021 and in September 2021. From the results of the pilot study, we used the correlations between items and CFA results to revise the questionnaire for the main study. Modification indices and standardized residuals were used to locate the items that caused misfits, and, after that, the content of these items was reviewed. The decisions to include or exclude items during the revision of the questionnaire were made on both the empirical and theoretical grounds. The revised version of the SEMS instrument, used in the current study, consisted of 34 items and 9 factors, mostly four items per factor.

Data analysis

The theoretical model of social-emotional skills was tested using confirmatory factor analysis (CFA), verifying whether it was possible to support the structure of the nine factors defined for the instrument. Analyses were conducted using the statistical programme Mplus version 8.8 (Muthén & Muthén, 2022). First, the goodness of fit of models was evaluated by using a chi-square statistic (χ^2), the Tucker-Lewis index (TLI), the comparative fit index (CFI) and the root mean square error of approximation (RMSEA). According to Hair et al. (2006), the model is acceptable when RMSEA <0.05, CFI and TLI$>$ 0.9. We also used the normed chi-square index with an acceptable value below 3 and a good value below 2 (Ullman, 2006).

Second, multiple-group confirmatory factor analyses were conducted in the samples of grades 6 and 9, testing invariance of the measurement model parameters across those two groups. We tested for configural, metric and scalar invariance. All models were estimated in the statistical software package Mplus version 8.8. Student answers are treated as categorical data. With respect to this, the Weighted Least Squares Means and Variance adjusted (WLSMV) were used as estimators. The resulting invariance models were compared with respect to their chi-square statistics, CFI and RMSEA, following the recommendations by Chen (2007), who suggested a criterion of a 0.01 change in CFI to be sufficient to show invariance, paired with the changes in RMSEA of up to 0.015.

All descriptive analyses and *t*-tests were performed in SPSS.

Results

Confirmatory factor analysis

The first research question focused on testing whether nine social-emotional skills assessed via the developed and revised SEMS instrument could be empirically differentiated as latent variables. Confirmatory factor analyses (CFA) were used to test the factor structure of the instrument. The nested structure of the data (individual students nested within classes) was taken into account by using multi-group cluster analyses. CFA with all 34 items – the correlated factor model – showed acceptable fit indices ($\chi2/df$ = 2.01, RMSEA = .044, CFI = .937, TLI = .928).

As some of the latent factors from the same higher-order domains were highly correlated with each other – for example, responsibility and persistence (0.924), stress resistance with emotional control (0.986) and self-control and persistence (0.860) – we also tried to combine the high-correlated factors, but the results of CFA became worse, leading us to choose the nine-factor model.

Since it was possible to organize the nine facet-level social-emotional skills chosen for the instrument into the broad domains according to the theoretical frameworks, we then tested the second-order model (task management, emotional regulation, cooperation, engaging with others) and the general dimensions (the four-factor) model and, finally, the assumption that all factors loaded into one general-factor (unidimensional factor) model, but all them were a worse fit. The fit indices of different CFA models are presented in Table 2.

Table 2
Goodness-of-fit information for Confirmatory Factor Analyses of the SEMS instrument

Factor model	χ^2	*df*	χ^2/df	RMSEA	CFI	TLI
Nine-factor model	989.4	491	2.02	.044	.937	.928
Second-order model	1073.5	513	2.09	.046	.929	.922
Four-factor model	1128.9	521	2.17	.047	.923	.917
Unidimensional model	1700.6	527	3.22	.065	.851	.842

The results indicate that the correlated factor model with nine SEMS factors was the one with the best fit (see fit indices in Figure 1).

Composite reliability for seven of the nine factors was over the recommended threshold of 0.70, ensuring adequate internal consistency. For two factors – *Trust* and *Assertiveness* – the composite reliability was 0.6. These two scales both consisted of three items and needed further development.

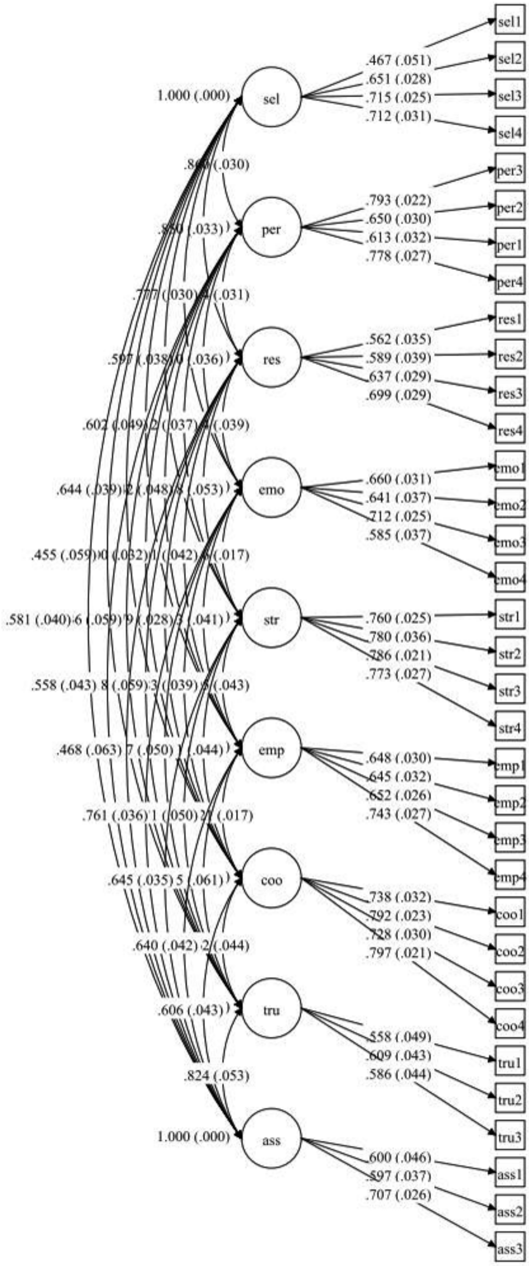

Figure 1. The correlated factor model of students' social-emotional skills ($\chi 2/df$ = 2.01, RMSEA = .044, CFI = .937, TLI = .928), WRMR = 1.449; sel = self-control, per = persistence, res = responsibility, emo = emotional control, str = stress resistance, emp = empathy, coo = cooperation, tru = trust, ass = assertiveness.

Measurement invariance

The second analysis investigated whether we could assume measurement invariance of the SEMS instrument for students of different grades, verifying whether the instrument measured the same factors in the same way across grades 6 and 9.

Three levels of invariance were examined. First, we tested for configural invariance, estimating all model parameters freely for grade 6 and grade 9 students. This model resulted in a reasonable fit – χ^2 [982] = 1437.46, CFI = 0.944, TLI = 0.937, RMSEA = 0.042. Given the reasonable fit of this model to the data, in the second step we further examined metric invariance across grades. The resultant model showed a reasonable model fit – χ^2 [1007] = 1442.80, CFI = 0.944, TLI = 0.937, RMSEA = 0.041. Third, we tested for scalar invariance and this model resulted in acceptable fit – χ^2 [1100] = 1516.04, CFI = 0.946, TLI = 0.945, RMSEA = 0.038. Considering the differences in goodness-of-fit statistics between invariance models (Table 3), we accepted the scalar invariance model, which showed acceptable fit.

Table 3
Goodness-of-fit statistics and comparisons among multi-group invariance models

Type of invariance	χ^2	*df*	χ^2/df	CFI	ΔCFI	TLI	RMSEA	ΔRMSEA
Configural	1437.46	982	1.46	0.941	-	0.933	0.042	-
Metric	1442.80	1007	1.43	0.944	-0.003	0.937	0.041	0.001
Scalar	1516.04	1100	1.37	0.946	-0.002	0.945	0.038	0.003

Note: *df* = Degrees of freedom; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation.

In summary, these results provide evidence for measurement invariance, suggesting that the instrument is psychometrically equivalent across grades 6 and 9.

Grade group differences

Regarding the comparison of the sixth-grade and ninth-grade students, *t*-tests were conducted to examine the mean differences between grade groups. The scores of social emotional skills were calculated based on the average scores of the corresponding items. The descriptive statistics and *t*-test results are presented in Table 4.

Table 4
Descriptive statistics and t-test of grades

	Grade 6 (n= 272)		Grade 9 (n= 249)				
	Mean	*SD*	Mean	*SD*	*t*	*df*	*p*
Self-control	3.53	.697	3.28	.668	4.155	507	<.001
Persistence	3.89	.672	3.81	.689	1.215	505	.112
Responsibility	4.11	.628	4.06	.626	.980	506	.164
Emotional control	3.73	.791	3.64	.788	1.365	493	.086
Stress resistance	3.57	.813	3.49	.875	1.628	501	.052
Empathy	4.18	.647	4.16	.615	.490	501	.312
Cooperation	4.25	.624	4.27	.626	.100	507	.460
Trust	3.79	.775	3.80	.756	-.241	507	.405
Assertiveness	3.47	.805	3.39	.841	.828	486	.204

Note: Scale scores ranged from 1 to 5.

The results of the independent samples *t*-test showed that there existed a significant difference between the sixth-grade and ninth-grade students ($t = 4.155$, $p < 0.01$) in the *Self-control* facet, indicating that the students from the younger cohort ($M = 3.53$, $SD = 0.697$) reported higher self-control levels than the students from the older cohort ($M = 3.28$, $SD = 0.668$). There were no significant differences between the grade groups regarding the other eight SEMS factors.

Discussion

This article has described the development and preliminary psychometric evaluation of a self-assessment instrument which could be used to measure social-emotional skills of lower secondary school students. Nine SEMS, namely self-control, responsibility, persistence, emotional control, stress resistance, empathy, cooperation, trust, and assertiveness, were selected to develop the instrument and form the items, based on two prominent frameworks proposed by Primi et al. (2017) and OECD (2019). The first version of the instrument was examined by CFA with 204 participants from the pilot study, showing acceptable fit.

However, in order to improve the instrument, some changes in the items were made both on empirical and theoretical grounds; hence, for the main study, a nine-factor and 34-item instrument was compiled. The revised version of the instrument was further examined by CFA with 521 participants, showing acceptable fit. The results of CFA supported the nine-factor structure of the instrument and therefore confirmed construct validity of the proposed model. This instrument utilizes the facet-level assessment approach and allows to provide specific information about different SEMS. Therefore, it could be used by educators for monitoring students' SEMS, as well as for developing and targeting interventions in schools.

Similarly to some previous studies using the same frameworks of social-emotional skills, the current study has shown some high correlations between students' self-reported skills from the same domains, for example, self-control and persistence, responsibility and persistence, emotional control and stress resistance. These findings are in accordance with the results from the Finnish sample of the OECD Study on Social and Emotional Skills (Guo et al., 2023). These relatively high correlations between some social-emotional skills (e.g. responsibility and persistence, emotional control and stress resistance) in our study can be explained by belonging to the same higher-order domain, as the skills are conceptually and empirically related to one another. Still, there is also a possibility that some correlations might be related to students' perceptions of those skills, and the results might indicate that students could not differentiate between those social-emotional skills. A possible explanation might be that students may not have had enough opportunities to develop clear understanding of the distinct characteristics of the assessed social-emotional skills, resulting in high correlations in their self-ratings of some skills. If this hypothesis were proved right in the following studies, it would mean that students needed to be supported through formal education to develop better understanding of different social-emotional skills by providing more specific and targeted approaches. Therefore, further analyses should be performed to enhance our understanding on this matter and support students' perceptions of those skills.

Moreover, the present study has used multiple group CFA to investigate measurement invariance of the developed SEMS instrument in the sixth-grade and ninth-grade students. The previously established nine-factor structure of the instrument showed acceptable fit in both samples. The results suggest that the instrument measured the same skills across different grades and the scores of the sixth-grade and ninth-grade students were directly comparable. Therefore, the developed instrument can be used for students of both grades and makes it possible to compare the results for both groups of students. This is an important finding, considering that adolescent years are claimed to be the most focal period for supporting and monitoring the development of SEMS (Napolitano et al., 2021) and our instrument makes it possible to measure and compare the SEMS ratings for lower secondary school students.

The results of this study indicate that self-ratings of SEMS are mostly similar in the sixth-grade and ninth-grade students. For one facet – self-control – the students from the younger cohort reported significantly higher levels than the student from the older cohort. This finding is partially consistent with the previous studies by Soto et al. (2011), which indicated that self-control showed decrease during adolescence, and this decrease was much sharper than in the other facets within the same domain.

In light of the statistical results of this study, we can conclude that the developed instrument exhibits a measure of internal validity, which represents an important foundation for further development. This instrument can be further improved, for example, by cross-validation with teacher rating of students-skills. Another possibility for enhancement is to consider adding more SEMS scales to the instrument, e.g., curiosity. Regarding the role of students' social-emotional skills in the achieved educational outcomes, there is recent evidence that curiosity appears to be among the three most beneficial skills, in addition to self-control and persistence (Goa et al., 2023).

Even though the present study has supported the psychometric properties of the developed SEMS instrument, we would like to pinpoint and discuss some potential limitations. First, the current analysis focused on self-reports of students, and this may be deemed a common methodological weakness of many SEMS evaluation studies. Therefore, additional analyses with several informant ratings are needed to examine whether the psychometric properties evaluated based on students' self-reports are replicated by additional measures. Secondly, due to evidence on low composite reliability in two of the scales, Trust and Assertiveness, it is recommended to analyse and revise the items in order to improve the psychometric characteristics of those two factors. Thirdly, as the current study used no other instrument to measure students' social-emotional skills, no analysis on concurrent or convergent validity was conducted. This represents an important limitation, and a strong recommendation for future research.

Despite its limitations, our study proposes an assessment instrument for SEMS with acceptable psychometric properties. From a practical point of view, the current study has offered an initial version of the SEMS instrument for lower secondary schools, which is easy to administer and can be used for the assessment and educational monitoring of students' SEMS. The nine-factor structure of the instrument has been confirmed and the instrument makes it possible to make comparisons across grades 6 and 9.

Future studies should focus on exploring students' understanding and perceptions of different social-emotional skills and their distinctive aspects, as well as on the possibilities of supporting the development of those skills to achieve more nuanced understanding of different facets.

References

Abrahams, L., Pancorbo, G., Primi, R., Santos, D., Kyllonen, P., John, O. P., & De Fruyt, F. (2019). Social-emotional skill assessment in children and adolescents: Advances and challenges in personality, clinical, and educational contexts. *Psychological Assessment*, *31*(4), 460–473. https://doi.org/10.1037/pas0000591

Berg, J., Osher, D., Same, M. R., Nolan, E., Benson, D., & Jacobs, N. (2017). Identifying, defining, and measuring social and emotional competencies. American Institutes for Research. https://www.air.org/sites/default/files/downloads/report/Identifying-Defining-and-Measuring-Social-and-Emotional-Competencies-December-2017-rev.pdf

Chen, F. F. (2007). Sensitivity of Goodness of Fit Indexes to Lack of Measurement Invariance. *Structural Equation Modeling: A Multidisciplinary Journal, 14:3*, 464-504, DOI: 10.1080/10705510701301834

Chernyshenko, O. S., Kankaraš, M., & Drasgow, F. (2018). Social and emotional skills for student success and well-being: Conceptual framework for the OECD study on social and emotional skills. *OECD Education Working Papers, 173,* 1-136. https://doi.org/10.1787/db1d8e59-en

De Fruyt, F., Wille, B., & John, O. (2015). Employability in the 21st Century: Complex (Interactive) Problem Solving and Other Essential Skills. Industrial and Organizational Psychology, 8(2), 276-281. https://doi:10.1017/iop.2015.33

De Fruyt, F. (2019). Towards an evidence-based recruitment and selection process. *Pertsonak Eta Antolakunde Publikoak Kudeatzeko Euskal Aldizkaria Revista Vasca de Gestión de Personas y Organizaciones Públicas* 16, 8–15.

Estonian Government. 2011/2014. "National Curriculum for Basic Schools." Riigi Teataja. https:// www.hm.ee/sites/default/files/est_basic_school_nat_cur_2014_general_part_1.pdf

Gatzka, T. (2021). Aspects of openness as predictors of academic achievement. *Personality and Individual Differences*, *170*, 110422. https://doi.org/10.1016/j.paid.2020.110422

Guo, J., Tang, X., Marsh, H., Parker, P. D., Basarkod, G., Sahdra, B. K., Ranta, M., & Salmela-Aro, K. (2023). The Roles of Social-Emotional Skills in Students' Academic and Life Success: A Multi-Informant, Multi-Cohort Perspective. *Journal of Personality and Social Psychology*. https://doi.org/10.31234/osf.io/ahg8p

Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2006). Multivariate Data Analysis (6th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

Kankaraš, M. and J. Suarez-Alvarez (2019), "Assessment framework of the OECD Study on Social and Emotional Skills", *OECD Education Working Papers*, No. 207, OECD Publishing, Paris, https://doi.org/10.1787/5007adef-en

Kankaraš, M., E. Feron and R. Renbarger (2019), "Assessing students' social and emotional skills through triangulation of assessment methods", *OECD Education Working Papers*, No. 208, OECD Publishing, Paris, https://doi.org/10.1787/717ad7f2-en.

Kyllonen, P. C., Lipnevich, A. A., Burrus, J., & Roberts, R. D. (2014). Personality, Motivation, and College Readiness: A Prospectus for Assessment and Development: Personality, Motivation, and College Readiness. *ETS Research Report Series*, *2014*(1), 1–48. https://doi.org/10.1002/ets2.12004

Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H., Houts, R., Poulton, R., Roberts, B. W., Ross, S., Sears, M. R., Thomson, W. M., & Caspi, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences*, *108*(7), 2693–2698. doi.org/10.1073/pnas.1010076108

Muthén, L. K., & Muthén, B. O. (2022). *Mplus users guide and Mplus version 8.8*. http://www.statmodel.com/index.shtml

Napolitano, C.M., Sewell, M.N., Yoon, H.J., Soto, C.J. and Roberts, B.W. (2021). Social, Emotional, and Behavioral Skills: An Integrative Model of the Skills Associated With Success During Adolescence and Across the Life Span. *Frontiers in Education*. 6:679561. doi: 10.3389/feduc.2021.679561

OECD. (2015). *Skills for Social Progress: The Power of Social and Emotional Skills*, OECD Skills Studies, OECD Publishing. *doi.org/10.1787/9789264226159-en*

OECD. (2018). The future of education and skills – Education 2030. Paris: O. Publishing. Retrieved from https://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf

OECD. (2021). *Beyond Academic Learning: First Results from the Survey of Social and Emotional Skills 2019*. OECD. doi.org/10.1787/92a11084-en

Primi, R., Santos, D., John, O. P., & De Fruyt, F. (2016). Development of an Inventory Assessing Social and Emotional Skills in Brazilian Youth. *European Journal of Psychological Assessment*, *32*(1), 5–16. doi: 10.1027/1015-5759/a000343

Primi, R., Santos, D., John, O. P., and De Fruyt, F. (2021). SENNA Inventory for the Assessment of Social and Emotional Skills in Public School Students in Brazil: Measuring Both Identity and Self-Efficacy. *Frontiers in Psychol*ogy, 12:716639. doi: 10.3389/fpsyg.2021.716639

Soto, C. J., John, O. P., Gosling, S. D., & Potter, J. (2011). Age differences in personality traits from 10 to 65: Big Five domains and facets in a large cross-sectional sample. *Journal of Personality and Social Psychology*, *100*(2), 330–348. https://doi.org/10.1037/a0021717

Soto, C. J., Napolitano, C. M., & Roberts, B. W. (2021). Taking Skills Seriously: Toward an Integrative Model and Agenda for Social, Emotional, and Behavioral Skills. *Current Directions in Psychological Science*, *30*(1), 26–33. https://doi.org/10.1177/0963721420978613

Ullman, J. B. (2006). Structural Equation Modeling: Reviewing the Basics and Moving Forward. *Journal of Personality Assessment,* 87:1, 35-50, DOI: 10.1207/s15327752jpa8701_03

Walton, K. E., Murano, D., Burrus, J., & Casillas, A. (2021). Multimethod Support for Using the Big Five Framework to Organize Social and Emotional Skills. *Assessment*, *30*(1), 144–159. https://doi.org/10.1177/10731911211045744

DATUM PRIJEMA RADA: 2024/05/04 DATUM PRIHVATANJA RADA: 2024/10/03

Razvoj i preliminarna validacija instrumenta za procenu socijalno-emocionalnih veština za učenike viših razreda osnovnog obrazovanja

Piret Einpaul
Univerzitet u Tartuu, Institut za obrazovanje

Äli Leijen
Univerzitet u Tartuu, Institut za obrazovanje

Aleksandar Baucal
Univerzitet u Beogradu, Filozofski fakultet

Imajući u vidu potrebu za sveobuhvatnim i psihometrijski proverenim instrumentima za procenu učeničkih socijalno-emocionalnih veština (SEMS) u školskom kontekstu, cilj ove studije je da razvije i testira instrument za procenu socijalno-emocionanih veština učenika viših razreda osnovnog obrazovanja. Početna verzija instrumenta razvijena je na osnovu opisa veština iz SEMS okvira (Primi i saradnici) i na osnovu OECD okvira i sastojala se iz 48 stavke. Nakon konfirmatorne faktorske analize (CFA) na uzorku od 204 učenika iz Estonije, unapređen je instrument sa 9 faktora i 34 stavke. CFA analiza ukazala je da predviđeni model ima prihvatljive fit parametre na alternativnom uzorku koji se sastojao od 521 učenika. Utvrđena je striktna invarijantnost merenja između razreda (6. i 9. razred). Može se zaključiti da, iako analize ukazuju na obećavajuće rezultate i instrument omogućava procenu učeničkih SEMS na višim razredima osnovnog obazovanja, potrebno je sprovesti dodatna istraživanja.

Ključne reči: socio-emocionalne veštine, procena učenika, konstruisanje instrumenta, konfirmatorna faktorska analiza, invarijantnost merenja

Psihološka istraživanja, Vol. XXVII (2) 2024.
315–333

UDK: 159.922:82
TIP ČLANKA: Pregledni rad
DOI: 10.5937/PSISTRA27-47425

Percepcije i uticaji književnosti na psihološke procese i dispozicije u savremenom društvu[1]

Nebojša Petrović[2]
Univerzitet u Beogradu, Filozofski fakultet, Odeljenje za psihologiju

Cilj ovog rada je osvetljavanje određenih aspekata susretanja književnosti i psihologije, s posebnim osvrtom na to kako književna dela mogu biti značajan izvor podataka za psihološka istraživanja i dublje razumevanje dispozicija i ponašanja pojedinca, drugih i društva u celini. Književnost, kao integralni deo kulturne baštine, predstavlja jedan od ključnih izvora socijalizacije, koji doprinosi formiranju individualnih i grupnih identiteta, kao i vrednosti i dispozicija ličnosti. U radu se posebno ističe doprinos grupe za kognitivno istraživanje književnosti sa Univerziteta u Torontu, koja kroz eksperimentalna i druga istraživanja, kao i kroz radove svojih članova, ukazuje između ostalog, i na aktivan proces simulacije uma čitalaca književnih dela. Ovaj proces pomaže u razvoju empatije, interpersonalnih veština, kao i u emocionalnom razvoju. Književno delo koje kao umetnička forma nije dogmatsko već otvoreno za interpretacije u susretu sa čitaočevim dispozicijama i vrednostima uvek daje nov i jedinstven efekat i razumevanje pročitanog. Čitaoci poseduju brojne interpersonalne razlike: u inteligenciji, otvorenosti, stepenu imerzije, želji za potvrđivanjem sopstvenih gledišta i mnogim drugim aspektima, što dovodi do različitih razumevanja i koristi od istog književnog dela. Književnost igra ključnu ulogu u oblikovanju, održavanju ili osporavanju kolektivnih identiteta, posebno u društvima koja prolaze kroz krize i brze promene, poput našeg u poslednjim decenijama, te je posvećena pažnja ilustraciji tih procesa u savremenoj srpskoj književnosti. Veze između književnosti i psihologije su brojne i kompleksne, a ovaj rad predstavlja izbor i prikaz nekih od najvažnijih aspekata tih veza, naglašavajući njihov značaj u savremenom kontekstu.

Ključne reči: književnost, psihologija, percepcija, uticaj, identitet

---

1 Ovaj rad je rezultat istraživanja sprovedenog uz podršku Fonda za nauku Republike Srbije, projekat br. 1634, „Srpska književnost 1991–2021: identitet, trauma, sećanje“, akronim: SLITaM.

2 Kontakt autora: npetrovi@f.bg.ac.rs

Uvod

Jednu knjigu bismo mogli posmatrati kao zadužbinu onoga ko ju je napisao. Međutim, čitajući roman Gorana Petrovića *Sitničarnica kod srećne ruke*, kao psiholozi ne možemo a da ne pronađemo bliskost između nesvakidašnjeg zadatka koji je poveren mladom lektoru i određenja da psihološku nauku ne zanima toliko objektivna situacija, koliko mera u kojoj su ljudi pod uticajem svojih tumačenja, odnosno vlastite konstrukcije okoline, te nam je važnije da razumemo kako ljudi percipiraju, shvataju i tumače svet oko sebe od toga da spoznamo objektivna svojstva samog tog sveta (Aronson i sar., 2013.).

Petrović piše o jednom mladiću koji je dobio zadatak da lektoriše roman čiji je naziv *Moja zadužbina*, ali koji je napisan još pre 70 godina. Da li je moguće prepravljati nečiju dovršenu zadužbinu? Nije li u pitanju dilema da li su književna dela stabilne i nedodirljive zadužbine svojih autora ili njihovi budući čitaoci u njih unose svoje „lektorske" intervencije, odnosno, čitaju ih i tumače u zavisnosti od svojih ličnih karakteristika, vrednosti, preferencija ili normi doba u kojem žive? U *Sitničarnici* se dešavaju mnoge čudne, pa i fantastične stvari: čitaoci se međusobno susreću, a mešaju se i njihove sudbine sa sudbinama junaka romana. Da li stvarnost nastaje čitanjem, da li budući naraštaji menjaju nečju zadužbinu, projektujući u nju svoje osobine i prilagođavajući je sopstvenoj ličnosti, samo su neka od pitanja koja se javljaju. Psihologija potvrđuje da se čovek menja kroz učenje, koje se definiše i kao određena vrsta iskustva (Radonjić, 1992). Nema nikakvog razloga da čitanje književnih dela isključimo iz tih iskustava, koja nas barem delimično oblikuju i menjaju.

Do sada nije bilo radova na ovu temu, te ovaj rad nikako ne može da pokrije sve ono u čemu se susreću književnost i psihologija, već bi mogao da prikaže odabrani skup problema, pre svega sa stanovišta socijalne psihologije i relevantnih kognitivnih procesa, koji se tiču potencijala književnosti da bude značajan stimulus psiholozima u njihovim istraživanjima i razumevanju ljudskih dispozicija i ponašanja, kao i društva u kome živimo. Na početku ćemo dati pregled osnovnih istorijskih i sadržinskih veza književnosti i psihologije i istaći korisnost književnog stvaralaštva za razumevanje, interpretaciju i predviđanje ljudskog ponašanja. Kao posebno bitna razmatranja za vezu književnosti i psihologije odobarali smo da prikažemo neke od osnovnih ideja grupe istraživača čiji je najreprezentativniji predstavnik Kit Otli (Keith Oatley). Istaći ćemo da svako književno delo nije dogmatski zacrtana datost, nego se tek u susretu sa čitaocima, koji sa tim delom stupaju u kontakt, unoseći u proces čitanja svoje sposobnosti, motivaciju, težnje da potvrde svoja stanovišta ili da se suoče sa nekad i disonantnim i uznemirujućim novinama, spremnost da uživaju u stilu, da se zabave ili da saznaju neke nove činjenice, želju da se poistovete ili distanciraju od književnih junaka, dolazi do onoliko različitih doživljaja dela koliko ima čitalaca. Svaki taj doživljaj će imati i drugačije efekte, ovaploćene kroz nova saznanja i otvaranje novih vidika, emocionalne podsticaje, bolja razumevanja stanovišta drugih, promenu odnosa prema piscu, možda veću bliskost sa onima koji su čitali isto delo i druge oblike uticaja. Na kraju ćemo, kroz primere književnih dela nastalih u vremenima brzih i velikih društvenih promena u našem društvu poslednjih decenija, pokušati da čitaoca ovog rada podstaknemo na razmišljanje koliko različita dela i autori koji govore o različitim temama i epohama mogu uticati na naš doživljaj sebe samih, na naš identitet, pre svega socijalni, koji delimo sa drugim bliskim ljudima.

Bliskost književnosti i psihologije

S obzirom na teme kojima se bave, književnost i psihologija bi trebalo da budu duboko povezane discipline. Jedna kroz umetničko stvaralaštvo, a druga kroz naučno istraživanje, književnost i psihologija osvetljavaju ljudsku prirodu, emocije, motivacije, interakcije i konflikte u i među ljudima. Postoje jasni podsticaji u oba pravca. Često se pominje da je jedan od najpoznatijih psihologa, Sigmund Frojd, isticao kako je najviše o čovekovoj prirodi naučio od Dostojevskog (Freud, 1928). Sofoklov *Kralj Edip* bio je osnova za Frojdovo objašnjenje možda najvažnijeg koncepta psihoanalitičke teorije. Sa druge strane, kada je psihologija oformljena kao posebna nauka, jedna od prvih i danas uticajnih knjiga bila je knjiga Vilijema Džejmsa *Principi psihologije* (1890). U pomenutoj knjizi, on formuliše osnove novog pravca – funkcionalizma (nasuprot dotadašnjem strukturalizmu), gde svest vidi ne kao nešto statično i sastavljeno od sitnih delova, nego kao nešto što stalno teče. Tako smo od toka misli došli do toka svesti koji traje i stalno poprima nove oblike. Ovo je koincidiralo, između ostalog, i sa javljanjem romana toka svesti (Sinclair, 1908), čiji je verovatno najbolji primer Džojsov roman *Uliks*, ali i Foknerov roman *Buka i bes*, romani Virdžinije Vulf i drugi.

Pored Frojda, i drugi klasici psihologije ličnosti, poput Junga i Adlera, takođe su uticali na književnost (npr. Radford & Wilson, 1982).

Međutim, istraživanja koja se oslanjaju na velike i sveobuhvatne teorije o ličnosti, koje često polaze od apriornih gledišta autora, nisu već dugo dominantna u psihološkoj nauci. Njih su zamenila istraživanja manjeg i srednjeg obima, gotovo redovno empirijska, a neretko i eksperimentalna. Na toj ravni, od kraja prošlog stoleća dolazi do približavanja psihologije i književnosti, i to kako sa strane književosti kao humanističke discipline, odakle započinju empirijska istraživanja književnih dela (npr. u okviru *Međunarodnog udruženja za empirijsko proučavanje literature*[3]), tako i od savremenih psihologa koji ispituju brojne i raznolike psihološke efekte književnih dela na čitaoce (empatiju, socijalnu inteligenciju, tumačenje društvenih dinamika, razmatranje značaja

3 Internationale Gesellschaft für Empirische Literaturwissenschaft, https://igelsociety.org/

ili promenu salijentnosti pojedinih identiteta i slično), kao i medijatore i moderatore u tim procesima (poput uključenosti, otvorenosti za nova iskustva, sklonosti ka introspekciji i slično). Tako je utvrđeno da čitanje književnih dela može pomoći ljudima da razviju empatiju, uživljavanjem u tuđu perspektivu i razumevajući tuđe emocije i motivacije (Kidd & Castano, 2013).

Književnost, bez obzira na odabir književnih žanrova i pripovednih tehnika, podstiče emotivne reakcije kod ljudi i pruža uvid u unutrašnje borbe, misli i osećanja likova. Psiholozi stoga mogu koristiti literaturu kao sredstvo za proučavanje složenih emocija i motivacija koje je teško izazvati u eksperimentalnom ili kliničkom okruženju. Brojna književna dela bave se pitanjima identiteta, motivacije, interakcije i emocija, pružajući bogatu osnovu za istraživanje ovih tema u psihologiji.

Književna dela mogu poslužiti kao objekat istraživanja psiholozima, otvarajući bogat prostor za analizu ljudske prirode, kulture i društva. Književnost često stvara duboke i složene portrete likova, koji se mogu tumačiti iz psihološke perspektive, kako bi se bolje razumela ljudska priroda i psihološki obrasci. Kroz naraciju, dijaloge i druge tehnike, književna dela istražuju unutrašnje živote likova, njihove motive, osećanja, misli i želje, analizirajući dublje slojeve njihove ličnosti i unutrašnje dileme.

Sve ono čime se psihologija bavi u istraživanju stvarnih ljudi i pokušaju razumevanja njihovog ponašanja, može se, na određen način, pronaći i u književnosti. Time se otvaraju mogućnosti za proširenje opsega predmeta proučavanja psihologije, pružajući bogat izvor podataka i uvida koji mogu obogatiti dosadašnje nalaze i istraživanja uma i ponašanja.

Krenimo dalje: psihologija je veoma zainteresovana za procese i načine socijalizacije, za načine na koje okruženje oblikuje pojedince i rekacije tih pojedinaca na različite socijalne i kulturne uticaje. Brojna književna dela osvetljavaju uticaj kulture, društva i okoline na pojedince i njihovo ponašanje, ona mogu oblikovati formiranje identiteta i uticati na njega – kako pojedinaca, tako i velikih skupina, poput etničkih grupa. Kroz književnost, ljudi mogu prepoznati sebe i svoje vrednosti i svetonazor, i ojačati ih, ali ih i dovesti u pitanje, i delimično ili potpuno ih promeniti.

Komplementarni uglovi posmatranja psihologije i nauke o književnosti

Pre nego što krenemo na prikaz dosadašnjih susretanja moderne, pre svega, kognitivne i socijalne psihologije i književnosti, susreta koji se ubrzano razvijaju u ovom stoleću, i pre nego što ukažemo na obilje mogućnosti i potencijala za dalja istraživanja, moramo jasno razdvojiti psihološka istraživanja, posebno ona empirijska, od pristupa nauke o književnosti, jer u ovom radu razmatramo kako psiholozi mogu da iskoriste razumevanje i analize književnih svetova da bi bolje razumeli pojedinca i njegovu ulogu u društvu.

Književni istoričari teže da razumeju delo u kontekstu književne tradicije i estetike, analizirajući stil, jezik, narativne strukture i tematske aspekte dela. Pri tome polaze od brojnih teorijskih okvira koji se ogledaju u različitim pristupima delima: strukturalizam, novi kriticizam, formalizam i drugi (Brewton, 2023), koristeći termine koji se retko susreću kod psihologa poput metafore, alegorije, protagonista ili aktera, antiteze itd.

Psiholozi su orijentisani ne ka samom delu, osim možda kroz pitanje šta ono otkriva o ljudskim dispozicijama i ljudskoj prirodi, nego ka uticaju dela na čitaoce, bilo kao individue, bilo kao članove različitih kolektiva – dakle, kako oni reaguju i kako se menjaju pod uticajem određenih aspekata priče. Tako psiholozi mogu postavljati pitanja o tome na koji način čitaoci empatišu s likovima, kako narativne strukture proze ili formalne osobine poezije utiču na kognitivno procesiranje informacija ili koje emocionalne reakcije delo izaziva.Pri tome bi, naravno, koristili pojmove koji se češće sreću u psihologiji, poput socijalne percepcije, kognitivne obrade informacija, socijalizacije, učenja, a ako su u pitanju grupe, i pojmove kao što su interakcija likova, socijalni identitet, socijalni uticaj, predrasude, društvene norme, grupna dinamika, salijentnost identiteta, i druge. Književnom delu bi pristupili koristeći metode svojstvene psihologiji, poput eksperimentalnih studija, kliničkih intervjua, upitnika, posmatranja ponašanja, a u poslednje vreme sve češće i neuroloških merenja, kako bi razumeli način na koji ljudi interpretiraju i reaguju na književna dela, po pravilu uz dosta citiranja relevantnih empirijskih studija ili teorijskih radova iz date oblasti. Vodili bi se pritom psihološkim teorijama i konceptima: od teorije kognitivne obrade informacija (npr. Dubourg et al., 2024), raznim teorijama pobuđivanja emocija (npr. Sperduti et al., 2016), teorijama socijalnog identiteta (Altun, 2023) i brojnim konceptima od kojih ćemo neke, posebno bitne za ovo područje, docnije podrobnije analizirati. Zaključci psihologa zasnivaju se na tome šta delo otkriva o ljudskoj prirodi, društvenim odnosima, kulturnim normama, ali, pre svega, kako ono utiče na pojedince ili menja identitete i kolektivna sećanja društvenih grupa, odnosno, kako obrađuje traumatična i pozitivna iskustva iz života ljudi i grupa.

Bliskosti disciplina ide u prilog i teorija recepcije (Willis, 2021) koju koriste književni kritičari, a koja se fokusira na to kako tekstovi bivaju interpretirani, prihvaćeni, transformisani, prenošeni, kanonizovani i/ili zaboravljeni od strane različitih publika, značajno se na taj način približavajuži polju interesovanja i rada psihologa.

Književnost kao simulacija brojnih uticaja i ishoda u realnom svetu

Grupacija za kognitivno proučavanje književnosti na Univerzitetu u Torontu, na čelu sa Kitom Otlijem (Keith Oatley) i Majom Đikić je, verovatno, najviše istraživala uticaj književnosti na ljudsku psihologiju i emocionalni razvoj. Niz njihovih eksperimentalnih i drugih istraživanja koja kombinuju znanja iz oblasti psihologije, književnosti i neurologije pomogao je u rasvetljavanju veza između književnosti, kognitivnih procesa i emocionalnog razvoja (Djikic et al., 2009; 2012; 2013; 2014; Oatley, 1999). Način na koji književnost, pre svega, ostvaruje uticaj na čitaoce, prema njihovom mišljenju nije kroz književne opise, već kroz proces simulacije (Oatley, 2016).

Otli i Đikić u stvari prave analogiju, već učestalu u kognitivnim naukama (Chipman, 2017), između čitanja književnih dela i računarske simulacije. Kako oni smatraju, književnost je simulacija, a ne opis, odnosno, romani i pripovetke ne samo da pasivno predstavljaju ili opisuju svet, već aktivno, u umovima čitalaca kreiraju i simuliraju emocionalne i kognitivne iskustvene svetove, u kojima se čitaoci mogu kretati i delovati. Dakle, tokom procesa čitanja, umesto da pasivno upijamo informacije, mi aktiviramo um kako bismo pratili tok priče, shvatili motive i interakcije likova, kao i emocionalno reagovali na događaje. U tome je analogija sa softverskim programom koji čitalac *pokreće* u svom umu. Šta još omogućava taj *softver*? Kao što se u računarskim simulacijama stavljamo u različite situacije kako bismo razumeli određeni fenomen ili sistem, tako dok čitamo, omogućava nam se da uđemo u umove književnih likova, što može pomoći da se razume njihova pozicija, te posledično da se razvije empatija. Računarske simulacije omogućavaju korisnicima da testiraju različite scenarije i vide ishode (Oatley & Djikic, 2018) (pominju npr. simulacije tokom uvežbavanja budućih pilota ili proces dolaženja do meteorološke prognoze), a književna dela omogućavaju čitaocima da *isprobaju* različite socijalne, emocionalne i moralne scenarije kroz bezbedan kontekst fikcije. Interakcije u ljudskim životima su pune složenosti – ponašanje jednog lika prema drugim ne možemo evaluirati ne uzevši u obzir u kakvim su oni međusobnim odnosima: rodbinskim, dužničkim, kompetitivnim, ljubavnim, da li se lik A prethodno zamerio liku B zbog izdaje, pretnje, uvrede ili ga je nečim zadužio. Mi ulazimo u okolnosti likova, odnosno, identifikujemo se s njima, i doživljavamo emocije koje su naše, ali neretko, u situaciji u kojoj nikada nismo bili, ali bismo mogli biti (Oatley & Djikic, 2018). Na ovaj način čitaoci mogu razviti razumevanje i saosećanje prema ljudima i iskustvima koja su različita od njihovih. Kroz proces čitanja i identifikacije sa likovima i situacijama, čitaoci mogu prepoznati i preraditi sopstvene emocije. Te emocije, iako mogu biti identične onima koje želi da izrazi pisac, npr. zadovoljstvo, briga ili ljutnja, ne moraju nužno biti identičnog sadržaja (npr. zadovoljstvo je veće za nekog ko je dugo čekao na ispunjenje želje, uvreda je bolnija ako smo već doživeli sličnu traumu i nismo uspeli da je razrešimo).

Gledište Otlija (npr. Mar & Oatley, 2008) na književnost kao simulaciju sugeriše da romani i priče nisu samo sredstva za zabavu ili estetsko uživanje, već ključni alati za kognitivni i emocionalni razvoj osobe.

Mi možemo simulirati odnose i u svakodnevnom svetu, posmatrajući ljude s kojima dolazimo u dodir i njihove odnose, pa i u živoj komunikaciji sa prijateljima, poznanicima ili čak i nepoznatim osobama (posebno kada za to imamo prostora, kada ishodi neće dovesti do krucijalnih, posebno loših efekata). Međutim, broj naših interakcija je relativno mali, a njihova dubina ograničena u poređenju sa dužim, dubljim, raznolikijim i intenzivnijim „vežbanjem" koje možemo ostvariti sa književnim likovima. Pored brojnih mogućnosti, književnost sa dugim naracijama, eksplicitnim opisima doživljaja likova i suptilnim opisima njihovih međuodnosa, može da se posmatra i kao usporeni snimak života, u kome se pažljivije može osmotriti (a može i da se vrati i ponovi, kao posle gola postignutog na utakmici) svaka misao, emocija i proces.

Umetničko delo kao podsticaj za različita sagledavanja

Da svi ovi fenomeni ne bi ostali na nivou aspraktnih razmatranja, želeli bismo da ih prožmemo primerima iz realne literature. Kako bismo pokazali na to da značaj književnosti za psihologiju nije ograničen samo na stvaralaštvo najpoznatijih klasika poput Dostojevskog, Mana, Stajnbeka ili Andrića, pokazaćemo da književnost i danas vrši tu funkciju, i trudićemo se da pronađemo primere iz novije srpske književnosti, nastale u vrtlogu promena društvenog poretka, ratova, sankcija, formalnog odvajanja od drugih južnoslovenskih književnosti – uopšte u jedno burno doba čiji smo savremenici. Iako je srpska književnost relativno mala u odnosu na književnost velikih, mnogoljudnih zemalja, i u njoj postoji neizmerna raznolikost tema, pristupa, stilova, ideoloških namera i životnih iskustava pisaca.

Navešćemo primer kako jedno isto delo može izazvati različite psihološke reakcije. O romanu Gorana Petrovića *Opsada crkve Svetog Spasa* napisane su barem dve doktorske disertacije koje delo tumače složeno, u kontekstu Biblije i srednjovekovne književnosti (Turanjanin, 2014), i u kontekstu uticaja Vizantije na srpsku postmodernu književnost (Kanić, 2013), kako već dolikuje disertacijama. Kako se na analizi tih zahtevnih i obimnih istraživanja ne možemo zadržavati u relativno kratkom radu poput ovog (kome to nije jedina tema), daćemo vrlo uprošćene prikaze i reakciju M. Pantića (1999) koji o ovom romanu govori kao o postvarivanju mašte i daje preporuke kako da „dopustimo da nas zavede i začara". A. Jerkov (2019) roman opisuje kao „remek delo imaginacije, koje dopušta susret između savremenosti i prošlosti u onome što je za nas izazov veličine zlatnog doba srpskog srednjevekovlja". Možda kroz suptilne pripovedačke tehnike, Petrović istražuje ideju da je istina često relativna i da istorija može biti podložna interpretacijama. Ponegde pak možemo primetiti preklapanje sa delima M. Pavića (kada npr. daje fantazmagorijsku klasifikaciju vetrova i njihovu funkciju) i U. Eka (*Ime ruže*). Može li se ovo delo možda tumačiti i kao omaž Paviću? Pored nebrojenih pohvala, pa čak i hvalospeva ovom delu, S. Ilić (2006) oštro kritikuje ne umetničku vrednost romana, nego njegovu temu, i to u kontekstu društveno-političkih prilika u vreme kada je objavljen, a koju vidi kao književno opravdanje za negativne aspekte srpskog nacionalizma. Da li su svi oni, i mnogi drugi, sa brojnim raznolikim doživljajima u pravu? Jesu li anđeoska krila iz romana krila mašte ili krila anđela zaštitnika srpstva? Kako to da jedno delo može da proizvede toliko raznolike reakcije? Da li je možda poenta upravo u tome da delo ne pruža konačne odgovore, već bogatu platformu za analizu i tumačenje, gde svako čitanje otkriva novi sloj značenja? Time delo, u interakciji sa čitaocem, generiše onoliko različitih impresija koliko ima interpersonalnih razlika, što potvrđuje njegov umetnički karakter i potencijal da posluži kao poligon za simulaciju ljudskih umova.

Poput Ilića, smatramo da čitajući o srednjovekovnim opsadama Žiče i Carigrada, možemo razmišljati i o drugim opsadama u kojima smo kao narod u metaforičnom ili stvarnom smislu danas ili smo bili u vreme pisanja romana. Međutim, i ovde se javlja varijacija koju proizvodi umetničko delo u interakciji sa čitaocem. Za razliku od prethodne negativne evaluacije, nama se čini da je u *Opsadi* izrečeno najbolje što je u tom trenutku moglo da se kaže, mnogo efikasnije nego kroz dnevnu politiku, pisac je nepristrasno i jezičkim bravurama pred čitaoce izneo najsjajnije biserje srpske kulture, koji uz to, u doba etničkih sukoba 90-ih, nemaju ni primese negativnosti prema drugim stranama. Nije li time gotovo postignut ideal spajanja najlepše upotrebe jezika, uz opise života i kulturnog stvaralašva ranijih dičnih epoha? Roman, naravno, može da se posmatra i u njemu uživa i bez detaljnih znanja o srednjovekovnoj Srbiji, o manastiru Žiči ili ratovima 90-ih na Balkanu, što potvrđuju brojni čitaoci od Vladivostoka do Buenos Ajresa, koji su roman, bez previše istorijskog predznanja, čitali u prevodima na ruski, francuski, španski i druge jezike.

Značajne psihološke karakteristike čitalaca

Iz dosad navedenog jasno je da je reakcija čitalaca na književna dela često proizvod kompleksne interakcije između sadržaja dela, kognitivnih i emocionalnih procesa unutar čitaoca, kao i kulturnog i društvenog konteksta u kojem se čitanje odvija.

Postoji čitav niz psiholoških osobina i procesa koji mogu uticati na to kako čitaoci interpretiraju i reaguju na određena dela. Oni obuhvataju karakteristike ličnosti, kao što je otvorenost za iskustva, kognitivne odlike, poput uključenosti, inteligencije, ideološke orijentacije i njenog značaja za čitaoca, te da li nam je pozicija dok čitamo univerzalistička ili partikularistička, tj. da li se pri pročitanom zadržimo na postojećim akterima ili tražimo opšte poruke.

Vrednovanje i tumačenje književnih dela zavisi od brojnih faktora. Tako čitalac sa bogatim iskustvom u čitanju i tumačenju književnosti može biti skloniji traženju dubljih i složenijih poruka. Oni koji su prošli formalnu edukaciju u književnosti, kritici ili srodnim disciplinama verovatno će biti obučeni da traže skrivene motive, simbole i teme u tekstu (npr. Nenadić i sar., 2019). Takođe, ljudi koji su se suočavali sa sličnim temama ili situacijama u svojim životima mogu biti osetljiviji na dublje aspekte priče.

Kultura i društvo u kojem čitalac živi oblikuju čitavu našu realnost (Petrović, 2011), pa mogu uticati na način na koji se pristupa književnom delu. Svako od nas, nema sumnje, interpretira književna dela kroz prizmu svojih sopstvenih vrednosti, moralnih uverenja i svetonazora. Na primer, osoba sa dubokim religioznim uverenjima može biti sklonija traženju duhovnih ili moralnih poruka u tekstu. I trenutno emocionalno stanje čitaoca može uticati na način na koji tumači književnost. Motivacija za čitanje je takođe bitna, neće ni birati iste knjige, ni tražiti iste stvari u njima oni koji su ih izabrali radi zabave, opuštanja i prekraćivanja vremena na plaži i oni koji čitaju radi edukacije ili težnje za dubljim spoznajama sveta. U svakom slučaju, svaki čitalac ulazi u proces čitanja sa svojstvenim skupom iskustava, znanja i perspektiva, što rezultira širokim spektrom reakcija i interpretacija.

Na razumevanje književnog dela utiču stabilne karakteristike, poput stepena inteligencije, ali i varijabilne osobine. Među njima je posebno važna motivacija čitalaca, koja se ogleda u stepenu uključenosti u delo. Kada smo potpuno skoncentrisani na tekst i bez distrakcija iz spoljašnjeg sveta, ostvaruje se dublje razumevanje književnog sadržaja. Intuitivno je jasno da kada jednu knjigu pročitamo na brzinu, prelećući preko nekih delova, samo da bismo saznali osnovni tok radnje, i kada je čitamo pažljivo razmišljajući o svakoj rečenici, efekti neće biti ni približno isti.

Imerzija (lat. *immersio*) ili potpuno uranjanje (Agrawal et al., 2020) igra ključnu ulogu u čitalačkom iskustvu, u tome kako čitaoci doživljavaju i reaguju na tekst. Nasuprot površnom čitanju, imerzija predstavlja duboko, emotivno i kognitivno uranjanje u svet priče (Ryan, 2001; Pavel, 2010). Kada su čitaoci potpuno uronjeni u priču, veća je verovatnoća da se snažno emotivno vežu za likove i događaje u knjizi, što može rezultirati snažnim emotivnim reakcijama, poput radosti, tuge, uzbuđenja, ali i stresa, boljim fokusom pažnje, te boljim razumevanjem i pamćenjem sadržaja (Bilandzic et al., 2019). Ovakvi čitaoci su pre podstaknuti da razmišljaju kritički o temama, moralnim pitanjima i idejama predstavljenim u tekstu, što može voditi dubokim introspektivnim uvidima, kao i da bolje razumeju likove i saosećaju s njima, što dovodi do povećanja empatije i u stvarnom životu. Konačno, ovakvi čitaoci će verovatnije formirati bogate mentalne reprezentacije sveta i likova priče, čime mogu poboljšati svoju kreativnost i maštovitost (Oatley, 2016).

Neki ljudi biraju da čitaju knjige (čak i one složene strukture) koje potkrepljuju njihove vrednosti, pogled na svet ili razrešavaju nedoumice u smeru koji im je poželjan. Neki drugi biraju i knjige u kojima se dovodi u pitanje njihovo dotadašnje stajalište ili vrednosti. Ziva Kunda (1990) u svom radu o motivisanom rezoniranju istražuje kako motivi mogu uticati na način na koji ljudi interpretiraju informacije. Njena osnovna premisa je da ljudi često obrađuju informacije na način koji će verovatno potvrditi ono što već veruju ili žele da veruju, tj. da su motivisani da dođu do određenih zaključaka.

Kada se ovo primeni na čitanje knjiga, ljudi koji biraju knjige što odražavaju njihova postojeća uverenja možda to rade jer traže potvrdu svojih uverenja, što je prijatno mentalno stanje koje može smanjiti osećaj anksioznosti ili nesigurnosti ili žele da ojačaju svoje razumevanje i argumentaciju za već prihvaćene stavove.

Međutim, čitanje knjiga koje dovode u pitanje postojeća uverenja može dovesti do širenja kognitivnih vidika, veće fleksibilnosti u mišljenju i sposobnosti da se sagledavaju stvari iz različitih perspektiva. Nova stečena saznanja mogu izazvati osećaj nelagode ili kognitivnu disonancu, posebno ako drastično odstupaju od prethodno prihvaćenih uverenja. Prilikom izbora i interpretacije književnih dela i mnogi drugi psihološki koncepti dolaze do izražaja. Logično se nameće crta „otvorenost" iz vrlo često korišćenog inventara osnovnih dimenzija ličnosti *Velikih pet* (Mc Crae & Costa, 1987). Osobe s visokim skorovima na otvorenosti prema iskustvu često su znatiželjne, kreativne i voljne da razmatraju nove ideje i iskustva. Takve osobe mogu biti sklonije čitanju knjiga koje provociraju njihova postojeća uverenja ili ih uvode u nove svetove i ideje, nude nove pristupe, nekonvencionalne priče (ili one iz drugih podneblja i istorijskih epoha), dublje simbole i originalniji stil pisanja. S druge strane, osobe sa manjim stepenom otvorenosti verovatnije će se odlučiti za knjige koje odražavaju njihove postojeće svetonazore.

Ari Kruglanski (npr. Kruglanski & Fishman, 2009), psiholog poznat po svom radu na motivisanoj kogniciji, uveo je pojam kognitivne zatvorenosti, koji se odnosi na želju ljudi da pronađu jasan odgovor na pitanje ili problem, čak i ako taj odgovor možda nije tačan. Ovo nije koncept suprotan prethodnom. Ljudi s visokim stepenom potrebe za kognitivnom zatvorenošću preferiraju jasne i konačne odgovore i odluke, dok im ambivalentne ili neodređene situacije stvaraju nelagodu. Čitanje knjiga, posebno onih koje duboko istražuju ljudsku psihu, može da pomogne u razumevanju i rasvetljavanju kompleksnih ljudskih motivacija i osećanja. Identifikacija sa emocionalno slojevitim likovima može čitaocima pomoći da bolje razumeju sopstvene motive i osećanja. Osim toga, eksplicitno artikulisane emocije i motivacije u knjigama često osvetljavaju ono što možda sami nismo prepoznali ili uspeli da izrazimo. Emocionalno obremenjene i kontroverzne aspekte ljudske prirode možemo istražiti kroz čitanje na siguran i distanciran način, bez straha od realnih kazni. Na sličan način, književnost omogućava promišljanje egzistencijalnih tema i pitanja koja se tiču smisla, svrhe života i ljudske sudbine. Na sve ove načine književnost može da zadovolji želju za kognitivnom zaokruženošću (*clousure*), pružajući čitaocima alate da razumeju sebe, druge i svet oko sebe, ali ne uvek i jasne i konačne odgovore na svako pitanje.

Kada su naša uverenja dovedena u pitanje, javljaju se kognitivna disonanca i potreba za kognitivnom doslednošću. Da bi se smanjile ovakve nelagodnosti, ljudi mogu promeniti svoja uverenja (što nije tako često), izbegavati protivrečne informacije ili pokušati da reinterpretiraju nove informacije na način koji je u skladu s njihovim postojećim uverenjima (Havelka, 1992). U ovim izborima ulogu igraju i motivi za samoafirmacijom i samoproučavanjem, odnosno, želja da razvijemo svest o sebi, a čitanje knjiga koje provociraju naše uverenja ili nas uvode u nove svetove može pružiti priliku za introspekciju i samoistraživanje (Steele et al., 1993). Kombinacija ovih (i mnogih drugih) psiholoških dispozicija i procesa može oblikovati našu selekciju i interpretaciju književnih dela. Naša lična iskustva, trenutna situacija i psihološke potrebe igraju ulogu u tome kako, što bi rekao Pijaže, asimiliramo književna dela i kako im se akomodiramo (Hanfstingl et al., 2022).

Opravdavanja i osporavanja pitanja identitetâ u književnosti

Kako književnost može oblikovati ili odražavati kolektivne identitete, poput etničkog, pa i drugih, poput rodnog, generacijskog ili zavičajnog identiteta? Dok neki smatraju da nas identitet čini onim što jesmo i da bismo bez njega bili izgubljeni ili ne bismo bili mi: „Bilo bi nas više, ali koga? I bilo bi bolje, ali kome?[4]", te ga treba čuvati i negovati, drugi ga vide kao izvor zala ili bar prepreka na putu ka blagostanju, te smatraju da ga treba razgraditi, dati mu manji ili nikakav značaj, tj. „dekonstruisati" ga (Brown, 2000).

Književnost ima snažnu ulogu u oblikovanju i odražavanju kolektivnih identiteta, kako direktno – utičući na čitaoce, tako i indirektno – značajno utičući na formiranje socijalnih reprezentacija jednog društva, iz kojih proizilaze društvene norme i vrednosti, koje se prenose putem obrazovanja, medija ili neformalnih interakcija (Petrović, 2018).

Mnoga književna dela dopunjuju, prikazuju ili reinterpretiraju važne istorijske događaje ili periode koji su ključni za kolektivni identitet mnogo detaljnije nego što većina ljudi nauči u školi na časovima istorije. Kroz ove priče, generacije se sećaju, stvaraju zajedničke reprezentacije istorije i povezuju se s prošlošću svog naroda. Obimnu četvrotomnu knjigu Dobrice Ćosića *Vreme smrti*, o Prvom svetskom ratu u Srbiji, pročitalo je možda i par miliona ljudi; ljudi iz desetina generacija u školi su naučili napamet bar jednu pesmu iz tog perioda, bilo Bojićevu, Disovu ili nekog drugog pesnika, a verovatno najčitaniji roman XXI veka u Srbiji jeste Gataličin *Veliki rat*.

Književnost može detaljno opisivati tradicije, običaje, jezik, religiju i druge kulturne aspekte koji često sadrže osnovne vrednosti, moralne kodekse i predstave o poreklu, koji su suštinski u mnogim književnim delima, a istovremeno od krucijalnog značaja za kolektivni identitet. Ovo direktno uočavamo

4 Matija Bećković "Lelek mene", poema iz 1978.

u delima Matije Bećkovića, Mira Vuksanovića, Dobrice Erića, a za nijansu manje direktno i u delima značajnog broja drugih autora.

Sa druge strane, devedesete godine prošlog veka zapamćene su po ratovima, raspadu državnog sistema, pa i same države, a sam kraj veka je opterećen i bombardovanjem čitave teritorije Srbije. Mnogi su za ta zla okrivljavali upravo nacionalni identitet, i zanos i obest koji je on proizvodio. Đorđević (1996) za to otvoreno okrivljuje srpske pisce iz 80-ih, koje svrstava u populističku književnost, a njihova dela izjednačava sa prihvaćenim političkim programima. Od 90-ih raste broj autora koji se, kako kroz svoja dela, tako i kroz javno delovanje, protive ratu i najčešće njegov uzrok vide u srpskom nacionalizmu i isključivosti: Vladimir Arsenijević, Biljana Srbljanović, Saša Ilić, te ponovo za nijansu manje direktno još čitav niz drugih autora. Oni formiraju i više udruženja, kao što su *Krokodil* i *Beton*, koji aktivno deluju ne samo kroz književnost nego i medije, festivale i na druge načine.

Nema sumnje da je u našoj književnosti najčešće obrađivan etnički odnosno nacionalni identitet, koji je izazivao najviše sporova zbog koristi ili štetnosti. Takođe, tako nema spora o tome da se u toj književnosti pojavljuju i stiču sve veću ulogu i druge identifikacije poput rodnih, ideoloških, pa mogli bismo govoriti i o generacijskim, zavičajnim i drugim identitetima.

Kako su isticali i Kjerkegor i Čehov, uloga književnosti kao umetnosti nije u ubeđivanju ljudi da misle i osećaju ono što autor želi, nego da pruži likove, opise i okolnosti na osnovu kojih će svaki čitalac *sam* izvesti sopstveni zaključak (prema Oatley & Djikic, 2017).

U našoj novijoj književnosti može se zapaziti bar nekoliko linija kojima pisci pokušavaju da se dotaknu identitetskih tema i pitanja (uz brojna druga). Verovatno najčešća je kroz pripovedanje o događajima iz dalje ili bliže prošlosti. Neki odlaze u daleku prošlost i pripovedaju o pokušaju izgradnje tvrđave kao zaklona za narod i ustave od tuđinskih osvajanja, kao pripovedač u Nenadićevom romanu *Despot i žrtva* ili o ideji opiranja *Opsadi* (*crkve Svetog Spasa*) poput pominjanog Petrovića.

Radoslav Petković, možda i nastavljajući pripovest o Srbima u rasejanju nakon događaja opisanih u slavnim *Seobama*, u svom velikom delu *Sudbina i komentari* piše i podstiče nas da mislimo o istorijskoj sudbini i usudu koji se ponavljaju kroz vekove, podneblja i društvene sisteme, o lažnim i pravim junacima, a podseća nas i na značaj i važnost baroka (kao odrednice kulturnog identiteta) u Srba.

Veliki rat Aleksandra Gatalice je roman koji ukršta priču o čak sedamdesetak likova, od dece do kraljeva i iz svih zaraćenih strana, u nameri da pokaže kako ne samo velike vojskovođe i krunisane glave, nego i obični mali ljudi u stvari i nisu mali i u takvom strašnom svetskom košmaru, kakav je bio Veliki rat, te da je uloga svakog pojedinca, sa svim svojim vrlinama i nedostacima, nezanemariva u svakom periodu.

Ovim hronološki stižemo do perioda kada su rođeni pisci koji su svoja dela stvarali tokom poslednjih trideset godina. Značajan broj njihovih dela odlikuje se time da pripovedači polaze od opisa sopstvenog života (ili života ljudi iz bliskog okruženja, od majke do savremenika nepoznatih široj javnosti), ali uz njega daju opis društvenih okolnosti koje omeđuju njihove mogućnosti i neretko sputavaju nade i onemogućavaju ostvarenja planova. Iz tih pripovesti, posebno onih koje su u značajnoj meri želele da ostave trag o realnosti, možemo nazreti i informacije o vremenu, njegovim normama, ljudima koji su u to vreme živeli, njihovim strahovima i snovima.

Tridesete godine XX veka, period pred Drugi svetski rat koji se nastavlja kroz sam rat i delimično prelazi u posleratno doba, prikazani su iz perspektive dvoje dece u delima *Prozracima* Svetlane Velmar-Janković i *Semper idem* Đorđa Lebovića. Prvo dete živi u veoma uglednoj beogradskoj porodici iz više klase, koja potom doživljava rat, okupaciju, donosi teške i dalekosežne odluke u vreme okupacije, a potom i odmazdu od strane pobednika iz rata. Drugo dete živi u provincijskoj varoši, ali pred najveću kataklizmu koju je ikada doživeo narod kome pripada, te i sam kao maloletan zatvoren u jedan u najstrašnijih koncentracionih logora i iz rata izlazi živ, ali uz gubitak nekoliko desetina rođaka. Kroz psihološku karakterizaciju likova, autori istražuju njihove unutrašnje svetove, osećanja, strahove i težnje. Likovi se suočavaju s pitanjima ko su oni zaista, šta žele od života i kako da se nose sa ličnim konfliktima i dilemama. Istražuju i kako društvo i društvene norme oblikuju identitet likova koji se suočavaju s očekivanjima društva i pokušavaju ili odbijaju da se uklope u različite društvene uloge i norme. Veliko pitanje mogu li se različite muke staviti na isti kantar i meriti koja je veća jeste svakako pitanje za složene rasprave iz filozofije morala.

No, to ni približno nije sve od muka i trauma ovdašnjih ljudi. Pored Lebovića, Albahari, ponajviše u *Mamcu* i *Gecu i Majeru*, Filip David u *Kući sećanja i zaborava* i drugi pišu o zlu Holokausta, o mogućnosti čoveka da se nosi sa tolikim zlom i razmerama takvog uništenja, o (ne)mogućnosti zaboravljanja i opraštanja (Petrović, 2023). Ovakva dela često postavljaju velika egzistencijalna pitanja o smislu života, smrti, ljubavi i patnji. Autori istražuju kako traume oblikuju psihu aktera, odnose sa drugima i identitet, te kako se akteri suočavaju sa posledicama tih iskustava. Teme poput ovih: kako se nositi sa traumama, kako se suočiti sa prošlošću i kako pronaći načine za izlečenje i preživljavanje mogu biti povezane, i one to jesu, kroz decenije i ratove, sve do poslednjih ratova kojima su mnogi čitaoci ovog rada bili svedoci (Petrović & Dulanović, 2011).

Nadalje, pad komunizma i pad monopolizacije dogmi tog pokreta označio je i pojavu niza knjiga koje su procenjivale građanski rat u Srbiji na drugačiji način od dotadašnjeg. Dela poput *Lagum* Svetlane Velmar-Janković, *Oslobodioci i izdajnici* Milovana Danojlića ili *Crni dani Rake Drainca* Ivana Ivanovića donose dileme o odanosti i izdaji, o nesporazumima tradicionalnog i novog revolucionarnog svetonazora, kao i docnijim odmazdama, strahu i nasilnim promenama vrednosti, kao i izopštenosti onih koji se protive, o čemu piše i Milisav Savić u knjizi *Hleb i strah*. Likovi se suočavaju sa haotičnom stvarnošću i traže smisao u njoj, što je dobra osnova za duboka introspektivna razmišljanja o sopstvenom identitetu i ulozi u svetu.

Izazovi života u SFRJ i s tim povezana pitanja ko smo i čemu težimo dobro su prikazani u *Hronici sumnje* Vladislava Bajca. Sva ova sećanja igraju bitnu ulogu, te pisci postavljaju temelj za proveru odgovora kako naša sećanja, bilo tačna ili izobličena, doprinose našem shvatanju ko smo i odakle dolazimo (Petrović, 2007). Kroz ove i mnoge druge teme, navedena i druga dela pružaju bogat izvor za razmišljanje i analizu pitanja identiteta, kako na ličnom, tako i na kolektivnom nivou, podstičući čitaoce da razmisle o tome kako različiti faktori, uključujući kulturu, sećanja, istorijske prisile i lične izbore, oblikuju naše shvatanje sebe i sveta oko nas (Petrović & Lazić, 2019).

Najzad, dolazimo do godina u kojima je nastala većina pomenutih knjiga, godina kojima smo svi savremenici. U tom smislu, poslednja decenija XX veka je jako bitna jer, kako kaže Lebović – *semper idem* (uvek [se ponavlja] isto). Naravno da niti su događaji, akteri i okolnosti potpuno isti, niti su isti čitaoci, ali pitanja ko smo, kome ćemo se carstvu privoleti ili, kako kaže pesnik, „za koji život treba da se rodim" i kako pravilno da postupim ostaju ista kroz generacije u različitim izazovima. Vladimir Arsenijević bio je značajan i snažan glas nove generacije koja je smatrala da im je bar mladost protraćena u uzaludnim i nepotrebnim ratovima u svoja prva dva romana *U potpalublju* i *Ti i ja, Anđela*. Biljana Srbljanović šalje slične poruke kroz drame poput *Pad* i *Porodične priče*. Drugi pisci, poput Vladimira Kecmanovića, govoreći o istim sukobima među jugoslovenskim narodima, bacaju drugačije svetlo na iste probleme i pitanja uzroka i pripisivanja odgovornosti drugačije distribuiraju među stranama u sukobu.

Konačno, i bombardovanje SR Jugoslavije 1999. nije ostalo neobrađeno u nizu dela, od *Nigdine* Svetlane Velmar-Janković, gde pripovedač uzroke toga vidi i u događajima bar pola veka unazad, do antologije *Pod NATO bombama*, zbirke preko dvadeset pripovedaka koje opisuju dileme običnih ljudi u situaciji kada su egzistencijalno ugroženi. Tu se opet otvara velika psihološka priča jesu li naše reakcije, pre svega, plod naših interpersonalnih razlika ili te razlike kao veliki cunami niveliše snažan spoljašnji pritisak, odnosno, u kojoj meri u raznim situacijama naše ponašanje determiniše sredina, a u kojoj naše lične dispozicije.

Zaključak

Književnost poseduje izuzetnu sposobnost da prevaziđe granice vremena i prostora, i da tako postane veoma relevantna za različite epohe i kontekste. Njena univerzalna priroda omogućava da istovremeno bude ogledalo prošlih društvenih normi i izazova, ali i vodič kroz složene dileme savremenosti.

Psihologija, sa svoje strane, može značajno da unapredi svoje razumevanje motivacije, emocija i društvenih odnosa među ljudima kroz interakciju s književnim tekstovima.

Predlažemo da psihologija koristi književnost u nekoliko ključnih pravaca. prvo, književni tekstovi mogu biti analizirani kao složeni kulturni, ali i psihološki dokumenti, nudeći uvide u formiranje identiteta, vrednosne sisteme i moralna rasuđivanja. Drugo, književnost treba da bude predmet empirijskih istraživanja kako bi se ispitao njen uticaj na čitalačku empatiju, introspektivne procese i sposobnost za kritičko promišljanje. Treće, književna dela mogu služiti kao moćan alat u edukativnim i terapijskim okvirima, podstičući pojedince da istraže sopstvene vrednosti, emocije i identitetske dileme, i, naravno, da imaju mogućnost da ih menjaju. Konačno, dobro bi bilo da se uspostavi jača multidisciplinarna saradnja između psihologa, književnih teoretičara i autora kako bi se istražila potencijalna moć književnosti u oblikovanju pojedinca i grupa, posebno u kontekstu društvenih promena i kriza.

Uloga psihologa u ovim procesima nije samo da posmatraju ili analiziraju, već i da aktivno usmeravaju korišćenje književnosti kao sredstva za unapređenje emocionalnog i kognitivnog razvoja pojedinaca i zajednica. Time ne samo da otvaramo nova polja istraživanja, već i ističemo potencijal psihologije da, koristeći književnost, doprinese humanizaciji savremenog društva, kroz jasnije osvetljavanje složenih međuljudskih odnosa i društvene dinamike.

Literatura:

Agrawal, S., Simon, A., Bech, S., Bærentsen, K., Forchhammer, S. (2020). Defining Immersion: Literature Review and Implications for Research on Audiovisual Experiences. *Journal of the Audio Engineering Society*, *68.* 404–417. 10.17743/jaes.2020.0039.

Altun, M. (2023). Literature and identity: Examine the role of literature in shaping individual and cultural identities. *International Journal of Social Sciences and Educational Studies, 10*(3), 381–385. https://doi.org/10.23918/ijsses.v10i3p381

Aronson, E., Vilson, T., Akert, R. (2013). *Socijalna psihologija*. Mate.

Bilandzic, H., Sukalla, F., Schnell, C., Hastall, M. R., & Busselle, R. W. (2019). The narrative engageability scale: A multidimensional trait measure for the propensity to become engaged in a story. *International Journal of Communication, 13*, 801–832.

Brewton, V. Internet Encyclopedia of Philosophy. Pristupljeno 22. 10. 2023. na https://iep.utm.edu/literary/

Brown, R. (2000). Social Identity Theory: Past achievements, current problems and future challenges. *European Journal of Social Psychology, 30*(6), 745–778. https://doi.org/10.1002/1099-0992(200011/12)30:6<745::AID-EJSP24>3.0.CO;2-O

Chipman, S. F., ed. (2017). Part I. The new computational psychology: cognitive architectures and the computational modeling of cognition. The Oxford handbook of cognitive science. Oxford library of psychology. Vol. 1. Oxford University Press. *doi:10.1093/oxfordhb/9780199842193.001.0001*.

Djikic, M., & Oatley, K. (2014). The art in fiction: From indirect communication to changes of the self. *Psychology of Aesthetics, Creativity, and the Arts, 8*, 498–505. http://dx.doi.org/10.1037/a0037999

Djikic, M., Oatley, K., & Carland, M. (2012). Genre or artistic merit: The effect of literature on personality. *Scientific Study of Literature, 2*, 25–36. http://dx.doi.org/10.1075/ssol.2.1.02dji

Djikic, M., Oatley, K., & Moldoveanu, M. (2013). Reading other minds: Effects of literature on empathy. *Scientific Study of Literature, 3*, 28–47. http://dx.doi.org/10.1075/ssol.3.1.06dji

Djikic, M., Oatley, K., Zoeterman, S., & Peterson, J. (2009). On being moved by art: How reading fiction transforms the self. *Creativity Research Journal, 21*, 24–29. http://dx.doi.org/10.1080/10400410802633392

Dubourg, E., Thouzeau, V., Bonard, C., & Baumard, N., et al. (2024). The cognitive foundations of fictional stories. *PsyArXiv*. https://doi.org/10.31219/osf.io/me6bz

Đorđević, M. (1996). Književnost populističkog talasa. U: N. Popov (ur.) *Srpska strana rata. Trauma i katarza u istorijskom pamćenju*. Republika Beograd, Vikom grafik Novi Beograd i Građanska čitaonica Zrenjanin.

Freud, S. (1928). Dostoevsky and parricide. *International Journal of Psycho-Analysis, 9*, 1–29.

Hanfstingl, B., Arzenšek, A., Apschner, J., & Gölly, K. I. (2022). Assimilation and accommodation: A systematic review of the last two decades. *European Psychologist, 27*(4), 320–337. https://doi.org/10.1027/1016-9040/a000463

Havelka, N. (1992). *Socijalna percepcija*. Beograd: Zavod za udžbenike i nastavna sredstva.

Ilić, S. (2006). Opsada srpske književnosti. Juče, danas, sutra. Pristupljeno 27. 10. 2023. na https://www.elektrobeton.net/mikser/opsada-srpske-knjizevnosti-juce-danas-sutra/?highlight=Opsada%20crkve

James, W. (1890). *The principles of psychology* (Vol. 1). Macmillian.

Jerkov, A. *Romani su kao simfonije*. Pristupljeno 25. 10. 2023. na https://jugmedia.rs/romani-su-kao-simfonije

Kanić, M. (2013). *Vizantija u srpskoj postmodernističkoj prozi: Borislav Pekić, Milorad Pavić, Goran Petrović i Radoslav Petković*. Doktorska disertacija. Filološki fakultet Univerziteta u Beogradu.

Kidd, D. C., & Castano, E. (2013). Reading literary fiction improves theory of mind. *Science, 342*(6156), 377–380. https://doi.org/10.1126/science.1239918

Kruglanski, A. W., & Fishman, S. (2009). The need for cognitive closure. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 343–353). The Guilford Press.

Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin, 108*(3), 480–498. https://doi.org/10.1037/0033-2909.108.3.480

Mar, R. A. & Oatley, K. (2008). The function of fiction is the abstraction and simulation of social experience. *Perspectives on Psychological Science, 3*, 173–192.

McCrae, R. R., Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, *52*(1), 81–90. doi:10.1037/0022-3514.52.1.81.

Nenadić, F., Vejnović, D., & Marković, S. (2019). Subjective experience of poetry: Latent structure and differences between experts and non-experts. *Poetics, 73,* 100–113.

Oatley, K. (1999). Why fiction may be twice as true as fact: Fiction as cognitive and emotional simulation. *Review of General Psychology*, *3*(2), 101–117.

Oatley, K. (2016). Fiction: Simulation of social worlds. *Trends in Cognitive Sciences, 20*(8), 618–628. https://doi.org/10.1016/j.tics.2016.06.002

Oatley, K., & Djikic, M. (2018). Psychology of Narrative Art. *Review of General Psychology*, *22*(2), 161–168. https://doi.org/10.137/gpr0000113

Pantić, M. (1999). *Aleksandrijski sindrom 3*. Matica Srpska.

Pavel, T. (2010) Immersion and distance in fictional worlds. *Itinéraires*, *1*, 99–109. https://doi.org/10.4000/itineraires.2183

Petrović, N. (2007). Perspektive postkonfliktne modernizacije. U: Cipek, T. & Milosavljević, O. (ur.). *Kultura sjećanja 1918. Povijesni lomovi i svladavanje prošlosti*. Disput.

Petrović, N. (2011). *Elementi međukulturne psihologije*. Srpski geneaološki centar.

Petrović, N. (2018). *Socijalne reprezentacije prošlosti. Socijalno-psihološke osnove i istraživanja*. Institut za psihologiju.

Petrović, N. (2023). Socijalni aspekti. U: Marinković, B. (Ur.), *Zapis Holokausta. Druga generacija* (str. 61–86). Jevrejska opština Beograd.

Petrović, N. & Lazić, A. (2019). Između zvanične istine i ličnog sećanja: Usmene istorije civila i vojnika o post-jugoslovenskim ratovima 1991–1995. *Poznańskie Studia Slawistyczne*, *16,* 227–241.

Petrović, N. & Dulanović, M. (2011). Dometi i ograničenja ličnih sećanja u osvetljavanju traumatične prošlosti. U: Cipek, T. (ur.). *Kultura sjećanja 1991. Povijesni lomovi i svladavanje prošlosti*. Disput.

Radford, F. L., & Wilson, R.R. (1982). Some Phases of the Jungian Moon: Jung's Influence on Modern Literature. *ESC: English Studies in Canada* *8*(3), 311–332. https://doi.org/10.1353/esc.1982.0034.

Radonjić, S. (1992) *Psihologija učenja*. Beograd: Zavod za udžbenike i nastavna sredstva.

Ryan, M.-L. (2001). *Narrative as virtual reality: Immersion and interactivity in literature and electronic media*. Johns Hopkins University Press.

Sinclair, M. (1908). The Novels of Dorothy Richardson. *The Egoist*, *Vol. 5, No. 4*, 57–59.

Sperduti, M., Arcangeli, M., Makowski, D., & Piolino, P., et al. (2016). The paradox of fiction: Emotional response toward fiction and the modulatory role of self-relevance. *Acta Psychologica, 165*, 53–59. https://doi.org/10.1016/j.actpsy.2016.02.003

Steele, C.M., Spencer, S.J., & Lynch, M. (1993). Self-image resilience and dissonance: The role of affirmational resources. *Journal of Personality and Social Psychology, 64*, 885–896.

Turanjanin, B. (2014). Intertekstualno raslojavanje romana „Opsada crkve Sv. Spasa" (kontekst „Biblije" i srednjovjekovne književnosti). Doktorska disertacija: Filozofski fakultet Univerziteta u Novom Sadu.

Willis, I. (2021, January 22). Reception Theory, Reception History, Reception Studies. Oxford Research Encyclopedia of Literature. Pristupljeno 3. 12. 2024. na https://oxfordre.com/literature/view/10.1093/acrefore/9780190201098.001.0001/acrefore-9780190201098-e-1004

Pomenuti izvori:

Albahari, David (1996). *Mamac*. Stubovi kulture.

Albahari, David (1998). *Gec i Majer*. Stubovi kulture.

Arsenijević, Vladimir (1994). *U potpalublju.* Rad.

Arsenijević, Vladimir (1997). *Ti i ja, Anđela: sapunska opera: Cloaca maxima II*. Stubovi kulture.

Bajac, Vladislav (2016). *Hronika sumnje*. Geopoetika izdavaštvo.

David, Filip (2014). *Kuća sećanja i zaborava.* Laguna

Gatalica, Aleksandar (2012). *Veliki rat.* Mono i Manjana.

Lebović, Đorđe (2005). *Semper idem: nedovršena hronika jednog detinjstva.* Narodna knjiga – Alfa.

Petković, Radoslav (1993). *Sudbina i komentari*. Vreme: Publikum.

Pod NATO bombama: priče srpskih pisaca o poslednjem ratu (2018). (priredio Vasa Pavković). Solaris.

Srbljanović, Biljana (2000). *Pad; Beogradska trilogija; Porodične* priče. Otkrovenje.

Srbljanović, Biljana (2013). *Mali mi je ovaj grob: drama u dva dela.* Samizdat.

Велмар-Јанковић, Светлана (1990). *Лагум*. БИГЗ.

Велмар-Јанковић, Светлана (2000). *Нигдина.* Стубови културе.

Велмар-Јанковић, Светлана (2003). *Прозраци.* Стубови културе.

Данојлић, Милован (1997). *Ослободиоци и издајници*. Филип Вишњић.

Ненадић, Добрило (1998). *Деспот и жртва.* Просвета.

Петровић, Горан (1997). *Опсада цркве Светог Спаса*. Народна књига.

Петровић, Горан (2000). *Ситничарница „Код срећне руке"*. Народна књига – Алфа.

Савић, Милисав (1991). *Хлеб и страх*. Српска књижевна задруга.

Ћосић, Добрица (1972). *Време смрти*. Просвета.

DATUM PRIJEMA RADA: 2023/10/29 DATUM PRIHVATANJA RADA: 2024/12/10

Perceptions and influences of literature on psychological processes and dispositions in contemporary society

Nebojša Petrović

University of Belgrade, Faculty of Philosophy, Department of Psychology

This paper aims to illuminate certain aspects of the intersection between literature and psychology, particularly highlighting how literary works can be a significant source of data for psychological research and of deeper understanding of the dispositions and behaviours of oneself, others, and the society as a whole. Literature, as an integral part of cultural heritage, serves as one of the key sources of socialization, contributing to the formation of individual and group identities, as well as personal values and dispositions. The paper particularly emphasizes the contribution of the research group from Toronto, which has pointed to the active process of mind simulation in the readers of fiction through experimental and other studies. This process aids in the development of empathy, interpersonal skills, and emotional growth. The interaction between literary works, which, as an art form, are non-dogmatic and open to interpretation, and the reader's dispositions and values, always yields new and unique effects and understandings of the text. Readers possess numerous interpersonal differences: intelligence, openness, immersion, the desire to confirm their own views etc., all leading to different understandings of and benefits from the same novel. Literature plays a crucial role in shaping, maintaining or challenging collective identities, especially in the societies undergoing crises and rapid changes, such as ours in recent decades. Attention is paid to illustrating these processes in contemporary Serbian literature. The connections between literature and psychology are numerous and complex, and this paper presents a selection and overview of some of the most important aspects of these connections, highlighting their significance in the contemporary context.

Keywords: literature (fiction), psychology, perception, influence, identity

Psihološka istraživanja, Vol. XXVII (2) 2024.
335–336

UDK: 159.923.072(0.034.2)(049.32)
159.9.072(0.034.2)(049.32)
TIP ČLANKA: Prikaz
DOI: 10.5937/PSISTRA27-53556

PRIKAZI

Psihologija individualnih razlika – ambulatorno procenjivanje kao pristup merenju

Iris Žeželj
Filozofski fakultet Univerziteta u Beogradu, Odeljenje za psihologiju
Laboratorija za istraživanje individualnih razlika

dr Ljiljana Lazarević Psihologija individualnih razlika – ambulatorno procenjivanje kao pristup u merenju, Institut za psihologiju, Beograd, 2023.

Knjiga *Psihologija individualnih razlika – ambulatorno procenjivanje kao pristup u merenju* dr Ljiljane Lazarević je prvi prikaz strategija merenja individualnih razlika u kognitivnim i nekognitivnim odlikama ličnosti i ponašanju predstavljen domaćoj javnosti. Iako je čitaocima već dostupan veći broj metodoloških priručnika, kao i knjiga iz oblasti psihologije ličnosti, nedostaje zapravo jedan moderan priručnik koji bi bio oslonac istraživačima u ovoj užoj oblasti. Ova knjiga upravo popunjava taj nedostatak. Autorka se usmerava na probleme merenja, kako u tradicionalnom tako i u savremenom pristupu. Na početku daje ilustrativni istorijat razvoja merenja psiholoških odlika i posebno korisnu vremensku osu na kojoj su ubeleženi „revolucionarni” događaji, sa jasnim posledicama po principe merenja. Zatim čitaocima nudi sistematizaciju različitih izvora podataka o ispitanicima, počevši od najkorišćenijih, kao što su samoprocena i procena od strane drugih (bliskih osoba ili neznanaca), ekspertska procena i bihejvioralna opservacija, zatim procena na osnovu testova, poput testova za procenu kognitivnih sposobnosti, praćenja životnih ishoda i, konačno, posrednije procene poput implicitnih mera i projektivnih tehnika. Autorka nepristrasno diskutuje o prednostima i manama svake od navedenih tehnika prikupljanja podataka. Izvesno je da će ova sistematizacija olakšati različite forme ukrštanja (trijangulacije) podataka, kao forme njihove validacije.

Centralni deo knjige posvećen je tehnikama ambulatornog procenjivanja – prikazu jedne nove paradigme merenja u proučavanju individualnih razlika. Tehnološki napredak je, naime, učinio da je, uz relativno mala ulaganja, većini istraživača dostupna velika količina informacija prikupljenih u realnom vremenu. Obilje podataka, međutim, ne garantuje i kvalitetnije uvide o ponašanju ili njegovu bolju predikciju. Kako ih prikupljati i šta sa njima, to predstavlja istraživački izazov današnjice i autorka daje pregled savremenih istraživačkih tehnika koje su razvijene u tu svrhu. Tehnike su prikazane detaljno i tako da daju jasna uputstva za korišćenje budućim istraživačima: od određivanja veličine uzorka ispitanika i situacija, konstrukcije instrumenata (izbora sadržaja i broja stavki), do korišćenja različitih aplikacija za pametne telefone koje omogućavaju prikupljanje podataka. Najdetaljnije autorka opisuje najčešće korišćene tehnike: uzorkovanje iskustava i dnevničke studije koje se oslanjaju na ponovljeno samoizveštavanje u unapred isplaniranim intervalima.

Šta omogućava ovakav način prikupljanja podataka, a da to nije bilo dostupno klasičnim retrospektivnim samoizveštavanjem? Pre svega, ponovljena merenja otvaraju prostor za proučavanje interindividualnih varijacija – drugim rečima, prostor za idiografski umesto nomotetskog pristupa ili njihovu kombinaciju. Zatim, merenje se odvija sada i ovde – dakle, u realnom vremenu (ili neposredno nakon događaja), i u realnim a ne laboratorijskim okolnostima. Izveštavanje u realnom vremenu znači da je merenje oslobođeno od grešaka procesa prisećanja. Izveštavanje u realnim okolnostima znači ekološki validnija ponašanja, i informacije o kontekstu u kome se odvijaju. S druge strane, ove tehnike su resusno zahtevnije kako za istraživača, tako i za ispitanike, a količina podataka koja se prikupi može biti preplavljujuća. Takođe, veličine uzoraka u ambulatornom procenjivanju ne garantuju generalizabilnost rezultata: njima saznajemo mnogo o relativno malom broju ljudi. Autorka ne idealizuje ovu grupu tehnika, naprotiv, vrlo detaljno i otvoreno diskutuje i o njihovim inherentnim nedostacima.

U nastavku knjige prikazuje savremene tehnike analize verbalnog ponašanja, nastale takođe na talasu tehnoloških inovacija. Prikazuje najvažnije programe za automatsku analizu teksta i ilustruje kako se mogu koristiti u psihološke svrhe. U odvojenom poglavlju bavi se tehnikama merenja fizioloških reakcija, kao što su merenje kožne provodljivosti, mikropokreti i makropokreti mišića i aktivnosti kardiovaskularnog sistema.

Ovako detaljan prikaz modernih tehnika za prikupljanje podataka o individualnim razlikama biće od koristi kako iskusnim istraživačima u oblasti, koji mogu da osveže svoja znanja, tako i mladim istraživačima, koji mogu izabrati da ekspertizu grade baš u nekoj od specifičnih tehnika. Autorkinu ekspertizu u oblasti jasno ilustruju brojna istraživanja u kojima je učestvovala, a u kojima su korišćene opisivane tehnike. Knjiga ostavlja prostor za konstantno osavremenjivanje. Pisana je tako da nova hardverska ili softverska rešenja mogu lako da se u nju inkorporiraju, što garantuje da će biti aktuelna još dugo vremena.

DATUM PRIJEMA RADA: 2024/09/18 DATUM PRIHVATANJA RADA: 2024/11/14

Psihološka istraživanja, Vol. XXVII (2) 2024.
337–340

UDK: 159.94.072(049.32)
81`22(049.32)
TIP ČLANKA: Prikaz
DOI: 10.5937/PSISTRA27-54008

The Human as Animal Symbolicum: Origins of Symbolic Function

Ivana Stepanović Ilić
University of Belgrade, Faculty of Philosophy

Ivan Ivić: The Human as Animal Symbolicum: Origins of Symbolic Function. Springer, Edition: Social Interaction in Learning and Development, 2024.

"The Human as Animal Symbolicum" is a deeply reflective study that illuminates the complexity of human nature through symbolic frameworks. This is a unique book in many respects. The book consists of two parts written over a span of nearly forty years, providing the reader with a kind of journey through the development of a highly complex and exciting field of developmental psychology and the leading theoretical approaches. By studying the development of symbolic function, this book makes a significant contribution to understanding human psychological life and functioning, focusing on the feature that deeply distinguishes the humans from the rest of the living world and makes us unique beings, capable of creating new realities.

It is utterly impressive how Ivić's contribution in the first part of the book, published in Serbian back in 1978, has not only survived the test of time, but has also retained its relevance and current importance regarding the contemporary knowledge about the symbolic function and the nature of its development. In the second, more recent part of the book, also originally published in Serbian in 2015, Ivić has supplemented and deepened his previous study on the development of symbolic behaviour in humans, documenting and supporting many of his claims with newer research, especially from the fields of social neuroscience and developmental social neuroscience.

In the book, Ivić explores four key issues that are essential for understanding the nature and developmental trajectories of the symbolic function: (1) distinctive features of semiotic systems; (2) a comparison of human symbolic behaviours with those of related animal species; (3) initial forms and origins of symbolic behaviour in children; and (4) developmental pathways of the symbolic function and its impact on various domains of human development.

These four areas reflect the author's emphasis on the importance of a genetic approach, which he considers to be the most suitable for addressing this enormously complex phenomenon. Consequently, this study aims to examine the evolutionary significance and origins of the symbolic function, followed by a thorough analysis of semiotic behaviours and their unique development during human ontogenesis.

In the first section of the book, Ivić examines the properties and nature of semiotic systems, defining symbolic function across three hierarchically organised levels, which reveal deep insights into various forms of semiotic behaviour. He argues that complete understanding of a human as the animal symbolicum requires awareness of all three levels. The third level is fundamental for understanding the human symbolic function. Being the most complex, it involves our capacity to create diverse symbolic realities which, as Ivić suggests, shape not only our inner world, but also our society and culture. Given the rapid development of information and communication technology, it becomes clear how crucial this definition is for understanding and exploring the new virtual symbolic realities in which we are all so deeply immersed at the present.

In the second section, Ivić compares semiotic expressions of humans with behaviours of animals that could be associated with the symbolic function. Situating the development of the symbolic function in the process of communication and real-life context, as the best starting point for its exploration, the author subjects the animals' systems of communication to a sophisticated semiotic analysis. Consequently, he convincingly demonstrates that the most advanced symbolic behaviour of animals, appearing in several chimpanzees mainly as a result of systematic training, could be treated as a barely minimal sign of semiotic abilities. When this conclusion is observed in the light of the first section of the book, more precisely, concerning the mentioned multilevel definition of symbolic function, it becomes obvious how great evolutionary achievement humans have made throughout history.

The third section of the book, dedicated to the beginning of the development of symbolic function in children, represents a masterpiece of Ivić's extraordinary analytical capacities. He demonstrates profound understanding of various theoretical approaches (e.g. Piagetian constructivist, Vygotskian socio-cultural, Chomsky's language acquisition device, Psychoanalytic affective bonding), contrasting and virtuously combining them into a unique framework of the most important developmental prerequisites for the emergence of symbolic function in humans. Ivić's perspective on primary sociality and the child's need for emotional attachment as a foundation of symbolic function is of great importance for understanding the origins of human communication, and subsequent development of symbolic function. Considering the challenges of studying practical-situational communication and its immense significance for the subsequent development of symbolic function in all its dimensions, Ivić's insightful analysis of this phenomenon in the context of adult-child everyday interactions can be seen as another particularly valuable contribution. Thus, he emphasises that the mechanism of social feedback, the transformation of children's gestures into communicative acts, the adaptation of speech to match children's understanding, and simultaneous verbal translation of shared practical activities all exemplify the role of adult mediation in enabling children to "open the language code". In addition to affective and practical-situational forms of pre-semiotic communication, Ivić identifies the emergence of sensorimotor intelligence as the third significant precursor to symbolic function. This aspect is crucial for the development of one of the essential semiotic properties: the ability to denote absent objects. This fruitful analysis of the origins of the symbolic function is followed by the detailed description and classification of the first semiotic behaviours and the beginning forms of symbolic function. A deep analysis of the theoretical foundations and empirical data and author's remarkable insights make this section of the book one of the most interesting and significant inputs to our understanding of the origins of symbolic behaviour in humans.

In the fourth part of the book, Ivić outlines the developmental pathways of the symbolic function, carefully analysing the distinctive characteristics of iconic and verbal semiotic systems and their influence on various developmental domains. On the one hand, relying on available research, the author illustrates the importance of the emergence of iconic systems for the construction of an individual's inner world. On the other hand, drawing on Vygotsky's theory and his well-known genetic law, he sheds light on the significance of cultural influences and language as the main symbolic system for the development of thought. The author provides convincing critical analysis on the crucial role of language, as primarily a means of communication, in the fixation and mental transformation of experiences, which, in turn, significantly enhances the development of thought, but also the construction of individual identity. In this way, Ivić elucidates the complex interplay and developmental intertwining of social and individual symbolic systems, highlighting their significance for the overall development of individual and specific cultures.

In the final chapter of this book, Ivić goes beyond merely supplementing the earlier content with new data. Instead, the author engages in a critical reassessment of the concepts he established decades ago. He reconsiders these ideas through the lens of recent research, particularly in various fields of neuroscience that explore social behaviour in both humans and animals. He discusses the evolution of the so-called social brain, focusing on the organic substrate that underpins complex forms of social behaviour, particularly cooperation, which is largely responsible for human evolutionary advancement. Ivić points out that contemporary research demonstrates that anthropoids are significantly more capable of understanding certain social relationships and communicating. However, he emphasises that his previous conclusion remains valid: such behaviours are still far from the third level of the definition of symbolic function, which involves the creation of semiotic systems – a capability unique to humans. By combining the findings from neuroscience and the Theory of mind, he introduces the concept of triadic intentional communication as a central idea for explaining the development of symbolic function, and its key manifestations – speech, within everyday social adult–child mainly interactions. This communication is deeply rooted in the practical activities of both adults and children with specific objects. Ivić supports this assumption with extensive evidence from research on children's language development, thus strongly opposing Chomsky's idea of language as an independent module with its own genetic basis. In contrast, he further argues for the social origins of the entire symbolic function and language as its most significant manifestation, emphasising the importance of pre-semiotic forms of communication and the achievements of sensorimotor intelligence in its development. A particularly fascinating aspect of this section is the research that the author draws upon to expand his previous reflections on the early forms of symbolic function, its developmental trajectories and consequent influences on the individual and cultural development of mankind. Notably, Ivić illustrates his perspective on this quite important issue for the developmental psychologists using the examples of language and symbolic play development in children. If Freud claimed that dreams were the royal road to the unconscious, one might argue that for the true followers and experts of Vygotsky's theory – of whom Ivić is undoubtedly one of the most significant – the development of language and children's play could be considered as the royal road to understanding human development.

"Human as Animal Symbolicum" by Ivan Ivić presents a profound exploration of human existence through the lens of symbolism. It is a perfect example of an intellectually stimulating manuscript that not only occupies the readers' attention, but also provokes their reflection on our own species and everything that humankind has created so far. In addition, it is a multi-layered study that can be approached from various perspectives, appealing to readers with a wide range of professional backgrounds. Ivić does not limit himself to knowledge from psychology. He draws on many other disciplines, including neuroscience, anthropology, evolutionary biology, cultural studies, and linguistics. This interdisciplinary approach underscores the immense value of the book. Still, it is predominantly a true treasure trove of knowledge in developmental psychology. Here, it is worth mentioning that the previous edition has shaped and inspired many "fortunate" generations of Professor Ivić's students in Serbia. The English translation has made the book accessible to a broader scientific community. It is only natural to expect a significant impact of this book on the further development of knowledge about the exceptional phenomenon of symbolic function, as Ivić has proved with many arguments, inherent only to humans.

DATUM PRIJEMA RADA: 2024/10/08 DATUM PRIHVATANJA RADA: 2024/11/14

UPUTSTVO ZA AUTORE

Časopis *Psihološka istraživanja* objavljuje teorijske radove, pregledne radove, originalne istraživačke radove, stručne radove i prikaze iz svih oblasti psihologije koji nisu prethodno objavljeni i nisu istovremeno podneti za objavljivanje u nekoj drugoj publikaciji. Važan kriterijum selekcije radova jeste društvena relevantnost analizirane teme (videti *Uređivačku politiku* časopisa). Rukopisi treba da budu pripremljeni prema standardima časopisa *Psihološka istraživanja*, tj. u skladu sa APA (American Psychological Association) Publication Manual, 6. izdanje (http://www.apastyle.org/). Za prijavu radova koristi se SCIndeks Asistent - Sistem za online uređivanje časopisa preko linka: http://aseestant.ceon.rs/index.php/psistra/login

Radovi koji nisu adekvatno pripremljeni neće se recenzirati.

Autori iz celog sveta pozivaju se da pošalju svoje radove.

U pripremi rada treba se držati sledećih uputstava:

Dužina rada

Rad mora biti napisan u tekst procesoru Microsoft Word, na stranici formata A4, fontom Times New Roman (12 tačaka), latinicom, s proredom od 1,5 redova. Sve stranice moraju biti numerisane. Rad treba da bude dužine do jednog autorskog tabaka (30.000 slovnih mesta ili 20 strana bez referenci i priloga). Izuzetak su pregledni radovi koji mogu biti dužine do 50.000 znakova i prikazi koji mogu biti dužine do 5.000 znakova. Redakcija zadržava pravo da objavi i radove koji premašuju tu dužinu u slučajevima kada izlaganje naučnog sadržaja zahteva veću dužinu, odnosno prostor. Rad treba da bude lektorisan.

Jezik rada

Časopis objavljuje radove na srpskom i engleskom jeziku, i srodnim jezicima regionalnog govornog područja (hrvatski, bosanski, crnogorski). Autori treba da obezbede lekturu rukopisa.

Naslov rada

Naslov rada treba da bude što konzicniji. Iza naslova rada slede ime autora i naziv institucije u kojoj autor radi. Iza imena prvog autora treba staviti fusnotu koja sadrži e-mail adresu (jednog od) autora.

Sažetak

Sažetak dužine od 150 do 250 reči treba da bude na početku rada. Sastavni delovi sažetka treba da budu: cilj istraživanja, metod, rezultati i zaključak. Sažetak po pravilu ne sadrži reference. Bez obzira na jezik rada, prilažu se sažetak i ključne reči i na srpskom i na engleskom jeziku.

Ključne reči

Na kraju sažetka treba navesti do pet ključnih reči. Pri odabiru ključnih reči, poželjno je odabrati one pojmove koji se često koriste za pretragu časopisa.

Tabele, grafikoni i slike

Tabele i grafikoni treba da budu sačinjeni u Wordu ili nekom Word kompatibilnom formatu. Isti podaci ne mogu se prezentovati i tabelarno i grafički. Svaka tabela, grafikon ili slika treba da budu označeni brojem, s naslovom koji ih jasno objašnjava. U slučaju tabela, u jednom redu navodi se broj tabele, običnim fontom i bez tačke na kraju, a u novom redu naslov tabele ispisan kurzivom, kao u donjem primeru. Treba izbegavati linije i senčenja koja nisu neophodna.

Tabela 1

Struktura uzorka prema polu i uzrastu u tri istraživanja

Karakteristike	Godina istraživanja 1996 (n = 1280)	 2001 (n = 1200)	 2006 (n = 1220)	 Total (N = 3700)
Pol				
Muški	49.2%	47.8%	50.7%	49.2%
Ženski	50.8%	52.2%	49.3%	50.8%
Uzrast				
15–29 godina	20.8%	19.0%	25.5%	21.8%
30–49 godina	38.5%	38.5%	41.4%	39.4%
50 i više godina	40.7%	42.5%	33.1%	38.8%

U slučaju grafičkih priloga (npr., slike, grafikoni), oznaka slike/grafika uz redni broj navodi se italikom, nakon čega, u produžetku, sledi naslov slike/grafika i kratko pojašnjenje njegovog sadržaja slovima u normalu (videti primer grafika ispod). Ti elementi navode se ispod odgovarajućeg grafičkog priloga. U tekstu se treba pozvati na svaku tabelu, grafikon ili sliku, upućivanjem na brojčanu oznaku.

Grafik 1. Promene u raširenosti vrednosti autonomije. Grafik ilustruje podatak da svaka uzrasna kohorsta s vremenom sve više prihvata vrednosti autonomije.

Statistika

Oznake primenjenih statističkih testova pišu se italikom (npr., F, t, p), izuzev ukoliko se ne radi o simbolima grčkog alfabeta (npr. χ^2, α). Rezultati statističkih testova treba da budu prikazani u sledećem obliku: $F(1,8) = 19.53$; $p <.01$ i slično za druge testove (npr.: $\chi^2(3) = 3.55$, $p <.01$ ili $t(253) = 2.061$, $p <.05$). Treba navoditi manji broj konvencionalnih nivoa značajnosti p (npr.: .05, .01, .001).

Citati

Svaki citat, bez obzira na dužinu, treba da bude praćen referencom s brojem strane. Za svaki citat duži od 350 slovnih mesta autor mora imati pismeno odobrenje vlasnika autorskih prava, koje treba da priloži.

Fusnote i skraćenice

Fusnote treba izbegavati. Skraćenice, takođe, treba izbegavati, osim izrazito uobičajenih. Skraćenice koje su navedene u tabelama i slikama treba da budu objašnjene.

Navođenje referenci u tekstu

U radovima na srpskom jeziku preporučljivo je da se imena stranih autora navode u srpskoj transkripciji, prilagođenim (fonetskim) pisanjem prezimena, a zatim da se u zagradi prezime navodi izvorno, uz godinu publikovanja rada, na primer: Pijaže (Piaget, 1951). Ukoliko se u zagradi navodi više autora, oni se navode alfabetskim, a ne hronološkim redom (npr., Lazić, 1994; Pantić, 1990). Ukoliko su dva autora rada, oba se navode u tekstu (npr., Kuzmanović i Petrović, 2007). Ukoliko rad ima više od dva autora, pri prvom spominjanju navode se svi autori, a pri svakom sledećem navodi se prezime prvog autora i skraćenica „i sar." (za radove na srpskom jeziku, npr., Joksimović i sar., 2007) ili „et al." (za radove na engleskom jeziku, npr., Millner et al., 2005). U radovima na engleskom jeziku reference u tekstu treba navoditi u skladu s Priručnikom za objavljivanje Američke psihološke asocijacije, APA (American Psychological Association) Publication Manual, 6. izdanje (http://www.apastyle.org/).

Reference

Reference se navode u skladu sa APA uputstvima, 6. izdanje (http://www.apastyle.org/), na kraju rada, u odeljku koji treba da bude naslovljen „Reference". U spisku referenci navode se samo one reference na koje se autor pozvao u radu, abecednim redom po prezimenima autora. Ne treba navoditi reference koje nisu pomenute u tekstu. Ukoliko je tekst pisan na engleskom jeziku, za izvore na srpskom jeziku naslove knjiga, članaka itd. potrebno je dati i engleske prevode u zagradi. Uobičajeni izvori navode se na sledeći način:

a) ***Knjiga***; Sadrži prezime i inicijale (svih) autora, godinu izdanja, naslov knjige (*kurzivom*), mesto izdanja i izdavača.

   Opšti format: Autor, A., Autor, B., i Autor, C. (godina). *Naslov knjige*. Mesto izdanja: Izdavač.

   Primer: Green, D., Palmquist, B., i Schickler, E. (2002). *Partisan hearts and minds: Political parties and the social identities of voters*. New Haven: Yale University Press.

b) ***Poglavlje u knjizi ili zborniku***; sadrži prezime i inicijal imena (svih) autora, godinu izdanja, naslov poglavlja, inicijal imena i prezime urednika ili redaktora, naslov knjige (*kurzivom*), strane poglavlja u zagradi, mesto izdanja i ime izdavača.

   Opšti format: Autor, A., i Autor, B. (godina). Naslov poglavlja. U A. Urednik, B. Urednik & C. Urednik (ur.), *Naslov knjige* (str. xxx–xxx). Mesto izdanja: Izdavač.

   Primer: Popkin, S., i Dimock, M. (1999). Political knowledge and citizen competence. U S. Elkin & K. Soltan (ur.), *Citizen competence and democratic institutions* (str. 117–146). University Park: Pennsylvania State University Press.

c) ***Članak u časopisu***; sadrži prezime i inicijale (svih) autora, godinu izdanja u zagradi, naslov članka, pun naziv časopisa (kurzivom), volumen (kurzivom) i stranice.

   Opšti format: Autor, A., Autor, B., i Autor, C. (godina). Naslov članka. *Naziv Časopisa*, *xxx*, xxx–xxx.

   Primer: Kuzmanović, B., Popadić, D., i Havelka, N. (1995). Social changes and changes of values. *Psihologija, 28*, 7–26.

d) ***Saopštenje sa skupa***; sadrži prezime i incijale (svih) autora, godinu i mesec održavanja skupa u zagradi, naslov izlaganja (kurzivom), naziv konferencije i lokaciju.

   Opšti format: Autor, A. (godina, mesec). *Naslov saopštenja*. Saopštenje na Naziv konferencije, Lokacija.

   Primer: Maksić, S., i Ševkušić, S. (2011, februar). *Problemi identifikacije kreativnosti učenika u školi.* Saopštenje sa XVII naučnog skupa Empirijska istraživanja u psihologiji, Beograd.

e) ***Web dokument***; sadrži prezime i inicijale (svih) autora, godinu, naziv dokumenta (*kurzivom*) i Internet adresu sajta.

   Opšti format: Autor, A., Autor, B., i Autor, C. (godina). *Naziv dokumenta*. Preuzeto sa http://xxxxxxx.

   Primer: Foa, R. (2007). *Socioeconomic development and parenting values*. Preuzeto sa http://www.roberto.foa.name/Parenting_Attitudes_Foa.

f) ***Neobjavljena magistarska ili doktorska teza***; sadrži prezime i inicijal autora, godinu u zagradi, naslov teze, identifikaciju rada kao teze u zagradi, ime institucije i mesto.

   Opšti format: Autor, A. (godina). *Naslov magistarske ili doktorske teze* (Neobjavljena magistarska ili doktorska teza). Ime institucije, Mesto.

   Primer: Smith, B. (1995). Youth and political participation (Neobjavljena doktorska disertacija). Institute of Psychology, Vienna.

Ukoliko se navodi veći broj radova istog autora, reference se ređaju prema godini objavljivanja, od najstarije prema novijima. Reference jednog autora koje su objavljene u istoj godini treba pisati abecednim redom prema naslovima, npr., (1995a), (1995b).

Navođenje nepublikovanih radova (npr. rukopisa i sl.) nije poželjno. Ukoliko je takvo navođenje baš neophodno, treba navesti što potpunije podatke.

Pozivanje na sekundarnu literaturu ili njeno citiranje (npr., Marsh, 1980, prema: Stevenson, 2005) treba izbegavati.

Prilog

U prilogu treba dati samo one sadržaje koji bi bili korisni čitaocima za razumevanje, evaluiranje ili ponavljanje istraživanja.

Recenziranje i objavljivanje

Sve radove anonimno recenziraju dva kompetentna recenzenta. Na osnovu recenzija redakcija donosi odluku o objavljivanju rada i može doneti jednu od cetiri odluke: da rad objavi u formi kakva je priložena, da rad objavi nakon minimalnih izmena od strane autora u skladu sa uputstvima recenzenata, da rad objavi nakon neophodnih ozbiljnijih izmena prerade od strane autora u skladu sa uputstvima recenzenata, ili da odbije da objavi rad. Redakcija šalje obe recenzije autoru na uvid i uz odgovarajuće obrazloženje obaveštava autora o svojoj odluci najduže tri meseca od prijema rada. Ukoliko se autor odluči da koriguje tekst u skladu sa preporukama recenzenata, može ponovo podneti rad za objavljivanje, i tada je dužan da u formi pisma redakciju upozna sa svim izmenama koje je načinio u tekstu (broj stranice na kojoj se nalazi takva izmena). Ukoliko autor smatra da neka od preporuka recenzenata nije opravdana, ili je iz nekog razloga nije moguće ispuniti, potrebno je da o tome napiše detaljno obrazloženje redakciji. Redakcija zadržava pravo da konačnu odluku o objavljivanju donese samostalno.

Kategorija (tip) članka

U skladu sa uputstvima Ministarstva prosvete, nauke i tehnološkog razvoja Republike Srbije, članci koji se objavljuju u časopisu *Psihološka istraživanja* biće razvrstani u neku od sledećih kategorija:

Naučni članci: 1. originalan naučni rad (rad u kojem se iznose prethodno neobjavljivani rezultati sopstvenih istraživanja naučnim metodom); 2. pregledni rad (rad koji sadrži originalan, detaljan i kritički prikaz istraživačkog problema ili područja u kojem je autor ostvario određeni doprinos, vidljiv na osnovu autocitata); 3. kratko ili prethodno saopštenje (originalan naučni rad punog formata, ali manjeg obima ili preliminarnog karaktera); 4. naučna kritika, odnosno polemika (rasprava na određenu naučnu temu, zasnovana isključivo na naučnoj argumentaciji) i osvrti;

Stručni članci: 1. stručni rad (prilog u kojem se nude iskustva korisna za unapređivanje profesionalne prakse, ali koja nisu nužno zasnovana na naučnom metodu); 2. informativni prilog (uvodnik, komentar i sl.); 3. prikaz (knjige, računarskog programa, slučaja, naučnog događaja i sl.).

Autorska prava

Od autora koji nameravaju da publikuju svoje radove u časopisu *Psihološka istraživanja* očekuje se da sami obezbede i poštuju autorska prava drugih (npr., za korišćene instrumente, softvere i sl.), kao i prava i dostojanstvo ostalih učesnika u istraživačkom procesu, u skladu sa osnovnim etičkim normama objavljivanja.

Po prihvatanju rada za objavljivanje, autori potpisuju Izjavu autora kojom potvrđuju da je reč o originalnom radu i da su poštovani svi naučni i izdavački standardi.

Autori zadržavaju autorska prava nad objavljenim člancima, a izdavaču daju neekskluzivno pravo da članak objavi, da u slučaju daljeg korišćenja članka bude naveden kao njegov prvi izdavač, kao i da distribuira članak u svim oblicima i medijima. Objavljeni članci distribuiraju se u skladu sa licencom Creative Commons Autorstvo – Deliti pod istim uslovima 4.0 International (CC BY-SA) . Dopušteno je da se delo kopira i distribuira u svim medijima i formatima, da se prerađuje, menja i nadograđuje u bilo koje svrhe, uključujući i komercijalne, pod uslovom da se na pravilan način citiraju njegovi prvobitni autori, postavi link ka originalnoj licenci, naznači da li je delo izmenjeno i da se novo delo objavi pod istom licencom kao i originalno. Autorima je dozvoljeno da objavljenu verziju rada deponuju u institucionalni ili tematski repozitorijum ili da je objave na ličnim veb stranicama (uključujući i profile na društvenim mrežama, kao što su ResearchGate, Academia.edu, itd.), na sajtu institucije u kojoj su zaposleni, u bilo koje vreme nakon objavljivanja u časopisu, uz adekvatno referisanje.

Redakciji časopisa *Psihološka istraživanja*

IZJAVA AUTORA

1. **Ček lista za autore**

   (*potpisuje se prilikom prvog slanja teksta u redakciju*)

Ovim putem izjavljujem:

- da rad koji sam podneo/la za objavljivanje Redakciji časopisa *Psihološka istraživanja* pod naslovom (NAVESTI RADNI NASLOV TEKSTA) nije prethodno objavljen i nije istovremeno u razmatranju za objavljivanje u nekoj drugoj publikaciji;
- da su svi ko-autori (ukoliko rad ima više od jednog autora) odobrili poslatu verziju rukopisa i da su saglasni sa slanjem teksta za časopis *Psihološka istraživanja*;
- da je, ukoliko je rad zasnovan na saopštenju sa skupa objavljenom u celosti, na to adekvatno upućeno (u fusnoti vezanoj za naslov rada);

- da je, ukoliko je korišćen isti uzorak ili korpus podataka za potrebe nekog drugog rada ili izlaganja na skupu, na to adekvatno upućeno u fusnoti na prvoj strani ili u metodološkom delu rada, pri opisu uzorka;
- da je rad nastao u skladu s postojećim etičkim standardima;
- da su poštovana autorska prava drugih autora;
- da za korišćene instrumente i softvere barem jedan od autora ima dozvolu za korišćenje koju može dostaviti ukoliko to Redakcija časopisa zahteva;

IME I PREZIME PRVOG AUTORA/AUTORKE:

2. Izjava o autorskim pravima

(*potpisuje se pošto je tekst prihvaćen za objavljivanje*)

Ovim putem izjavljujem:

- da sam saglasan/na da Redakcija časopisa *Psihološka istraživanja* može publikovani tekst naknadno dalje distribuirati na nekomercijalnoj osnovi (npr. *open source* baze, Internet strana časopisa i slično);
- da sam informisan/na da, uz obavezno referisanje gde je tekst prvobitno objavljen, imam prava da publikovani tekst naknadno koristim u u skladu sa licencom Creative Commons Autorstvo – Deliti pod istim uslovima 4.0 International (CC BY-SA) (npr. postavljanje na akademske mreže, poput ResearchGate, Academia.edu i slično);
- da sam informisan/na da tekst prvobitno publikovan u časopisu *Psihološka istraživanja* ne može naknadno biti ponovo publikovan u nekom drugom časopisu, tematskom zborniku ili monografiji bez dozvole izdavača.

IME I PREZIME PRVOG AUTORA/AUTORKE:

IME I PREZIME DRUGOG AUTORA/AUTORKE:

IME I PREZIME TREĆEG AUTORA/AUTORKE:

(dodati još autora ukoliko je potrebno)

DATUM:

INSTRUCTIONS FOR AUTHORS

The journal *Psihološka istraživanja* publishes theoretical papers, review papers, original research papers, professional papers and book reviews from all fields of psychology, not previously published elsewhere and not already under concurrent consideration for publication in another journal. An important criterion in the selection of papers is social relevance of the analysed topic (see the *Publication Policy* section). Manuscripts should comply with the standards of the journal *Psihološka istraživanja*, i.e. with APA (American Psychological Association) Publication Manual, 6th edition (http://www.apastyle.org/). Manuscripts should be submitted via e-mail to: ps.istrazivanja@gmail.com, accompanied by the signed *Author's Statement* provided at the end of this document.

The papers that are not adequately prepared will not be reviewed.

Papers are invited from authors throughout the world.

The manuscript should conform to the following preparation guidelines:

Length

Papers should be written in the text processor Microsoft Word, page format A4, in Times New Roman font (12 pt), in Latin alphabet, 1.5 line spacing. All pages must be numbered. Contributions should not exceed the length of one author's sheet (30.000 characters with spaces or 20 pages without references and appendices). Exception is made for review papers that may not exceed 50.000 characters with spaces, and book reviews that may not exceed 5.000 characters with spaces. The Editorial Board retains discretion to publish papers beyond this length in cases when clarity of scientific content presentation requires greater length, that is, space. Papers should be proof read.

Language

Psihološka istraživanja publishes papers in English, as well as in Serbian and related languages of the regional speaking area (Croatian, Bosnian, Montenegrian). Authors should provide proofreading of the manuscript

Title

Paper title should be as concise as possible. Author's full name and affiliation should follow the title. The footnote containing the e-mail address of the author (one of the authors) should be inserted after the full name of the first author.

Summary

Summary ranging between 150 and 250 words should be submitted at the beginning of the paper. It must include research goal, method, results and conclusion. Up to five key words must be supplied at the end of the summary. As a rule, summary must not contain references. Regardless of the language in which the paper is written, the summary and key words should be submitted in both Serbian and English.

Key words

Up to five key words should be given at the end of the summary. When choosing key words, it is recommended to select those concepts that are often used in journal searches.

Tables, figures and pictures

Tables and figures should be made in the MS Word or MS Word compatible format. Same data should not be presented both in tables and figures. Each table, figure or picture should be numbered, with a self-explanatory title. In case of tables, the first line should contain the table number, written in the normal font and without the full stop after the number, while the second line should state the title of the table in italic, as in the example given below. Unnecessary lines and shading should be avoided.

Table 1

Sample structure by sex and age in three surveys

	Year of the survey			
Characteristics	1996 (*n* = 1280)	2001 (*n* = 1200)	2006 (*n* = 1220)	Total (*N* = 3700)
Sex				
Male	49.2%	47.8%	50.7%	49.2%
Female	50.8%	52.2%	49.3%	50.8%
Age				
15–29 years old	20.8%	19.0%	25.5%	21.8%
30–49 years old	38.5%	38.5%	41.4%	39.4%
50 years and older	40.7%	42.5%	33.1%	38.8%

In case of visual materials (e.g. figures, graphs), the number of the figure/graph should first be given in italic, and, in the same line, the title of the figure/graph and its short description are given in normal font (see the example of the graph below). These elements should be provided below the respective graph/figure. A reference to each table, figure or picture should be made in the text.

Graph 1. Changes in the valuing of autonomy. The graph shows the increasing valuing of autonomy in each age cohort with time.

Statistics

The denomination of the used statistical tests should be given in italics (e.g. *F*, *t*, *p*), except in cases when the Greek alphabet symbols are used (e.g. χ^2, α). The results of statistical tests should be provided in the following form: $F(1,8) = 19.53$; $p < .01$ and similar for other tests, e.g. $\chi^2(3) = 3.55$, $p < .01$ or $t(253) = 2.06$, $p < .05$. Lower number of conventional *p* levels should be stated (e.g.: .05, .01, .001).

Quotations

Any quotation, regardless of its length, should be accompanied by reference and page number. For any quotation over 350 characters, authors must obtain a written permission by copyrights owner that needs to be enclosed.

Footnotes and abbreviations

Footnotes should be avoided. Abbreviations should be avoided as well, except the fairly usual ones. The abbreviations used in tables and pictures should be explained.

In-text reference citations

In papers in Serbian, foreign authors' names are cited in Serbian transcription, with surnames written phonetically, thereafter surname is quoted in parentheses in its original spelling, together with the year of publication, for example: Pijaže (Piaget, 1951). Multiple citations should be given alphabetically, not chronologically (e.g., Lazić, 1994; Pantić, 1990). If a paper has two authors, both names are cited in the text (e.g., Kuzmanović & Petrović, 2007). In the case of reference to more than two authors, when first mentioned, the surnames of all of the authors are cited in the text, while the surname of the first author and the abbreviation "i sar." (if the paper is written in Serbian, e.g., Joksimović i sar., 2007) or "et al." (if the paper is written in English, e.g. Millner et al., 2005) are used in subsequent citations. In papers in English, in-text references are cited complying with the APA (American Psychological Association) Publication Manual, 6th edition (http://www.apastyle.org/).

References

References should conform to APA instructions, 6th edition (http://www.apastyle.org/), and should be listed at the end of the paper, in the section entitled "References". The list should include only the references mentioned in the text, ordered alphabetically by the authors' surnames. References not mentioned in the text should not be listed. If the paper is written in English, the translation of the Serbian titles of books, journal articles etc. should be given in parentheses. The basic reference formats are listed in the following way:

a) ***Book***; should contain surname and initials of (each) author, year of publication, book title (*in italic*), place of publication and a publisher.

   General form: Author, A., Author. B., & Author, C. (year). *Title of work*. Location: Publisher.

   Example: Green, D., Palmquist, B., & Schickler, E. (2002). *Partisan hearts and minds: Political parties and the social identities of voters*. New Haven: Yale University Press.

b) ***Chapter from a book or an edited book***; should contain surname and initials of (each) author, year of publication, chapter title, name initial and surname of the editor, book title (*in italic*), chapter pages in parentheses, place of publication and a publisher.

   General form: Author, A., Author, B., & Author, C. (year). Title of chapter. In A. Editor, B. Editor, & C. Editor (Eds.), *Title of book* (pp. xxx—xxx). Location: Publisher.

   Example: Popkin, S., & Dimock, M. (1999). Political knowledge and citizen competence. In S. Elkin & K. Soltan (Eds.), *Citizen competence and democratic institutions* (pp. 117–146). University Park: Pennsylvania State University Press.

c) ***Article from a journal***; should contain surname and initials of (each) author, year of publication in parentheses, title of the article, journal title in full (*in italic*), volume (*in italic*) and pages.

   General form: Author, A., Author, B., & Author, C. (year). Title of article. *Title of Journal*, *xx*, pp—pp.

   Example: Kuzmanović, B., Popadić, D. & Havelka, N. (1995). Social changes and changes of values. *Psihologija*, *28*, 7–26.

d) ***Conference paper***; should contain surname and initials of (each) presenter, year and month of the meeting or symposia in parentheses, title of the presentation (*in italic*), conference name and location.

General form: Presenter, A. (Year, Month). *Title of paper*. Paper presented at the Name of the Conference, Location.

Example: Maksić, S., & Ševkušić, S. (2011, February). *Problemi identifikacije kreativnosti učenika u školi*. Paper presented at the Seventeenth International Symposium Empirical Research in Psychology, Belgrade.

e) ***Web document***; should contain surname and initials of (each) author, year, document title (*in italic*) and Internet site address.

General form: Author, A., Author, B., & Author, C. (year). *Title of document*. Retrieved from http://xxxxxxx.

Example: Foa, R. (2007). *Socioeconomic development and parenting values*. Retrieved from http://www.roberto.foa.name/Parenting_Attitudes_Foa.

f) ***Unpublished Master's or PhD thesis***; should contain surname and initials of the author, year in parentheses, title of the thesis, identification of the work as a thesis in parenthesis, name of the institution and location.

General form: Author, A. A. (year). *Title of doctoral dissertation or master's thesis* (Unpublished doctoral dissertation or master's thesis). Name of Institution, Location.

Example: Smith, B. (1995). Youth and political participation (Unpublished doctoral dissertation). Institute of Psychology, Vienna.

Multiple citations of one author are given chronologically according to the year of reference publication, from the oldest towards the new ones. Multiple reference citations of a single author from the same year should be labelled alphabetically according to titles, e.g. (1995a), (1995b).

It is undesirable to cite non-published works (e.g., manuscripts et al.). If such citations are necessary, data should be given in as full as possible.

References to secondary literature or its citation (e.g., Marsh, 1980, quoted in Stevenson, 2005) should be avoided as much as possible.

Appendix

Appendix should include only descriptions of material that may be useful for readers to understand, evaluate or repeat the research.

Reviewing and publishing

All papers are reviewed anonymously by two competent reviewers. On the basis of reviews, the Editorial Board make one of the following decisions: to accept the paper for publication without changes, to accept the paper after minor revisions, to accept the paper after substantial revisions or to reject the paper. The Editorial Board send both reviews to the authors and inform the contributing author about the final decision within the period of three months from paper reception. If the author resubmits the revised paper for publishing, it is obligatory to enclose a letter informing the Editorial Board about the corrections made in the text (along with page numbers where the revisions were made), in keeping with reviewers' recommendations. If the authors think that some of the reviewers' comments are not justified, or if they are impossible to meet, they must enclose a detailed elaboration and send it to the Editorial Board. The Editorial Board have the right to decide on the manuscript status independently.

Article category (type)

Complying with the instruction of the Ministry of Science and Technological Development, the articles published in the journal *Psihološka istraživanja* will be categorised in one of the following categories:

Scientific articles: 1. original research paper (a paper presenting previously unpublished data of one's own research by means of a scientific method); 2. review paper (a paper containing an original, detailed and critical presentation of the research problem or the field in which the author has made a certain contribution, evident on the basis of self-citations); 3. brief or preliminary communication (an original research paper of full format, but of smaller volume or of preliminary character); 4. scientific criticism, i.e. polemics (a discussion about a certain topic, based exclusively on scientific argumentation) and comments;

Professional articles: 1. professional paper (a contribution offering the experience useful for improvement of professional practice, but not necessarily based on a scientific method); 2. informative contribution (an editorial, commentary et al.); 3. review (of a book, computer programme, case, scientific event et al.).

Copyright

Authors who intend to publish papers in the journal *Psihološka istraživanja* are expected to obtain and respect the copyright of others (e.g., for the used instruments, software etc.), as well as the dignity of research participants, complying with basic ethical guidelines of publishing.

After the manuscript has been accepted for publication, authors are obliged to sign the Authors' Statement confirming that the submitted manuscript is original and that all scientific and publishing standards have been followed.

Authors retain copyright of the published papers and grant to the publisher the non-exclusive right to publish the article, to be cited as its original publisher in case of re-use, and to distribute it in all forms and media. The published articles will be distributed under the Creative Commons Attribution ShareAlike 4.0 International license (CC BY-SA). It is allowed to copy and redistribute the material in any medium or format, and remix, transform, and build upon it for any purpose, even commercially, as long as appropriate credit is given to the original author(s), a link to the license is provided, it is indicated if changes were made and the new work is distributed under the same license as the original. Authors are permitted to deposit author's publisher's version (PDF) of their work in an institutional repository, subject-based repository, author's personal website (including social networking sites, such as ResearchGate, Academia.edu, etc.), and/or departmental website at any time after publication, with an acknowledgement of its initial publication in this journal.

To the Editorial Board of the *Psihološka istraživanja journal*

AUTHOR'S STATEMENT

1. **Checklist for the author(s)**
   (to be signed alongside with the manuscript submission)

I declare that:

- the manuscript that has been submitted to the Editorial Board for publishing in *Psihološka istraživanja* entitled (ENTER THE PRELIMINARY TITLE OF THE

PAPER) has not been previously published and simultaneously submitted for publishing elsewhere;

- all co-authors (if the paper is authored by two or more people) have approved of the submitted version of the paper and have agreed to submit it to the journal *Psihološka istraživanja*;
- if the paper is based on the published conference proceeding article, this has been adequately referenced in the text (a footnote attached to paper's title);
- if the same sample or corpus of data has been used previously for the purposes of another paper or conference presentation, this has been adequately referenced in a footnote attached to paper's title or in the methodology part of the paper, when the sample is described;
- the existing ethical standards have been followed during the creation of the paper;
- the copyrights of other people are granted;
- at least one of the paper's authors have copyrights for the used instruments and software;

NAME AND SURNAME OF THE FIRST AUTHOR:

2. Copyright agreement

(to be signed after the manuscript has been accepted for publication)

I declare that:

- I grant the right to the Editorial Board of the journal *Psihološka istraživanja* to further distribute the published article on non-commercial ground (e.g. open source directories, journal's official web page etc.);
- I have been informed that I have the right to use the published article in line with the Creative Commons Attribution Share Alike 4.0 International license (CC BY-SA) (e.g. uploading it on the academic social networks such as ResearchGate, Academia.edu etc.);
- I have been informed that my article published in the journal *Psihološka istraživanja* cannot afterwards be re-printed in some other journal, handbook or book, without the Publisher's permission.

NAME AND SURNAME OF THE FIRST AUTHOR:

NAME AND SURNAME OF THE SECOND AUTHOR:

NAME AND SURNAME OF THE THIRD AUTHOR:

(add additional names and surnames, if necessary)

DATE:

CIP – Каталогизација у публикацији
Народна библиотека Србије, Београд

159.9

PSIHOLOŠKA istraživanja / Institut za psihologiju Filozofskog fakulteta ; glavne i odgovorne urednice Marina Videnović, Darinka Anđelković. – 1976, br. 1– . 2 Beograd : Institut za psihologiju, Filozofski fakultet Univerziteta u Beogradu, 1976– (Beograd : Službeni glasnik). – 24 cm

Polugodišnje. – Tekst na srp. i engl. jeziku. – Drugo izdanje na drugom medijumu: Psihološka istraživanja (Online) = ISSN 2560-306X

ISSN 0352-7379 = Psihološka istraživanja

COBISS.SR-ID 1630899

Institut za psihologiju

ISSN 0352-7379

9 788676 302734