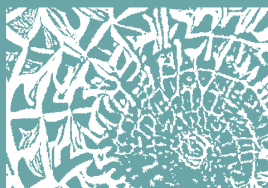
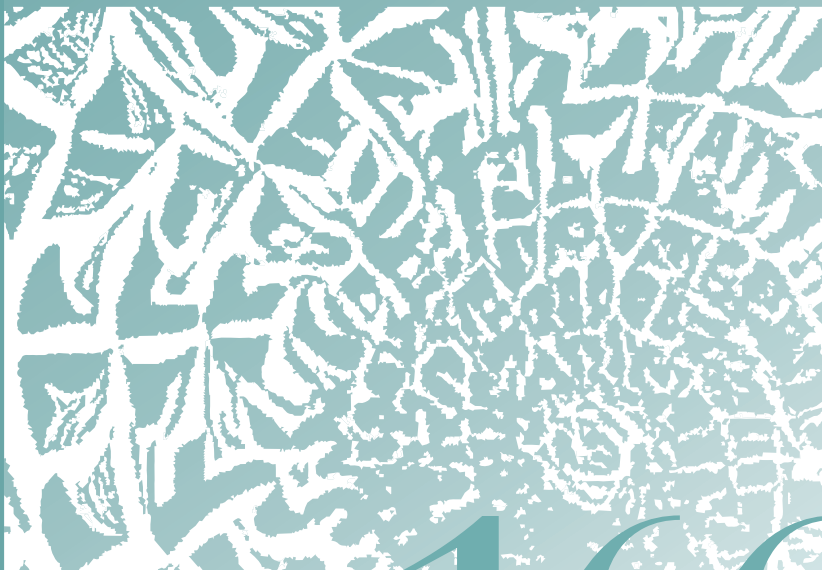


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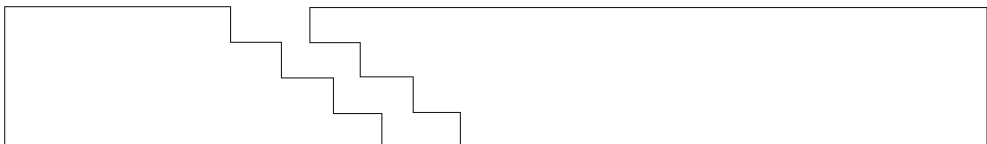
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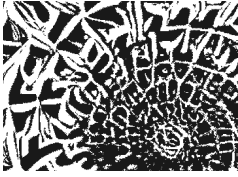
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SENSORY PROCESSING SENSITIVITY IN ADOLESCENCE

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Review paper

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The main aim of this review article is to describe the current state of scientific knowledge on the characteristics of the sensory processing sensitivity (SPS) trait in adolescence. The SPS trait stands for an increased sensitivity of the central nervous system and is associated with a tendency to process stimuli more deeply. People with this trait are highly sensitive people. Previous research has shown that there is a link between this trait and poorer quality of mental health. In addition, adolescence itself is a particularly challenging phase of life for most young people, as numerous changes take place during this developmental phase. For these reasons, highly sensitive adolescents represent a particularly vulnerable group for the development of various types of mental health problems. However, previous research has shown that the development of various problems in adolescents with the SPS trait is largely dependent on environmental factors. This knowledge is essential for professionals (psychologists and psychiatrists) who need to be aware of the main characteristics of highly sensitive adolescents in order to help this group of young people.

Keywords: sensory processing sensitivity, adolescence, mental health, environmental influences



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INTRODUCTION

Adolescence is a life period between childhood and adulthood during which some of the greatest changes in a person's cognitive, socio-emotional and physical development take place (Imura & Kibe, 2020). This developmental phase covers a pe-

riod from approximately 10 to 24 years (Sawyer et al., 2018). Due to the many changes that take place in a person's life during this time, adolescence is not easy for anyone. However, not all adolescents will have mental health problems and not all will develop internalising and externalising problems (Benner, 2011; Iimura & Kibe, 2020; Steinberg & Morris, 2001). In fact, many adolescents cope well when confronted with various stressors in life. In addition, many previous studies have shown that environmental influences such as social support and the quality of adolescents' relationships with their family and friends play an important role in adolescents' mental health (Steinberg & Morris, 2001). Despite this, for some adolescents, various adversities in life have a greater negative impact and some adolescents do not benefit from positive environmental influences such as social support (Iimura & Kibe, 2020). The question arises as to what the difference is between these adolescents. The extent to which these environmental influences affect adolescents' development may depend to some extent on their sensory processing sensitivity trait.

Sensory Processing Sensitivity (SPS) is a trait that implies neurological differences in the cognitive processing of stimuli and is associated with a more sensitive nervous system (Acevedo et al., 2014; Gearhart & Bodie, 2012; Rajić, 2023). This trait is associated with greater sensitivity and responsiveness to environmental stimuli (Acevedo et al., 2014). People with this trait are highly sensitive people, and in the general population there are about 20 to 30% of them (Jagiellowicz et al., 2016; Lionetti et al., 2019; Pluess et al., 2018; Rajić, 2023, 2024). In recent decades, there has been an increasing number of studies on the SPS trait worldwide. However, the general public as well as experts first became aware of the characteristics of highly sensitive people, adolescents and children through the books of Elaine Aron, which are largely based on her therapeutic work with highly sensitive individuals (Aron, 2002, 2011, 2013).

Aim of review and literature search

The main aim of this paper is to describe the current state of scientific knowledge about the trait that can help explain differences in the effect of environmental influences on adolescents. To achieve this goal, a literature search was conducted in Google Scholar and PubMed using the search terms "sensory processing sensitivity in adolescence", "highly sensitive adolescents" and "environmental sensitivity in adolescence". In addition, to fully describe the SPS trait, articles on the main characteristics of sensory processing sensitivity and the research on environmental sensitivity were searched using the search terms "sensory processing sensitivity", "high sensitivity" and "environmental sensitivity". The articles included in this review were not selected by

year of publication, as research on the SPS trait is relatively new and has only been conducted since the mid-1990s.

THE MAIN CHARACTERISTICS OF HIGHLY SENSITIVE ADOLESCENTS

The main characteristics of highly sensitive people are deeper information processing, higher emotional reactivity, overstimulation and sensing the subtle, which form the acronym *DOES* (Aron, 2011; Aron et al., 2012; Rajić, 2023, 2024).

Depth of processing, as the name suggests, refers to the deeper information processing of highly sensitive people compared to non-highly sensitive people (the rest of the population that is not highly sensitive). This is the central feature of the SPS trait that influences many other characteristics of highly sensitive individuals (Acevedo et al., 2021; Rajić, 2023). Numerous studies have shown that certain areas of the brain are more active in people with the SPS trait, which are related to deeper information processing (Acevedo et al., 2021; Jagiellovicz et al., 2011). This characteristic can be expressed through sensing the subtleties (one of the main characteristics of highly sensitive individuals), which refers to all the little things that people with the SPS trait perceive that non-highly sensitive people do not (Aron, 2011). Depth of processing can also manifest itself in highly sensitive adolescents through a greater awareness of how other people see them (Aron, 2002). Consequently, adolescents with the SPS trait living in Western cultures are also more aware of the fact that they do not fit into the cultural ideal. It is important to point out that this cultural ideal relates to the cultures of America, Canada, and Western Europe, where most research on the SPS trait has been conducted. In fact, in a study conducted in China, it was found that children who exhibited characteristics associated with the SPS trait were popular in school (Chen et al., 1992). The reason for this lies in Confucian philosophy, which emphasises that inhibited individuals are more mature (Chen et al., 1992; King & Bond, 1985). Consequently, shy children in China are considered "good" and well-behaved. For this reason, behaviours associated with inhibition and sensitivity are more acceptable and popular in China than in the West, where such characteristics are not as highly valued. The results of this study have also shown that sensitive children were less popular in Canada (Chen et al., 1992). Elaine Aron reports that sensitive adolescents from Western cultures try to conform to the majority for these very reasons, i.e., to conform to the "accepted and popular" way of life and behaviour to avoid the disapproval of their parents and the rejection by their peer groups. Therefore, they sometimes try to change themselves to fit in with the majority, and if someone does something they do not want, this can lead to an increase in their dissatisfaction (Aron, 2002).

However, the depth of processing can also have numerous positive consequences, such as aesthetic awareness (Acevedo et al., 2021). Many studies on the personality profile of highly sensitive people have shown that there is a correlation between this aspect of the SPS trait (operationalised in the Aesthetic Sensitivity factor, which is one of the factors of the scale developed to assess the SPS trait) and the Openness to Experience personality dimension (Grimen & Diseth, 2016; Rajić, 2023; Sobocko & Zelenski, 2015; Smolewska et al., 2006). The reason for this lies in the similar object of measurement of these two constructs, which means that as aesthetic sensitivity increases, openness to experience will increase too (Ahadi & Basharpour, 2010; Rajić, 2023). However, the results of some studies show a connection between the SPS trait and openness to experience only from late adolescence (Bröhl et al., 2020; Lionetti et al., 2019). The explanation for this can be found in a study which showed that openness to experience develops during adolescence. Namely, the development of the intellect during adolescence consequently affects greater openness to new life experiences (Allik et al., 2004). For this reason, it can be hypothesised that the characteristics associated with aesthetic sensitivity also develop during this stage of life (e.g. Aesthetic Sensitivity item: *Do you notice and enjoy delicate or fine scents, tastes, sounds, works of art?*) (Rajić, 2023). Considering that the factor of aesthetic sensitivity has been associated with positive outcomes such as better mental health in previous studies (Dal, 2015; Grimen & Diseth, 2016; Khosravani et al., 2021; Meyerson et al., 2020; Yano & Oishi, 2018), some authors hypothesise that higher aesthetic sensitivity will only develop under the influence of positive aspects of the environment (Liss et al., 2008). Nevertheless, the question of which factors in adolescence influence the development of more positive aspects of the SPS trait remains open.

Another consequence of depth of processing and another key characteristic of all highly sensitive people is the ease of getting into the state of overarousal. If someone processes information more deeply, it is more likely that this person will also become physically and mentally fatigued more easily (Aron, 2011; Rajić, 2023). Therefore, highly sensitive people need less stimulation than non-highly sensitive people to get into a state of overstimulation. This characteristic was operationalised in the factors Ease of Excitation and Low Sensory Threshold (two factors of the scale developed to assess the SPS trait). The items of the Ease of Excitation factor assess the ease of getting into the state of feeling mentally overwhelmed by stimuli, while the Low Sensory Threshold factor assesses the unpleasant arousal caused by external stimuli (Smolewska et al., 2006). In a large number of studies, it has been shown that aspects of high sensitivity operationalised in these factors were associat-

ed with lower quality of mental health. Just a few examples of these studies include the associations of these factors with: anxiety symptoms (Liss et al., 2008; Hofmann & Bitran, 2007), depressive symptoms (Liss et al., 2008; Yano & Oishi, 2018), burnout syndrome (Meyerson et al., 2020; Redfearn, 2019), obsessive-compulsive disorder (Khosravani et al., 2021), and symptoms of seasonal affective disorder (Hjordt & Stenbæk, 2019). Therefore, the ease of getting into the state of overarousal represents one of the negative sides of the SPS trait, as it can often make life more difficult. However, it is believed that this characteristic is least pronounced in adolescence and early adulthood, as young people desire a higher level of stimulation compared to highly sensitive children and older adults. There are several reasons for this. Some of these include the many biological changes that take place during adolescence, the desire of adolescents to try new things, or simply the lack of life experience due to which they are not yet sufficiently aware of their stimulation threshold (Aron, 2002). It is important to point out that Elaine Aron has written about the ways this characteristic affects the lives of highly sensitive adolescents. Although research has shown that this is one of the fundamental characteristics associated with the SPS trait, and although it has been operationalised in the scales developed to assess the SPS trait (Aron & Aron, 1997; Pluess et al., 2018; Pluess et al., 2023), not many studies have been conducted on the different ways it affects the lives of highly sensitive people at different developmental stages.

Another main characteristic of highly sensitive people is their higher emotional reactivity, which stands for higher positive and negative emotions, and this characteristic is also related to the higher empathy of this group of people (Aron et al., 2012). In one study, for example, it was shown that highly sensitive students (late adolescence) had a stronger negative affect when they received bad feedback about their academic achievement, than non-highly sensitive students (Aron et al., 2005). The results of another study showed that individuals with the SPS trait also reacted more strongly to positive emotional stimuli (Jagiellowicz et al., 2016). Many studies have shown that highly sensitive people have more intense positive and negative emotions than the non-highly sensitive part of the population and that certain environmental factors have a greater influence on their emotions (Acevedo et al., 2014; Aron et al., 2005; Aron et al., 2012; Jagiellowicz et al., 2016). Given that adolescents generally have more intense emotions than adults and children (Diener et al., 1985; Larson et al., 1980), the question arises as to how highly sensitive adolescents regulate their generally more intense emotions, how this may affect their mental health and what role environmental factors play in this. Although this has not yet been extensively

researched, the results of one study showed that only highly sensitive people with difficulties in emotion regulation were more likely to have symptoms of depression and anxiety (Brindle et al., 2015). In a more recent study, it was shown that highly sensitive people have lower emotion regulation skills compared to non-highly sensitive people. The results of this study also showed that mainly young people (late adolescence) belonged to the group of highly sensitive people with low emotion regulation. These results point to the difficulties that highly sensitive individuals can have in regulating their emotions (Liu & Tian, 2024).

ENVIRONMENTAL INFLUENCES ON HIGHLY SENSITIVE ADOLESCENTS

As already mentioned, another important characteristic of people with the SPS trait is their higher environmental sensitivity. Environmental sensitivity as a construct was first defined within the theoretical framework of the same name (Aron & Aron, 1997; Belsky, 1997; Belsky & Pluess, 2009; Ellis & Boyce, 2011). Environmental sensitivity is one of the most basic individual characteristics that can be observed in humans as well as in a large number of animal species (Pluess, 2015; Rajić, 2023). This means that everyone is sensitive to environmental influences. However, studies show that people vary greatly in their sensitivity to environmental influences, with some being more sensitive and some less (Pluess et al., 2018). Numerous studies have shown that the SPS trait is a reliable marker for environmental sensitivity (Greven et al., 2019). For example, highly sensitive people with poorer environmental quality in childhood had lower life satisfaction (Booth et al., 2015), higher depression scores (Liss et al., 2005) and higher neuroticism as adults (Aron & Aron, 1997).

Numerous studies conducted with highly sensitive adolescents have also shown a greater influence of both supportive and aversive aspects of the environment on this group of adolescents. For example, in two studies where the SPARK resilience programme (Boniwell & Ryan, 2009) was implemented, it has been shown that highly sensitive students benefited more from this programme compared to their non-highly sensitive peers (Kibe et al., 2020; Pluess & Boniwell, 2015). This resilience programme, symbolised by the acronym SPARK, which stands for Situation (S), Perception (P), Autopilot (A), Reaction (R), and Knowledge (K), was first developed in the United Kingdom and is based on the principles of cognitive-behavioural therapy and positive psychology. The main aim of this programme is to promote protective factors (e.g. self-esteem, self-regulation, etc.) in young people in order to develop their re-

silience and prevent depression (Boniwell & Ryan, 2009; Kibe et al., 2020; Pluess & Boniwell, 2015). The positive effect of the SPARK resilience programme implemented in schools in Great Britain has been demonstrated in research with highly sensitive students of early adolescent age. Highly sensitive girls had significantly lower depression scores after participating in this programme, while this difference was not found for non-highly sensitive girls (Pluess & Boniwell, 2015). In a study conducted on a sample of Japanese high school students, it was also shown that highly sensitive adolescents (aged 15 to 16) benefited more from this programme. They had significantly better well-being, meaning they had higher levels of self-efficacy and significantly lower depression scores after participating in this programme. It is important to point out that these students had significantly lower well-being before starting the programme than non-highly sensitive students. However, they also benefited significantly more from this programme than their peers (Kibe et al., 2020). The results of one study showed that highly sensitive adolescents who were charged with minor offenses were less likely to reoffend if they lived in a supportive environment compared to those who did not live in a supportive environment. The effect of a supportive family environment could not be proven for the group of non-highly sensitive adolescents (Donley et al., 2016; Pluess et al., 2018). One study even showed that daily exercise as a positive aspect of the environment has a moderating role between the SPS trait and depressive symptoms in late adolescence (Yano & Oishi, 2018).

However, not all studies were able to prove a bigger influence of the environment on highly sensitive adolescents, while some studies showed the moderating role of other variables between the interaction of higher sensitivity and a greater environmental influence. One study, for example, showed that highly sensitive girls were more likely to develop internalising problems, and this was independent of environmental influences (Onursal, 2020). The greater likelihood of this group of girls developing internalising problems is not surprising, as a large number of studies have shown that the SPS trait is a risk factor for various internalising problems or for mental health problems in general (Hjordt & Stenbæk, 2019; Panagiotidi et al., 2020; Redfearn, 2019). However, one may wonder why in this case the environment did not have a greater impact on highly sensitive adolescent girls, as a large number of previous studies have shown a greater impact of the environment on highly sensitive people (Aron & Aron, 1997; Booth et al., 2015; Kibe et al., 2020; Liss et al., 2005; Pluess & Boniwell, 2015; Yano & Oishi, 2018). The lack of this explanation

can also be found in another study, which showed that not all highly sensitive adolescents were at higher risk of developing internalising problems during the Covid-19 pandemic (Burgard et al., 2022). The results of a different study offered an explanation as to what factors may have influenced the impact of the COVID-19 pandemic on the mental health of highly sensitive adolescents. In this study, the mediating role of resilience was demonstrated. This means that highly sensitive adolescents do not necessarily experience more stress if they are more resilient (Iimura, 2022). The research findings of Aron and colleagues have also shown that not all highly sensitive adolescents who grow up in an aversive environment exhibit higher shyness, but only those who have developed higher negative affectivity (Aron et al., 2005).

CONCLUSION

This review article provides a comprehensive overview of the current status of research on the SPS trait in adolescence. Although an increasing number of studies on the SPS trait have been conducted in the last decade, based on the analysis of previous research, not enough qualitative studies have been conducted on the main characteristics of high sensitivity.

Although certain aspects of the SPS trait in adolescence have not yet been sufficiently studied, previous research shows that adolescents with the SPS trait are more sensitive to both negative and positive life experiences. However, more recent research shows that the greater influence of negative environmental aspects on highly sensitive people is not linear, i.e., that high sensitivity together with aversive environmental aspects does not necessarily lead to poorer quality of mental health in adolescents if they have better socio-emotional skills. This finding is particularly important for professionals (psychologists and psychiatrists) who can help this vulnerable group of young people cope with stressful life events by supporting them in developing greater resilience, self-efficacy, better emotion regulation, and general socio-emotional skills.

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Osjetljivost na senzorno procesuiranje u adolescenciji

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Glavni je cilj ovoga preglednog članka opis trenutačnog stanja znanstvenih spoznaja o karakteristikama crte osjetljivosti na senzorno procesuiranje (OSP) u adolescenciji. OSP crta odnosi se na povećanu osjetljivost središnjega živčanog sustava i povezana je s tendencijom dublje obradbe podražaja. Osobe s ovom crtom vrlo su osjetljive. Prijašnja istraživanja pokazala su da postoji poveznica između ove crte i lošije kvalitete mentalnoga zdravlja. Osim toga, adolescencija je sama po sebi posebno izazovna faza života za većinu mladih ljudi, jer se tijekom ove razvojne faze događaju mnoge promjene. Iz navedenih razloga visokoosjetljivi adolescenti predstavljaju posebno ranjivu skupinu za razvoj raznih vrsta psihičkih problema. Međutim, dosadašnja su istraživanja pokazala da razvoj problema kod adolescenata s OSP crtom uvelike ovisi o čimbenicima okoline. Ovo je znanje ključno za stručnjake (psihologe i psihijatre) koji trebaju biti svjesni glavnih karakteristika visokoosjetljivih adolescenata kako bi pružili što kvalitetniju podršku ovoj skupini mladih ljudi.

Ključne riječi: osjetljivost na senzorno procesuiranje, adolescencija, mentalno zdravlje, utjecaji okruženja



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NEKI PSIHOSOCIJALNI PREDIKTORI RODITELJSKOGA SAGORIJEVANJA MAJKI DJECE DO PET GODINA

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Roditeljsko sagorijevanje posljedica je kroničnoga stresa, a manifestira se kao iscrpljenost u ulozi roditelja, emocionalnim udaljavanjem i gubitkom roditeljske ispunjenosti. Cilj je ovog istraživanja bio ispitati koliko sociodemografske varijable, stabilne osobine ličnosti, roditeljska samoefikasnost, aspekti braka te socijalna podrška pridonose roditeljskom sagorijevanju majki. Majke djece do pet godina ($N = 255$) online su ispunile Upitnik roditeljskoga sagorijevanja, IPIP-50 upitnik ličnosti, upitnik perfekcionizma, roditeljske kompetentnosti, kvalitete bračnog odnosa, socijalne podrške te Upitnik općih podataka. Roditeljsko sagorijevanje doživljava 3,5 % majki. Hijerarhijska regresijska analiza pokazala je da višem sagorijevanju pridonose sociodemografske varijable (veći broj djece i urbanije mjesto stanovanja), osobine ličnosti (niska emocionalna stabilnost, niska ugodnost i visoki perfekcionizam) te niska roditeljska samoefikasnost. Iako su povezani s roditeljskim sagorijevanjem, aspekti braka i socijalne podrške nisu značajni prediktori roditeljskoga sagorijevanja. Rezultati dobiveni ovim istraživanjem imaju teorijske i praktične implikacije koje mogu poslužiti za prepoznavanje i prevenciju roditeljskoga sagorijevanja, ali i kao temelj za daljnja istraživanja.

Ključne riječi: roditeljsko sagorijevanje, osobine ličnosti, roditeljska samoefikasnost, obiteljsko funkcioniranje, socijalna podrška



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Iako roditeljstvo može biti predivno iskustvo (Mikolajczak i sur., 2019), ono nerijetko zahtijeva ulaganje dodatnih napora i prevladavanje raznih poteškoća, što može uzrokovati akutni, ali i kronični, stres (Mikolajczak i sur., 2020). U nedostatku resursa za suočavanje sa stresom vezanim uz roditeljsku ulogu, kod pojedinih roditelja mogu se razviti simptomi roditeljskoga sagorijevanja (Mikolajczak i sur., 2019). Iako se sagorijevanje obično spominje u kontekstu posla, u današnje se vrijeme provodi sve više istraživanja na temu roditeljskoga sagorijevanja. Budući da mnogi roditeljstvo smatraju najvažnijim, ali ujedno i najtežim "poslom", ne čudi što interes za ovim sindromom stalno raste (Mikolajczak i sur., 2020).

Roditeljsko sagorijevanje nastaje kao posljedica prekomjernoga kroničnog stresa (Lindhal-Norberg, 2007; Mikolajczak i sur., 2021), a očituje se kroz četiri simptoma koja se javljaju u fazama (Roskam i Mikolajczak, 2021). Spomenuti simptomi manifestiraju se kroz intenzivnu fizičku i/ili emocionalnu iscrpljenost u ulozi roditelja, emocionalno udaljavanje od vlastitog djeteta, gubitak roditeljske ispunjenosti te osjećaj zasićenja roditeljskom ulogom. Pri utvrđivanju prisutnosti sindroma kod roditelja svakako treba uzeti u obzir da su ove misli i osjećaji u snažnom kontrastu s onim mislima i osjećajima koje su roditelji imali prije. Pritom se javljaju misli poput "nisam onakav roditelj kakav sam htio/htjela i želio/željela postati", zbog čega dolazi do osjećaja krivnje i srama (Roskam, Philippot i sur., 2021).

O važnosti bavljenja ovom temom govore i podaci o učestalosti roditeljskoga sagorijevanja, koja se kreće između 2 % i 12 % (Roskam i sur., 2018). Nadalje, rezultati dobiveni metaanalizom Roskam, Aguiar i sur. (2021), koja je obuhvaćala studije iz 42 države, pokazali su da prevalencija roditeljskoga sagorijevanja značajno varira među državama. Tako je analiza kulturalnih vrijednosti upozorila na značajno višu prevalenciju roditeljskoga sagorijevanja u individualističkim kulturama. Štoviše, individualizam se pokazao značajnijim za razvoj roditeljskoga sagorijevanja od ekonomske nejednakosti, ali i svih drugih individualnih i obiteljskih karakteristika. Iz toga proizlazi zaključak da kulturalne vrijednosti u zapadnim zemljama kod roditelja mogu izazvati povećanu razinu stresa (Geinger i sur., 2014; Nelson, 2010; Rizzo i sur., 2013; Roskam, Aguiar i sur., 2021). U svim je studijama roditeljsko sagorijevanje mjereno *Upitnikom roditeljskoga sagorijevanja* (Roskam i sur., 2018). Prevalencija roditeljskoga sagorijevanja pokazala se najnižom u Tajlandu (0,2 %), a najvišom u Poljskoj (9,6 %) (Roskam, Aguiar i sur., 2021). U istraživanju provedenom na majkama maloljetne djece (prosječne dobi najstarijega djeteta od 8,42 go-

dine) u Hrvatskoj, za vrijeme pandemije koronavirusa i potresa, pokazalo se da 3,8 % majki zadovoljava kriterije za utvrđivanje klinički značajnih razina roditeljskoga sagorijevanja (Novosel, 2021). Sličan postotak od 4,2 % utvrđen je i na drugom nedavnom online istraživanju uglavnom majki (90 %) i očeva (Macuka i sur., 2022) koji su većinom imali djecu stariju od pet godina (84 %).

Ključnu ulogu u boljem razumijevanju i identificiranju etioloških čimbenika u roditeljskom sagorijevanju mogla bi imati *Teorija ravnoteže rizika i resursa* (engl. *The Balances Between Risks and Resources Theory*), koju su ponudile Mikolajczak i Roskam (2018). Prema ovom teorijskom modelu, sindrom roditeljskoga sagorijevanja nastaje kao posljedica kronične neravnoteže između čimbenika u roditeljstvu koji povećavaju stres (poput visokih standarda uspjeha i očekivanja roditelja, neadekvatne prakse odgoja djece i nedostatka podrške partnera) i čimbenika u roditeljstvu koji ublažavaju stres (poput realnih očekivanja, adekvatnoga roditeljskog ponašanja i dobre podrške partnera). U samoj srži etiologije zapravo leže dugotrajna neravnoteža između previše dugotrajnih stresora/čimbenika rizika i nedovoljno resursa za njihovo odgovarajuće rješavanje.

Više se istraživanja bavilo prediktorima roditeljskoga sagorijevanja te su pritom otkriveni brojni zaštitni, ali i rizični, čimbenici za njegov razvoj (Kawamoto i sur., 2018; Le Vigouroux i sur., 2017; Mikolajczak i Roskam, 2018; Sorkkila i Aunola, 2020). Određene roditeljske karakteristike, poput dobi, razine obrazovanja i socioekonomskoga statusa, mogu povećati roditeljske zahtjeve i/ili smanjiti roditeljske resurse (Mikolajczak i sur., 2018), što posljedično može prouzročiti roditeljsko sagorijevanje. Rezultati istraživanja povezanosti *dobi roditelja* i roditeljskoga sagorijevanja nisu dosljedni, pri čemu su neki pokazali da dob nije značajan prediktor (Mikolajczak i sur., 2018), neki su utvrdili da je starija dob majke povezana s višom razinom roditeljskoga stresa (Macias i sur., 2001), dok je sustavni pregledni rad pokazao da je niža dob roditelja povezana s višim sagorijevanjem (Roskam, Aguiar, i sur., 2021).

Iako se pokazalo da majke s nižom razinom obrazovanja primjenjuju više negativnih roditeljskih postupaka te, ujedno, i manje nadziru djecu (Kuterovac Jagodić i sur., 2016), ovaj se čimbenik nije pokazao rizičnim za razvoj roditeljskoga sagorijevanja (Mikolajczak i sur., 2018). No zato niži *socioekonomski status* i financijski problemi u značajnoj mjeri predviđaju roditeljsko sagorijevanje, što proizlazi iz manje dostupnosti raznih resursa (Mikolajczak i sur., 2018). Sustavni pregledni rad pokazao je da su sagorijevanju više izloženi mlađi roditelji, majke (više nego očevi), roditelji koji žive u nepovoljnim kvartovima, roditelji s većim brojem djece i roditelji sami (Roskam, Aguiar i sur., 2021).

Osim dobi roditelja, značajnim rizičnim čimbenikom za razvoj roditeljskoga sagorijevanja pokazala se i *dob djeteta*. Ne-ka istraživanja pokazuju da su roditeljskom sagorijevanju podložniji roditelji mlađe djece (Chen i sur., 2022; Le Vigouroux i sur., 2022). Iako u nekim istraživanjima nije utvrđena ova veza (Mikolajczak i sur., 2018), sustavni pregledni rad iz 42 zemlje pokazao je povezanost niže dobi djeteta i višega roditeljskog sagorijevanja (Roskam, Aguiar, i sur., 2021). U jednom čileanskom istraživanju roditeljskoga sagorijevanja za vrijeme pandemije COVID-19 pokazalo se da su sagorijevanju posebno izloženi roditelji djece mlađe od pet godina (Giraldo i sur., 2022), što su autori objasnili niskom autonomijom djeteta u toj dobi te većom ovisnošću djeteta o roditeljima i većom potrebom za nadzorom mlađe djece. S obzirom na to da su majke male djece izložene raznim poslijeporođajnim stresorima u prvoj godini djetetova života (Nakić Radoš i sur., 2023) te raznim stresorima vezanima uz brigu, skrb i ponašanja djeteta u razdoblju rane predškolske dobi (Nærde i sur., 2000), u ovom smo se istraživanju usmjerili specifično na majke djece mlađe od pet godina, koje bi mogle biti u većem riziku za sagorijevanje.

Stabilne osobine roditelja također su jedan od značajnijih prediktora roditeljskoga sagorijevanja (Kawamoto i sur., 2018; Le Vigouroux i Scola, 2018; Le Vigouroux i sur., 2017). Ističe se *perfekcionizam* kao crta ličnosti, pri čemu su roditelji s višom razinom perfekcionizma pod većim rizikom od razvoja roditeljskoga sagorijevanja od roditelja s nižom razinom perfekcionizma, kako pokazuju istraživanja u Japanu (Kawamoto i sur., 2018) i Finskoj (Sorkkila i Aunola, 2020), ali i Hrvatskoj (Macuka i sur., 2024). Pri tome treba istaknuti da i opći perfekcionizam (Kawamoto i sur., 2018), a posebno aspekt društveno propisanoga perfekcionizam (Sorkkila i Aunola, 2020), i perfekcionizam specifičan za roditeljstvo (Kawamoto i sur., 2018; Macuka i sur., 2024) pridonose višem sagorijevanju u roditeljstvu.

Značajnim prediktorima roditeljskoga sagorijevanja pokazale su se i neke od velikih pet osobina ličnosti (engl. *Big five*). Konkretnije, rezultati istraživanja provedenog na roditeljima iz Belgije (Le Vigouroux i Scola, 2018; Le Vigouroux i sur., 2017) sugeriraju da su tri osobine ličnosti značajni prediktori roditeljskoga sagorijevanja: visoki *neuroticizam*, niska *savjesnost* i niska *ugodnost*. Ekstraverzija i otvorenost prema iskustvu nisu se pokazali značajnima u predviđanju roditeljskoga sagorijevanja (Le Vigouroux i sur., 2017). Recentno istraživanje u Hrvatskoj ispitalo je samo neuroticizam od pet osobina ličnosti te se pokazao najznačajnijim prediktorom roditeljskoga sagorijevanja, uz perfekcionizam (Macuka i sur., 2024).

I neki aspekti roditeljskoga ponašanja pokazali su se značajnim prediktorima roditeljskoga sagorijevanja, poput roditeljske podrške, ali ne i roditeljske popustljivosti ili kontrole (Macuka i sur., 2024). Istraživanje na roditeljima s francusko-govornog područja pokazalo je da višu razinu roditeljskoga sagorijevanja doživljavaju roditelji s nižom razinom *roditeljske samoeфикаsnosti* (Mikolajczak i sur., 2018), koju definiramo kao vjerovanje roditelja ili skrbnika u njihovu vlastitu sposobnost da djeluju kao kompetentan i učinkovit roditelj (Jones i Prinz, 2005). U skladu s tim su i rezultati istraživanja koje je uključilo roditelje djece s poremećajem hiperaktivnosti i deficita pažnje (Ben-Naim i sur., 2019). Potpuno suprotno ovim rezultatima, u istraživanju Arbunić (2022) utvrđeno je da je pak viša razina roditeljske samoeфикаsnosti povezana s višom razinom roditeljskoga stresa. S obzirom na nedosljedne rezultate, potrebno je dodatno ispitati povezanost specifično roditeljske samoeфикаsnosti i roditeljskoga sagorijevanja.

Obitelj je prirodni socijalni sustav u kojem se odvija roditeljstvo, a koji ima svoju strukturu, funkcije, pravila, uloge, načine komuniciranja, načine suočavanja s problemima i njihovim rješavanjem (Mikolajczak i sur., 2018; Stalekar, 2010). *Bračno funkcioniranje* ima veliku ulogu u predviđanju roditeljskoga sagorijevanja, a posebno su se istaknula tri čimbenika; zadovoljstvo u braku, suroditeljstvo i neorganiziranost u obitelji. Primjerice, njegujući odnos, adekvatna komunikacija i zadovoljstvo partnerom povezani su s nižom razinom roditeljskoga sagorijevanja (Lindström i sur., 2011), dok su neorganiziranost u obitelji i neadekvatna komunikacija rizični čimbenici za razvoj roditeljskoga sagorijevanja (Dumas i sur., 2005). Međutim, s obzirom na to da se pokazalo kako je neravnopravnost u roditeljstvu povezana s majčinim emocionalnim opterećenjem u roditeljstvu (Roskam i sur., 2022), moguće da su i neki drugi čimbenici bračnoga funkcioniranja povezani s roditeljskim sagorijevanjem, što bi trebalo dodatno istražiti.

Sudjelovanje drugog roditelja, podržavajući odnos i podrška također su povezani s nižom razinom roditeljskoga sagorijevanja, isto kao i s nižom razinom roditeljskoga stresa (Durtschi i sur., 2017). Rezultati pojedinih istraživanja upućuju na važnost *socijalne podrške* u razvoju roditeljskoga sagorijevanja, pa se tako pokazalo da postoji slab i umjeren negativan odnos između percipirane socijalne podrške i roditeljskoga sagorijevanja (Novosel, 2021).

Uzevši u obzir prethodno spomenuta istraživanja, važno je istaknuti kako roditeljsko sagorijevanje budi sve veći interes kod znanstvenika – kako u svijetu, tako i u Hrvatskoj, što rezultira mnogim novim istraživanjima na ovom području. Recentno istraživanje odrednica roditeljskoga sagorijevanja u Hrvatskoj (Macuka i sur., 2024) pokazalo je da su, osim neu-

roticizma i perfekcionizma kao osobina roditelja, značajni prediktori sagorijevanja i neki aspekti roditeljskoga ponašanja te značajke djeteta (mlađa dob djeteta te više eksternaliziranih i internaliziranih poteškoća). Međutim, kako su u tom istraživanju samo manjim dijelom sudjelovali roditelji čija su djeca mlađa do pet godina, a upravo bi oni mogli biti posebno zahvaćeni sagorijevanjem, te nisu uključili kontekstualne varijable poput bračnoga funkcioniranja i socijalne podrške, te s obzirom na nedosljedne rezultate stranih istraživanja, potrebno je provesti dodatna istraživanja.

Stoga je cilj ovog istraživanja bio ispitati učestalost roditeljskoga sagorijevanja majki djece do 5 godina te ispitati prediktivni doprinos sociodemografskih značajki, stabilnih osobina majki (perfekcionizam, emocionalna stabilnost, savjesnost i ugodnost), roditeljske samoefikasnosti, različitih aspekata braka (zadovoljstvo brakom, percipirana pravednost i roditeljstvo) i socijalne podrške za roditeljsko sagorijevanje kod majki. Očekivali smo da će učestalost roditeljskoga sagorijevanja biti između 2-12 %. Pretpostavljali smo da će niža dob majke, veći broj djece i niže imovinsko stanje pridonositi višoj razini sagorijevanja. Nadalje, očekivali smo da će viša razina perfekcionizma, niža razina emocionalne stabilnosti, savjesnosti i ugodnosti te niža razina roditeljske samoefikasnosti značajno pridonositi objašnjenju više razine roditeljskoga sagorijevanja. Također, očekivali smo da će aspekti braka/veze i socijalne podrške biti značajni prediktori roditeljskoga sagorijevanja, i to tako da će nisko zadovoljstvo brakom, niska partnerska ravnoteža u roditeljstvu, percipirana nepravednost u braku i niža razina socijalne podrške značajno pridonositi višoj razini roditeljskoga sagorijevanja.

METODA

Sudionici

U istraživanje se uključilo 356 majki iz Hrvatske, a kriterij uključivanja bio je da je majka starija od 18 godina i da ima barem jedno dijete mlađe od 5 godina. Tako su rezultati 15 majki isključeni iz analize jer nisu zadovoljile kriterije. Nadalje, isključene su sve majke čija su starija djeca imala više od pet godina (utvrđen raspon dobi od 5 do 25 godina), što se odnosilo na 86 majki, tako da je konačan uzorak obuhvatio 255 majki.

Dob sudionica ($N = 255$) varirala je od 21 do 46 godina ($M = 32,97$, $SD = 4,81$). Dob njihova najmlađega djeteta varirala je od 2 tjedna do 4 godine i 11 mjeseci, a pritom se najveći broj djece (36,1 %) nalazio u kategoriji od 0 do 1 godine. Većina majki (70,2 %) ima jedno dijete, a 78,8 % navodi kako njihovo dijete nema i nije imalo zdravstvenih problema ili poteškoća u razvoju. Što se tiče bračnoga statusa majki, njih 98,0 % na-

● **TABLICA 1**
 Karakteristike uzorka
 za glavne
 demografske varijable
 (N = 255)

vodi kako je udano ili u izvanbračnoj zajednici. Većina majki (79,2 %) završila je višu školu/fakultet ili još više. Sudionice su uglavnom prosječnoga (43,9 %) ili iznadprosječnoga (46,3 %) imovinskog stanja. Većina majki (90,3 %) navodi kako nikada nije bila na psihijatrijskom liječenju (Tablica 1).

Varijabla		n	(%)
Dob najmlađeg djeteta	0 – 1 godine	92	(36,1)
	1 godina	79	(31,0)
	2 godine	44	(17,2)
	3 godine	25	(9,8)
	4 godine	15	(5,9)
Broj djece	1 dijete	179	(70,2)
	2 djece	71	(27,8)
	≥ 3 djece	5	(2,0)
Zdravstveni problemi djeteta ili poteškoće u razvoju	Ima	37	(14,5)
	Imalo je, ali sad više nema	17	(6,7)
	Ne	201	(78,8)
Bračni status	Udana/izvanbračna zajednica	250	(98,0)
	Rastavljena/neudana	5	(2,0)
Stupanj obrazovanja	Završena osnovna škola	1	(0,4)
	Završena srednja škola	52	(20,4)
	Završena viša škola/fakultet ili više	202	(79,2)
Mjesto stanovanja	Selo	24	(9,4)
	Grad do 100.000 stanovnika	43	(16,9)
	Grad iznad 100.000 stanovnika	188	(73,7)
Imovinsko stanje	Ispod prosjeka	25	(9,8)
	Prosječno	112	(43,9)
	Iznad prosjeka	118	(46,3)
Psihijatrijsko liječenje ^a	Da	24	(9,4)
	Ne	229	(89,8)

Legenda: ^a dvije sudionice nisu dale odgovor na pitanje pa je zbroj manje od 100,0 %.

Instrumenti

Upitnik roditeljskoga sagorijevanja (Parental Burnout Assessment; PBA; Roskam i sur., 2018) rabljen je za mjerenje roditeljskoga sagorijevanja, odnosno hrvatska verzija upitnika (Novosel, 2021), koja je nedavno validirana (Macuka i sur., 2022). Upitnik se sastoji od 23 čestice sa skalom od 0 ("nikada") do 6 ("svaki dan") te mjeri četiri temeljne dimenzije roditeljskoga sagorijevanja; iscrpljenost u roditeljskoj ulozi, kontrast sa sobom iz prošlosti,

osjećaj zasićenosti roditeljskom ulogom i emocionalno udaljanje od djece. Ukupan rezultat dobiven je zbrajanjem svih odgovora, a viši rezultat upućuje na veći stupanj roditeljskoga sagorijevanja. Kritična vrijednost za klinički značajnu razinu roditeljskoga sagorijevanja iznosi 92 (Roskam, Aguiar i sur., 2021). Koeficijent unutarnje konzistencije (Cronbach α) na ovom uzorku iznosi 0,96.

IPIP-50 upitnik ličnosti (engl. *International Personality Item Pool*) hrvatski je prijevod (Mlačić i Goldberg, 2007) kraće verzije Goldbergova (1999) upitnika IPIP koji ispituje dimenzije peterofaktorskoga modela ličnosti: emocionalna stabilnost, ugodnost, savjesnost, otvorenost i ekstraverzija. Ovaj se upitnik sastoji od 50 tvrdnji, za koje sudionik procjenjuje koliko su istinite za njegovo ponašanje na skali od 1 ("posve netočno") do 5 ("posve točno"). U istraživanju smo rabili podljestvice emocionalne stabilnosti, ugodnosti i savjesnosti. Pojedine čestice boduju se obrnuto, a viši rezultat upućuje na veću izraženu pojedine osobine ličnosti. Koeficijent unutarnje konzistencije (Cronbach α) iznosi 0,90 za *emocionalnu stabilnost*, 0,78 za *ugodnost* te 0,83 za *savjesnost*.

Multidimenzionalna skala perfekcionizma (MPS-F; Frost i sur., 1990), koju su na hrvatski prevele Crnčić i sur. (2006) te pridile Zubčić i Vulić Prtorić (2008), mjeri perfekcionizam u šest dimenzija: *osobni standard*, *zabrinutost zbog pogrešaka*, *roditeljska očekivanja*, *roditeljska prigovaranja*, *dvojba u vlastitu izvedbu* i *organiziranost*. Skala se sastoji od 35 čestica sa skalom od 1 ("uopće se ne slažem") do 5 ("potpuno se slažem"). Ukupan rezultat dobiven je zbrajanjem pojedinih čestica na svim podskalama, osim na podskali *organiziranost*, jer je navedena podskala u niskoj korelaciji s ostalim podskalama. Viši rezultat upućuje na višu razinu perfekcionizma kod sudionika. Cronbach α ukupne ljestvice iznosi 0,94.

Skala roditeljske kompetentnosti (Keresteš i sur., 2011) jest mjera samoprocjene roditeljske kompetentnosti kroz tri podskale: *Roditeljska samoefikasnost*, *Eksternalni lokus kontrole roditelja* i *Internalni lokus kontrole roditelja*. Skala sadrži 12 čestica na koje sudionik odgovara na skali od 1 ("uopće se ne slažem") do 4 ("potpuno se slažem"). U istraživanju je uzeta samo podskala *Roditeljska samoefikasnost*, a viši rezultat upućuje na veću samoprocijenjenu kompetentnost i samoefikasnost u roditeljskoj ulozi. Cronbach α iznosi 0,76.

Upitnik percepcije kvalitete bračnog odnosa (UPKBO; Jurević, 2007) sastoji se od 15 podskala, a u ovom su istraživanju uzete tri: *Zadovoljstvo brakom*, *Roditeljstvo* i *Percipirana pravednost u braku*. *Zadovoljstvo brakom* sastoji se od 6 čestica te procjenjuje generalno zadovoljstvo bračnim odnosom. *Roditeljstvo* se sastoji od 11 čestica te procjenjuje percepciju ravnopravnosti bračnih partnera u sudjelovanju i odlučivanju o odgoju djece, percepciju partnera kao kompetentnog roditelja te utjecaj koji ro-

diteljstvo ima na njihov brak. Radi lakšeg razumijevanja podskale u kontekstu roditeljskoga sagorijevanja, preimenovali smo je u *Partnerska ravnoteža u roditeljstvu*, bez mijenjanja sadržaja čestica. Podskala *Percipirana pravednost u braku* sastoji se od 11 čestica te procjenjuje percipiranu pravednost podjele i izvršavanja obveza te odgovornosti među partnerima. Sudionici svaku tvrdnju procjenjuju na skali od 7 stupnjeva od -3 ("potpuno netočno") do +3 ("potpuno točno"), što se kasnije transformira na skalu od 1 do 7. Rezultat je kao prosječna vrijednost na česticama, pri čemu viši rezultat upućuje na percepciju veće kvalitete bračnog odnosa. Cronbach α iznosi 0,75 za *Zadovoljstvo brakom*, 0,75 za *Partnersku ravnotežu u roditeljstvu* te 0,79 za *Percipiranu pravednost u braku*.

Multidimenzionalna skala percipirane socijalne podrške (Medved i Keresteš, 2011) jest adaptirana verzija *Multidimensional Scale of Perceived Social Support* (Zimet i sur., 1988) te ispituje socijalnu podršku. Skala se sastoji od 12 tvrdnji sa skalom od 1 ("izrazito se ne slažem") do 7 ("izrazito se slažem") te mjeri percipiranu socijalnu podršku obitelji, prijatelja i značajnih drugih osoba. Ukupan rezultat formiran je kao prosječan rezultat svih čestica, a viši rezultat upućuje na višu razinu socijalne podrške. Cronbach α cijele skale iznosi 0,94.

Upitnik općih podataka sastojao se od pitanja vezanih za dob majke, broj i dob djece, bračni status, socioekonomski status, mjesto stanovanja, mentalno zdravlje majki i njihovih obitelji te zdravlje djeteta.

Postupak

Nakon odobrenja Etičkoga povjerenstva Hrvatskoga katoličkog sveučilišta, sudionice su regrutirane metodom snježne grude te putem društvene mreže Facebook, gdje je poveznica na istraživanje objavljena u grupama s tematikom majčinstva, odgoja i sl. Sudionice su upitnik ispunjavale online u programu *Google forms* od 22. srpnja do 22. kolovoza 2022. godine.

Istraživanje je bilo anonimno i dobrovoljno. Kako bi pristupili istraživanju, sudionici su prije početka dali svoj pristanak za uključivanje. Ispunjavanje upitnika trajalo je oko 15 minuta.

Statističke analize

Kako bi se ispitala povezanost između različitih varijabli i roditeljskoga sagorijevanja, uzeti su Pearsonov i Spearmanov koeficijent korelacije, pri čemu je potonji uzet za računanje korelacija između sociodemografskih varijabli i rezultata na psihologijskim upitnicima. Kako bi se ispitali prediktori roditeljskoga sagorijevanja, korištena je hijerarhijska regresijska analiza (HRA; *enter* metoda sa *listwise* pristupom). Upotrebom G*Power programa (Faul et al., 2009) izračunano je da uz umjerenu veličinu učinka od 0,15, 5 % razine značajnosti,

90 % statističke snage i 10 prediktora potrebno je najmanje 147 sudionica, što je daleko premašeno. Prije provedbe HRA, provjereni su preduvjeti za njezinu provedbu, u vidu provjere multikolinearnosti, homoscedasticeta, ekstremnih vrijednosti i normalnosti raspodjele reziduala. U HRA uvrštene su one varijable koje su bile u korelaciji sa sagorijevanjem, i to sljedećim redom: sociodemografske varijable (1. korak), stabilne osobine ličnosti (2. korak), roditeljska samoefikasnost (3. korak) te elementi bračnoga funkcioniranja i socijalna podrška (4. korak). Sve analize napravljene su u *IBM SPSS Statistics 23*.

REZULTATI

Deskriptivni podaci i prevalencija roditeljskoga sagorijevanja

Što se tiče deskriptivnih rezultata, na gotovo svim varijablama postignut je puni raspon dobivenih vrijednosti, pa je stoga jasno da su istraživanjem zahvaćeni sudionici i s najvišim i s najnižim razinama mjerenih konstrukata, osim što nisu obuhvaćene majke s izrazito visokim sagorijevanjem, izrazito visokim perfekcionizmom te one koje su izrazito nezadovoljne aspektima partnerske veze u domenama partnerske ravnoteže u roditeljstvu i percipirane pravednosti u braku.

▣ TABLICA 2

Deskriptivni podaci za upitnike osobina ličnosti, roditeljske samoefikasnosti, bračnog funkcioniranja, socijalne podrške te roditeljskog sagorijevanja (N = 255)

Uvidom u prosječne vrijednosti rezultata (Tablica 2) postignute na *Upitniku roditeljskoga sagorijevanja*, možemo zaključiti da majke iskazuju u prosjeku nizak stupanj roditeljskoga sagorijevanja. Međutim, 3,5 % majki doživljava klinički značajnu razinu sagorijevanja.

Varijabla	M	SD	Teoretski raspon	Ostvareni raspon	Koeficijent asimetrije	Koeficijent spljoštenosti
Emocionalna stabilnost	29,16	8,14	10-50	11-49	-0,06	-0,30
Ugodnost	39,89	5,68	10-50	20-50	-0,53	0,37
Savjesnost	37,44	6,66	10-50	19-50	-0,16	-0,63
Perfekcionizam	81,30	23,77	35-175	35-141	0,37	-0,50
Roditeljska samoefikasnost	3,26	0,50	1-4	1,80-4,00	-0,60	0,00
Zadovoljstvo brakom	4,92	1,18	1-7	1,80-6,60	-0,46	-1,00
Partnerska ravnoteža u roditeljstvu	4,97	0,81	1-7	2,91-6,27	-0,48	-0,63
Percipirana pravednost u braku	4,76	0,76	1-7	3,09-6,82	-0,32	-0,59
Socijalna podrška	5,63	1,25	1-7	1-7	-1,17	1,14
Roditeljsko sagorijevanje	29,56	25,53	0-138	0-119	1,31	1,45

Povezanosti između varijabli

Rezultati korelacijskih analiza (Tablica 3) upućuju na postojanje statistički značajne korelacije između gotovo svih psihologijskih varijabli, odnosno osobina ličnosti majke, uključujući nižu emocionalnu stabilnost, nižu ugodnost i viši perfekcionizam, niže roditeljske samoefikasnosti, slabije bračno funkcioniranje i nižu socijalnu podršku s višim roditeljskim sagorijevanjem.

➤ **TABLICA 3**
 Korelacijske analize
 između sociodemo-
 grafskih podataka,
 osobina ličnosti, rodi-
 teljske samoefikas-
 nosti, bračnog funk-
 cioniranja i socijalne
 podrške s roditeljskog
 sagorijevanja
 (N = 255)

Varijabla	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Dob majke	-	0,08	0,35**	0,16*	0,30**	0,05	0,02	-0,15*	0,02	0,16*	-0,13*	-0,16**	-0,11	-0,16*	-0,20**	0,12
2 Broj djece		-	-0,03	0,0	-0,03	0,06	-0,06	0,02	-0,02	-0,05	-0,09	-0,04	-0,05	-0,02	-0,02	0,13*
3 Stupanj obrazovanja majke ^a			-	0,26**	0,31**	-0,03	-0,03	-0,02	-0,01	0,25**	-0,18**	-0,10	-0,08	0,01	-0,05	0,21**
4 Imovinsko stanje ^b				-	0,17**	-0,09	0,13*	-0,01	-0,03	0,02	0,0	0,14*	0,05	0,11	0,04	0,02
5 Mjesto stanovanja ^c					-	0,06	0,01	-0,02	-0,08	-0,03	-0,11	-0,09	-0,05	-0,04	-0,02	0,13*
6 Zdravstvene teškoće djeteta ^d						-	-0,03	0,03	-0,03	0,14*	-0,12	0,0	-0,08	-0,01	0,03	0,10
7 Emocionalna stabilnost							-	0,03	0,12	-0,39**	0,18**	0,28**	0,26**	0,15*	0,32**	-0,50**
8 Ugodnost								-	0,08	0,01	0,21**	0,17**	0,14*	0,08	0,23**	-0,14*
9 Savjesnost									-	0,03	0,20**	0,14*	0,19**	0,20**	0,13*	-0,12
10 Perfekcionizam										-	-0,14*	-0,13*	-0,18**	0,0	-0,31**	0,44**
11 Roditeljska samoefikasnost											-	0,29**	0,32**	0,27**	0,29**	-0,44**
12 Zadovoljstvo brakom												-	0,81**	0,60**	0,58**	-0,35**
13 Partnerska ravnoteža u roditeljstvu													-	0,66**	0,59**	-0,33**
14 Percipirana pravednost u braku														-	0,45**	-0,15*
15 Socijalna podrška															-	-0,36**
16 Roditeljsko sagorijevanje																-

Napomena: * $p < 0,05$, ** $p < 0,01$. Spearmanov koeficijent korišten je za korelacije između sociodemografskih varijabli (osim dobi) i psiholoških upitnika, a Pearsonov koeficijent za interkorelacije psiholoških upitnika. ^a Stupanj obrazovanja majke: 1 – bez osnovne škole, 2 – završena osnovna škola, 3 – završena srednja škola, 4 – završena viša škola/prvostupnik, 5 – završena visoka škola/fakultet ili više; ^b Socioekonomski status: 1 – ispodprosječno, 2 – prosječno, 3 – iznadprosječno; ^c Mjesto stanovanja: 1 – selo, 2 – grad do 100.000 stanovnika, 3 – grad iznad 100.000 stanovnika; ^d Zdravstvene poteškoće djeteta: 0 – ne, 1 – imalo je, ali više nema, 2 – ima.

Jedino savjesnost nije bila povezana sa sagorijevanjem. Od sociodemografskih značajki, više roditeljsko sagorijevanje pokazalo se u značajnoj korelaciji s većim brojem djece, višim stupnjem obrazovanja majke i urbanijim mjestom stanovanja, ali nije bilo povezano s dobi majke, imovinskim stanjem ili zdravstvenim poteškoćama djeteta. Potrebno je napomenuti i to da su opće zadovoljstvo brakom i partnerska ravnoteža u roditeljstvu bili visoko povezani ($r = 0,81, p < 0,01$). Međutim, korelacija nije prelazila 0,90, a s obzirom na to da su ostali pokazatelji multikolinearnosti, koeficijent inflacije varijance (VIF) i tolerancije bili unutar preporučenih vrijednosti (Field, 2018), obje su varijable zbog teorijske važnosti zadržane u daljnjoj analizi.

Hijerarhijska regresijska analiza

Kako bi se ispitao prediktorski doprinos sociodemografskih značajki (broj djece, stupanj obrazovanja majke, mjesto stanovanja), stabilnih osobina (emocionalne stabilnosti, ugodnosti, i perfekcionizma), roditeljske samoefikasnosti, bračnoga funkcioniranja (zadovoljstvo brakom, partnerska ravnoteža u roditeljstvu i percipirana pravednost u braku) te socijalne podrške roditeljskom sagorijevanju, provedena je hijerarhijska regresijska analiza s četiri bloka, za čiju su provedbu zadovoljeni svi preduvjeti (Tablica 4).

Ovim modelom može se objasniti 48 % ukupne varijance roditeljskoga sagorijevanja kod majki. Svaki korak, osim četvrtoga, ima značajan doprinos u objašnjenju kriterija. Prvi blok sa sociodemografskim varijablama objašnjava 7 % varijance roditeljskoga sagorijevanja, pri čemu se pokazalo da veći broj djece pridonosi višoj razini sagorijevanja, a u kasnijim koracima se pokazalo i da je mjesto stanovanja značajan prediktor, pri čemu majke iz urbanijih sredina izvještavaju o višoj razini sagorijevanja. Drugi blok, u koji su uključene stabilne osobine ličnosti majke, objašnjava dodatnih 39 % varijance. Svi prediktori pokazali su se značajnima, a rezultati upućuju na to da majke niže emocionalne stabilnosti, ugodnosti te višega perfekcionizma doživljavaju višu razinu roditeljskoga sagorijevanja, pri čemu je emocionalna stabilnost najznačajniji prediktor ($\beta = -0,43, p < 0,01$).

Treći blok, koji uključuje roditeljsku samoefikasnost, objašnjava dodatnih 8 % varijance, a one majke koje izvještavaju o nižoj roditeljskoj samoefikasnosti ujedno doživljavaju i višu razinu roditeljskoga sagorijevanja.

Posljednji, četvrti, blok, koji uključuje socijalnu podršku i elemente bračnoga funkcioniranja, objašnjava samo 1 % dodatne varijance, što nije značajan doprinos.

Sveukupno, model objašnjava 48 % varijance roditeljskoga sagorijevanja, a značajni prediktori većega sagorijevanja po-

● TABLICA 4
 Rezultati hijerarhijske
 regresijske analize
 na kriterij *roditeljsko*
sagorijevanje
 (N = 255)

kazali su se, redom prema jačini, niža emocionalna stabilnost,
 niža roditeljska samoefikasnost, viši perfekcionizam, veći broj
 djece, urbanije mjesto stanovanja i niža ugodnost.

	Prediktor	β	B	SE(B)
1. korak	Konstanta		-6,48	9,17
	Broj djece	0,18**	8,64	2,95
	Stupanj obrazovanja	0,11	3,43	1,99
	Mjesto stanovanja	0,12	4,59	2,53
			$R^2 = 0,07$	
			$F(3, 238) = 5,63^{**}$	
2. korak	Konstanta		48,78	13,92
	Broj djece	0,16**	7,58	2,41
	Stupanj obrazovanja	0,07	1,99	1,68
	Mjesto stanovanja	0,15*	5,77	2,08
	Emocionalna stabilnost	-0,43**	-1,33	0,17
	Ugodnost	-0,18**	-0,80	0,22
	Perfekcionizam	0,22**	0,23	0,06
			$\Delta R^2 = 0,32$	
			$R^2 = 0,39$	
			$F(6, 235) = 25,19^{**}$	
3. korak	Konstanta		92,27	14,95
	Broj djece	0,13*	6,02	2,27
	Stupanj obrazovanja	0,04	1,09	1,58
	Mjesto stanovanja	0,12*	4,75	1,95
	Emocionalna stabilnost	-0,36**	-1,13	0,16
	Ugodnost	-0,13*	-0,56	0,21
	Perfekcionizam	0,20**	0,22	0,06
	Roditeljska samoefikasnost	-0,30**	-15,22	2,58
			$\Delta R^2 = 0,08$	
			$R^2 = 0,47$	
			$F(7, 234) = 29,69^*$	
4. korak	Konstanta		94,58	16,19
	Broj djece	0,12*	5,86	2,27
	Stupanj obrazovanja	0,03	1,05	1,59
	Mjesto stanovanja	0,12*	4,62	1,95
	Emocionalna stabilnost	-0,34**	-1,05	0,17
	Ugodnost	-0,10*	-0,45	0,22
	Perfekcionizam	0,20**	0,21	0,06
	Roditeljska samoefikasnost	-0,28**	-14,14	2,64
	Zadovoljstvo brakom	-0,13	-2,64	1,81
	Partnerska ravnoteža u roditeljstvu	0,03	0,98	2,70
	Percipirana pravednost u braku	0,00	-0,01	2,26
Socijalna podrška	-0,03	-0,60	1,34	
			$\Delta R^2 = 0,01$	
			$R^2 = 0,48$	
			$F(11, 230) = 19,50^{**}$	

Napomena: * $p < 0,05$, ** $p < 0,01$.

S obzirom na to da se roditeljsko sagorijevanje sve više istražuje, cilj je ovog istraživanja bio utvrditi učestalost roditeljskoga sagorijevanja specifično kod majki djece do pet godina te ispitati povezanost sociodemografskih značajki, stabilnih osobina majki, roditeljske samoefikasnosti, bračnoga funkcioniranja i socijalne podrške s roditeljskim sagorijevanjem kod majki.

Prevalencija roditeljskoga sagorijevanja kod majki iznosi 3,5 %. Ovi nalazi u skladu su s prethodno provedenim inozemnim, ali i hrvatskim istraživanjima. Dok je istraživanje Roskam i sur. (2018) pokazalo da se prevalencija roditeljskoga sagorijevanja kreće između 2 % i 12 %, istraživanje provedeno na hrvatskom uzorku pokazalo je da 3,8 % (Novosel, 2021) do 4,2 % majki (Macuka i sur., 2022) zadovoljava kriterije za utvrđivanje klinički značajnih razina roditeljskoga sagorijevanja. Prevalencija roditeljskoga sagorijevanja značajno varira među državama te je zamijećena značajno viša prevalencija roditeljskoga sagorijevanja kod roditelja u zapadnim, individualističkim kulturama (Roskam, Aguiar i sur., 2021), iz čega proizlazi zaključak da kulturalne vrijednosti u zapadnim zemljama kod roditelja mogu izazvati povećanu razinu stresa (Geinger i sur., 2014; Nelson, 2010; Rizzo i sur., 2013; Roskam, Aguiar i sur., 2021).

Što se tiče varijabli povezanih s roditeljskim sagorijevanjem, dobiveni rezultati djelomično su u skladu s teorijskim pretpostavkama. Od sociodemografskih značajki očekivali smo da će višem sagorijevanju biti izložene mlađe majke, one s većim brojem djece i slabijim imovinskim stanjem. U našem istraživanju, pokazalo se da su o višoj razini roditeljskoga sagorijevanja izvijestile majke s većim brojem djece, što se podudara s rezultatima sustavnoga preglednog rada (Roskam, Aguiar i sur., 2021). Pri tome treba naglasiti da su, zbog kriterija istraživanja, sve majke u našem istraživanju imale djecu mlađu od pet godina. Ipak, druga su istraživanja pokazala da je veći broj djece, ali s većom dobnom razlikom među njima, umjeren rizični čimbenik za sagorijevanje (Le Vigouroux i Scola, 2018). S druge strane, dob majke ni imovinsko stanje nisu se pokazali povezanim sa sagorijevanjem, što se dijelom može objasniti time što su u istraživanju uglavnom sudjelovale visoko obrazovane majke prosječnoga i iznadprosječnoga socioekonomskog statusa. Međutim, u našem se istraživanju pokazalo da su majke iz urbanijih sredina izvještavale o višem sagorijevanju, što je u skladu s nekim stranim istraživanjima, primjerice istraživanjem s roditeljima djece s poremećajem iz autističnog spektra, koje je pokazalo da je veza između roditeljskoga stresa i sagorijevanja jača kod roditelja iz urbanih sredina (Liu i sur., 2024).

Od osobina ličnosti, pretpostavka je bila da će viša razina perfekcionizma, niža razina emocionalne stabilnosti, niža razina savjesnosti i niža razina ugodnosti značajno predviđati višu razinu roditeljskoga sagorijevanja. Dobiveni rezultati pokazali su da niska razina emocionalne stabilnosti i ugodnosti u značajnoj mjeri predviđaju roditeljsko sagorijevanje kod majki, dok savjesnost nije bila povezana sa sagorijevanjem. Ovi rezultati djelomično su u skladu s prethodnim istraživanjima, koja su pokazala da su niska emocionalna stabilnost i ugodnost prediktori sagorijevanja, ali i da je niska savjesnost također rizični čimbenik za sagorijevanje (Le Vigouroux i Scole, 2018; Le Vigouroux i sur., 2017). U recentnom istraživanju sagorijevanja hrvatskih roditelja (Macuka i sur., 2024), od velikih pet osobina ličnosti mjerila se samo emocionalna stabilnost te je utvrđeno, isto kao i u našem istraživanju, da je upravo ona najjači prediktor roditeljskoga sagorijevanja, pored socio-demografskih značajki, drugih osobina roditelja, roditeljskoga ponašanja ili karakteristika djeteta.

Za perfekcionizam se također pokazalo da u značajnoj mjeri pridonosi roditeljskom sagorijevanju. Viša razina općega perfekcionizma, kako je mjereno u našem istraživanju, povezana je s višom razinom roditeljskoga sagorijevanja, što je u skladu s prethodnim istraživanjima (Kawamoto i sur., 2018; Sorkkila i Aunola, 2020). U istraživanju Macuke i sur. (2024), perfekcionizam specifičan za roditeljstvo pokazao se značajnim za roditeljsko sagorijevanje. Perfekcionizam je usko povezan s roditeljskom pedantnosti, jer se roditelji često iscrpljuju nastojeći da sve naprave "savršeno" (Lindström i sur., 2011). S obzirom na to da je društveno propisani perfekcionizam usko povezan s neuroticizmom i negativnim afektom (Flett i Hewitt, 2022; Molnar i sur., 2006) te anksioznošću i depresijom (Flett i Hewitt, 2022), a svi su ti konstrukti značajno povezani s roditeljskim sagorijevanjem (Mikolajczak i sur., 2018), pretpostavka da perfekcionizam ima važnu ulogu u predviđanju roditeljskoga sagorijevanja pokazala se točnom i u našem istraživanju.

Kao što se i pretpostavljalo, roditeljska samoeфикаsnost također se pokazala značajnim prediktorom sagorijevanja. Naime, one majke kod kojih je zabilježena niža razina roditeljske samoeфикаsnosti doživljavaju višu razinu roditeljskoga sagorijevanja. Ovi su nalazi u skladu s prethodno provedenim istraživanjima, u kojima je dobiveno da roditelji s višom razinom roditeljske samoeфикаsnosti doživljavaju nižu razinu roditeljskoga sagorijevanja (npr. Mikolajczak i sur., 2018).

Iako su zadovoljstvo brakom, partnerska ravnoteža u roditeljstvu i percipirana pravednost u braku bili u značajnoj korelaciji s roditeljskim sagorijevanjem na bivarijantnoj razini, ni

jedan od ova tri prediktora nije se pokazao značajnim u objašnjenju roditeljskoga sagorijevanja, što nije u skladu s očekivanjima. Prethodna istraživanja ističu da su sudjelovanje partnera u roditeljstvu, podržavajući odnos i podrška povezani s nižom razinom roditeljskoga stresa i roditeljskoga sagorijevanja (Durtschi i sur., 2017). Naši rezultati neočekivani su i s obzirom na to da su prethodna istraživanja pokazala kako je upravo nejednakost u roditeljstvu povezana s roditeljskim emocionalnim opterećenjem kod majki (Roskam i sur., 2022). Ipak, treba uzeti u obzir da su majke u prosjeku izvještavale o iznadprosječnom zadovoljstvu bračnim funkcioniranjem. Također, moguće je da su emocionalna stabilnost i perfekcionizam, koji su također povezani i s bračnim funkcioniranjem, već objasnili zajednički dio varijance.

Slično tome, iako je socijalna podrška povezana s roditeljskim sagorijevanjem na bivarijantnoj razini, ipak se, suprotno našim očekivanjima, nije pokazala značajnim prediktorom roditeljskoga sagorijevanja. Niža socijalna podrška povezana je i s nižom emocionalnom stabilnosti, višim perfekcionizmom te svim aspektima bračnoga funkcioniranja, pa je moguće da su te ostale varijable već prethodno objasnile zajednički dio varijance. No s obzirom na to da su ovi nalazi u suprotnosti s prethodno provedenim istraživanjem u Hrvatskoj (Novosel, 2021), a koji upućuju na značajan doprinos socijalne podrške u razvoju roditeljskoga sagorijevanja, potrebno je provesti dodatna istraživanja. Bilo bi dobro pri tome uzeti u obzir izvor ili tip socijalne podrške, što bi posebno moglo biti korisno za kreiranje nekih politika za podršku roditeljima u zajednici.

Rezultati dobiveni ovim istraživanjem imaju teorijske i praktične implikacije. Što se tiče teorijskih implikacija, u Hrvatskoj nije provedeno ni jedno istraživanje koje je istodobno obuhvatilo sve navedene prediktore i roditeljsko sagorijevanje. Iako neki rezultati nisu u skladu s teorijskim pretpostavkama, oni su svakako vrijedni i upućuju na moguću veću ulogu individualnih karakteristika roditelja nego na ulogu relacijskih odnosa. Ovo se djelomično slaže s *Teorijom ravnoteže rizika i resursa* (Mikolajczak i Roskam, 2018), pri čemu u našem, općem uzorku majki, ipak prevladavaju emocionalna nestabilnost, visoki perfekcionizam i niska samoeфикаsnost kao glavne varijable doprinosa roditeljskom sagorijevanju. Treba istaknuti i da su sudionice u našem istraživanju socijalnu podršku procijenile visokom, pa su i aspekte braka procijenile povoljnijima. Bilo bi potrebno da buduća istraživanja obuhvate veći uzorak majki s izraženim kliničkim simptomima roditeljskoga sagorijevanja te da dodatno ispituju ulogu ovih varijabli na tako selekcioniranom uzorku.

Kada su u pitanju praktične implikacije, nalazi ovog istraživanja mogli bi se iskoristiti u svrhu pokretanja kampanja i

preventivnih programa koje će imati za cilj osvijestiti problematiku roditeljskoga sagorijevanja. Kako se ovim istraživanjem utvrdilo da su u posebnom riziku majke s više djece u dobi do pet godina i one koje žive u većim gradovima, gdje je možda praktična podrška slabije dostupna, bilo bi važno raditi na kreiranju programa dostupnih u lokalnoj zajednici u urbanim sredinama upravo obiteljima s većim brojem djece. S obzirom na to da je ovo sindrom koji nastaje uslijed intenzivne iscrpljenosti uzrokovane roditeljskom ulogom, (Roskam i sur., 2017), bilo bi važno roditelje educirati o važnosti organizacijskih vještina i vještina samoregulacije, prihvaćanja realnije slike roditeljstva i slično. U današnje vrijeme novih tehnologija i društvenih mreža, 75 % roditelja u Americi informacije vezane uz roditeljstvo i podršku traži na društvenim mrežama (Duggan i sur., 2015), koje moguće nameću "idealno" roditeljstvo. Kako bi se roditelji lakše nosili s perfekcionizmom i samokritičnošću, može ih se poticati na samoprihvatanje i samosuosjećanje, što podrazumijeva prihvaćanje ljudske prirode sa svojim nesavršenostima te pružanje blagosti i razumijevanja prema samom sebi u suočavanju s pogreškama i nedostacima (Warren i sur., 2016).

Treba sagledati i ograničenja ovog istraživanja, koja bi mogla poslužiti kao preporuke za buduća istraživanja. Prvo, uzorak je bio ograničen na majke djece mlađe od pet godina, pa se rezultati ne mogu generalizirati na majke koje mogu biti izložene drugim stresorima vezanima uz stariju razvojnu dob djeteta. Uzorak je također bio homogen i prema drugim karakteristikama, s obzirom na to da su uglavnom sudjelovale visokoobrazovane žene, koje su gotovo sve bile u braku ili u vezi, uglavnom iz većih gradova te prosječnih ili iznadprosječnih primanja. Stoga bi u idućim istraživanjima bilo važno uključiti više žena nižeg obrazovanja, onih iz ruralnih sredina, slabijega imovinskog statusa ili one koje su samice. Također, ispitali smo ima li (naj)mlađe dijete nekih zdravstvenih problema ili poteškoća u razvoju (što nije bilo povezano sa sagorijevanjem), ali nismo ispitali imaju li starija djeca takvih poteškoća, što bi moglo pridonositi sagorijevanju majke. Stoga bi u idućim istraživanjima za svako dijete u obitelji trebalo pojedinačno ispitati probleme. Nadalje, u istraživanju su uzete isključivo mjere samoprocjene, stoga bi buduća istraživanja trebala uključivati objektivnije mjere, poput intervjua, opažanja interakcija i ponašanja u prirodnim uvjetima ili iskaza članova obitelji. Kod sudionica nije isključena ni mogućnost postojanja nekoga psihičkog poremećaja, poput depresije ili anksioznoga poremećaja, koji bi mogao imati slične simptome kao i roditeljsko sagorijevanje, što bi se trebalo kontrolirati u budućim istraživanjima. Konačno, istraživanje je krossekcijs-

skoga nacрта, pa bi nova istraživanja trebala imati više točaka mjerenja, kako bi se mogle ispitati predikcije kroz više vremenskih točaka i vidjeti dinamičke procese između individualnih i kontekstualnih čimbenika.

Zaključno, ovo istraživanje pokazalo je da stabilne osobine ličnosti u značajnoj mjeri predviđaju roditeljsko sagorijevanje. Tako niža razina emocionalne stabilnosti, odnosno neuroticizam, niža ugodnost te viša razina perfekcionizma značajno predviđaju višu razinu roditeljskoga sagorijevanja kod majki. Nadalje, pokazalo se da je i roditeljska samoefikasnost bitan čimbenik u predviđanju roditeljskoga sagorijevanja, jer one majke kod kojih je zabilježena niža razina roditeljske samoefikasnosti u značajno većoj mjeri doživljavaju roditeljsko sagorijevanje. Od sociodemografskih obilježja, majke s više djece i one koje žive u većim gradovima bliže su riziku od roditeljskoga sagorijevanja. Obiteljsko funkcioniranje, odnosno zadovoljstvo brakom, partnerska ravnoteža u roditeljstvu i percipirana pravednost odnosa u braku, kao ni socijalna podrška, nisu se pokazali značajnim prediktorom roditeljskoga sagorijevanja. Ovaj rad pruža smjernice za identifikaciju rizičnih čimbenika koji predviđaju roditeljsko sagorijevanje, a samim time i izradbu raznih edukativnih i preventivnih programa koji bi roditeljima pomogli u suočavanju sa stresom vezanim uz roditeljstvo. S obzirom na nedovoljno istraživanje ove teme u Hrvatskoj, rezultati mogu poslužiti kao polazište ili dopuna budućim istraživanjima koja će se baviti roditeljskim sagorijevanjem.

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Some Psychosocial Predictors of Parental Burnout in Mothers of Children Below the Age of Five

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Parental burnout is the result of chronic stress and manifests as emotional exhaustion in the role of a parent, emotional detachment, and loss of parental fulfilment. This study aimed to examine how sociodemographic variables, personality traits, parental self-efficacy, marital aspects, and social support contribute to parental burnout. Mothers of children

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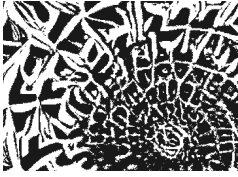
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below the age of five ($N = 255$) completed online the parental burnout questionnaire, the IPIP-50 personality questionnaire, questionnaires of perfectionism, parental competence, marital relationship quality, social support, and the general data questionnaire. Parental burnout was reported by 3.5% of mothers. Hierarchical regression analysis revealed that higher parental burnout can be explained by sociodemographic variables (higher number of children and more urban area of living), personality traits (low emotional stability, low agreeableness, and high perfectionism), and low parental self-efficacy. Although related to parental burnout, marriage aspects and social support were not significant predictors of burnout. The findings have both theoretical and practical implications for recognising and preventing parental burnout, while providing a basis for further research.

Keywords: parental burnout, personality, parental competence, family functioning, social support



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TRANSFORMATIONS OF PRODUCTION AND CONSUMPTION FORCES OF NEWS: ECONOMIC IMPLICATIONS FOR THE SLOVENIAN NEWSPAPER SECTOR

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The article addresses a dialectical relationship between the production and realisation of news content, linking demands for increased newspaper productivity with forces of consumption. The economic performance of newspapers is evaluated by exploring the correlation between alterations in their revenues/market expansion on one side, and changes in productivity and employment on the other. The research serves as an illustrative analysis within the context of a smaller EU country – Slovenia. The methodology employed could potentially be applied for cross-country or EU-wide comparative analyses. The examination of economic newspaper performance is juxtaposed with the entire media sector (the competitive sector) and the advertising sector (the realm of business partners). The results underscore that economically sustainable news production is achieved through decreasing employment and intensifying the exploitation of newspaper workers, an aspect that is increasing annually in Slovenia, and surpassing the decline in revenues and profit.

Keywords: journalism, productive forces, exploitation, newspapers, productivity, political economy



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The European newspaper market is anticipated to contract annually at a rate of 2% until 2029, with a global decline projected at 1.42% (Statista, 2024). Over the past 20 years, the advertising revenue in the USA plummeted by almost 80%, aligning with subscription revenues (PEW, 2023) which have been also decreasing. This is the case also in Europe, and trends are similar in Slovenia (Bembič & Vobič, 2021, p. S89).

The analysis focuses on major news producers employing a substantial newspaper journalistic workforce. For instance, in Great Britain in 2011, newspaper publishers allocated an average of 23% of their revenue to news production, compared to 4% for television and 2% for online media (Mediatique, 2012, p. 6). Similar patterns are observed in other countries (Picard, 2011; Nielsen, 2018). The economic performance of newspapers will be juxtaposed with that of the entire media sector (a competitive sector) and the advertising sector, consisting of advertising agencies and media leasing companies (the business partners domain), in order to get an insight how these interconnected sectors respond to the "risks of digitalisation" (Sekloča, 2021, S64). The goal is to analyse the outcomes of shifts in productive forces, inherently tied to a) alterations in economic relationships between journalists and media owners, and b) to the realm of highly productive, proletarianised consumption.

The process of continuous innovation alters the technical and organic composition of capital, which, without simultaneous adjustments on both the production and consumption sides, results in declining profit rates, a concept thoroughly explored by Marx in *Grundrisse* (1993, pp. 333–447) and Volume 3 of *Capital* (1981, pp. 317–338). This contradictory process affects the system of productive forces: it "constantly increases the circle of qualitative differences within labour (hence of surplus labour), makes it more diverse, more internally differentiated" (Marx, 1993, p. 408), altering the nature of journalistic work, reducing its quantity, and transforming technology (hardware, software, and the organisation of work), products (news), and even consumption itself (Harvey, 2015, p. 92).

Particularly during the era of digitalisation, new players like corporate platforms, news portals, and news aggregators have emerged, gaining extra profits by increasing their relative surplus labour through technological innovations. This allowed corporate media outlets to strengthen their (global) monopoly positions and acquire market power (i.e., the power to set prices). As a result, corporate media produce under "better than average conditions", which enable achieving a relatively low market value (due to reduced socially necessary labour) of a mass of (extremely) cheap news and audiences, to which the "social need" has adjusted, as Marx (1981, p. 284) would con-

ceptualise the connection between production conditions, social value and effective demand.

The central hypothesis of this text asserts that newspapers (and other professional news media), because they operate under *worse than average production conditions* – which result in a *higher than average individual market value* for their news and audiences – are unable to generate profits without intensifying the exploitation of journalists and other media workers.

The core research problem, therefore, is to explain why and how the economic viability of newspapers necessitates altering the fundamental characteristics of news and journalism. It seeks to understand why and how journalism is impacted by changes in the productive forces involved in news production.

The research serves as an illustrative analysis of the newspaper, media, and advertising industries within the context of a smaller EU country – Slovenia. Picard (2008, p. 704) notes that the economic trends of news production in Europe and the USA are similar, albeit slightly lagging in Europe, while special context (market size, specific political and economic landscapes, historical and cultural contexts) can accelerate general trends. First, the insight into the conditions of transformation of productive forces delineates the interdependence of production and consumption by accentuating the productivity and employment in the newspapers, media and advertising sectors. Then, calculations of statistical data of the economic performance of the industries are presented and discussed in order to explicate connections between revenues, employment and the intensity of exploitation of (newspapers') labour.

TRANSFORMATION OF THE PRODUCTIVE FORCES OF JOURNALISM

The economic examination of the news industry can be broadly categorised into three approaches: a) microeconomic cost analysis, aiming to prescribe novel business models (Barland, 2013; Picard, 2010; Villi & Picard, 2019); b) an analysis of (public) utility and market failure with implications for democratic public communication (Allern & Polack 2019; Baker, 2002, 2007; Nielsen, 2018); and c) the critique of the political economy of the media, primarily delving into the consequences of commodification, commercialisation, and capital concentration within the industry (Pickard, 2014; Bagdikian, 2004; McChesney, 2013, pp. 216–267). This last approach analyses ramifications for journalistic work (Örnebring, 2010; Splichal & Dahlgren, 2016; Bembič & Vobič, 2021; Kaluža & Slaček Brek, 2020, pp. 32–33; Williams, 2017), or provides a more general Marxist historical materialist analysis of news production (Garnham, 1990, pp. 20–55; 2011; Fuchs, 2023, pp. 177–198).

Within critical (political economy) approaches, journalism studies emphasise the introduction of technological innovations, such as algorithmisation and robotisation of journalism (Carlson, 2015), and the subsequent transformation of journalistic work. This involves processes like deskilling, reskilling, upskilling, and multiskilling, which are not necessarily mutually exclusive (Örnebring, 2010, pp. 66–68) and form part of a broader process of deprofessionalisation of journalism (Splichal & Dahlgren, 2016, pp. 8–10; Splichal, 2021, p. S11), its proletarianisation (Bembič & Vobič, 2021, p. S83–S84), and pauperisation. Under the pressure of systemic purposive rationality, journalists are, according to Splichal (2021, p. S18), becoming "news workers", and journalism is transformed into a "news publishing industry". Paulussen (2012, p. 204) emphasises that "while the material adoption of new technologies is probably the most tangible of all changes taking place in the newsroom, labour conditions are much more, and more directly, affected by management strategies towards cost-efficiency and productivity maximisation". We argue that labour conditions are not just "much more, and more directly" conditioned by management strategies but that economic conditions cannot be altered without simultaneously changing technological conditions, and vice versa. The issue with the mentioned insight is that it substitutes technological determinism with economic determinism without establishing a connection between the latter and the necessary technological change. Moreover, existing research generally lacks hard data on the connection between the extent of the change in the means of production and its consequences for the economic performance of news producers and the quantitatively expressed exploitative economic relations. If, as many authors suggest, the rate of exploitation in newspapers is increasing, what is the annual growth rate?

The reason why many contemporary studies tend to succumb to non-dialectical thinking can be attributed, firstly, to the lack of integrated treatment of economic changes with technological ones and, secondly, the conceptualisation of technological changes not incorporating the organisation of work as one of its central dimensions. Marx himself emphasised this by stating, "[t]he technical and social conditions of the process and consequently the very mode of production must be revolutionised before the productiveness of labour can be increased" (Marx, 1976, p. 432). An altered level of productivity necessitates "the material transformation of the economic conditions of production, which can be determined with the precision of natural science" (Marx, 1968, p. 105).

Numerous studies highlight the economic "underperformance" of commercial news media in both EU countries and the USA (Cornia et al., 2016; Mediatique, 2012; Ministry of Culture,

Republic of Slovenia, 2014; Reuters, 2022; PEW, 2023). However, these studies seldom comprehensively and empirically analyse the relationships between the output, labour and productivity, despite the latter being an entrenched element in journalism and recognised as a "naturalised element" (Örnebring, 2010, p. 55). Even though "the prime function of any new technology is to speed up the news process" (Örnebring, 2010, p. 65), it seems that technological innovations do not yield significant competitive advantages for news media, unless they do not maintain a monopoly position.

Technological innovations were initially leveraged by large corporate (news) media platforms. Even when profit rates eventually decline due to rising productivity across the broader economy, major corporate players like Alphabet and Meta still amass sufficient profit and, consequently, enough market and social power to solidify their monopoly positions and to produce under *better than average* production conditions, and thus achieve comparatively lower than average individual market values within industries such as the news sector. Marx (1993, p. 748) identified this inverse relationship between the mass and rate of profit as "the most important law of modern political economy".

Higher productivity becomes integrated into the new average production conditions, which means that generally "the portion allocated to living labour decreases" (Marx, 1993, p. 747). Newspapers, not being (leading) innovators, cannot reduce the market value of news by reducing the necessary labour-time, thus relatively increasing surplus labour. For them, increased productivity translates into the potential to achieve economies of scale under these new general conditions. However, individual news producers, such as newspapers, can only achieve economies of scale within the limits set by "the social need, i.e., the quantity for which society is able to pay the market value" (Marx, 1981, p. 281), which represents Marx's definition of effective demand.

All news producers must sell at market prices, but their market power varies, as do their individual production conditions, which determine their individual market value of news. Larger news producers, particularly social media platforms and news aggregators, benefit from better production conditions and are better positioned to achieve economies of scale, requiring comparatively less socially necessary labour for a given quantity of news or audience. Specifically, newspapers employ relatively more expensive journalistic labour than news portals, resulting in a higher market value for newspaper content compared to that of news portals. "If the market value falls, the social need is on average expanded (here this means the need which has money to back it up), and within certain lim-

its the society can absorb larger quantities of commodities", Marx (1981, p. 282) emphasises the connection between the quantity of commodities produced and social need. In today's market conditions, characterised by the attention economy, there is no scarcity of information and news; the supply is abundant. In this context, the market value is always regulated by the commodities "produced under the best conditions" (Marx, 1981, p. 286), while scarcity involves regulating aggregate production based on commodities produced under the least favourable conditions, allowing for higher prices and enabling profitable operations, even when producing commodities with high market values.

In general, commodities "whose individual value stands above the market price will be unable to realise a part of the surplus-value which they contain" (Marx, 1981, p. 279). Today, the individual market value of newspapers exceeds the market price of products from other producers, while the aggregate market value surpasses social need. As Marx (1981, p. 289) noted, "[t]hese commodities must therefore be got rid of at less than their market value, and a portion of them may even be completely unsaleable".

We argue, as the central hypothesis of our research, that newspapers in Slovenia are primarily attempting to compensate for the surplus-value lost due to their individual market value being comparatively higher than that of their competitors by intensifying exploitation – specifically, by increasing the rate of exploitation and reducing the number of journalists. If labour markets were in equilibrium – an idealisation, of course – the rate of exploitation would be similar across all industries, and also market values and prices. In our situation, supply and demand are exerting pressure upon one another, demonstrating how general economic laws are enforced through competition.

In practice, companies strive to avoid production under unfavourable conditions through various strategies, all aimed at reducing their individual market value of news. This objective can be pursued through several means, with the most common being a) achieving economies of scale/increasing productivity by expanding old and creating new markets for products with novel use values; b) intensifying the exploitation of labour; c) reducing the circulation time of commodity capital (audiences) through the automation of audience data trading, whereas the acceleration of distribution and consumption time of content remains relatively modest. We emphasise those measures within the media's direct control. Marx classifies these measures as some among many counteracting influences (Marx, 1993, pp. 408, 539; Marx, 1981, pp. 339–348) against the consequences of the increased productivity, i.e., against decli-

ning profit rates, and as circumstances that determine the extent of accumulation (Marx, 1976, pp. 747–757). Therefore, it should not be a surprise that these are also universal operations aimed at reducing the individual value of news and other media commodities.

To support our thesis, we will seek answers to the following research questions:

RQ1: How did output, productivity, employment, and real wages change in the newspaper, media, and advertising sectors during the mid-term period (2008–2020)? This will help to estimate change in effective demand, economies of scale, and the sectors' social value of commodities.

RQ2: How did the growth rate of exploitation in newspapers evolve during this period?

RQ3: How have newspaper business models and consumption adapted to intensified exploitation and reduced (creative) labour?

The answers to the first two questions will clarify how the forces of news production are evolving in the base of economic production. The answers to the final question will shed light on how the social ideological superstructure has adapted to ideologically justify the increased exploitation.

We argue that newspapers comparatively falter in all strategies (economies of scale/productivity, reduction of circulation time), except in increasing exploitation, which (still) leads to a drastic deterioration in their market (and social) power. The research will elucidate the systemic market failure of newspapers by analysing the connection between changes (Δ) in their revenues/market expansion (a result of the development of productive/consumption forces) on one side, and changes in productivity/economies of scale (Δ means of production) and employment (Δ labour power) on the other side. In addition, the rate of exploitation will be evaluated by analysing the ratio between the gross operating surplus (surplus-value) and wages (variable capital).

Intensifying exploitation to maintain profits

The alteration in output (a result of changes in productive forces) manifests through modified consumption. Therefore, when observing output, its change is equivalent to the change in productivity level (output/number of employees) and the change in employment: $\Delta O = \Delta P + \Delta E$ (Benanav, 2022, p. 19), which is logical by definition. For instance, a 5% increase in revenue stems from a 2% rise in productivity and a 3% expansion in the employment. Although this calculation does not allow for causal inference and is merely indicative, particularly in the case of

substantial changes, it provides a robust framework for analysis. It also allows some deviations due to huge relative changes in newspapers' economic performance.

Output refers to the actual production that corresponds to social need, or effective demand, i.e., the quantity of goods sold based on their aggregate social market value, expressed through market prices. As productivity increases, the social market value of individual goods declines, enabling higher output to meet the same or slightly expanded aggregate social need. Additionally, (digital) news serves as a typical example of a product produced with close to zero marginal costs (Kazakevitch & Torlina, 2001, p. 810), making it challenging for companies or departments to generate profitable returns that cover fixed costs (Nielsen, 2018; Rifkin, 2015, pp. 14–15). Given the low marginal costs of digital news production and the difficulty in monetising content, declining revenues would pose a significant challenge for newspapers to maintain their business focus on journalistic content.

Productivity, as defined by Örnebring (2010, p. 65) and Picard (2010, p. 90), entails an increase in the number of first copies and speed of distribution, respectively. Garnham (2004, p. 98; 2011, p. 48) and Splichal (2021, p. 57) emphasise a digital acceleration of reproduction and distribution, leading to extreme economies of scale, a viewpoint echoed by Kazakevitch and Torlina (2001, p. 810). Nevertheless, with automatic writing and particularly with the introduction of AI, which enables the production of "deep fake" news, also the production of first copies is becoming increasingly productive. However, this output/input ratio expresses productivity in engineering terms, as Preston and Sparviero (2009, p. 239) argue, neglecting the impact of digital reproduction. Thus, productivity is more accurately expressed in the consumption (output)/employment ratio, covering the reproduction of bits (and not atoms) (Garnham, 2000, p. 28). A more fitting indicator for the digital environment should encompass the sale of both content and audiences, capturing the intensity of market expansion. This shift suggests that the challenge of achieving profitability becomes closely tied to the ability to scale rather than to innovate. In the case of non-innovative firms, such as traditional media outlets, the increase in productivity then primarily translates into changes in economies of scale, rather than introducing new, innovative forms of content production.

Employment. Journalists, media workers, and employees in the advertising industry are largely a semi-autonomous and creative workforce. Their relatively costly creative labour power plays a significant role in enhancing the quality of the products. Kazakevitch and Torlina (2001, p. 809) maintain that in informational capitalism "competitive strategy of a firm, producing an information product, is based on costs versus quality

features dichotomy". In the news media, particularly in newspapers, reducing employment to lower the market value of commodities indicates a shift towards accelerated production of digital audiences rather than quality news. In practice, this results in an intensification of information and distribution tasks for the remaining workforce.

... *and wages*. In order for changes in productive forces to be preserved, they need to be stabilised by changes at higher levels of society, maintains Fuchs (2012, p. 418) when comprehending information capitalism. Changes occur in the material base insofar as they include a change in the technical and consequently value (organic) composition of the capital advanced. And stabilisation is superstructural insofar as the change in productive forces requires the ideological adjustment of the economic relations that entail the naturalisation of the deprofessionalism of journalism (Splichal, 2021, p. S11), proletarianisation, and the establishment of "survival coalitions" (Bembič & Vobič, 2021, p. S96), by which journalists compensate for firms' poor business results by accepting lower wages.

Newspapers: Falling revenues and increased exploitation

The data utilised in this study originate from the database Performance of enterprises by activity (NACE Rev. 2), Slovenia, 2005–2020, which is overseen by the Statistical Office of the Republic of Slovenia (SORS, 2024). The database encompasses all private companies predominantly operating within Slovenia, excluding public broadcasters. SORS aggregates data from publicly accessible annual reports of companies, categorising them according to their primary NACE activity, which the SORS corrects when misclassifications are perceived. All values presented are adjusted for inflation (real values). Notably, all European Union member states report their collected data to Eurostat (2024), facilitating possible cross-country or EU-wide comparative analyses.

TABLE 1
The rate of growth of categories ($\Delta O = \Delta P + \Delta$; real wages)

Period 2008–2020	$\Delta \text{ output (\%)} = \Delta \text{ productivity (\%)} + \Delta \text{ employment (\%)} / \Delta \text{ average wage}$			
Newspapers	-57.0	-23.0	-44.0	-7.7
Media (excl. newspapers)	-1.8	-1.7	-0.1	-6.5
Advertising	19.0	-6.0	25.0	0.0

Table 1 highlights a decline in the output of the media sector (journals and periodicals, motion picture, video, and television activities, broadcasting activities, and news agency and other services). Compared to newspapers, where productivity plummeted significantly by 23%, the overall media sector saw only a modest drop in productivity. This substantial decline in newspaper productivity, measured by consumption-based definitions, indicates a diseconomy of scale, reflecting unsuccessful ef-

forts to reduce market value as a means to gain a competitive edge. In the advertising sector, the number of workers increased by 19%, whereas in newspapers employment contracted by 44%, and revenues have seen an almost 60% decrease.

Contrary to the media's, and particularly in comparison to the newspapers' output, advertising agencies demonstrate a notable increase in output. Newspapers exhibit the most significant reductions in revenue, productivity, and employment, indicating a considerable decrease in market share and of workers. Other researchers reported a 61% decline in circulation for the three largest Slovenian dailies between 2004 and 2017, and a 50% reduction in the gross value of advertising over the last decade, with subscriptions contributing close to 90% of revenues (Bembič & Vobič, 2021, p. S89). The inability of newspapers to expand market share, essential for achieving the economies of scale, contrasts with the advertising sector, which boosts output by increasing employment (by 25%) while experiencing a relatively moderate decline in productivity.

In the newspaper sector, there has been a substantial reduction in the number of employees compared to other two sectors. Moreover, the decrease in employment has outpaced the decline in productivity (i.e. of diseconomy of scale) when both are measured against output. This suggests a significant reduction in the employment of creative workforce within the newspaper sector. The aggregate market value of news has decreased more due to the workforce reduction than due to declining productivity, indicating a trade-off between (lower) quality and quantity of news. In contrast, the trend in the advertising sector is quite the opposite.

The advent of internetisation and digitalisation has in the previous two decades significantly shortened the distribution time in cultural/creative industries. Nowadays, programmatic¹ advertising represents a notable innovation that significantly reduces the circulation time of capital, utilised to a lesser extent by newspapers compared to media and advertising sectors. Programmatic advertising enables audiences to be sold more swiftly and frequently, which enables economies of scale. Global advertising platforms and news aggregators that utilise this feature of advertising have witnessed a significant increase in productivity, estimated to be 40% higher than in average companies (Mankins, 2017).

Profitability and intensification of exploitation

Between 2008 and 2020, the real average wage in the newspapers and media sector experienced a decline of 7.7% and 6.5%, respectively, while the average wage in the advertising sector remained constant. During the same period, newspaper revenues were consistently decreasing at an average annual rate

of 6%. Due to the decline in average real wages and despite the reduction in revenues, newspapers managed to sustain positive medium-term profitability during this period. For instance, one of the major Slovenian dailies, Dnevnik, displayed varying annual growth rates in profit (Bembič & Vobič, 2021, p. S93). Calculations show an average annual decrease of 11% from 2008 to 2020, however, between 2010 and 2020 the average decrease was only 3.5%. Additional data indicate a sharp recovery that commenced after 2010. Following 2015, the revenues and profits of the top 25 print media outlets stabilised. Notably, two of the largest newspapers, Večer and Dnevnik, even recorded the highest profits among all media (Damjanič, 2016, pp. 28–29).

The question arises as to how newspapers, despite facing declining revenues (-5.7% average per year) and employment (-4.7% average per year), can sustain positive profitability. A good approximation to seized surplus-value (s), i.e. profit, is gross operating surplus (GOS), which, unlike accounting profit, encompasses depreciation and taxes. Wages, i.e. labour costs, correspond to variable capital (v). The relationship between GOS and wages reflects the rate of exploitation (s/v).

FIGURE 1
Gross operating surplus and wages for Slovenian newspapers 2008 – 2020 in EUR (SORS 2024)

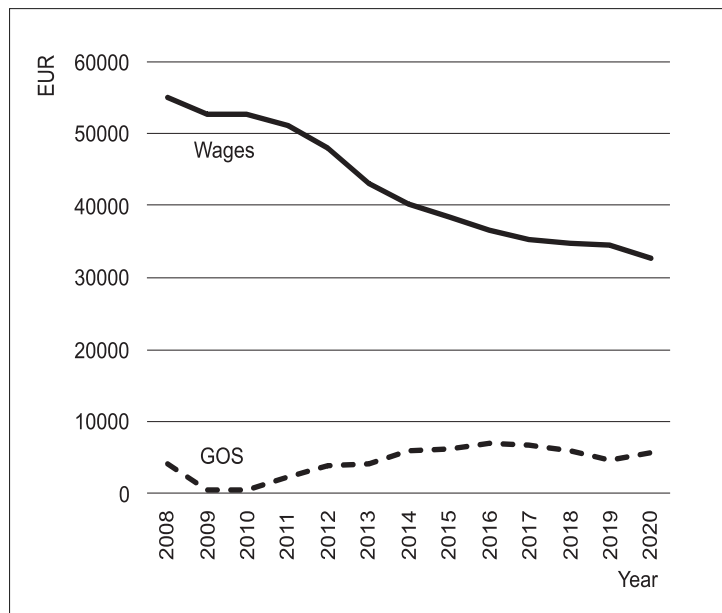


Figure 1 illustrates that newspapers maintained economic viability by augmenting the GOS/Wages ratio. Aggregate GOS in the newspaper industry exhibited minimal growth, almost stagnating, while aggregate wages consistently decreased. The preservation of profits was achievable through the reduction of employees and simultaneous intensification of their exploita-

tion, corroborating the argument that heightened exploitation is the central strategy to decrease the market value of news and consequently to preserve the mass of profit.

The increase in the ratio of exploitation (s/v) is a notable trend across all sectors under consideration, but particularly harsh in the case of newspapers. In 2008, the ratio stood at 0.08, sharply falling after the beginning of the economic crisis in 2008, and then rising again to 0.09 by 2012, and reaching 0.17 in 2020. This intensification of exploitation preserves profitability ($s/(C + v)$), as the constant capital has not experienced a corresponding increase, according to SORS data. Over the period from 2008 to 2020, the ratio between surplus-value and the value of labour power in newspapers exhibited an average annual growth of 6.4% (see Figure 1), while aggregate gross operating surplus was experiencing stagnation and average wages witnessed a decline, as already said above.

The news industry, as exemplified by newspapers, is a vivid example of how capital deals with economic stagnation: measures to address the effects of stagnation predominantly involve interventions in the realm of labour by lowering the ratio between wages and generated income. These measures are widespread in the whole global economy (Piketty, 2014), which has been progressively slowing since the mid-1970s.

RACE TO THE BOTTOM

When news fails to attract new audiences, the opportunity cost of news production decreases in comparison to alternative methods of audience growth, such as tabloidisation, native advertising, and clickbait content. This rationale supports the reduction in the employment of (creative) labour, which in the newspaper industry far exceeds the negative impact of diseconomies of scale. It is not just that newspapers are losing readers; they are also rapidly cutting back on their (journalist) workforce. This highlights their inability to maintain the production of quality news, as their workforce is shrinking faster than the economies of scale.

The dynamics of the two-sided market for newspapers can no longer be described by a simple "see-saw" effect, which signifies the conflicting interests of readers and advertisers. In the Slovenian scenario, reducing the contribution of advertisers adversely affects the welfare of the readers, leading to a situation where both subscriptions and advertising revenues are declining, pulling newspapers into an implosive economic cycle. In two-sided markets, the media often attribute failure to one side, typically the readers are the "losers" (Anderson & Jullien, 2015), and this notion is exacerbated in the case of Slovenian newspapers, where the "losers" are both the readers and advertisers. The interplay between the benefits for readers and

advertisers takes a "double" negative turn concerning advertising prices and the revenues generated by subscriptions. Typically, as competition among media outlets and platforms intensifies, reducing the intensity of advertising tends to elevate the market value of advertising space per reader, as fewer advertisements per reader make each ad more impactful. However, a decrease in the number of readers per newspaper significantly diminishes the aggregate price that newspapers can charge for their total advertising space. At the same time, the price charged per reader remains relatively high, potentially discouraging advertisers. The decline in the distribution and reproduction costs on digital media/platforms over the past two decades compounds this issue. Nielsen (2018) highlights a stark advertising price ratio of 100 to 1 between newspapers and mobile devices, making it almost impossible to raise advertising prices for newspapers, while heightened demand is particularly boosting prices for TV and digital advertising (Li, 2021, p. 26). Given these circumstances, expecting an increase in revenue from audience sales or raising content prices online seems unrealistic, at least under current conditions. Reuters reports a global decline in interest in news from 63% in 2017 to 51% in 2022 (Reuters, 2022). Consequently, newspapers enhance their financial situation mainly by intensifying the exploitation of labour.

Paradoxically, media economics, founded on the ideal of perfect competition, by proposing innovation and economies of scale and scope, advocates further concentration of capital in the newspaper industry. Truly, especially in smaller markets, newspapers can approach economies of scale primarily through integration: the number of newspapers in Slovenia decreased by 23% from 2008 to 2020. Only two national legacy dailies (Delo and Dnevnik) remain on the market, jointly owning a distribution company, while a third, the more regionally oriented newspaper Večer, is also a co-owner of the same distribution company. In contrast, the number of online portals is rising, increasing 3.4 times in the selected period from 2008 to 2020 (395 online portals were registered in 2020; SORS, 2024). Research (Mediatique, 2012, p. 6) indicates that these portals allocate a relatively modest part of their income to cover journalistic work. Nevertheless, several portals devote much effort to cultivating investigative journalism.

Meanwhile, advancements in productive forces have driven the market value (price/marginal costs) of trivial information to a minimum, leading to oversaturation of the information market. Saturated markets necessitate attention management, in media economics commonly referred to as the "economy of attention". This phrase, often used as a buzzword, signifies a counteracting influence directed at the consumer sphere, aim-

ing to mitigate the effects of increasing productivity in the production forces of (news) media and platforms in general. With increased labour productivity/economies of scale, market value decreases while social need rises "and within certain limits the society can absorb larger quantities of commodities" (Marx, 1981, p. 282). This leads to an increase in the productivity of consumption, which in turn prompts "counter-strategies", such as attention allocation. Increased productivity of consumption is not solely a characteristic of information/media markets, as all (over)saturated markets eventually require attention allocation methods. In other words, consumers must make decisions regarding the investment of their time in consuming goods/services and equally allocate their attention. Any reduction in the cost of goods ultimately lowers the opportunity cost of consumption in general, which in any case does not help to relieve the consumption of news.

Years ago, Picard pessimistically anticipated that the only sustainable business model for producing quality news in the future would be "elitist" (Picard, 2010, p. 39). To begin with, all superstructural (political and cultural) activities are funded through wages and surplus-value generated in the economic base. Globally, distribution of social surplus is increasingly skewed in favour of capital owners, reducing the disposable income of the rest of the population. Thus, the predictions of post-industrial/information society theorists that the reduction in the cost of industrial (manufactured) goods would expand the consumption of more expensive (information) services and (journalistic) products, can be questioned. Firstly, the news industry, corporate news aggregators being a prime example, has achieved tremendous economies of scale, resulting in changes in the quality of news, which is an inevitable outcome of the development of productive forces. Secondly, because high-quality (information) services are still expensive, users resort to seeking information themselves. From this perspective, independent information searching on social networks and news aggregators represents a do-it-yourself strategy with unpredictable consequences for democratic public communication. Scholars warned years ago that predictions about the expansion of (information) services "based on increased productivity in the primary and secondary sectors" are oversimplified or, at the very least, empirically unproven (Webster, 1996, p. 42). High-quality services are becoming relatively more expensive, but this leads to the inability to realise them in the markets, a trend also evident in information markets. The outcome is the production of trivial news content, accompanied with pressures to increase exploitation and to lower wages in order to diminish the market value of news and audiences.

Similarly, Benanav (2022, p. 42) stresses the rising "underemployment" in the service sector when analysing global employment trends. Instead of automation, which is (still) too expensive, information service industries also employ a workforce that "tends to approach the level of simple labour" (Bembič & Vobič, 2021, p. S95), manifesting as the trend of deprofessionalisation and proletarianisation of journalism. Under prevailing conditions, the sustenance of news production is therefore only feasible through an increase in the intensity of exploitation (average growth rate 6.4%), growing annually in Slovenia approximately more than the decline in revenues (-5.7% per year) and, as the example above shows, the decline in profit.

CONCLUSION

The salvation of newspapers cannot be achieved by either readers or advertisers. As market values of commodities decline due to the long-term development of productive forces, the socially necessary journalistic labour also decreases. Under these conditions, even if effective demand were to stagnate over time, society would still be willing to pay only for a progressively lower social market value of news (*ceteris paribus*). The process implies the transformation of newspapers' technological and value structure of capital in a way that undermines the production of news with the use-value (quality) previously recognised, accelerating the vicious cycle in which professional news producers are reduced to shrinking industrial remnants within information wastelands. Newspapers are not being destroyed by non-readers, but by the accumulation of capital.

Specifically, the economic indicators for the Slovenian newspaper publishing sector portray a negative outlook, suggesting that its long-term economic viability is highly unlikely without an even more stringent intensification of media worker exploitation and a qualitative transformation of journalist work towards information work. Further speculation about potential solutions could be contemplated; however, a prerequisite for any actions aiming at stronger capitalisation of the news sector is its intensified concentration to acquire market power. However, the sector is already highly concentrated, with only two newspapers in Slovenia (*Delo* and *Dnevnik*) covering the entire country.

The crisis affecting newspapers is characterised by a decline in their mass of profit, a challenge mitigated through the intensification of exploitation. In this dialectical movement, what serves as a remedy for newspapers becomes a detriment to journalism. The second counterforce, market expansion, proves to be ineffective: the development of consumption forces in the realm of quality news lags behind tremendously, which is

evident by low social demand. As productivity, i.e. economies of scale, grows in the general production of news, it fails to grow sufficiently in the sphere of quality news reception. To secure at least minimal profits, Slovenian newspapers opt for a seemingly straightforward solution: altering the properties of goods (news) and the quantity and the quality of (journalistic) labour power, which is accompanied by intensification of exploitation.

The findings highlight the need to reconsider the institutional structure of journalism itself, a field that was traditionally accommodated, with varying degrees of success, by newspapers and other information-focused media. Therefore, constructive criticism of the information sector should target changes in the economic framework of news media's productive forces and their institutional organisation, ultimately advocating for alterations in relations of production. The critique doesn't advocate for a new business model but rather for a model that transcends the business paradigm.

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NOTES

¹ Programmatic advertising witnessed an annual growth of 19.5% in Europe from 2006 to 2019 (IAB, 2021). The proportion of digital advertising within the overall advertising landscape in Europe reached 59% in 2021, with programmatic advertising accounting for 56% of all digital advertising. In Slovenia, the share of programmatic advertising compared to all digital display advertising stood at 35.5% in 2021 (IAB, 2022).

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Transformacije proizvodnih i potrošačkih moći vijesti: ekonomske implikacije za slovensko časopisno tržište

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Članak se bavi dijalektičkim odnosom između proizvodnje i realizacije novinarskih sadržaja (vijesti), povezujući zahtjeve za povećanom produktivnošću tiska i potrošačke moći. Ekonomski učinak tiska kao produkta ocjenjuje se istraživanjem poveznice između promjena u njihovim prihodima / širenju tržišta s jedne strane, i promjena u produktivnosti i zaposlenosti s druge strane. Istraživanje služi kao ilustrativna analiza na primjeru manje zemlje u EU – Slovenije. Upotrijebljena metodologija mogla bi se potencijalno primijeniti za usporedne analize između raznih

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zemalja ili na razini EU-a. Ispitivanje ekonomskih rezultata tiska suprotstavljeno je analizi cjelokupnoga medijskog sektora (konkurentski sektor) i oglašivačkoga sektora (sektor poslovnih partnera). Rezultati pokazuju kako je ekonomski održiva proizvodnja vijesti postignuta kroz smanjenje zaposlenosti i intenziviranja iskorištavanja novinara i ostalih medijskih suradnika. Radi se o trendu koji se u Sloveniji svake godine povećava. Na taj se način pokriva pad prihoda i dobiti od osnovne djelatnosti.

Ključne riječi: novinarstvo, proizvodne snage, eksploatacija, novine, produktivnost, politička ekonomija



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INFLUENCER MARKETING: A CROSS-CULTURAL STUDY OF GENERATION Z IN CROATIA AND TÜRKIYE

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Using the Theory of Planned Behaviour, this research paper examines how influencer marketing affects Generation Z in two different countries: Croatia and Türkiye. The goal of this study is to examine whether the attitudes, subjective norms, and perceived behavioural control of Generation Z impact their intentions to follow influencers in the future. The research was conducted by means of a questionnaire and focus groups. Confirmatory factor analysis and structural equation modelling were used to test the hypotheses and the relationships between the variables. Both subjective norms and perceived behavioural control positively impact Generation Z's intention to follow influencers in Croatia and Türkiye. The findings of this study will allow brands in Croatia and Türkiye to adapt their content strategies, campaign designs, and engagement methods by considering the influencer preferences and cultural trends of Generation Z, which will, in turn, help brands in effectively reaching and engaging their target audiences.

Keywords: theory of planned behaviour, generation Z, influencer marketing, focus group



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INTRODUCTION

Generation Z comprises about 26% of the global population with approximately 2 billion people, making it the most populous generation. Growing up amidst rapid technological advancements, Generation Z has unique interactions with technology which shape their lifestyle, communication, and decision-making (Thangavel et al., 2022, p. 2). Influencers, who hold sway over their followers' choices through expertise and compensated social media posts, have become central to marketing strategies. The influencer marketing industry has expanded significantly, valued at \$16.4 billion in 2022, with projections to reach nearly \$70 billion by 2029 (Statista, 2022a). Social media usage is widespread, with 5 billion users in 2023, and around 50 million identifying as influencers or content creators (Statista, 2023). Key platforms for marketers include Facebook (90%), Instagram (79%), LinkedIn (61%) and YouTube (52%) (Statista, 2022b), while influencers opt for Instagram (93%), TikTok (68%), Facebook (68%) and YouTube (48%) (Campbell, 2023), with preferences varying depending on the product, demographics, and culture.

In this context, the cultural structures of countries and the social media platforms Generation Z uses are important for companies' marketing activities. Therefore, this will be the starting point of this research. Although influencer marketing impacts Generation Z significantly, little is known about how this impact varies across cultures. Most studies overlook cultural nuances, which are key in shaping consumer behaviour and influencer effectiveness. This study addresses this gap by comparing Generation Z's perceptions, attitudes, and behaviours towards influencer marketing in culturally distinct countries (Croatia and Türkiye). The main goal is to determine whether differences exist between these countries in relation to influencer marketing by using the Theory of Planned Behaviour as the framework.

Cross-cultural comparisons are essential for understanding how influencer marketing is perceived within different cultural contexts. While Generation Z is globally connected through digitalisation, local cultural values still shape their consumption habits profoundly. Comparing Generation Z's responses to influencers in culturally distinct countries like Croatia and Türkiye can offer valuable insights, enabling influencers and brands to devise more culturally sensitive and effective marketing strategies.

This study contributes both theoretically and practically to understanding influencer marketing across cultures. It will deepen insights into how cultural differences affect Generation Z's responses to influencers, particularly regarding trust, loyalty, and influence levels. By examining perceptions in Cro-

atia and Türkiye, this study highlights the need for cultural sensitivity in marketing. The findings emphasise that while Generation Z is digitally connected, cultural contexts still shape their behaviours. For marketers, this study offers guidance on tailoring influencer strategies to align with each country's cultural values and preferences, enhancing campaign effectiveness and personalisation.

After all, the primary goal of this study is to analyse how cultural differences in Croatia and Türkiye shape Generation Z's attitudes, subjective norms, perceived behavioural control and behavioural intentions towards influencer marketing using the Theory of Planned Behaviour.

In the first section, the theoretical framework is presented and conceptual information about influencer marketing of Generation Z is given. After a demographic comparison of the two countries, the last section includes the research results, discussion, and conclusion.

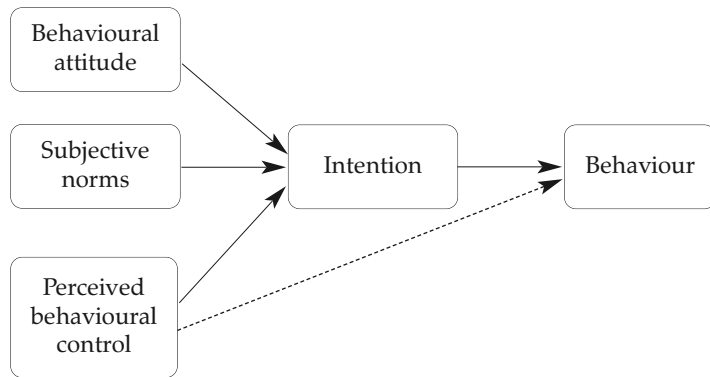
THEORETICAL FRAMEWORK OF THE THEORY OF PLANNED BEHAVIOUR

The examination of influencer marketing can be based on various theoretical frameworks in order to gain insight into and inform the guidance of consumer behaviour. The Social Influence Theory posits that individuals' behaviours are shaped by their social environment, and that influencers can exert a strong social influence on their followers (Latane, 1981), while the Social Cognitive Theory suggests that individuals modify their behaviours through observational learning, thereby deeming influencers acceptable as role models and susceptible to imitation by their followers (Bandura, 1986). The Social Identity Theory proposes that individuals strive to align themselves with social groups by emulating influencers in the formation of their social identities (Tajfel & Turner, 1979), while the Social Capital Theory argues that influencers play an active role in the dissemination of information and resources through their extensive social networks (Bourdieu, 1986). According to the Source Credibility Model, the credibility of influencers increases the likelihood of consumers accepting messages (Hovland & Weiss, 1951).

In this research, the Theory of Planned Behaviour (TPB) was used. The Theory of Planned Behaviour emphasises the role of factors such as attitudes, subjective norms, and perceived behavioural control in understanding individuals' intentions to perform a certain behaviour (Ajzen, 1991). According to Ajzen and Fishbein (1980), attitude towards a behaviour is a person's feeling (positive or negative) towards a particular behaviour. Attitudes are based on beliefs about the consequences of the behaviour, such as how it makes them feel or how it af-

fects their social relationships (Ajzen, 2011). Subjective norms, according to Sheeran et al. (1999, p. 403), are "the perception of social pressure exerted by significant others to perform the behaviour." Perceived behavioural control "reflects an individual's prior knowledge of how to perform the behaviour and the obstacles that inhibit the behaviour", as Chopra et al. (2021, p. 83) point out. Strong or weak intentions show the person's desire to perform a certain behaviour, while intentions are the motivational factors that control behaviour (Ajzen, 1991, p. 181). As can be seen in Figure 1, intention always comes before behaviour, but behaviour does not necessarily come from intention.

➔ FIGURE 1
The Theory of Planned Behaviour (Model) according to Ajzen (1991)



The Theory of Planned Behaviour is frequently used as a model for studying behaviour and purchase intention including research focused on influencers (Singh & Aggarwal, 2024). Such studies are more prevalent compared to those examining the intention to follow influencers online. Previous studies that have integrated influencer marketing into the framework of the Theory of Planned Behaviour confirm the suitability of this model in the context of influencer marketing. Magrizos et al. (2021) used the model of the Theory of Planned Behaviour to study behaviour in the context of influencer marketing and extended it to include two variables: price and self-identity. Rohde (2020) included the element of parental mediation in his study, as the target audience of his research were children. It can be concluded that this model was applied for the purpose of researching influencer marketing, but also that different authors adjusted the model with new variables in order to measure the research objectives more accurately.

INFLUENCER MARKETING OF GENERATION Z

Generation Z has a wide age range, from 1996 to 2010 (McKinsey, 2023). Described as online- and communication-savvy, Generation Z (Reinikainen et al., 2021; Mueller & Perreault, 2021) not only consumes online content, but also produces much of it. Research on Generation Z has found that 60% of this gen-

eration can spend a maximum of four hours without internet access (McKinsey, 2023). In their online world, they have a unique lifestyle that is detached from reality.

Generation Z is addicted to the internet and attaches great importance to social media and the opinions and thoughts of people with whom they interact. Along with family, friends, and peers, influencers occupy an important place in their lives, and, because they view influencers as peers, Generation Z places a high level of trust in them (Martinez-Lopez et al., 2020, p. 599). Companies and brands targeting younger generations are, therefore, acting on this awareness and using influencers as ambassadors for Generation Z. Social media, which appears as a platform where companies can make quick comparisons, see for themselves the reliability, and sincerely observe the satisfaction and experiences of those who use the products, is the main channel Generation Z prefers in their consumption activities (Paker, 2022, p. 59). Research has shown that influencers have a positive impact on Generation Z's consumption decisions (Chetioui et al., 2020, p. 361; Nguyen et al., 2022). However, there are studies with a contrary opinion about Generation Z's views and opinions towards influencers (Leung et al., 2022). Some members of this generation consider brands' interactions with influencers to be morally indefensible (Pradhan et al., 2023). At this point, the question remains whether influencer marketing really is an effective marketing tool for Generation Z.

METHODOLOGY

In the continuation of this paper, the comparison of Generation Z between Croatia and Türkiye is observed. The research design and results are then presented.

Comparison between Croatia and Türkiye

Research results from a 2021 study involving 40.000 people from different continents and cultures showed that consumers trusted recommendations from people they knew more than any other channel, and tended to buy products they encountered on social media (Nielsen, 2021). This situation can vary depending on the country, culture, and demographic characteristics of the individual. Croatia, which is in Europe, and Türkiye, which is in West Asia and Europe, differ in geography, religion, beliefs, culture, and demographics. Moreover, the distribution of Generation Z in relation to the population of both respective countries is 23% in Türkiye and 17% in Croatia (Perić, 2020; TUIK, 2022).

With a population of 85 million, the number of active internet users in Türkiye is 71.38 million. In this case, the young population has a considerable impact. Almost all internet users

access the internet through mobile devices and spend an average of 8 hours per day online, while the global average is 3 hours (Statista, 2023). The number of social media users is 62.55 million (Kemp, 2023a). Looking at the distribution, Instagram, WhatsApp, and Facebook are at the forefront (Dierks, 2023). When analysing the research on Generation Z and influencer marketing in Türkiye, it is evident that the obtained results are similar to the studies in the literature. In the qualitative research conducted by Paker (2002, p. 459), it was found that Generation Z, who are frequent shoppers, were particularly influenced by Instagram influencers in Türkiye and that the frequency of shopping increased with the introduction of the "scroll up" feature. Another study showed that Generation Z individuals do not only actively use YouTube, but most of them also follow a vlogger, and consider vloggers' recommendations when deciding on purchases (Oyman & Akıncı, 2019, p. 441).

In Croatia, there are approximately 3.34 million internet users (83% of the population) and 2.94 million social media users (Kemp, 2023b). A 2022 study (DZS, 2022) showed that 86% of households had access to the internet and that it was mainly used by individuals who were from 16 to 24 years old. According to data for advertisers on social media platforms, the number of users for 2023 was as follows: 2.94 million people used YouTube, 1.75 million used Facebook, 1.35 million used Instagram, 820 thousand used LinkedIn, 585 thousand used Snapchat, while 298 thousand people used Twitter (Kemp, 2023b). Kecek et. al (2022) studied the impact of influencers on Generation Z's shopping in Croatia. According to their research, influencers have the lowest impact on the purchasing decisions of undergraduate students and the highest impact on graduate students.

Research design

This research was conducted at the beginning of 2023. The goal of this research was to conduct a comparative analysis of Croatian and Turkish Generation Z in terms of the influencer marketing impact on them. For the purposes of this paper, two studies were conducted: a quantitative research based on questionnaires, and a qualitative research which included carrying out interviews in focus groups. The advantages of mixed methods research (quantitative and qualitative) lie in its complementarity in capturing nuanced cultural perspectives. They enable both a broad understanding through quantitative data and in-depth insights into cultural nuances through qualitative focus groups.

The first study was conducted by creating a Google form survey. The first part of the questionnaire was a general part

about influencer marketing. The second part was based on the Theory of Planned Behaviour. Respondents were asked to express the degree of agreement according to the Likert measurement scale (1 – strongly disagree; 5 – strongly agree). The last part of the questionnaire referred to the socio-demographic data of the respondents (Table 1). The sample consisted of a total of 138 students from Türkiye and 361 students from Croatia (who were born between 2000 and 2006). Since the research was conducted at higher education institutions, the sample included 30% of the total number of students from each institution. The selection of this particular sample was intentional and constitutes an integral part of the research design, shaped in accordance with the research objectives.

TABLE 1
Sample description

		Croatia		Türkiye	
		N	%	N	%
Gender	Male	101	28	68	49.3
	Female	260	72	70	50.7
Monthly budget	<135 €	89	24.7	70	50.7
	136-400 €	205	56.8	50	36.2
	401-800 €	50	13.9	12	8.7
	801-1200 €	8	2.2	2	1.4
	Over 1201 €	9	2.5	4	2.9
Do they work alongside their studies?	Yes	147	40.7	29	21
	No	214	59.3	109	79

The second study was a qualitative research which included focus group interviews. Using focus groups alongside quantitative research provides a deeper understanding of individuals' motives, perceptions, and reasons, adding context and enhancing result validity. Focus groups allow participants to share spontaneous insights that may not emerge in quantitative data, opening up new perspectives and enriching the research findings. The focus groups consisted of Generation Z participants, born between 1996 and 2000, who had not taken part in the prior quantitative research. Following McKinsey's (2023) definition of Generation Z's age range (1996–2010), this selection targeted older Generation Z members. Questions were designed around constructs of the Theory of Planned Behaviour. Each group included 6 to 10 participants, an ideal size according to Krueger and Casey (2014) to ensure diverse opinions while allowing each person to contribute. The focus groups included nine participants from Croatia and eight participants from Türkiye.

The questionnaire was based on the Theory of Planned Behaviour, and the items used in each construct are provided in Table 2.

Construct	Items	
Attitudes	ATT1	I believe that influencers publish content only according to their own choice and motivation.
	ATT2	I believe that influencers are paid by businesses to publish content according to the wishes of the brand.
	ATT3	I believe that influencers greatly influence the creation of attitudes, opinions, and decision-making of their followers.
	ATT4	I believe that influencers greatly influence my own formation of attitudes, opinions, and decision-making.
	ATT5	I believe that influencers can greatly help businesses in the promotion of their products and services.
Subjective norms	SN1	The opinion of my close family members is important to me when it comes to following influencers.
	SN2	The opinion of my friends regarding following influencers is important to me.
	SN3	It is important to me that the society (environment) accepts me more if I follow an influencer.
	SN4	It is important to me that the society (environment) accepts me more if I copy an influencer.
	SN5	It is important to me that the society (environment) accepts me more if I buy influencer's products.
Perceived behavioural control	PBC1	I believe that I target influencers depending on the content that interests me.
	PBC2	I believe that I have control so that the influencers I follow do not influence my decision to purchase a product.
	PBC3	I believe that it is easy to become an influencer depending on the content.
	PBC4	I believe it is easy to follow the content of an influencer.
	PBC5	I believe that influencers can easily reach their followers.
Intention	INT1	I intend to continue following the influencers I have been following to date.
	INT2	I intend to start following an influencer in the near future (if I haven't been following them until now).
	INT3	I intend to recommend an influencer to my friends so that they can start following him/her.
	INT4	I intend to buy products promoted by an influencer.
	INT5	I intend to attend gatherings, concerts, and other events of the influencers I follow.
	INT6	I intend to create content with which I could become an influencer.

TABLE 2
Items of each construct

The creation of these items led to establishing the research question and hypotheses. Consequently, the established research question was: Are there differences between the Turkish and Croatian Generation Z based on observing the Theory of Planned Behaviour and influencer marketing? This further led to the development of three hypotheses:

H1: Generation Z's attitudes towards influencer marketing have a significant positive impact on their intention to follow influencers in the future.

Trust is an important factor positively affecting attitudes towards influencers (Nguyen et al., 2022). Balaban et al. (2020) added that attitude is also influenced by the perceived quality of information, while Tiwari et al. (2024) found that attitudes towards fashion influencers are positively influenced by perceived trust, subjective norms, and perceived behavioural control. Although Balaban et al. (2020) confirmed that an attitude towards influencers affects the intention to follow them, generally, most studies investigate the relationship between attitudes and purchase intention, which in practice may or may not imply the mere act of following the influencer.

H2: Generation Z's subjective norms towards influencer marketing have a significant positive impact on their intention to follow influencers in the future.

Given the lack of literature studying this phenomenon, the motivation and benefits for researching this hypothesis are, therefore, even greater. In a study investigating the influence of subjective norms on attitudes towards influencers, it was shown that subjective norms have the least influence on attitudes compared to other variables (Chetioui et al., 2020). Elmousa et al. (2024) reported that subjective norms have a significant influence on attitudes towards promotion (influencer marketing), which then affects the purchase intention.

H3: Generation Z's perceived behavioural control towards influencer marketing has a significant positive impact on their intention to follow influencers in the future.

As with the second hypothesis, we found no sources that would confirm or deny this statement. However, a review of similar research in the context of influencer marketing can be given. Magrizos et al. (2021) suggest that perceived behavioural control did not significantly affect consumers' purchase intentions regarding influencers' personal brands in China, while Handrimurtjahjo et al. (2022) imply that perceived behavioural control and perceived expertise have a positive impact on purchase intention in the fashion industry.

Evidently, the overall model of the Theory of Planned Behaviour was not applied, since it is not possible to examine the behaviour caused by future intentions to follow influencers without longitudinal research. Additionally, the direct effect of perceived behavioural control on behaviour, when considering influencer marketing among Generation Z, has also not been examined.

RESEARCH RESULTS

The reliability of the measuring instrument was analysed in the statistical software package SPSS 24, while confirmatory factor analysis (CFA) and structural equation modelling (SEM) were used to test the hypotheses and the relationships between variables by using the software package IBM SPSS AMOS 24. CFA is used to evaluate the effectiveness of the measured models by specifying the factors and their relationships, ensuring validity and reliability in measuring complex constructs, and supporting theoretical and empirical research (Price, 2023). SEM is a multivariate analysis method for creating, estimating, and testing causal models, allowing for the testing of cause-effect hypotheses and relationships between latent constructs (Zou and Cheng, 2024). Together, CFA and SEM are well-suited for testing research hypotheses, especially within complex theoretical frameworks.

The internal reliability of the measuring instrument was assessed by observing the Cronbach's alpha coefficient. The obtained value of the Cronbach's alpha coefficient ranges from 0.656 to 0.911. According to George and Mallery (2003),¹ Cronbach's alpha coefficient for attitudes is questionable (the Croatian model), while Cronbach's alpha coefficients for other constructs are acceptable. Even after adjusting the items in the attitudes construct, the Cronbach's alpha coefficient had not improved. Since in the Turkish model, the Cronbach's alpha for attitudes is acceptable, this construct was accepted as such and taken into further consideration and analysis. The obtained results show satisfactory reliability of the measuring instrument (Table 3).

TABLE 3
Reliability of the
measuring instrument

Construct	N of items	Croatia			Türkiye		
		α	<i>M</i>	<i>sd</i>	α	<i>M</i>	<i>sd</i>
Attitudes (ATT)	5	0.656	3.57	3.26	0.756	3.41	4.35
Subjective Norms (SN)	5	0.911	1.49	3.77	0.871	1.59	3.77
Perceived Behavioural Control (PBC)	5	0.728	3.37	3.87	0.711	3.33	4.35
Intention (INT)	6	0.807	2.25	4.35	0.811	2.63	5.53

Note: α is Cronbach's alpha coefficient, *M* is items mean, *sd* is standard deviation in scale statistics.

Specifying the structural model is a key step in the development of the SEM model, where causal relationships and connections between latent variables are defined (Figure 2).

When testing the entire model, the model fit is initially examined. Thus, after the analysis was performed, the values shown in Table 4 were obtained to assess the adequacy of the model fit. As evidenced, all the goodness-of-fit indices are in accordance with the recommended or acceptable values. Thus, it can be concluded that the model fit is acceptable and the model can be interpreted.

FIGURE 2
Structural model of
intention to follow
influencers

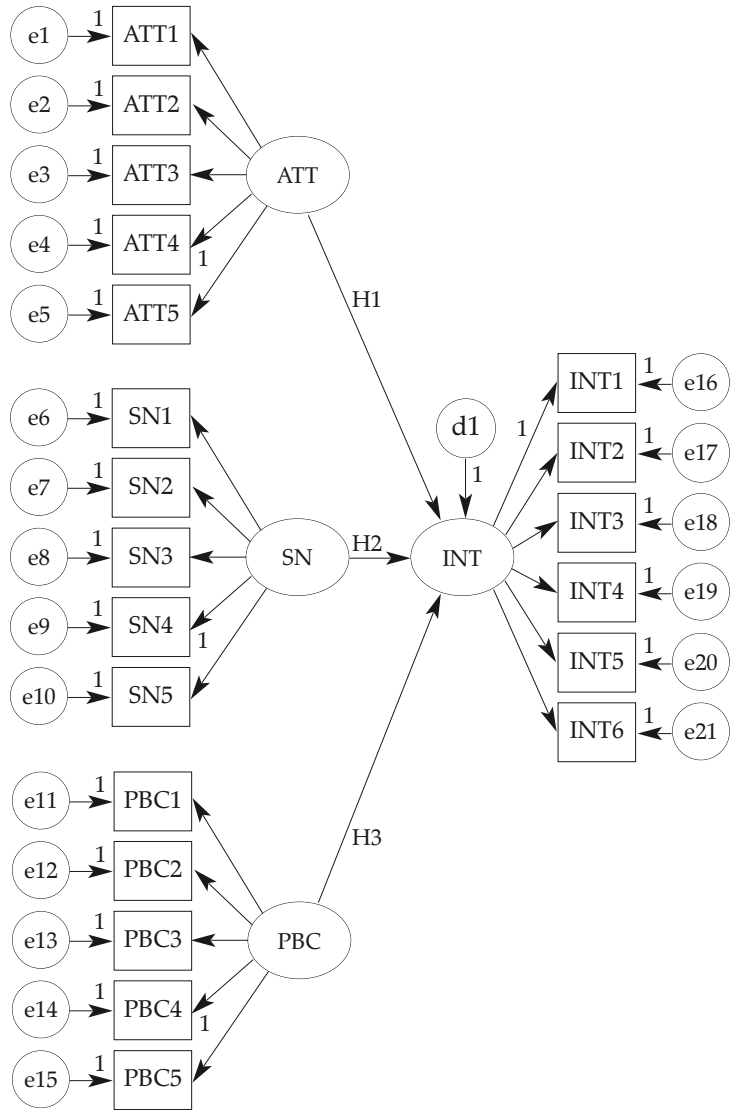


TABLE 4
Goodness-of-fit indices
of the research model

		Croatia	Türkiye	Value
χ^2/df	Chi-Square/Degrees of Freedom	2.438	1.289	Between 1 and 3
CFI	Comparative Fit Index	0.938	0.961	Acceptable ≥ 0.90 Recommended ≥ 0.95
TLI	Tucker-Lewis Index	0.919	0.951	Acceptable ≥ 0.90 Recommended ≥ 0.95
RMSEA	Root Mean Square Error of Approximation	0.063	0.046	< 0.06
SRM(S)R	Standardized Root Mean Square Residuals	0.090	0.087	< 0.08
GFI	Goodness of Fit Index	0.906	0.876	> 0.95 and > 0.90

Source: Author's work according to Hooper et al. (2008); Parry (2020).

TABLE 5
Hypotheses
interpretation of the
tested models

After the model is accepted, the connections in the model are tested. Table 5 shows the results of the tested hypotheses. Hypotheses H2 and H3 were confirmed in both models (Generation Z's subjective norms and perceived behavioural control towards influencer marketing have a significant positive impact on their intention to follow influencers in the future), while hypothesis H1 was confirmed in the Croatian model but not in the Turkish model (Generation Z's attitudes towards influencer marketing have a significant positive impact on their intention to follow influencers in the future).

Hypothesis	Relation	Croatia			Türkiye		
		SRW	P value	Interpretation	SRW	P value	Interpretation
H1	ATT → INT	0.196	0.018	Confirmed	-0.174	0.412	Not confirmed
H2	SN → INT	0.461	**	Confirmed	0.362	**	Confirmed
H3	PBC → INT	0.167	0.047	Confirmed	0.656	0.013	Confirmed

Note: ** $p < 0.001$; SRW – Standard regression weights

Moreover, Multigroup analysis (MGA) in SEM was performed to compare the structural paths of the model across different groups (Croatian and Turkish). Configural invariance was supported, indicating that the basic structure of the model is acceptable for both groups ($\chi^2 = 1.968$, CFI = 0.985, SRMR = 0.049, RMSEA = 0.044, TLI = 0.955, GFI = 0.992). By using the model comparison, results show that the covariances are significant, which indicates that there are no conflicting variables between the groups ($\chi^2 = 12.508^2$, $p = 0.000$). Furthermore, there is no statistically significant difference between the groups when attitudes ($\chi^2 = 1.741$, $p = 0.187$) and subjective norms ($\chi^2 = 0.881$, $p = 0.348$) are observed. In the case of perceived behavioural control, there is a statistically significant difference between the groups ($\chi^2 = 4.939$, $p = 0.024$). The Turkish group has a stronger perceived behavioural control than the Croatian group (SRW = 0.325 vs 0.114).

This study highlights differences in social media usage and influencer engagement among Generation Z in Croatia and Türkiye. Instagram is the preferred platform for Generation Z in both countries, with frequent daily use. Interestingly, Croatian respondents favour platforms such as Facebook, blogs, TikTok, and Pinterest, while Turkish respondents rather use Snapchat, Twitter, LinkedIn, and vlogs more often. In Croatia, female respondents show stronger beliefs in influencers' ability to shape opinions ($F = 13.702$, $p = 0.000$), are less concerned with others' perceptions of their influencer following ($F = 6.024$, $I = 0.015$), and have a higher intention to follow influencers in the future ($F = 4.569$, $I = 0.033$), which is likely influenced by

niche interests such as fashion and beauty. Additionally, lower-income respondents feel they have greater control over influencer engagement ($F = 4.019, I = 0.003$), possibly due to budget constraints and scepticism towards ads. Those who use fewer platforms also show a greater interest in following influencers ($F = 3.213, p = 0.000$), possibly due to selective content consumption. In Türkiye, only one significant difference emerged: students who work are more inclined to follow influencers than those who only study ($F = 8.058, I = 0.005$), possibly due to professional networking or free-time content consumption.

The second part of the research was qualitative and included two focus groups, one with Croatian and one with Turkish participants. As previously stated, the research was conducted on individuals who were born between 1996 and 2000. The results of the focus group interviews are presented in Table 6, where the responses are categorised into specific constructs of the Theory of Planned Behaviour.

TABLE 6
Key constructs findings

Constructs	Croatia	Türkiye
Attitudes	Participants do not trust influencers, they believe that influencers publish sponsored content rather than content that interests influencers themselves. Participants also believe that influencers do not affect their attitudes and decisions, but do affect the wider audience.	Participants believed in influencers when they first appeared, but, in time, as influencers started to receive payments or promotions for advertising, participants' belief in influencers has undermined. Nevertheless, participants stated that influencers affect them, the whole society (especially children), and create a uniform society.
Subjective norms	Participants do not think about how family, friends, and the environment will think of them if they follow influencers, copy them, or buy products that the influencer advertises.	While subjective norms are important for half of the participants in terms of following and being impacted by influencers, participants' personal opinions and attitudes are at the forefront for the other half. Participants are most influenced by their friends and families.
Perceived behavioural control	Opinions are divided: some participants believe that they follow a certain influencer in a targeted manner depending on the content they publish, and that influencers do not affect them, while other participants do not think about the possible control that influencers have on their purchasing decisions	Half of the participants stated that influencers had an impact on them, but not as much as before. Others stated that their willingness and consumer awareness were high and that they were not affected by influencers. Following influencers may vary periodically according to the needs of individuals. Also, participants unfollow influencers from time to time.

According to the results of the focus group interviews, it seems that the participants from both countries do not trust influencers to a great extent, but they do follow them and are influenced by them. Personal views and opinions seem to be more important than subjective norms for participants from

both countries. Interestingly, the influence of friends is more prominent in Türkiye. When comparing the perceived behavioural control, the participants follow influencers to a large degree but are not fully influenced by them. There seems to be a decrease in interaction among participants and influencers, especially in Türkiye. This situation may vary according to the specific characteristics of the person being followed.

DISCUSSION OF THE HYPOTHESES

Among Croatian Generation Z, positive attitudes towards influencer marketing significantly increase their intention to follow influencers (also confirmed by Balaban et al., 2020), whereas this effect is absent for the Turkish Generation Z. Turkish Generation Z's declining trust in influencers, which is likely rooted in traditional values and scepticism, reduces their engagement with influencers (also, Nguyen et al., 2022, asserted trust to be an essential factor which affects individuals' attitudes). This difference aligns with Hofstede's cultural dimension of individualism vs collectivism. Individualism and collectivism are dimensions that describe whether people prefer to live and work independently or in a collective (Hofstede, 1980). Although both countries are collectivist, Croatia's lower individualism score (CRO 42 vs. TUR 46) (The Culture Factor Group, 2024) supports independent decision-making and personal attitudes that directly impact behaviour. In Türkiye, collectivist norms are stronger, aligning individual behaviour with family and community expectations. Despite these cultural distinctions, Multigroup analysis indicates that the impact of attitudes on following influencers is generally consistent across both groups, which suggests that the influence of attitudes on their intention to follow influencers in the future is consistent regardless of the group.

Subjective norms, or the influence of social circles, have a significant positive effect on Generation Z's intention to follow influencers in both Croatia and Türkiye. However, while family, friends, and the environment have a limited impact overall, the influence of friends is somewhat stronger in Türkiye, especially among the older Generation Z (the focus group). This aligns with the cultural patterns (if observing Hofstede's cultural dimension of individualism vs collectivism): Turkish Generation Z is more affected by strong family ties and tradition-based social norms, whereas Croatian Generation Z, influenced by Western European individualism, shows less reliance on collective expectations. Despite these cultural nuances, Multigroup analysis found no significant differences between the groups in terms of subjective norms' impact on following influencers.

Perceived behavioural control significantly, though modestly, affects Generation Z's intention to follow influencers in both Croatia and Türkiye. However, this impact is stronger among the Turkish Generation Z, indicating that an increase in perceived behavioural control has a greater effect on their influencer-following intentions (if the Multigroup analysis is observed). Based on the focus group, Turkish participants are not as affected by influencers and their choice of influencers varies according to their needs, while this is not the case with Croatian participants. When considering individualism and collectivism, it can be concluded that in collectivist cultures such as Türkiye, individuals are often more aware of the social norms and values expected within their community. Although young people in Türkiye are active users of social networks, they tend to be more selective, choosing influencers based on their personal needs, aligning with Türkiye's collectivist culture in which individuals are mindful of community norms. In contrast, Croatian Generation Z, influenced by European individualism and trends, is more readily influenced by popular culture and follows influencers with less scepticism.

CONCLUSION

Influencer marketing strongly impacts Generation Z, influencing their purchasing choices and attitudes. However, Generation Z's trust in influencers is waning. The research question was: Are there differences between Turkish and Croatian Generation Z when observing the Theory of Planned Behaviour and influencer marketing? The results of this research show that there are no big differences in most relationships. Influencer marketing is an important aspect of Generation Z's lives in both countries. Nevertheless, there are minor nuances that present challenges for brands and influencers in both countries.

The practical implications of this study can be observed according to communication styles and the adaptation of content and marketing strategies of brands and influencers. In Türkiye, individuals favour shorter and faster forms of communication, such as Twitter. Additionally, vlogs, which provide a more personal and visual form of expression, may also be more appealing to Turkish Generation Z, while Facebook and TikTok are preferred in Croatia. Instagram is the social platform which is at the forefront for Turkish and Croatian Generation Z. For brands in Croatia and Türkiye to successfully reach Generation Z, they need to adapt their marketing strategies to the different cultural contexts. Brands targeting Croatian Generation Z should focus on individualism and self-expression, while in Türkiye the emphasis should be on community-oriented messages. Influencers' content in Croatia

should focus on personal development, while in Türkiye they should focus their activities on solidarity and social contribution, as well as on creating content that is in line with socially accepted values and norms. Brands and influencers could use these findings to adjust campaigns or choose platforms.

The theoretical contribution can be looked at from several different standpoints. Firstly, this research fills a gap in the literature by providing important insights into how cultural context drives the impact of influencers. Secondly, after having analysed Generation Z's perceptions of influencers in both countries, it became clear that cultural sensitivity should become a part of marketing strategies. This expands the theoretical knowledge to understand the impact of cross-cultural marketing strategies and provides a framework for marketers to develop effective campaigns in different cultures. Finally, while this research affirms the use of the Theory of Planned Behaviour as an effective model in marketing strategies, it also reveals how the Theory of Planned Behaviour differs when considering cultural factors. These contributions provide key insights into developing more effective marketing strategies both in theory and in practice.

LIMITATIONS AND FUTURE RESEARCH

The limitations of this research are primarily based on the sample for the research, as it is difficult to generalise the results due to a sample that is representative of one institution but not the entire country. Consequently, the intention for future research is to include a more diverse sample or broader geographical regions within each country. Additionally, this research is based on two countries only. Future research should include other countries, especially those countries that are culturally closer. Furthermore, the study focuses specifically on Generation Z (1996–2006). Although, according to McKinsey (2023), Generation Z has a wide age range, from 1996 to 2010, this research specifically lacks Generation Z individuals born between 2006 and 2010, or the NEET generation (*Not in education, employment, or training*). Future research should focus on other generations and examine whether there are differences between them. Furthermore, this research is based on the Theory of Planned Behaviour, but future research requires the inclusion of some additional influential factors that may affect the relationships between the variables, such as personal relevance, inspiration, trust (Chopra et al., 2021) or self-identity (Magrizos et al., 2021). Future research could also explore how the rapid change in social media platforms over time impacts influencer dynamics and engagement. Moreover, the questionable value of Cronbach's alpha coefficient (0.656) for attitudes suggests a problem with the internal con-

sistency of the scale. The suggestion is to include new items to the construct, such as attitudes towards trust in influencer recommendations: "I believe that influencers share useful and reliable information about products and services.", perceptual connections between influencers and followers: "I believe that influencers understand the needs and interests of their followers.", and influence on social norms and values: "I believe that influencers have an impact on social norms and values among young people."

Although the study primarily focused on perceived behavioural control from the followers' perspective, several items of the construct referred to the ease of achieving influencer status and not exclusively to the followers' perspective. To ensure greater precision in future research, it is recommended that the instrument is modified so that the items focus solely on the follower's perspective, which would ensure a more consistent and valid assessment of the construct. A final limitation of the paper is that once the respondents were asked about influencers, there was no limitation as to the influencers' niche, meaning that respondents could think of any influencer from any niche when answering. Future research ought to be more specific and consider influencers from only one niche. The additional recommendation for future research is to conduct a longitudinal study where, after a certain period of time, research will be conducted on the same respondents in order to examine their actual behaviour of following influencers. This approach will allow researchers to gain insight into how intentions can predict actual behaviour and how marketing strategies can be tailored to better engage Generation Z.

NOTES

¹ $\alpha > 0.90$ is excellent, $0.80 < \alpha < 0.90$ is good, $0.70 < \alpha < 0.80$ is acceptable, $0.60 < \alpha < 0.70$ is questionable, $0.50 < \alpha < 0.60$ is poor, $\alpha < 0.50$ is unacceptable.

² According to Collier (2020), every value with 1 df (Degree of freedom) above 3.84 means that it is significant at the 0.05 level ($\Delta\chi^2/1 \text{ df} = 3.84 \text{ } p < 0.05$).

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Influencerski marketing: međukulturalna studija generacije Z u Hrvatskoj i Turskoj

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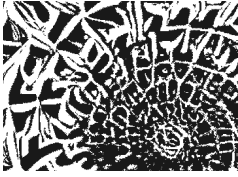
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Koristeći se Teorijom planiranoga ponašanja, rad analizira kako influencerski marketing utječe na generaciju Z u dvije zemlje: Hrvatskoj i Turskoj. Cilj ovog istraživanja jest ispitati utječu li stavovi, subjektivne norme te percipirana kontrola ponašanja generacije Z na njihove namjere praćenja influencera u budućnosti. Istraživanje je provedeno uz pomoć upitnika i fokus-grupa. Konfirmatorna faktorska analiza i modeliranje strukturalnih jednadžbi iskorišteni su za testiranje hipoteza i odnosa između varijabli. Subjektivne norme i percipirana kontrola ponašanja pozitivno utječu na namjeru generacije Z da u budućnosti u obje zemlje slijedi influencera, dok stavovi s obzirom na influencerski marketing pozitivno utječu na hrvatsku generaciju Z, ali nemaju značajan utjecaj u slučaju turske generacije Z. Rezultati ovog istraživanja omogućit će brendovima u Hrvatskoj i Turskoj prilagodbu sadržaja i dizajna kampanja, uzimajući u obzir preferencije influencera i kulturne trendove generacije Z, čime će im se olakšati pronalaženje i angažiranje ciljane publike.

Ključne riječi: Teorija planiranoga ponašanja, generacija Z, influencerski marketing, fokus-grupa



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CHANGES IN THE DEMOGRAPHIC DEPRESSION INDEX BY SETTLEMENTS OF CROATIA IN THE INTER- -CENSUS PERIOD 2011–2021

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The long-term decrease in the total number of inhabitants, the ageing of the population and the social marginalisation of rural areas have caused negative demographic trends in almost the entire Croatia. The concepts of extinction, demographic depression, and demographic endangerment are most often associated with the phenomenon of demographic decline and economic decline in settlements. This paper compares the demographic depression index (I_{DD}) by settlements in Croatia for the 2011–2021 period, based on 11 demographic criteria defined by Mrđen and Marić (2018). The average I_{DD} value of all settlements in Croatia for 2011 was 2.22 (depressed/edge of demographic depression), while for 2021 it was 2.20. The largest share of settlements for both 2011 and 2021 belongs to demographically depressed area. The smallest share of settlements belongs to the category of extremely vital area. If the absolute change in the number of settlements by I_{DD} is observed, the largest increase was recorded in the demographically depressed area, and the largest decrease was recorded for the edge of demographic depression. The categories of vital and extremely vital areas did not register an increase. I_{DD} can be applied in the analysis, i.e., recognition of the demographic resources of an area with the aim of reducing inequality in socio-economic development, i.e. spatial imbalance.

Keywords: demographic depression, depopulation, ageing, Croatia



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INTRODUCTION

Today, demographic ageing is a widely discussed issue in Europe and worldwide, especially regarding the impact of an increasing share of the elderly population on the functional organisation of society (Stoica, 2011). The contemporary demographic development of the Republic of Croatia (RH) is characterised by a general depopulation that began in the second half of the 19th century in Lika and Gorski Kotar (Lajić & Klempić Bogadi, 2010). The long-term decrease in the total number of inhabitants – resulting from natural depopulation and a negative migration balance – along with population ageing and the socio-political and economic marginalisation of rural areas, has led to negative demographic trends throughout much of Croatia (Nejašmić, 2008). Terms such as "extinction" (Drobnjaković et al., 2014), "demographic depression" (Nejašmić, 1990; Mrđen & Marić, 2018; Marić et al., 2020), "demographic threats" (Zupanc, 2004; Vojnović, 2016), and "socio-demographic depressions" (Nejašmić, 1991; Nejašmić & Toskić, 2016) are frequently associated with demographic decline and the economic downturn of settlements in the Republic of Croatia.

Nejašmić and Toskić (2016, p. 203) describe socio-demographically depressed areas as regions that were *affected long ago by rural exodus and depopulation and were also heavily impacted by the direct consequences of war in the 1990s*. However, the ageing of rural populations is also characteristic of other post-socialist countries in Central and Eastern Europe (Guran-Nica & Rusu, 2015; Nejašmić & Toskić, 2016; Pantić & Živanović-Miljković, 2010; Traykov & Naydenov, 2015; Avdić & Avdić, 2023). Although demographic ageing is primarily a demographic phenomenon, its consequences extend to numerous aspects of society (Lutz et al., 2008). The direct and indirect trends resulting from it contribute to the decline of overall "human capital", which reflects the sustainability of a spatial unit (Filimon & Filimon, 2011) and serves as a driver of its socio-economic development (Nejašmić & Mišetić, 2010).

According to the latest census (2021), 195 settlements with no permanent residents and 2,933 settlements with populations between 1 and 100 inhabitants were recorded in the Republic of Croatia. Altogether, these 3,128 settlements cover an area of 19,732.68 km², which is just under 35% of Croatia's land area. Additionally, the fact that 2,907 settlements (43.02%) in Croatia have a population density of ≤ 20 inhabitants/km² highlights the extent of this demographic decline.

Within each territorial system, adaptation occurs based on its complex development potentials, often resulting in the migration of young people and the workforce from less favourable areas to more attractive ones (Filimon & Filimon, 2011). The direct consequences of this phenomenon frequently manifest

as demographic risks for predominantly rural, peripheral settlements, which, in the worst-case scenario, may lead to settlement extinction. This extinction is typically preceded by *population ageing*, defined as an increase in the proportion (%) of the elderly population (65+) within the total population. This process, influenced by extended life expectancy, youth emigration, and declining fertility rates, directly and indirectly contributes to demographic shifts (Čipin et al., 2014).

The long-term process of population ageing can lead to demographically depressed settlements, characterised by a dominant elderly population and an absence of younger and mature age groups (Mrđen & Marić, 2018). In such areas, the population typically exhibits a weakened educational and biological structure (Pejnović, 2004), which makes demographic 'revitalisation' challenging (Nejašmić & Mišetić, 2010; Mrđen & Marić, 2018; Marić et al., 2020). The consequences of this can vary, including economic impacts (labour shortages, economic imbalances, reduced consumption, inflation, and higher taxes on the working population), social effects (emigration and loss of central functions), and natural outcomes (changes in landscape structure) (Pantić & Živanović-Miljković, 2010; Mečev & Vudrag, 2012; Hospers & Reverda, 2014).

This issue has been increasingly discussed in geographical, and especially demographic, literature over recent decades (Filimon & Filimon, 2011; Nejašmić & Mišetić, 2010; Guran-Nica & Rusu, 2015; Mrđen & Marić, 2018) due to its relevance to community sustainability and vulnerability. Notably, the demographic resources (potential) of an area play a crucial role in mitigating socio-economic disparities and addressing spatial imbalances. Retaining and attracting new residents is essential for the economic success of rural communities. Rural areas experiencing population decline face several challenges, the most prominent being a reduction in the labour force and an increased demand for health services (Filimon & Filimon, 2011). The most significant contribution to the assessment of demographic resources in the Republic of Croatia was made by Nejašmić and Mišetić (2010), who developed a specific indicator – the index of demographic resources (I_{DER}) – based on 15 variables. Mrđen and Marić (2018) subsequently derived a synthetic index of demographic depression based on 11 demographic criteria.

The main objectives of this research are:

- 1) Derive the I_{DD} based on 11 defined criteria for the year 2021
- 2) Compare the spatial distribution of I_{DD} by settlements between the two population censuses (2011 and 2021)
- 3) Determine the most vital and demographically depressed settlements in Croatia.

MATERIALS AND METHODS

Demographic depression index (I_{DD})

Definition of the criteria

In defining the index of demographic depression (I_{DD}), the methodological approach described by Mrđen and Marić (2018) was applied, with modifications made to the criteria standardisation method. In Mrđen and Marić (2018), criteria were classified using the natural breaks (Jenks) method, followed by a manual adjustment of the third class to align with the Croatian average. However, this approach is not applicable for comparing I_{DD} between census periods or across different countries. Using the Jenks method would result in varying class break values for the I_{DD} models derived for 2011 and 2021, making comparisons impossible. Therefore, classification was conducted using the decision-maker method, proposing fixed class boundaries for each criterion, consistent across both years (2011 and 2021).

The first three criteria (for the intercensal periods 2001–2011 and 2011–2021) were selected as key demographic criteria impacting the final balance, that is, the increase, stagnation, or decrease of the total population (Wertheimer-Baletić, 2017). Criteria ranging from 4 to 10 were chosen due to their recognised importance in population ageing analysis and their precise indication of ageing trends within a given area.

- 1) As – Increase/decrease in the number of inhabitants during the intercensal period
- 2) Pr – Natural change in the intercensal period
- 3) Mb – Migration balance in the intercensal period
- 4) Pd – Average age
- 5) Ins – Age index
- 6) Post_0-14 – Percentage of the population aged 0-14
- 7) Post_65 – Percentage of the population aged 65 and over
- 8) Post_80 – Percentage of the population aged 80 and over
- 9) Coef_dov_st – Coefficient of age dependence of the elderly
- 10) Post75_u65 – Percentage of the population aged 75 and over within the age group of 65 and over
- 11) Number of inhabitants – Corrective factor

From a methodological perspective, it is necessary to clarify the use of the seventh and eighth criteria. These criteria provide a deeper insight into the intensive demographic ageing of the population, particularly evident from the share of those aged 80 and over. According to the 2011 census, this age group constituted 3.9% of Croatia's population, rising to 5.5% (just over 200,000 people) in 2021. Furthermore, the extent of ageing becomes especially apparent when comparing this group

to the number of children under five years of age at the settlement level. In the latest census, it appears that in as many as 46% of settlements (or 4,070 out of a total of 6,562, excluding those without inhabitants), the population aged over 80 exceeds that of children under five. This trend indicates a significantly weakened or absent demographic base, suggesting that many settlements are at risk of depopulation. Consequently, criterion eight was essential in deriving the I_{DD} .

In calculating the ninth criterion (coefficient of age dependence), the age categories of the working-age population, defined here as individuals aged 15-64 years, and the elderly population, aged 65+ years, were used. Although it is documented that age-dependence criteria and its variations have certain limitations (Koettl, 2015), it was included in the analysis. The decision to use the age 65+ category was based on the current retirement age for pensioners in Croatia (Špiljak, 2023), making this age threshold appropriate for comparison with the 2011 data. In future research, this criterion will need to be modified to more accurately reflect the labour market situation, as static ratios do not account for behavioural changes, increasing life expectancy, or evolving retirement policies.

The results of the 2011 and 2021 censuses, along with vital statistics data for analysing natural trends, were used, and the migration balance was calculated using the vital statistics method.

Defining the territorial basis of I_{DD}

The official borders of Croatia's 6,756 settlements from 2011 were used as the basis for displaying the index of demographic depression (I_{DD}). According to the 2021 census, 27 new settlements were created, while 26 former settlements ceased to exist. Table 1 shows the changes in settlement structure between the two censuses (2011 and 2021).

Most of the listed settlements were established within the three years leading up to the 2021 census (from 2019). Of these 27 new settlements, three have no inhabitants, two have fewer than 10 inhabitants, and six have fewer than 100 inhabitants. Since there is no data from the 2011 census for these 27 settlements, and data from the intercensal period (e.g., 2011–2021) are needed to calculate the first three criteria, it was not possible to calculate values for these criteria. In such cases, these settlements were excluded from the analysis. For this reason, the I_{DD} was based on the 2011 settlements, without the new settlements as separate elements. For example, in the 2021 I_{DD} model, Podstrana is represented as a single settlement rather than divided into its ten new subdivisions. Conversely, the settlement of Cerovljani, created by merging Donji and Gornji

Cerovljani, is shown as one settlement in 2021. By choosing the 2011 settlement boundaries as the basis for I_{DD} display, data from the 2011 census for Donji and Gornji Cerovljani (both total and by five-year age groups) were aggregated to ensure comparability with the single settlement of Cerovljani from 2021. Although the 2021 settlement base was not used to display the I_{DD} , no residents were 'left out' of the analysis.

TABLE 1
Changes in the structure of settlements between the two censuses (2011 and 2021)

New settlements in the 2021 census				Settlements that are not in the 2021 census			
ID	County	City/ Municipality	Settlements	ID	County	City/ Municipality	Settlements
76651	SM	Hrvatska Dubica	Cerovljani	2348	I	Buzet	Benčići
76660	LS	Novalja	Jakišnica	5118	KZ	Zabok	Bregi Zabočki
76678	LS	Novalja	Dubac-Varsan	13161	SM	Hrvatska Dubica	Donji Cerovljani
76686	LS	Perušić	Varoš	16004	I	Buzet	Duričići
76694	SD	Milna	Podhume	20338	SM	Hrvatska Dubica	Gornji Cerovljani
76708	SD	Milna	Bobovišća na moru	21911	KZ	Zabok	Grabrovec
76716	ZD	Tkon	Ugrinić	30236	KA	Rakovica	Korana
76724	ZD	Jasenice	Maslenica	30686	I	Buzet	Kosoriga
76732	ZD	Jasenice	Rovansjka	31038	I	Buzet	Kotli
76759	VA	Jalžabet	Poduzetnička Zona Jalžabet	31801	I	Buzet	Kras
76767	SD	Podstrana	Podstrana – Žminjača	32514	I	Buzet	Krkuž
76775	SD	Podstrana	Podstrana – Sita	32760	I	Buzet	Krti
76783	SD	Podstrana	Podstrana – Strožanac Donji	33120	CZ	Zagreb	Kučanec
76791	SD	Podstrana	Podstrana – Strožanac Gornji	37826	I	Buzet	Mala Huba
76805	SD	Podstrana	Podstrana – Miljevac	39667	I	Buzet	Martinci
76813	SD	Podstrana	Podstrana – Grljevac	47333	I	Buzet	Pengari
76821	SD	Podstrana	Podstrana – Grbavac	49379	I	Buzet	Podkuk
76830	SD	Podstrana	Podstrana – Sv. Martin	49549	I	Buzet	Podrebar
76848	SD	Podstrana	Podstrana – Mutogras	49719	SD	Podstrana	Podstrana
76856	SD	Podstrana	Gornja Podstrana	55255	I	Buzet	Rimnjak
76864	SD	Marina	Sevid na moru	57673	I	Buzet	Sirotići
76872	SD	Marina	Ljubljeva	59137	I	Buzet	Sovinjsko Polje
76899	CZ		Vugrovec	61646	I	Buzet	Sušići
76902	ZD	Sv. Filip i Jakov	Babac	71463	CZ	Zagreb	Vuger Selo
76929	ZD	Pašman	Barotul	71498	CZ	Zagreb	Vugrovec Donji
76937	SD	Zadvarje	Dubci	74829	PG	Rijeka	Bakar
76643	KZ	Zabok	Bregi Zabočki Donji				

SM – Sisak-Moslavina, LS – Lika-Senj, SD – Split-Dalmatia, CZ – City of Zagreb, ZD – Zadar, I – Istria, KZ – Krapina-Zagorje, KA – Karlovac, PG – Primorje-Gorski Kotar

Source: *Promjene u teritorijalnom ustroju Republike Hrvatske u razdoblju 2011.–2021.* DZS / Prostorni statistički registar. (Changes in the territorial structure of the Republic of Croatia in the period 2011–2021, SSO / Spatial Statistical Register).

Criteria standardisation

The criteria defined and derived for 2011 were obtained from the database by Mrđen and Marić (2018). Consequently, it was necessary to calculate all criteria for 2021 using updated data. After organising the database and calculating each criterion, they were standardised using the decision-maker method, re-

presenting a methodological modification relative to Mrđen and Marić (2018). Standardisation is essential for comparing criteria expressed in different units (e.g., ‰, population, ‰, etc.) on a uniform numerical scale (Marić et al., 2021). The standardisation was applied on a scale from 1 to 5, with each class assigned a specific meaning:

- (5) extremely vital area
 - (4) vital area
 - (3) an area on the edge of demographic depression
 - (2) demographically depressed area
 - (1) extremely demographically depressed area
- Category (0) represents extinct settlements for 2011 and 2021.

Class boundaries for each criterion were defined using the decision-maker standardisation method (Domazetović et al., 2019; Pohekar & Ramachandran, 2004). Since, to the best of the author's knowledge, no predefined class boundaries for the selected criteria exist in the literature to indicate whether a certain area is demographically 'vital' or 'depressed,' it was decided to propose the first such classification. While class definitions could also be determined using the natural breaks method (Jenks' method), this approach would result in different class limits for the 2011 and 2021 criteria. The reason is that the Jenks method seeks to minimise the average deviation of values within each class from their respective means, while maximising the deviation between classes. This would lead to different classifications for model 1 (I_{DD} 2011) and model 2 (I_{DD} 2021), making comparison and change analysis impossible. If the Jenks method were used for the 2011 criteria, and these class breaks were then applied to 2021, comparison would be possible. However, this approach would risk mismatches between the numerical values of a criterion and its thematic meaning. For example, Jenks' method, given Croatia's demographic challenges, might classify an age of 37 as 'extremely vital', which is clearly inaccurate. Therefore, this paper proposes custom class boundaries that appropriately describe the thematic meanings (e.g., 'vital', 'depressed') for each criterion. This approach, representing a modification of the Mrđen and Marić (2018) methodology, enables a valid comparison of I_{DD} between the two censuses. The absence of predefined class boundaries reflecting these thematic categories (e.g., 2 – *vital*, 4 – *demographically depressed*, 5 – *extremely demographically depressed*) highlights the contribution of this proposal, which future research may adapt based on new demographic insights. Consistent class boundaries for both periods studied (2011 and 2021) are essential.

Among the settlements classified as (1) extremely depressed areas, those that are even more socio-economically vulnerable

due to limited or absent basic central functions can be highlighted. Terms often associated with the socio-economic vulnerability of such settlements include 'remoteness', 'accessibility', and 'marginalisation' (Alsnih & Hensher, 2003; Taylor & Susilawati, 2012; Hasan et al., 2017; McLean et al., 2007).

TABLE 2
Classification of selected criteria according to standardised categories

Categories	As	Pr	Mb	Pd	Ins	Post_0-14
5	> 10.0	> 5.0	> 5.0	up to 30.0	up to 20.0	>25.0
4	2.1 - 10.0	2.1 - 5.0	2.1 - 5.0	30.1 - 35.0	20.1 - 50.0	20.1 - 25.0
3	- 2.0 up to +2.0	- 2.0 up to +2.0	- 2.0 up to +2.0	35.1 - 40.0	50.1 - 90.0	10.1 - 20.0
2	-2.1 up to -10.0	-2.1 up to -5.0	-2.1 up to -5.0	40.1 - 50.0	90.0 - 140.1	5.1 - 10.0
1	< - 10.0	< - 5.0	< - 5.0	>50.0	> 140.0	up to 5.0

Categories	Post_65	Post_80	Coef_dov_s	Post75_u65	No. of inhabitants
5	up to 5.0	up to 2.0	up to 5	up to 25.0	> 5000
4	5.1 - 10.0	2.1 - 4.0	5.1 - 20	25.1 - 30.0	2001-5000
3	10.1 - 20.0	4.1 - 10.0	20.1 - 40	30.1 - 40.0	401-2000
2	20.1 - 30.0	10.1 - 15.0	40.1 - 50	40.1 - 50.0	51-400
1	> 30.0	> 15.0	>50	> 50.0	0-50

(5) – extremely vital area; (4) – vital area; (3) – an area on the edge of demographic depression; (2) – demographically depressed area and (1) – extremely demographically depressed area

RESULTS AND DISCUSSION

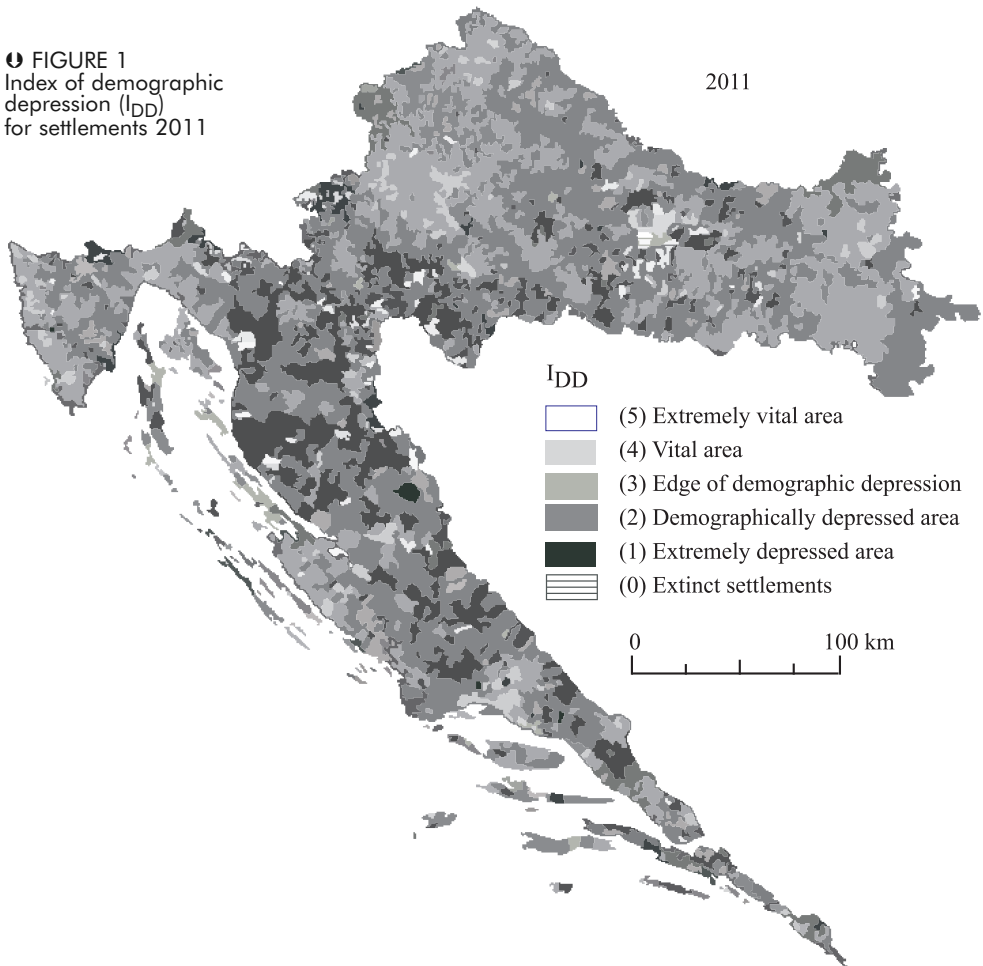
Index of demographic depression (I_{DD}) 2011

Figure 1 shows the index of demographic depression (I_{DD}) for 2011. In 2011, based on all 11 criteria, a total of 44 settlements exhibited characteristics of an extremely depressed area (category 1). Among these, four settlements had only one enumerated inhabitant. These settlements are: Bijeli Klanac, Valići, Zut, and Bucalovići. They can be considered the most depressed settlements in Croatia in 2011.

The settlement of Valići is located in the municipality of Jelenje (Primorje-Gorski Kotar County) on the eastern bank of the Rječina River, near the reservoir of the artificial Lake Valići, which was created by the construction of the hydroelectric power plant (HPP) that has been generating electricity since 1968. The houses of the Valići settlement are mostly submerged under the lake, and the resident listed in 2011 is one of the few whose house was not flooded (URL 1). Bijeli Klanac is a settlement in the municipality of Krnjak, Karlovac County. According to the 1991 census, Bijeli Klanac had 31 inhabitants, all of Serbian nationality (URL 2). The village of Zut is part of the municipality of Dvor (Sisak-Moslavina County). According to the 1991 census, Zut had 145 inhabitants, 142 of whom (97.93%) were of Serbian nationality (URL 3). Bucalovići is a village in the municipality of Višnja, Istria County. In

the 1991 census, it had 16 inhabitants, half of whom were of Italian nationality (URL 4). Bucalovići is recognised on the Geografija.hr portal as one of the most demographically threatened settlements in Istria (URL 5).

FIGURE 1
Index of demographic
depression (I_{DD})
for settlements 2011



Source: Calculated in Mrđen and Marić (2018); modified according to the defined classification

The category of *extremely vital* area (5) for 2011 includes 12 settlements. Out of those 12 settlements, not a single settlement has the characteristics of an extremely vital area according to all 11 criteria (5). Based on the I_{DD} , the four demographically most vital settlements in Croatia for 2011 are Parag, Piškorovec, Krničari and Dedin. Parag and Piškorovec are the only two settlements in Croatia that are inhabited exclusively by the Roma population. The settlement of Parag was separated from the settlement of Trnovec in the municipality of

Nedelišće in 2005. In the same year, the Piškorovec district was separated from the Držimurec settlement in the municipality of Mala Subotica. According to the 2011 census, Parag had 1,187 inhabitants, while Piškorovec had 672 inhabitants (Šlezak, 2022). Dedin is a settlement in the town of Delnice in the Primorje-Gorski Kotar County. According to the 2011 census, it had 93 inhabitants. The City of Delnice relocated a small number of families who did not have accommodation in the town to the area of the Dedin settlement and equipped the land with containers and caravans (URL 6). In the document *Action Plan of the City of Delnice for the implementation of the national strategy for the inclusion of Roma for 2017–2020*, it is stated that 13 Roma live in Dedin I and Dedin II (parts of the Dedin settlement) out of 93 inhabitants. However, it is stated that a certain number of people do not want to declare themselves as Roma, even though they belong to that group (URL 6). The village of Krničari is located in the Municipality of Žminj, in the County of Istria. According to the 2011 census, it had 96 inhabitants, of which 25% belong to the Albanian national minority.

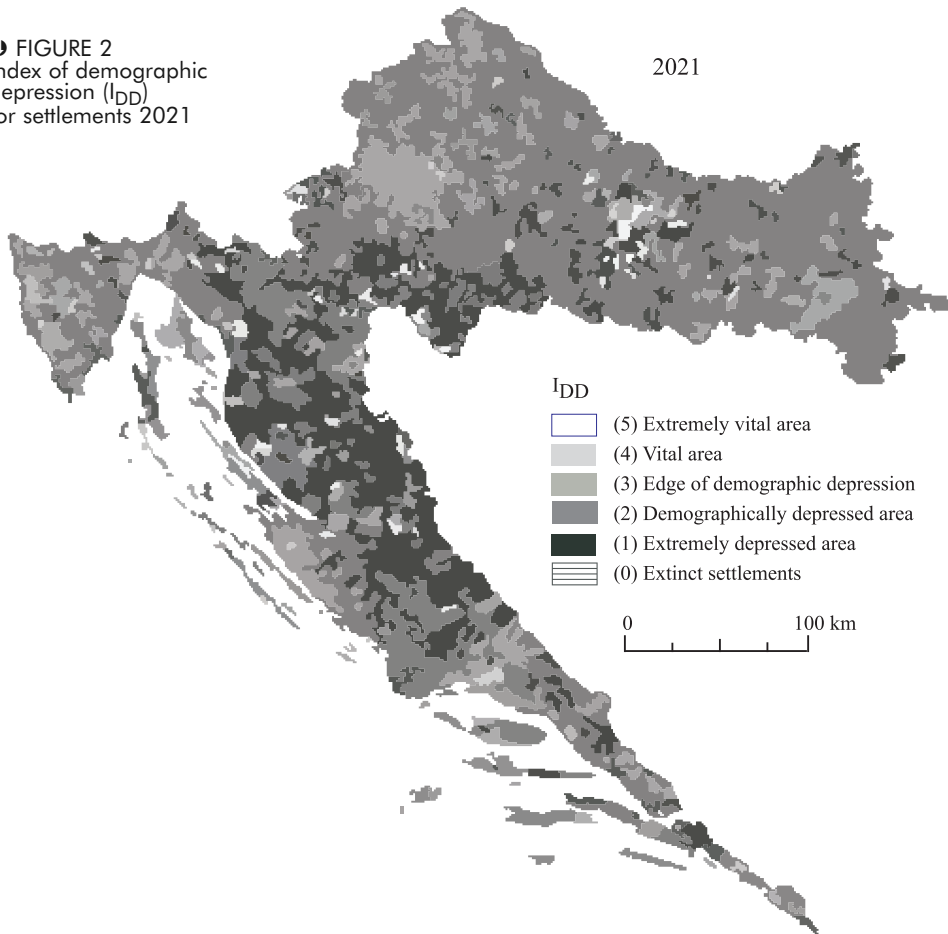
Index of demographic depression (I_{DD}) 2021

Figure 2 shows the index of demographic depression (I_{DD}) for 2021. In that year, based on all 11 criteria, a total of 83 settlements fell into the category of extremely depressed areas (category 1). Among these, eight settlements had only one enumerated inhabitant. These settlements – Bandino Selo, Ponor Korenički, Donja Stranica, Kraljevo Selo, Štirkovac, Kamenski Vučjak, Mala Kosa, and Tihočaj – can be considered the most demographically depressed settlements in the Republic of Croatia in 2021.

The village of Bandino Selo is located in the town of Slunj, Karlovac County. According to the 2011 Census, the settlement had six inhabitants, most of whom were of Serbian nationality. Ponor Korenički, part of the Plitvička Jezera Municipality in the Lika-Senj County, had one resident in the 2021 census, thus not classified as an 'extinct settlement'. A short film titled *Lika baš danas – ličko selo Korenički Ponor koje je izumrlo* was made about Korenički Ponor, highlighting its near-extinct status (URL 7). Kraljevo Selo is situated in the Bosiljevo Municipality, Karlovac County, and had 41 inhabitants in the 1991 census but only four in 2001. This sparsely populated area, characterised by small, fertile plots scattered along slopes, has many small settlements due to its unique inheritance patterns (Turk et al., 2022). Furthermore, wartime conditions significantly reduced the population in Bosiljevo and other municipalities in the Karlovac County (Prostorni plan uređenja Općine Bosiljevo, 2018). This applies also to Štirkovac and Mala

Kosa in Barilović Municipality, which each had fewer than 20 residents in 1991, all of Serbian nationality. Kamenski Vučjak, located in the Brestovac Municipality, Požega-Slavonia County, had 89 residents in 1991 and is listed among the settlements destroyed in PSC during the Homeland War (URL 8). Tihočaj, in Jastrebarsko, Zagreb County, within the Žumberak-Samosor Hills Nature Park, experienced significant emigration in the 1950s (URL 9).

FIGURE 2
Index of demographic
depression (I_{DD})
for settlements 2021



The category of *extremely vital area* (5) for 2021 includes five settlements. Of these five settlements, not a single settlement has the characteristics of an *extremely vital area* according to all 11 criteria (5). According to the I_{DD} , the four most demographically vital settlements in Croatia based on the data for 2021 are Piškorovec, Parag, Donje Vratno-dio, Dedin and Veliko Polje. Piškorovec, Parag and Donje-Vratno are part of the settlements that were recognised as the most vital settlements. However, the settlements of Piškorovec and Parag have

a slightly lower I_{DD} in 2021 compared to 2011. In 2021, both settlements had an I_{DD} of 4.45 (*vital/extremely vital area*), while in 2021 Parag had 4.82 (*extremely vital area/vital*), and Piškorovec had 4.64 (*extremely vital area/vital*). So, although the settlements did not change the I_{DD} category, there was a slight decline in vitality, i.e. an increase in demographic depression. Šlezak (2022) writes about this in the paper *Where have the Roma gone? Reflecting on the first results of the 2021 census on the example of a comparison of the natural and total population trends of the Roma settlements of Parag and Piškorovec in Međimurje County*. He concludes that the 2021 census recorded much fewer inhabitants than expected and there are two possible reasons for this: 1) the population census was not fully conducted in these settlements and 2) the occurrence of intensive emigration from the largest Roma settlements.

Veliko Polje is a suburban residential area within the City of Zagreb. The settlement is characterised by good connections with Zagreb and Velika Gorica. It is located along important traffic routes from Zagreb to Sisak and Posavina, and it is about 9 km from the centre of Zagreb by air, or about 4.5 km from Velika Gorica. Despite the administrative border, the settlement of Veliko Polje is a functionally unique area with the settlement of Velika Mlaka. Veliko Polje was created in the 1980s as a new, planned residential part of the settlement, while public and social infrastructure was planned in Velika Mlaka as an older settlement. Recently, new, mostly service facilities have started to be built in Veliko Polje. However, residents are still mostly forced to use central-local functions in Velika Mlaka (kindergarten, school, church, health centre, etc.) (ZZPUGZ, 2019; URL 10).

The map of changes in the I_{DD} for Croatia (Figure 3) indicates that the intensification of demographic depression is spatially present in almost the entire country, that is, even the largest settlements are not spared.

The average value of the I_{DD}^1 for the settlements in Croatia for 2011 is 2.22 (*depressed/on the verge of demographic depression*). The average value of the I_{DD} for 2021 is 2.20. According to the rate of decline of the I_{DD} of Croatia and the retention of the existing values of the calculated demographic parameters, Croatia will be without a population in 1100 years or 3123 years. According to the UN, which published the 'extinction map' of humanity, Croatia will die out by the year 3300 at the latest. The estimates were based on the reproduction coefficient of the population (Mrvoš Pavić, 2011).

Changes in I_{DD} categories

Table 3 presents the number of settlements according to the defined categories of I_{DD} . Based on data for 2011 and 2021, most settlements fall within the 'depressed area' category (2). As expected, the smallest proportion of settlements is classified as

'*extremely vital area*' (5). Observing the absolute change in the number of settlements across categories, the largest increase was seen in the '*depressed area*' category (2), while the largest decrease occurred in the '*edge of demographic depression*' category (3), as category (3) shifted towards more demographically depressed areas (1 and 2). The categories of '*vital*' (4) and '*extremely vital*' (5) did not record any increase.

TABLE 3
Number of settlements based on I_{DD} for 2011 and 2021

Categories	Meaning	2011	%	2021	%	(2021 – 2011)
5	Extremely vital	12	0.18	5	0.07	-7
4	Vital area	327	4.84	138	2.04	-189
3	Edge of demographic depression	2117	31.34	1385	20.50	-732
2	Depressed area	3096	45.83	3638	53.85	542
1	Extremely depressed area	1054	15.60	1393	20.62	339
0	Extinct settlements	150	2.22	197	2.92	47
	Total	6756	100.0	6756	100.0	

Figure 3 shows the spatial distribution of changes in I_{DD} categories by settlement.

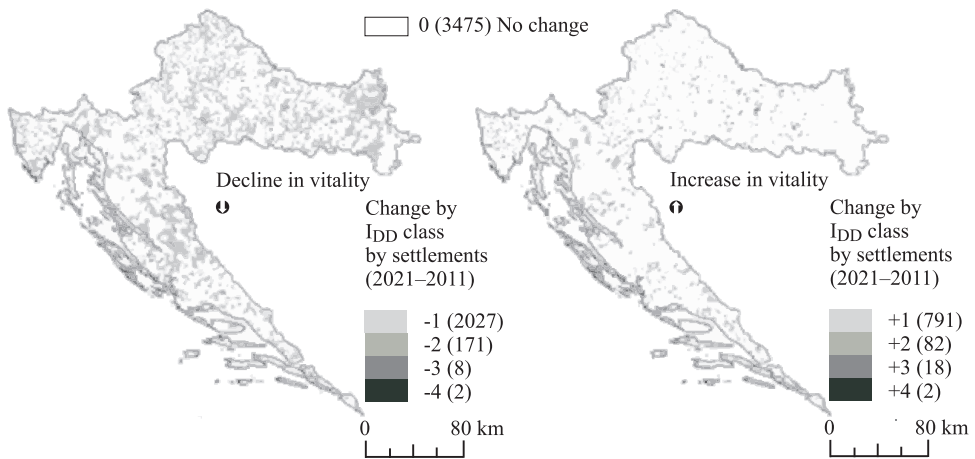


FIGURE 3
Change in the categories of settlements based on the I_{DD} 2011–2021

By applying the I_{DD} , settlements that are expected to become extinct in the next population census, that is, potential new '*dead settlements*', have been identified. Of the 1,393 settlements that fall into the category of extremely depressed area (1), 53² settlements were singled out that meet two criteria:

- 1) in all 11 evaluated criteria, they are in the category of *extremely depressed area* (1)
- 2) have ≤ 10 inhabitants.

The average age in them is 73.35 years.

By applying the I_{DD} , the settlements expected to be the *most demographically vital* in Croatia were identified. Since no settlement in Croatia meets the criteria for category 5 (extreme-

ly vital) across all 11 variables, the following two criteria were used to single out certain settlements:

- 1) Belonging to the 'extremely vital' category (5).
- 2) Having a population of ≤ 500 inhabitants.

There are three such settlements in Croatia (Parag, Piškovac, and Veliko Polje), with an average age of 24.92 years.

Changes in I_{DD} categories based on counties

The changes in the I_{DD} category for Croatia (Figure 3) show that the intensification of demographic depression is widespread across nearly the entire country, affecting even the largest settlements. Although it is difficult to pinpoint the areas with the most severe negative changes, the regions of Lika and Bukovica (specifically, the municipalities of Gračac, the town of Obrovac, and the municipality of Donji Lapac) and Eastern Slavonia (including the municipality of Bilje, the City of Osijek, and the municipalities of Darda and Kneževi Vinogradi) stand out. These areas have seen increases in I_{DD} due to a complex interplay of social and natural-geographical factors. Eastern Slavonia, traditionally reliant on agriculture, and Lika and Bukovica, dependent on animal husbandry, have faced declining trends in recent years. For example, between 2016 and 2018, the number of agricultural holdings in the Osijek-Baranja County decreased by 2,796, from 12,078 to 9,282, and in the Vukovar-Srijem County, the number dropped by 1,035 holdings (DZS, 2023).

Furthermore, these regions still suffer from the lingering effects of the war. The areas of Donji Lapac and Gračac, in particular, are relatively isolated, with challenging terrain. Their proximity to the Bosnia and Herzegovina (BiH) border has not proven advantageous; the bordering area of Bosanski Grahov is recognised as the most geographically marginalised area in Bosnia and Herzegovina (Marić & Avdić, 2023). These factors exacerbate economic hardship and limit business opportunities, leading to youth emigration and an increase in I_{DD} . This trend is especially pronounced in Eastern Slavonia, which, unlike Lika and Bukovica, had a larger base of young people available to migrate.

Figure 4 shows the change in I_{DD} categories by county. The counties are ranked according to the proportion of settlements that experienced a negative change, indicating a decline in vitality or intensification of demographic depression according to the proposed methodological model. In the Vukovar-Srijem County, no settlement showed an increase in demographic vitality. Additionally, the counties that experienced the greatest decline in vitality, or an intensification of demographic depression, are Osijek-Baranja, Sisak-Moslavina, Zagreb, and Požeško-Slavonia. This trend highlights that the counties of Central

and Eastern (Pannonian) Croatia are leading in the decline of demographic vitality.³

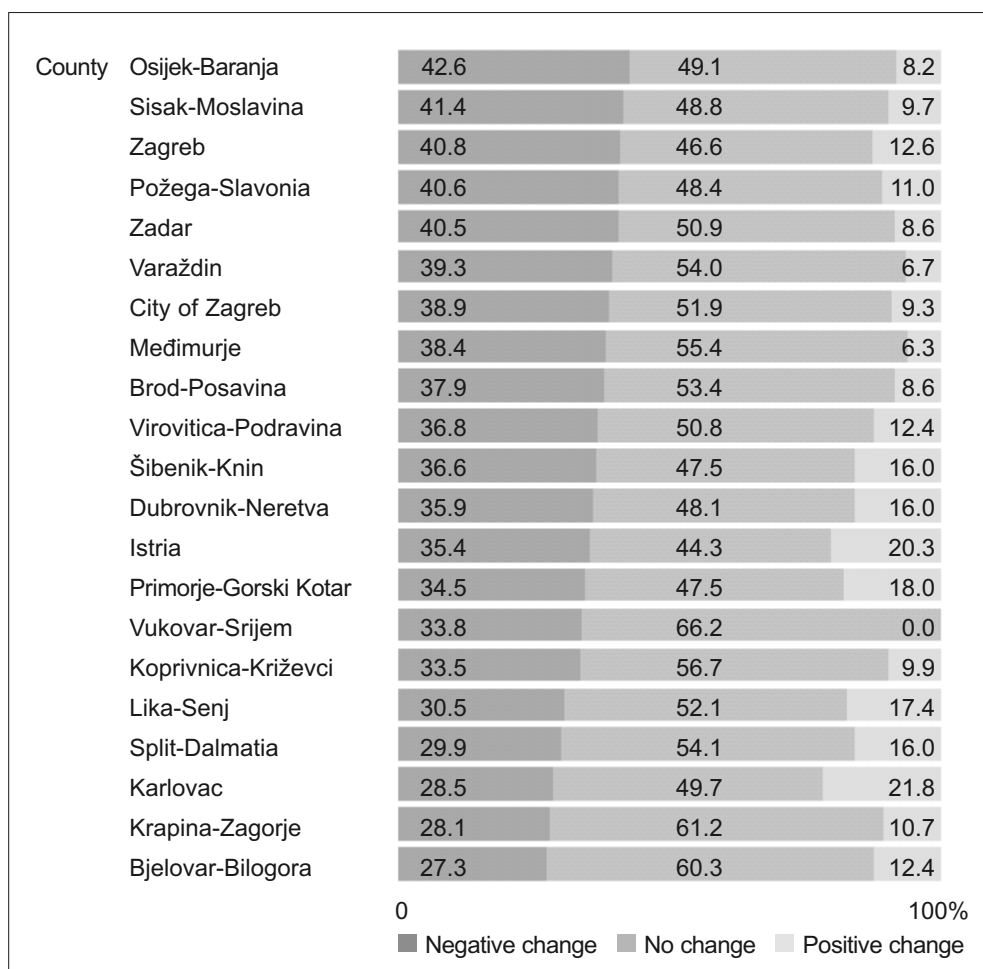


FIGURE 4
Share of settlements based on the change in the I_{DD} by counties (2011–2021)

The issues of depopulation and emigration in this area are well recognised in both public and scientific discourse. The primary cause of the sharp decline in vitality for the Požega-Slavonia, Sisak-Moslavina, Osijek-Baranja, and Vukovar-Srijem counties is emigration, evidenced by a negative migration balance. According to Eurostat data, from 2015 to 2020, the Vukovar-Srijem County recorded the highest population emigration rate in the EU, at -2.5% per year. The Požega-Slavonia County follows with -2.3%, Sisak-Moslavina at -2.1%, and the Osijek-Baranja County at -1.7% (Eurostat, 2023). Figure 5 shows the migration balance for settlements in these four counties, with almost 89% of settlements experiencing a negative migration balance between 2011 and 2021. The results indicate that the Sisak-Moslavina, Požega-Slavonia, Osijek-Baranja, and

Vukovar-Srijem counties lead in terms of negative migration balance (Figure 5). Contributing factors to these outcomes may include natural population decline, failed economic activities, environmental degradation, inadequate rural settlement planning within counties, lower quality of life, outdated infrastructure, and for the Sisak-Moslavina County specifically, the earthquake that affected the area, accelerating emigration. In conclusion, the inter-census period saw an intensification of demographic depression, not only in areas with a history of high emigration but also in counties previously less impacted by intensive emigration.

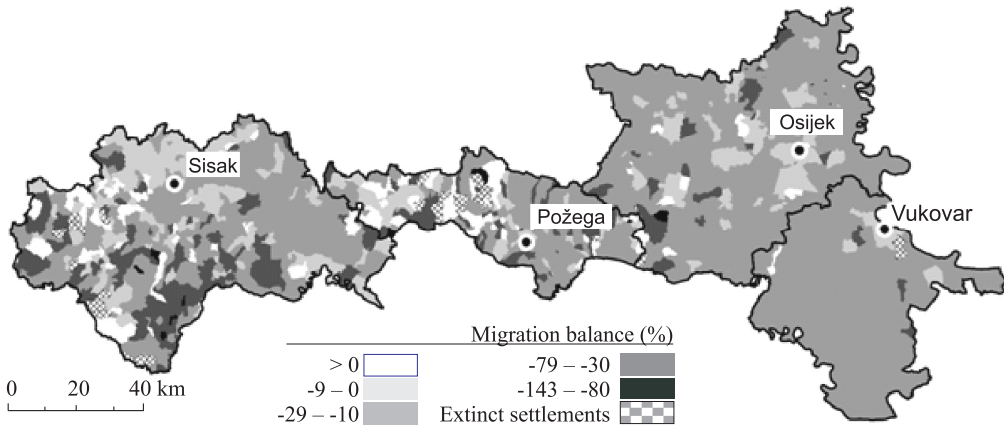


FIGURE 5
Migration balance
2011–2021 by
settlement for Sisak-
Moslavina, Požega-
Slavonia, Osijek-
Baranja and Vukovar-
Srijem counties

The decline in vitality in the settlements of Zagreb County results from multiple factors. Although Zagreb County recorded the highest positive migration balance in 2021, it has also been impacted by negative demographic trends. As in other parts of Croatia, the population in Zagreb County is ageing, particularly in peripheral areas. Migration trends have also contributed to the decline in vitality, with young people who are unable to find work locally either migrating abroad or moving to the capital, leading to depopulation in smaller settlements. The population that immigrates to the county in search of better living conditions or employment often delays childbearing due to economic and social factors. Furthermore, in areas near large cities, shifts in family structures and social norms, such as later marriages and delayed childbearing, are more pronounced, and Zagreb County is no exception. Physical geography also plays a role, as it is a geographically diverse county with numerous settlements. Although the positive influence of Zagreb is apparent in areas immediately surrounding it, the outer edges of the county are experiencing negative demographic shifts, as seen in most peripheral areas in Croatian counties.

CONCLUSION

This paper analyses 11 criteria used to derive the index of demographic depression (I_{DD}) and compares its values between 2011 and 2021. The results show that in 2011, according to all 11 criteria, 44 settlements fell into the category of *extremely depressed areas*, with Bijeli Klanac, Valići, Zut, and Bucalovići being the most demographically depressed. There were 12 settlements in the extremely vital category, though none displayed all 11 criteria indicative of extreme vitality. The four most demographically vital settlements were Parag, Piškorovec, Krničari, and Dedin. In 2021, results indicate that 88 settlements are classified as extremely depressed. Five settlements fall within the extremely vital category; however, none meet all 11 criteria of extreme vitality. According to the I_{DD} , the four most demographically vital settlements in Croatia in 2021 are Piškorovec, Parag, Donje Vratno-dio, Dedin, and Veliko Polje.

According to the data for 2011 and 2021, the largest share of settlements falls within the *depressed area* category, while the smallest share is in the *extremely vital area* category. In terms of absolute changes in settlement numbers by category, the largest increase occurred in the *depressed area* category, and the largest decrease was in the category *on the edge of demographic depression*, as category (3) shifted into more *demographically depressed areas*. The categories of *vital* and *extremely vital* areas did not show an increase. Through the application of the I_{DD} , 53 settlements were identified as potential new 'dead settlements', based on two specific criteria.

Although the intensification of demographic depression is spatially present in almost all of Croatia, the areas that have experienced a marked negative change – specifically, an increase in I_{DD} at higher administrative levels – include the municipality of Gračac, Donji Lapac, and the town of Obrovac. However, the areas of Central and Eastern Slavonia experienced the most intense negative change.

The derived I_{DD} can be viewed as a tool for quantifying and mapping the extent of demographic ageing and for understanding and addressing the challenges associated with population ageing. It can be applied in the field of (a) regional planning to formulate targeted strategies that take into account the unique needs of older populations, ensuring sustainable development aligned with demographic changes; (b) optimisation of health functions and services – identifying regions characterised by demographic ageing enables better positioning and equipping of health institutions, which ultimately improves overall health outcomes; (c) optimisation of social welfare programmes – decision-makers can adjust and plan social welfare programmes based on the insights provided by I_{DD} ;

(d) workforce planning – businesses and industries face the challenge of adapting to an ageing yet increasingly active workforce. I_{DD} can serve as a tool for predicting changes in the labour market and adapting policies to promote workplace sustainability.

In future research, it is desirable to enhance the I_{DD} by modifying the weighting coefficient (influence) of the corrective factor, specifically the number of inhabitants, on the output result. This criterion is an important element of demographic resources and potential. In the existing methodological framework, all 11 criteria had the same weight coefficient. The disadvantage of such an approach is that in a settlement with a small number of inhabitants (e.g., 6), if a certain change occurs, such as the immigration of a few inhabitants or the birth of a few inhabitants, relative values of specific criteria (e.g., migration balance, % of young population) are generated, which classify that settlement in the extremely vital (%) category – an outcome that does not necessarily correspond to reality. This issue will be addressed in future research by modifying the weighting coefficients of all criteria, including the corrective criterion of demographic mass or standardised characteristics (z-values).

With the aim of thematically expanding the I_{DD} , the authors are considering generating an index of socio-demographic depression (I_{SDD}), which, in addition to demographic criteria, would include additional social and natural criteria to better identify demographically and functionally marginalised areas. The stated criteria would include, for example, the distance from primary healthcare centres, schools, universities, shops, pharmacies, post offices, key roads, etc.

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NOTES

¹ The average value of the I_{DD} of the Croatia was calculated as the mean value of the categories of all settlements (1-5). Extinct settlements were not excluded from the analysis. A value of category 0 was added. For example, that the Republic of Croatia consists of five settlements, two of which have a value of category 5 (extremely vital), one has a value of 4 (vital), one has a value of 1 (extremely depressed), and one is an extinct settlement (0), the average value of I_{DD} in this scenario would be 3.00 (edge of demographic depression).

² Potential new 'dead villages' in Croatia: Bandino Selo (City of Slunj), Barovka (Municipality of Krašić), Bojna (City of Glina), Iševnica (City of Delnice), Ponor Korenički (Municipality of Plitvička Jezera), Ponorac Perjasički (Municipality of Barilović), Razloški District (City of Delnice), Crljenci (Municipality of Brestovac), Kričke (City of Nov-

ska), Delači (Municipality of Brod Moravice), Koturić (City of Pakrac), Donja Stranica (Municipality of Ribnik), Kruškovac (City of Gospić), Kraljevo Selo (Municipality of Bosiljevo), Snos (City of Slunj), Gornji Dobretin (Municipality of Dvor), Srednji Poloj (Municipality of Barilović), Gornji Ložac (City of Delnice), Pribudić (Municipality of Gračac), Poljana (City of Vrbovsko), Kričke (City of Pakrac), Korita (City of Lipik), Drakulić Rijeka (Municipality of Plitvička Jezera), Štirkovac (Municipality of Barilović), Jovac (Municipality of Dvor), Mali Prolog (Municipality of Pojezerje), Burić Selo (Municipality of Krnjak), Golubići (City of Samobor), Grič (Municipality of Žumberak), Donja Visočka (City of Slunj), Dubrave (City of Slunj), Vodice (Municipality of Lanišće), Glavičani (Municipality of Dvor), Sertić Poljana (Municipality of Plitvička Jezera), Čore (Municipality of Dvor), Krajna (Municipality of Čačinci), Laze Prnjavor (City of Požega), Kamenski Vučjak (Municipality of Brestovac), Mala Ciglena (City of Bjelovar), Mala Kosa (Municipality of Barilović), Pernat (City of Cres), Sveti Petar (City of Cres), Prvinci (Municipality of Krašić), Pušina (Municipality of Čačinci), Radočaj Brodski (City of Delnice), Rapain Klanac (Municipality of Brinje), Selci (Municipality of Bizovac), Šljivovac (Municipality of Gvozd), Tihočaj (City of Jastrebarsko), Veliki Obljaj (City of Glina), Vukoševac (Municipality of Sunja).

³ Croatian statistical areas determined by the State Statistical Office of Croatia in cooperation with Eurostat.

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Promjena vrijednosti indeksa demografske depresije po naseljima Hrvatske u međupopisnom razdoblju 2011.–2021.

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Dugogodišnje smanjivanje ukupnoga broja stanovnika, starenje stanovništva te društvena marginalizacija ruralnih prostora uzrokovali su negativne demografske trendove u gotovo cijeloj Hrvatskoj. Pojmovi izumiranja, demografske depresije i demografske ugroženosti najčešće se povezuju s pojavom demografskoga smanjivanja i ekonomskoga propadanja naselja. U ovom radu prikazani su rezultati usporedbe indeksa demografske depresije (I_{DD}) po naseljima Hrvatske 2011. i 2021. godine. I_{DD} je izveden na temelju 11 demografskih kriterija definiranih u Mrđen i Marić

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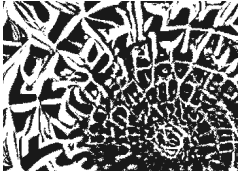
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(2018). Prosječna vrijednost IDD-a svih naselja u Hrvatskoj za 2011. godinu iznosi 2,22 (depresivan/na rubu demografske depresije), dok za 2021. iznosi 2,20. Najveći udio naselja prema podacima za 2011. i 2021. godinu ulazi u kategoriju depresivnoga prostora. Očekivano, najmanji udio naselja ulazi u kategoriju izrazito vitalnoga prostora. Ako se promatra apsolutna promjena broja naselja po razredima I_{DD} -a zabilježen je najveći porast kategorije depresivnoga prostora, a najveće smanjenje je zabilježeno za kategoriju na rubu demografske depresije. Kategorije vitalnoga i izrazito vitalnoga prostora nisu zabilježile povećanje. I_{DD} može biti primijenjen u analizi, odnosno prepoznavanju demografskih resursa nekoga prostora s ciljem smanjenja nejednakosti u društveno-gospodarskom razvoju, odnosno prostorne neravnoteženosti.

Ključne riječi: demografska depresija, depopulacija, starenje, Hrvatska



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FROM PSYCHOPATHY TO EXPEDIENCY: UNRAVELLING THE MEDIATING ROLES OF ORGANISATIONAL CYNICISM AND MORAL DISENGAGEMENT IN LEADERSHIP DYNAMICS

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The research conducted is grounded on the principles of social exchange (SET), social cognitive theory (SCT), and conservation of resources theories (COR). These theories enabled us to comprehend the indirect correlation between leader psychopathy and employee expediency. To validate our research, we surveyed three waves, collecting information from 282 hotel employees in Indonesia. The PLS-SEM technique was used to test the hypotheses. The results demonstrated evidence that leader psychopathy had a positive direct and indirect effect on employee expediency through organisational cynicism and moral disengagement. We make novel theoretical, empirical, and practical contributions by explaining why leader psychopathy affects employee expediency. This study is one of the first to integrate leader psychopathy, organisational cynicism, moral disengagement, and employee expediency into a single theoretical model.

Keywords: psychopathy, leader, cynicism, disengagement, expediency, hotel, employee



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INTRODUCTION

Leader deviant behaviour is a major issue worldwide, impacting organisations and societies in various ways. This behaviour can include unethical decision-making, abuse of power, corruption, harassment, and other forms of misconduct. In cultural assessments, Indonesia scores high on power distance, meaning people tend to accept hierarchical authority. In such environments, leaders have more control, which can sometimes foster or enable deviant behaviours if there is a lack of checks and balances. According to the clinical definition of the term, psychopathy is described as the combination of deviant behaviour and interpersonal detachment (Patrick et al., 2009). Psychopathy presents significant risks when exhibited in leadership roles, as it undermines the ethical and collaborative foundation essential for effective leadership. Leaders with psychopathic tendencies often exploit their positions for personal gain, disregarding employee well-being and organisational goals, leading to toxic work environments and long-term damage to trust and morale. Leader psychopathy is a striking example of deviant behaviour with significant ramifications. Palmen et al. (2021) assert that power, prestige, and money are primary attractions for psychopaths. Given the hospitality industry's potential to provide these elements, pursuing a career in this field appears logical. The hospitality sector's dynamic and customer-centric nature offers professionals opportunities to wield influence, attain prestige, and potentially amass wealth.

Furthermore, the reason for selecting employees from the hospitality industry to study the impact of leader psychopathy on employee expediency is the high interaction levels inherent in this sector. In the hospitality industry, employees constantly engage with leaders, colleagues, and customers, creating an environment where leadership styles have a pronounced and observable effect. This frequent and varied interaction amplifies the influence of a leader's behaviour, making it an ideal context to study the specific impacts of leader psychopathy on employee expediency. Psychopaths, being drawn to environments where they can exploit power dynamics and gain personal advantages, might find the hospitality industry appealing. The combination of managerial roles, customer interactions, and financial dealings within this sector aligns with the factors that attract psychopathic individuals (Zhuang et al., 2022). This perspective sheds light on the possible alignment between the characteristics of the hospitality industry and the preferences of individuals with psychopathic traits, raising questions about the implications for organisational dynamics and employee deviant behaviour within this specific professional domain.

Multiple authors have proposed that leaders' traits, behaviour, and attitudes, or the extent to which followers perceive their leaders to engage in persistent hostile verbal and non-verbal behaviours, are a primary cause of employee deviant behaviour (Sharma, 2018). Leader psychopathy, as a type of leadership destructive behaviour (Boddy, 2021), is considered very damaging to the overall health of a company and the well-being of its employees. Leaders who exhibit psychopathic traits often show a charming facade, concealing their underlying disregard for others. Employees under the influence of leader psychopathy frequently experience heightened stress, diminished job satisfaction, and increased turnover intentions (Blickle et al., 2018). These toxic leadership behaviours tend to create a hostile work environment marked by manipulation, bullying, and a lack of empathy. The negative outcomes ripple through the organisational culture, fostering distrust and hindering collaboration. Recent theories and studies show how a leader acts and the different factors that make up a follower's personality, such as their centre of control and willingness to take the initiative, affect how they treat their employees. Research conducted by Erkutlu and Chafra (2019) has provided evidence to support the hypothesis that psychopathy is linked to organisational deviance (Mathieu et al., 2014), affecting psychological exhaustion and job satisfaction (Volmer et al., 2016) as well as increasing work-family conflict and psychological distress of subordinates (Mathieu et al., 2014). Employee expediency, as an example of employee deviant behaviour, denotes the adoption of unethical practices by employees to achieve immediate goals or desired outcomes (Greenbaum et al., 2018). This term underscores the willingness of individuals to prioritise short-term gains over ethical considerations within the workplace. This complex and concerning behaviour has prompted researchers to delve into various theoretical frameworks to comprehend its underlying dynamics. In its most basic form, it is characterised by individuals engaging in questionable behaviours or taking shortcuts to accomplish their professional goals, frequently at the price of the ideals or ethical standards of the business (Zhu et al., 2023). Employees may manipulate data, take shortcuts regarding quality standards, or disobey established processes to save time or accomplish personal goals. These are just some of the ways that this phenomenon may present itself. Since employee expediency is a self-serving activity, individuals who engage in such actions likely put their interests ahead of the organisation's overall betterment. Many possible dangers to the workplace are brought to light by the problems that surround employee expediency. These dangers include compromising in-

tegrity, the erosion of trust, and damage to the firm's culture (Saleem & Naseer, 2022). In a logical sense, these deviant behaviours are a significant problem for firms, and as a result, academics have focused their attention on the factors that lead to employee expediency.

Additionally, a recent meta-analysis revealed a positive correlation between workplace psychopathy and counterproductive work behaviour as well as job performance (Roth & Klehe, 2021). The positive relationship between psychopathy and job performance from prior research was observed at the individual level, meaning the individual's psychopathic traits were related to their job behaviour and performance. However, this study examines the relationship between managerial psychopathy and employee expediency, focusing on the interpersonal effects of psychopathic behaviour in leadership on subordinates. Hence, this study examines how leader psychopathy generates important follower consequences like organisational cynicism, moral disengagement, and employee expediency.

Furthermore, we assume a leader's psychopathy will encourage employee expediency by lowering employee morale and involvement. Organisations grappling with leader psychopathy must recognise the urgency of addressing these issues. Hence, understanding and mitigating the impact of leader psychopathy is crucial for fostering employee well-being and ensuring the organisation's long-term success. However, nothing is understood about the underlying process that drives the link between leader psychopathy and employee expediency. Hence, we analyse the possible beneficial effects of leaders' psychopathy on employee expediency. We also look at the relationship between moral disengagement and organisational cynicism and the mediating roles these two factors play.

THEORY AND HYPOTHESES DEVELOPMENT

Leaders' psychopathy and employee expediency

The concept of corporate psychopaths was extensively developed by Boddy (2005); this research examined how individuals with psychopathic traits infiltrate managerial roles, manipulating corporate structures to achieve power and influence, often at the expense of employees' well-being and organisational performance. Babiak et al. (2007) further expanded the understanding of this phenomenon when they coined the term "corporate psychopaths". Further research conducted by Boddy (2017) indicates that people with psychopathic characteristics frequently attain executive and senior roles in business. Such leaders tend to display unethical behaviour and prob-

lematic management practices. Through the lens of social exchange theory, individuals participate in social interactions with the anticipation of gaining advantages and reducing disadvantages (Ermer & Kiehl, 2010). Within a professional environment, a leader who displays psychopathic features may employ manipulative tactics to attain personal benefits, exploiting others for their advantage (Babiak et al., 2007). In reaction to leader psychopathy, the followers or subordinates may adopt expedient conduct to deal with the situation. They may prioritise immediate profits and expedient measures to manage the difficult circumstances caused by the leader's psychopathy. This behaviour can be interpreted as a practical reaction to the leader's absence of empathy and self-centred concentration. In addition, leaders who demonstrate psychopathic qualities may exhibit deceptive behaviour, high levels of self-confidence, a lack of empathy, remorselessness, superficial charm, and a tendency to place their interests above those of the organisation or their team. This behaviour frequently entails a lack of regard for ethical norms, a readiness to take advantage of others, and a concentration on attaining personal objectives without considering the welfare of employees or the overall company culture.

Additionally, the principle of COR might be utilised to comprehend this correlation. Leader psychopathy can exhaust the emotional and psychological reserves of employees through deceptive and exploitative methods. Employees may engage in expedient conduct to safeguard their well-being and adapt to a demanding work environment, aiming to conserve their resources and shield themselves from the detrimental consequences of leader psychopathy. To summarise, there is a connection between leader psychopathy and expedient behaviour, which the principles of social exchange theory and the conservation of resources theory may explain. The manipulative acts of the leader's psychopathy may compel followers to adopt expedient habits as a pragmatic reaction to the challenging work environment caused by their leadership. Scholars have explored the impact of psychopathy as a personality factor on organisational and personnel results in the multi-context business (Blickle & Schütte, 2017; De Clercq et al., 2019; Jones, 2014). There is substantial evidence from previous research that leader psychopathy has a significant impact on employees, such as psychological distress, work-family conflict, emotional exhaustion, depersonalisation, and burnout (Mathieu et al., 2014; Sutton et al., 2020; Oyewunmi et al., 2018). Hence, we predict that the causes of expediency as a deviant behaviour establish a strong foundation for forecasting the adverse correlation between employee expediency and socially disruptive behaviour (leader psychopathy). Consequently, fol-

lowers of leader psychopathy are frequently subjected to social and psychological pressures that promote expediency. Therefore, we propose the following hypothesis:

Hypothesis 1: A positive correlation exists between leader psychopathy and employee expediency.

THE MEDIATING ROLE OF ORGANISATIONAL CYNICISM

Organisational cynicism has recently garnered increasing attention due to corporate scandals and unethical behaviour by its leaders, which has exacerbated employees' skepticism towards the organisation. Organisational cynicism can contribute to employee depression due to a belief in a lack of honesty, leading to strong negative sentiments and critical decision-making (Grama & Todericiu, 2016). Snowden and Gray (2011) noted that when managers behave in an impulsive and risky manner towards them, workers frequently lose faith in their leaders and disobey work-related instructions. Küçük (2022) also found that those with a cynical attitude tend to be suspicious of management and mistrust their superiors. In conclusion, when managers display psychopathic or abusive behaviours with their staff, it makes people less hopeful about their futures in the company and more skeptical of the management and leads to increased deviant behaviour. The relationship between leader psychopathy, organisational cynicism, and employee expediency can be explored by applying the COR theory, which highlights the mediating role of organisational cynicism. According to the theory, individuals are motivated to obtain, maintain, and safeguard resources (Abubakar et al., 2018). Stress arises when there is a perceived risk to these resources. Organisational cynicism arises as a reaction to the perceived reduction or endangerment of personal and managerial resources. Within the framework of leader psychopathy, these individuals may exhibit actions that exhaust or jeopardise the assets of subordinates, including trust, social cohesion, and a conducive work atmosphere.

Consequently, employees may develop skepticism to protect themselves against the perceived threat to resources; cynicism functions as a mechanism for employees to manage the stress and uncertainty resulting from leader psychopathy. Organisational cynicism is an intermediary factor influencing the connection between leader psychopathy and employee expediency. Employees who feel skeptical because they believe their resources are at risk could engage in expedient actions to protect themselves or safeguard their interests when they perceive a shortage of resources. Essentially, the COR theory elucidates how organisational cynicism functions as an intermediary by mirroring the strain and depletion of resources resulting from leader psychopathy, ultimately impacting em-

ployees to partake in expedient actions. Therefore, we suggest the subsequent hypothesis:

Hypothesis 2: Organisational cynicism mediates a positive relationship between a leader's psychopathy and employee expediency.

THE MEDIATING ROLE OF MORAL DISENGAGEMENT

Moral disengagement, a concept initially proposed by Bandura (1990), centres on the notion that individuals can mentally detach themselves from their moral self-regulation and self-criticism purposefully. Bandura's social cognitive theory posits that moral disengagement arises from cognitive mechanisms enabling individuals to rationalise or justify morally dubious activities without activating the usual self-imposed consequences of ethical violations (Newman et al., 2020). Furthermore, individuals deactivate moral self-regulation by strategically reframing situations, providing themselves with cognitive room to rationalise and justify specific behaviours that would otherwise be deemed inconsistent with established moral standards. This process involves a cognitive shift wherein individuals manipulate their perception of a given situation, allowing them to reinterpret actions that diminish moral culpability. Individuals can create a mental space that accommodates behaviours that might conflict with their ethical principles by engaging in such reframing. This ability to reframe situations serves as a mechanism for moral disengagement, enabling individuals to navigate moral complexities and engage in actions that might otherwise evoke self-sanctions and guilt. Prior studies have demonstrated that moral disengagement plays a vital role as a psychological mechanism by which ethically questionable leadership influences the immoral conduct of subordinates (e.g., Akhtar et al., 2023; Fuller, 2022). This relationship implies that leaders who display poor ethical behaviour can influence the moral decision-making of their subordinates by creating an atmosphere that enables moral disengagement. In such situations, people may experience psychological facilitation in detaching themselves from their moral convictions, resulting in a higher probability of participating in actions that depart from ethical norms. The connection between morally questionable leadership, the disconnection from moral standards, and the resulting unethical actions highlights the complex relationship between leadership behaviour and the ethical behaviour of individuals inside an organisation.

Leader psychopathy specifically cultivates a demanding work atmosphere, causing subordinates to justify their harmful actions to these leaders' overwhelming pressure. Leader psychopathy in a stressful environment might lead employees to engage in expedient conduct. This behaviour is driven by the

need to find quick and efficient solutions to cope with the increased stress and demanding conditions. Psychopathy and expedient employee behaviour show how leadership practices shape employees' reactions in the organisational context, suggesting that expedient actions may be a coping mechanism for the demanding work environment.

Hypothesis 3: Moral disengagement mediates a positive relationship between a leader's psychopathy and employee expediency.

METHOD

Sample and procedure

The hypotheses were tested by employing data from a survey of hotel personnel in eight four and five-star hotels in Indonesia. This study followed the ethical guidelines and received approval from the Institutional Review Board (IRB) of STIE Latifah Mubarakiyah, ensuring compliance with ethical standards for research involving human participants. Confidentiality was guaranteed, and participation was entirely optional. At Time 1, 450 employees were asked to fill out a questionnaire that assessed the leader's psychopathy and the control variables. Leader psychopathy was operationalised as the immediate supervisor of the employees participating in the survey. We specified that the psychopathy subscale from the Dirty Dozen measure was adapted to assess leader personality traits as perceived by employees. This approach ensures that the employees consider the psychopathic traits of a leader with regular and direct interactions, providing more accurate and relevant responses.

A total of 356 employees have provided us with their feedback. After ten days, at Time 2, we distributed a second questionnaire that dealt with moral disengagement and organisational cynicism to those individuals who had previously completed the Time-1 survey. A total of 336 questionnaires were returned. At the end of the ten days, at Time 3, we invited the 336 individuals who had previously filled out questionnaires at Time 1 and Time 2 to evaluate their expedient conduct. A total of three hundred questionnaires were returned. A total of 282 employees were included in the usable sample, leading to a response rate of 78.06%. This result was achieved by removing any data deemed erroneous or fraudulent (for example, all responses were identical).

We conducted an attrition analysis to determine whether participants who dropped out differed from those who remained in the study. This research study categorises participants into two groups: those who dropped out of the study (dropouts) and those who completed it (completers). We check

for major differences between groups. Important discrepancies may imply that the dropout group is not randomly distributed, which might induce bias. Our research found no differences between groups, so there is no indication of bias.

We accounted for the demographic variables significantly linked to employee expediency, such as age (in years), gender (male and female), education (high school as low educational attainment and bachelor degree as high educational attainment), tenure with the organisation, and tenure with the current supervisor (in years) (Greenbaum et al., 2018).

The final sample consisted of 282 employees with an average age of 38.2 years ($SD = 9.78$). Among the 282 responses, 126 were female and 43 were male. The average tenure with the organisation was 6.02 years ($SD = 2.49$), while the average tenure with their current supervisor was 5.95 years ($SD = 2.63$). The distribution of participants by managerial positions is as follows: Frontline staff (e.g., receptionists, waiters): 252 participants (89%), Managers (e.g., restaurant managers, housekeeping supervisors): 30 participants (11%).

Instrumentation

By employing the back translation method proposed by Brislin (1980), we could translate all of the items in this study into Indonesian. This technique was done because all items were initially generated in English. The scale contains 5 Likert scale items ranging from strongly disagree to agree strongly. Leader psychopathy. We measured Leader psychopathy developed by Jonason and Webster (2010) on a 4-item scale. Sample items include "My immediate supervisor tends to lack remorse and tends to be unconcerned with the morality of my actions". The Cronbach's alpha of the scale in the current study is 0.906. We measured leader psychopathy using a 4-item scale developed by Jonason and Webster (2010), originally part of the Dirty Dozen measure designed to assess individual personality traits. This scale was selected for its brevity and its specific focus on personality traits relevant to leadership contexts.

Organisational cynicism. We measured Organisational cynicism, developed by Dean et al. (1998), on a 3-item scale. Examples of statements were "Company policies, goals, and practices are often inconsistent". The Cronbach alpha for current organisational cynicism is 0.892.

Moral disengagement. Moral disengagement was measured by Moore et al.'s (2012) propensity to disengage on an 8-item scale morally. Sample items include "People can't be blamed for doing things technically wrong when all their friends are doing it too". This study reported that the Cronbach alpha of the scale was 0.947.

Employee expediency. We assessed employee expediency with Greenbaum et al.'s (2018) 4-item scale. Sample items in-

clude "I only enforce company rules when they benefit my welfare". The 4-item scale achieved an internal consistency of 0.914.

Table 1 presents means, standard deviations and correlations between gender, age, education, tenure with the organisation (TWO), tenure with the supervisor (TWS), leader psychopathy (LP), organisational cynicism (OC), moral disengagement (MD), and employee expediency (EE), among 282 respondents.

➔ TABLE 1
Means, standard deviations, and correlations among study variables

Variable	Mean	SD	Gen	Age	Edu	TO	TS	LP	OC	MD	EE
Gender	1.446	0.498	-								
Age	38.205	9.787	0.062	-							
Education	1.776	0.650	-0.090	0.130	-						
Tenure with organisation	6.028	2.496	0.010	-0.008	0.078	-					
Tenure with supervision	5.950	2.633	-0.029	-0.012	-0.025	-0.123	-				
Leader psychopathy	14.329	3.157	-0.019	0.069	-0.030	0.031	0.073	-			
Organisational cynicism	10.883	2.740	-0.001	-0.006	-0.023	-0.03	0.073	0.630**	-		
Moral disengagement	28.911	6.306	0.004	0.055	0.047	-0.017	0.015	0.534**	0.589	-	
Employee expediency	14.354	3.724	-0.055	-0.001	0.003	0.060	0.024	0.713**	0.638*	0.639**	-

Note. N = 282; * $p < 0.05$, ** $p < 0.01$. TO = tenure with organisation; TS = tenure with supervision; LP = leader psychopathy; OC = organisational cynicism; MD = moral disengagement; EE = employee expediency; TWO = tenure with organisation; TWS = tenure with supervisor.

The mean of educational attainment is 1.776 ($SD = 0.650$) on a scale where higher numbers indicate higher levels of education. Regarding organisational attitudes and behaviours, the mean score for organisational cynicism is 10.883 ($SD = 2.740$), suggesting a moderate level of cynicism among employees. Moral disengagement, reflecting the extent to which employees rationalise unethical behaviour, has a mean score of 28.911 ($SD = 6.306$), pointing to a range of moral reasoning processes in the workforce. In addition, employee expediency, which may reflect pragmatic or self-serving behaviours, has a mean of 14.354 ($SD = 3.724$).

Leader psychopathy showed strong positive correlations with organisational cynicism and moral disengagement, suggesting that perceptions of psychopathic leadership are associated with higher levels of cynicism and disengagement among employees. Additionally, employee expediency was strongly and positively correlated with leader psychopathy, organisational cynicism, and moral disengagement, highlighting a potential link between these constructs in workplace behaviours.

Measurement model assessment

We utilised SmartPLS 3.0, a partial least square approach to structural equation modelling (PLS-SEM), to assess the study's hypotheses. Various statistical methods were used to determine the validity and reliability of the study's outer model, following the recommendations of Hair et al. (2013). The constructs' reliability, internal consistency, convergent validity, and discriminant validity were assessed. Outer loadings, composite reliability, average variance extracted (AVE), square roots of the AVE values, Fornell-Larcker criterion, and heterotrait-monotrait (HTMT) ratios are all part of the measurement model evaluation results reported in Tables 2, 3, and 4. According to statistical results, all of the latent constructs in our model had CR values of more than 0.70 (Hair et al., 2013).

Similarly, tests were conducted using Cronbach's alpha coefficients for each study variable to evaluate the construct reliability. Every construct had a value larger than 0.70, which is the recommended acceptance level according to Nunnally and Bernstein (1994). As these findings show, we can see that our instrument is internally consistent. Based on these findings, it can be concluded that the measurement model is compatible with structural analysis.

We analysed convergent validity using the average variance extracted (AVE), which measures the amount of variance captured by a construct relative to the variance due to measurement error. The results indicate that the AVE values for all constructs exceeded the recommended cutoff point of 0.50, suggesting that the items within each construct explained more

than half of the variance. The guidelines of Hair et al. (2019) were followed to establish the discriminant validity of the scale using two key criteria. The assessment utilised the 'Fornell-Larcker criterion method' and the 'HTMT' ratio. Table 3 shows that the constructs' average shared variance is smaller than the square root of the average variance extracted.

Table 4 illustrates that HTMT levels must remain below 0.85 (Hanseler et al., 2015). The analysis confirmed the scale's predicted reliability by finding noticeably lower HTMT values when compared to the defined benchmark. This result proves its ability to distinguish between constructs and correlate with the external assessment. Hence, the convergent and discriminant validity of the scale was confirmed (Fornell & Larcker, 1981).

TABLE 2
Results of measurement model assessment

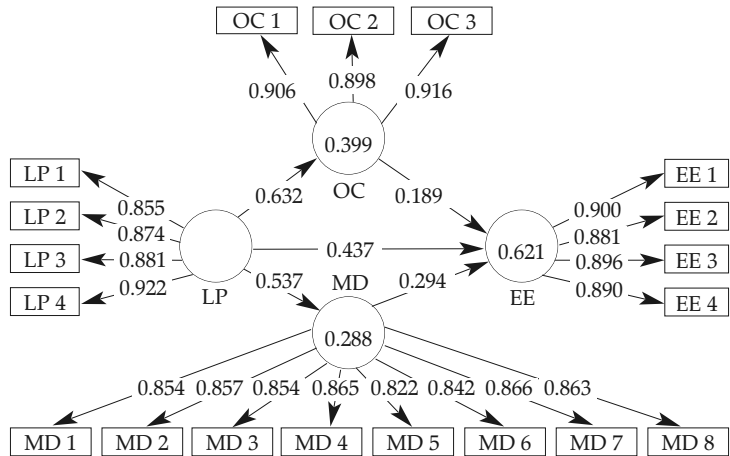
Items	Outer loading	VIF	Composite reliability	Average variance extract	α
<i>Leader psychopathy</i>			0.934	0.780	0.906
LP 1	0.855	2.272			
LP 2	0.874	2.497			
LP 3	0.881	3.219			
LP 4	0.922	4.092			
<i>Organisational cynicism</i>			0.933	0.822	0.892
OC 1	0.906	2.602			
OC 2	0.898	2.544			
OC 3	0.916	2.768			
<i>Moral disengagement</i>			0.955	0.728	0.947
MD 1	0.854	3.001			
MD 2	0.857	3.026			
MD 3	0.854	3.060			
MD 4	0.865	3.306			
MD 5	0.822	2.439			
MD 6	0.842	2.792			
MD 7	0.866	3.082			
MD 8	0.863	3.100			
<i>Employee expediency</i>			0.940	0.796	0.914
DL 1	0.900	3.012			
DL 2	0.881	2.639			
DL 3	0.896	2.949			
DL 4	0.890	2.787			

Structural model assessment

After completing the psychometric requirements for our measurement model, we evaluated our structural model. The path coefficients' significance and magnitude were used to evaluate the structural model. A 5.000-resample bootstrapping method was used. Figure 1 presents the results of the structural model assessment. The findings of the tests conducted on the hypo-

theses are shown in Table 4. Our statistical result discovered that leader psychopathy directly and significantly impacted employee expediency ($\beta = 0.437, t = 7.585$) at a significance level of $p < 0.001$, supporting Hypothesis 1.

➔ FIGURE 1
The mediating effect of organisational cynicism and moral disengagement on the relationship between leader psychopathy and employee expediency



Notes: LP = leader psychopathy; OC = organisational cynicism; MD = moral disengagement; EE = employee expediency.

Furthermore, the primary objective of this research was to investigate the effects of organisational cynicism and moral disengagement as mediators in the connection between leader psychopathy and employee expediency.

➔ TABLE 3
Results of
Fornell-Larcker criterion

Variable	1	2	3	4
1 Employee expediency	0.892			
2 Leader psychopathy	0.714	0.883		
3 Moral disengagement	0.640	0.537	0.853	
4 Organisational cynicism	0.639	0.632	0.591	0.906

Note: Values in bold are the square root of AVE

➔ TABLE 4
HTMT criterion

Variable	1	2	3	4
1 Employee expediency				
2 Leader psychopathy	0.783			
3 Moral disengagement	0.687	0.576		
4 Organisational cynicism	0.707	0.700	0.640	

We followed Hayes (2013) and MacKinnon et al. (2004) criteria to test for mediation effects using SmartPLS 3.0. The results of the direct impacts of leader psychopathy on the two mediating variables (organisational cynicism; $\gamma = 0.632, p < 0.001$ and moral disengagement; $\gamma = 0.537, p < 0.001$) were all sig-

nificant. Also, the path between organisational cynicism and employee expediency ($\beta = 0.189, p = 0.002$) and moral disengagement and employee expediency ($\beta = 0.294, p < 0.001$) was also significant. Therefore, the second requirement for testing mediation was confirmed. Additionally, as mentioned earlier, we used a bias-corrected bootstrapping technique with a 95% confidence interval to evaluate the indirect effect of leader psychopathy on employee expediency through the two mediating variables. Table 5 shows that the bootstrap results suggest that organisational cynicism ($\beta = 0.119, t = 3.083, p = 0.002$) and moral disengagement ($\beta = 0.158; t = 4.760, p < 0.001$) have positive and substantial mediation effects. Therefore, both Hypotheses 2 and 3 were confirmed.

TABLE 5
Results of structural
model evaluation

Hypotheses	Relationship	Path coefficient	t-statistic	p-value	Decision
H1	LP → EE	0.437	7.585	0.000	Supported
H2	LP → OC → EE	0.119	3.083	0.002	Supported
H3	PEOU → MD → EE	0.158	4.760	0.000	Supported

Stoner Geisser Q ²	
Employee expediency	0.489
Organisational cynicism	0.324
Moral disengagement	0.206
SRMR	0.082

Note: SRMR = standardised root mean square.

Prediction-oriented PLS-SEM evaluates fit factors such as R^2 and Q^2 before assessing hypotheses. Falk and Miller (1992) advised R^2 values above 0.10. Organisational cynicism and moral disengagement explained 61.7% of employee expediency ($R^2 = 0.617$). Chin et al. (2008) classified endogenous latent variables as substantial, moderate, or weak based on R^2 values of 0.67, 0.33, or 0.19 to assess model validity. Employee expediency ($R^2 = 0.617$) can be characterised as moderate. The blind-folding process in smart PLS 3.0 was used to obtain the value of Q^2 . A Q^2 value greater than zero demonstrates the prediction accuracy of the structural model, according to Hair et al. (2013). Our study's results provide good evidence of predictive relevance as the Q^2 values for employee expediency, organisational cynicism, and moral disengagement were 0.489, 0.324, and 0.206, respectively. According to Lachowicz et al. (2018), one way to evaluate the relative size of the indirect impact and the overall effect is by using effect size (f Square), mediation ν , or ν statistics (ν). Ogbeybu et al. (2020) suggest a statistical interpretation that classifies ν mediating effects as low at 0.02, moderate at 0.075, and high at 0.175.

According to the calculations in Table 5, the involvement of organisational cynicism (*M*) and moral disengagement (*M*) in facilitating the indirect impact of LP (*X1*) on EE (*Y*) at the structural level is categorised as low (0.014) and moderate influence (0.024).

TABLE 6
Upsilon mediation
effect size (v) or
Upsilon statistics (v)

Statistical path	Upsilon statistics (v)	Information
LP (<i>X1</i>) → OC (<i>M</i>) → EE (<i>Y</i>)	$[0.632]^2 \times [0.189]^2 = 0.014$	Low influence
LP (<i>X1</i>) → MD (<i>M</i>) → EE (<i>Y</i>)	$[0.537]^2 \times [0.294]^2 = 0.024$	Moderate influence

DISCUSSION

The present study investigated and evaluated the relationship between the leader's psychopathy and hotel employee expediency. A thorough comprehension of the model's linkages is achieved through integrating theories. According to social exchange theory (SET), leader psychopathy is a reciprocal dynamic which, when implemented by employees, can result in expediency and cynicism. Furthermore, social cognitive theory posits that witnessing unethical leader behaviour can lead employees to become morally disengaged. Lastly, COR posits that when faced with the stress that leader psychopathy causes, employees may resort to cynicism and expediency as coping methods to save their psychological resources.

Considering the results, we discover that leader psychopathy was positively related to employee expediency (Hypotheses 1), which is consistent with previous studies (e.g., Erkutlu & Chafra, 2019). Studies conducted in the past have validated the notion that the negative component of supervisory roles affects individual performance. This sustained exposure to leader psychopathy can cultivate a detrimental environment where negative roles are reinforced, fostering an atmosphere of perceived threat among individuals. The cumulative impact of this ongoing influence may contribute to the manifestation of unwanted behaviours within the organisational context. The threatening nature associated with leader psychopathy can create a sense of instability, eroding trust and undermining the positive dynamics essential for a healthy work environment. As such, the long-term consequences of leader psychopathy may extend beyond mere observation, potentially influencing the organisational culture and shaping behaviours that deviate from desired norms. It was argued by Haider and Yean (2023) that employees who are subjected to destructive treatment are more likely to engage in deviant behaviour. Our findings are consistent with their arguments.

Regarding Hypothesis 2, we discovered that the association between leader psychopathy and employee expediency

is mediated by organisational cynicism. To our knowledge, no previous study has tested the mediating role of organisational cynicism in the relationship between leader psychopathy and employee expediency. Our study is the first to explore this important connection, contributing novel insights to the literature. Therefore, our study makes a noteworthy contribution by investigating how organisational cynicism influences the connection between leader psychopathy and employee expediency. In environments led by leader psychopathy, the absence of clear performance standards creates a breeding ground for high subjective performance levels (Landay et al., 2019) and potentially detrimental decision-making (Blickle et al., 2018). Sensing the precarious nature of their resources, employees may experience a dual challenge – not only contending with potential negative impacts on their performance but also grappling with cynicism arising from the perceived risk to their resources.

The third hypothesis asserted that moral disengagement mediates the relationship between leader psychopathy and employee expediency. The identification of moral disengagement as a mediator in the relationship between leader psychopathy and employee expediency stems from several compelling reasons. Leader psychopathy is characterised by a lack of moral and ethical considerations, creating an environment where individuals may detach themselves from typical moral constraints. This detachment, known as moral disengagement, is a psychological mechanism that allows individuals to rationalise and justify unethical behaviour. In the context of this study, leader psychopathy influences employees to disengage, facilitating the acceptance of expedient actions morally. Employees perceiving a leader's disregard for ethical standards are likelier to adopt similar attitudes. The mediation effect of moral disengagement underscores how leader psychopathy contributes to an erosion of moral frameworks, directly influencing employees to engage in expedient behaviours. This finding deepens our understanding of the intricate pathways through which leader psychopathy shapes employee conduct, emphasising the significance of moral disengagement as a critical link in this relationship.

Theoretical implication

This study has enhanced a threefold contribution related to leadership and employee expediency literature. First, the finding that leader psychopathy is related to general deviant behaviour in the workplace supports the findings of many other studies (Mathieu et al., 2014; Bulkan, 2017; Erkutlu & Chafra, 2019), providing more evidence for the connection between leader psychopathy and deviant behaviour in professional

settings. Second, by verifying the positive impact of leader psychopathy on employee expediency, our study adds to the growing body of research on the elements that lead to expediency. Third, leveraging the social conservation of resources theory, our research has crafted and scrutinised a mediation model to elucidate the intricate dynamics surrounding the influence of leader psychopathy on employee expediency. This theoretical framework posits that individuals are driven to conserve and protect their resources, encompassing time, energy, and cognitive capacities. Leader psychopathy, characterised by manipulative tendencies and a lack of empathy, is theorised to deplete these crucial resources within the organisational context. Consequently, employees may resort to expedient behaviours as adaptive responses to cope with the challenging work environment created by leader psychopathy. Our study investigates the nuanced aspects of this relationship, exploring the underlying mechanisms and identifying the specific conditions under which leader psychopathy exerts its strongest impact on employee expediency.

According to the hypotheses that we have developed, there was a positive correlation between leader psychopathy and employee expediency. Besides, our findings show that moral disengagement mediates the effect of leader psychopathy on employee expediency. This finding aligns with predictions when taken in context with the abundant research showing that moral disengagement is a key component in the chain reaction linking bad leadership to unethical actions. Leader psychopathy can influence employees' moral reasoning and ethical decision-making processes within the organisational context, leading them towards expedient actions. Identifying moral disengagement as a mediating factor offers valuable insights into the psychological mechanisms involved. According to the conservation of resources (COR) theory, individuals are inherently driven to acquire, preserve, and protect valuable resources. When examining the impact of leader psychopathy within this framework, a cascade of cognitive justification mechanisms, such as the displacement of responsibility, emerges. These cognitive processes contribute to organisational cynicism, where individuals develop a skeptical outlook towards the organisation and its intentions. The association between leader psychopathy and organisational cynicism sets the stage for an increased likelihood of employee expediency. As organisational cynicism intensifies, employees may resort to expedient behaviours as a coping mechanism, responding to a perceived lack of support and fairness. This intricate chain of events underscores the nuanced interplay between leadership behaviour, cognitive processes, and the broader organisational climate in shaping employee responses and ethical choices.

Managerial implications

These findings hold significant implications for management. To mitigate deviant behaviours within organisations, firms must invest additional effort and time into minimising the prevalence of leader psychopathy. Because leader psychopathy is identified as a personality disorder capable of instigating employees' organisational cynicism (OC), moral disengagement (MD), and ultimately enforcing employee expediency, addressing and curbing this leadership approach becomes crucial for fostering a healthier workplace environment. Management strategies should cultivate leadership that prioritises transparency, ethical considerations, and a supportive organisational culture. By actively discouraging the possibility of psychopathy behaviour among management, organisations can foster a positive work atmosphere, reducing the likelihood of an organisational uncondusive environment among employees. This condition, in turn, promotes a more constructive and engaged workforce, ultimately contributing to enhanced organisational performance and employee satisfaction. Employers should prefer candidates for managerial positions who demonstrate a lack of negative character traits and low selfishness. If the organisation wants to foster effective and ethical leadership, it must favour applicants with these traits. Organisations can cultivate a more favourable work environment by intentionally choosing leaders who prioritise teamwork over individual gain and display admirable character attributes. Those in leadership positions with less egotism are more inclined to put the group's and company's success first. A more engaged workforce, productivity, and solid groundwork for future success are all possible outcomes. Incorporating these factors into the promotion and selection process can improve the calibre of leadership and the general dynamics of the organisation. As the data reveals that organisational cynicism and moral disengagement mediate the relationship between leader psychopathy and employee expediency, organisations should consider implementing behaviour-reduction training programmes for employees exhibiting negative behaviours. These programmes could encompass interventions to address organisational cynicism and promote moral engagement. Organisations can design training initiatives that target the reduction of cynicism and the enhancement of ethical decision-making skills among employees. These programmes may include workshops, awareness campaigns, and leadership development initiatives that foster a positive organisational culture and ethical conduct. By investing in such training programmes, companies can proactively address the underlying factors contributing

to employee expediency associated with leader psychopathy. These initiatives contribute to a more ethical and positive work environment and empower employees to resist negative influences and make ethically sound decisions in challenging situations.

LIMITATIONS AND FUTURE DIRECTIONS

This study possesses certain limitations that provide avenues for future research. Primarily, due to time constraints and limited resources, our study adopted a cross-sectional rather than a longitudinal design. A cross-sectional approach captures a snapshot of data at a specific time, which may restrict our ability to establish causation or track changes over an extended period. Future researchers may benefit from employing longitudinal methodologies, allowing for the exploration of how variables evolve and interact over an extended timeframe. This approach could enhance the robustness of findings and provide a more nuanced perspective on the causal relationships suggested in our cross-sectional study. However, employing time-lagged designs would reduce the potential for selection bias. Another significant limitation of this study is the high dropout rate, which reduced the sample size from 450 to 356 participants. While this attrition may have introduced bias, our analysis of group differences did not reveal significant discrepancies, suggesting that the dropout group was not systematically different from the remaining participants. Despite these constraints, our study lays a foundation for subsequent research endeavours to delve deeper into the complexities of the examined phenomena. Future studies could be enhanced by including a moderator variable. Several potential variables that could reduce the negative impact of leader psychopathy on employee expediency are hardiness and resilience.

CONCLUSION

The results of this investigation demonstrate that leader psychopathy possesses the potential to stimulate employee expediency. This is facilitated by the emergence of moral disengagement and organisational cynicism, which subsequently incentivise expedient behaviours among employees. By implementing the social cognitive viewpoint, conservation of resources, and social exchange theory, our research findings contribute to expanding knowledge about employee expediency and leader psychopathy. Consequently, the findings of this research offer several significant recommendations that businesses may use to lessen the presence of leader psychopathy and employee expediency.

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Od psihopatije do koristoljublja: razotkrivanje posredničkih uloga organizacijskoga cinizma i moralne neangažiranosti u dinamici vodstva

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Provedeno istraživanje temelji se na principima socijalne razmjene (SET), socijalne kognitivne teorije (SCT) i teorije očuvanja resursa (COR). Te su nam teorije omogućile da shvatimo neizravnu povezanost između psihopatije vođe i koristoljublja zaposlenika. Kako bismo potvrdili to istraživanje, proveli smo anketiranje u tri navrata,

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prikupljajući podatke od 282 hotelska zaposlenika u Indoneziji. Za testiranje hipoteza upotrijebljena je tehnika PLS-SEM. Rezultati su pokazali da je psihopatija vođe imala pozitivan izravan i neizravan učinak na koristoljublje zaposlenika kroz organizacijski cinizam i moralnu neangažiranost. Dajemo nove teorijske, empirijske i praktične doprinose objašnjavajući zašto psihopatija vođa utječe na koristoljublje zaposlenika. Ova je studija jedna od prvih koja je integrirala psihopatiju vođe, organizacijski cinizam, moralnu neangažiranost i koristoljublje zaposlenika u jedinstven teorijski model.

Ključne riječi: psihopatija, vođa, cinizam, neangažiranost, koristoljublje, hotel, zaposlenik



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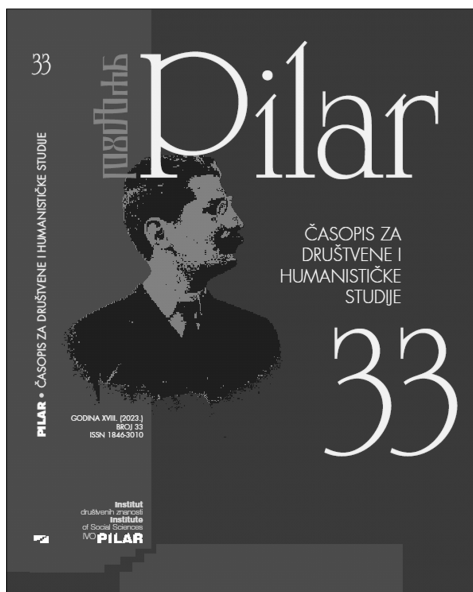
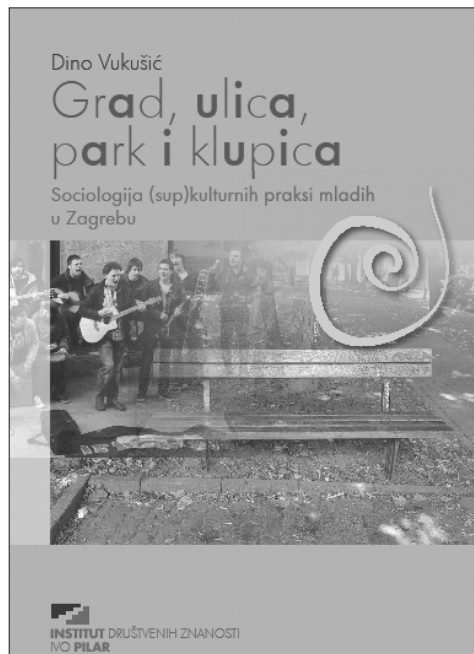
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