

# Samoozljeđivanje i suicidalnost srednjoškolaca prije i tijekom pandemije COVID-19

## */ Self-Injury and Suicidality Among High-School Students Prior to and During the COVID-19 Pandemic*

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Ciljevi istraživanja bili su usporediti pojavnost samoozljeđivanja i suicidalnih misli na uzorku srednjoškolaca Grada Zagreba 2016. i 2021. godine te istražiti prediktore samoozljeđivanja i suicidalnih misli kod srednjoškolaca. U istraživanju su sudjelovali učenici 1. razreda zagrebačkih srednjih škola, pri čemu je 2016. godine sudjelovalo 269, a 2021. godine 353 učenika. U oba uzorka najzastupljeniji su bili učenici koji pohađaju gimnazije, prosječne dobi 15 godina, s podjednako djevojaka i mladića. Ukupno gledajući, rezultati ukazuju na dvostruko veću pojavnost samoozljeđivanja kod zagrebačkih srednjoškolaca u usporedbi 2016. (17,0 %) i 2021. godine (29,1 %). Kod suicidalnih misli nisu nađene značajne razlike, iako je udio sudionika koji su iskazali da su barem jednom razmišljali o suicidu bio visok (2016. 27,7 %, a 2021. 24,8 %). Međutim, djevojke iskazuju otprilike dvostruko više samoozljeđivanja (2021. 38,2 %) i suicidalnih misli (34,2 %) od mladića (2021. 19,9 % samoozljeđivanja i 15,8 % suicidalnih misli). Mladi koji procjenjuju da njihove obitelji imaju manje novaca od drugih iskazuju najviše samoozljeđivanja i suicidalnih misli. Rezultati hijerarhijskih regresijskih analiza ukazuju da odabrani skupovi prediktora objašnjavaju izrazito visoke postotke varijance i samoozljeđivanja (43,6 %) i suicidalnih misli (41,9 %). Značajni čimbenici za obje vrste autoagresivnih pokazatelja su manje izražavanje topline od roditelja i više odbijanja te nekonstruktivni načini suočavanja sa stresom, kao i lošije samopoimanje u određenom aspektu.

*/ The objectives of the study were to compare the occurrence of self-injury and suicidal ideations on a sample of high-school students in the City of Zagreb in 2016 and 2021, and to examine the predictors of self-injury and suicidal ideations among high-school students. The participants of the study were 1st grade students from high schools in Zagreb, with 269 students participating in 2016, and 353 in 2021. The most represented group in both samples were the students attending gymnasium, aged 15 on average, with a roughly equal share of boys and girls. The results point to a twofold increase in the occurrence of self-injury among Zagreb high-school students when comparing 2016 (17.0%) and 2021 (29.1%). No significant differences were found in suicidal ideations, although the proportion of participants who reported thinking about committing suicide on at least one occasion was high (27.7% in 2016 and 24.8% in 2021). Adolescent girls reported roughly two times more self-injury (38.2% in 2021) and suicidal ideations (34.2%) than adolescent boys (19.9% self-injury and 15.8% suicidal ideations in 2021). Most self-injuries and suicidal thoughts were reported by young people who estimated that their families had less money than others. The results of hierarchical regression analyses showed that selected sets of predictors accounted for markedly high variance percentages of both self-injuries (43.6%) and suicidal ideations (41.9%). Significant factors for both types of self-aggressive behaviours include lower expression of parental warmth and more parental rejection, as well as non-constructive ways of coping with stress and more negative self-concept in a certain aspect.*

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**UVOD**

Adolescencija je razvojno razdoblje u kojem se povećava razina internaliziranih problema poput depresivnosti i anksioznosti, kao i rizik za pojavu autoagresivnih ponašanja poput samoozljeđivanja i suicidalnosti (1,2). Pri tome je u posljednjih 30 godina prisutan značajan porast internaliziranih problema adolescenata (3), a istraživanja nalaze slične trendove za samoozljeđivanje i suicidalne misli. U međunarodnoj literaturi o samoozljeđivanju istraživači uglavnom koriste dva slična, ali ipak različita pojma – namjerno samoozljeđivanje (engl. *Deliberate self-harm*, DSH) i nesuicidalno samoozljeđivanje (engl. *Non-suicidal self-injury*, NSSI). Namjerno samoozljeđivanje označava termin za nanošenje boli ili ozljeda samom sebi, sa suicidalnom namjerom ili bez nje te se uglavnom javlja u europskim i australskim istraživanjima. Istraživanja iz Sjeverne Amerike obično koriste termin nesuicidalnog samoozljeđivanja koji je izravno i namjerno nanošenje boli ili ozljeda samom sebi, koje se ne provodi s namjerom počinjenja suicida ni iz kulturalnih ili religijskih običaja (4). Životna prevalencija kod adolescenata iznosi 8 – 47 %, a češće se pojavljuje kod djevojaka (5). U ovom radu pregled literature uključuje i istraživanja namjernog samoozljeđivanja (DSH) i nesuicidalnog samoozljeđivanja (NSSI) u onim terminima koje su koristili autori pojedinih istraživanja. U odjeljcima Metoda i Rezultati bit će naznačeni specifični termini

**INTRODUCTION**

Adolescence is a developmental period during which the level of internalising problems, such as depression and anxiety, increases along with the risk for the occurrence of self-aggressive behaviours, such as self-injury and suicidality (1, 2). At the same time, a significant increase in internalising problems among adolescents has been noted (3) over the last 30 years and studies observe similar trends in self-injury and suicidal ideations. In the literature on self-injury/self-harm researchers mostly use two similar, yet different terms - deliberate self-harm (DSH) and non-suicidal self-injury (NSSI). DSH is used as a term for self-injurious behaviours with and without suicidal intent, mostly in European and Australian research. Research from North America usually uses the term NSSI - direct and deliberate self-infliction of pain or self-harm, which is not performed with a purpose of committing suicide nor due to cultural or religious customs (4). Lifetime prevalence in adolescents is 8–47%, and it is more common in girls (5). In this paper, the literature review includes research both on DSH and NSSI, using the terms used by the authors of the studies. In the sections dedicated to the methods and results, we will indicate the specific terms used for the the purposes of this study. Suicidality refers to a heterogeneous group of behaviours including suicidal ideations, plans, suicide attempts and a committed suicide (6). In Croa-

korišteni u ovom istraživanju. Suicidalnost se pak odnosi na heterogenu skupinu ponašanja koja uključuje suicidalne misli, planove, pokušaje te učinjeni suicid (6). U Hrvatskoj, kao i u drugim zemljama svijeta, suicid je u 2020. godini bio drugi vodeći uzrok smrti adolescenata u dobi 15 – 19 godina, nakon prometnih nesreća (7,8). Podatci Ministarstva unutarnjih poslova pokazuju da je u 2019. godini bilo 26 pokušaja te šest izvršenih samoubojstava kod djece i mladih, u 2020. godini 52 pokušaja i 10 izvršenih samoubojstava, a u 2021. godini 63 pokušaja te sedam izvršenih samoubojstava djece i mladih (9-11).

Odnos samoozljeđivanja, suicidalnih misli i suicidalnosti je višeznačan. Iako samoozljeđivanje samo po sebi ne uključuje nužno suicidalnu namjeru nego ima cilj smanjenja psihološke boli i patnje, istraživanja pokazuju da su i namjerno samoozljeđivanje i nesuicidalno samoozljeđivanje snažni prediktori suicidalnih misli (1,12). Suicidalne misli su pasivne misli o želji za smrću ili aktivne misli o suicidu koje nisu popraćene pripremnim ponašanjem (13). Devet od 10 adolescenata koji su pokušali suicid ujedno izvještavaju o samoozljeđivanju (14), a 70 % adolescenata koji se samoozljeđuju imali su pokušaj suicida (15). Ipak, oko 70 % ljudi koji imaju suicidalne misli ne pokušaju učiniti suicid, no suicidalne misli su značajan rizik za pokušaj suicida (16), što upućuje na važnost praćenja i reagiranja na samoozljeđivanje i suicidalne misli kod mladih.

Primjetan je zabrinjavajući porast samoozljeđivanja i suicidalnih misli u prethodnom desetljeću. Tako se broj pedijatrijskih hospitalizacija zbog samoozljeđivanja i suicidalnih misli u američkim bolnicima udvostručio u razdoblju 2015. – 2018. godine (16), dok su hitni prijami zbog samoozljeđivanja adolescenata u Kanadi povećani za 135 % u razdoblju 2009. – 2017. godine (17). Navedena istraživanja pronašla su češća povećanja samoozljeđivanja i suicidalnih misli za djevojke nego za mladiće.

tia, as in other countries around the world, in 2020 suicide was the second leading cause of death in adolescents aged 15 to 19, after traffic accidents (7, 8). According to data from the Ministry of Interior, among children and young people there were 26 attempted and 6 committed suicides in 2019, 52 attempted and 10 committed suicides in 2020, and 63 attempted and 7 committed suicides in 2021 (9, 10, 11).

The relation between NSSI, DSH, suicidal ideations and suicidality is multifaceted. Although NSSI by itself does not include suicidal intent, but is rather aimed at alleviating psychological pain and suffering, studies show that NSSI is a strong predictor of suicidal ideations (1), as is DSH (12). Suicidal ideations represent passive thoughts about wanting to be dead or active thoughts about suicide, which are not accompanied by preparatory behaviour (13). Nine out of ten adolescents who have attempted suicide also report NSSI (14), and 70% of adolescents who engage in NSSI have attempted to commit suicide (15). Although about 70% of people with suicidal ideations do not attempt to commit suicide, suicidal ideations represent a significant risk for attempted suicide (16), which points to the importance of monitoring and reacting to self-injury and suicidal ideations in youth.

In the past decade, a worrying increase in self-injury and suicidal ideations has been observed. The number of paediatric hospitalisations due to NSSI and suicidal ideations doubled in US hospitals during the period 2008-2015 (16), while emergency visits by adolescents for NSSI in Canada increased by 135% in the period 2009-2017 (17). These studies have identified higher effects of the increase in NSSI and suicidal ideations among adolescent girls than boys.

Following the increase in the occurrence of self-injury and suicidal ideations, researchers were interested in examining the effects of the COVID-19 pandemic on the occurrence

S obzirom na povećanje pojavnosti samoozljeđivanja i suicidalnih misli istraživače je zanimalo kako se pandemija COVID-19 odrazila na pojavnost autoagresivnih ponašanja. Naime, pandemija COVID-19 koja je u lipnju 2022. godine uzrokovala 6,3 milijuna smrtnih slučajeva i preko 530 milijuna slučajeva zaraze odrazila se na sve aspekte života mladih ljudi. Različita istraživanja pokazala su kako je mladima narušene mentalno zdravlje u kontekstu pandemije nego starijima, poglavito zbog različitih društvenih ograničenja koja su morala nastupiti zbog pandemije (npr. 18,19). To se objašnjava teorijom socioemocionalne selekcije (20) koja smatra da su mladi motivirani ponašanjima i aktivnostima koje se odnose na „pripremu za budućnost”, tijekom pandemije uglavnom ograničena, dok su stariji motivirani doživljavanjem pozitivnih iskustava, koja su tijekom epidemije i dalje bila moguća. Dodatno, prema Modelu integracije snaga i ranjivosti (21) stariji odrasli manje reagiraju na dnevne stresore, doživljavaju manje neugodnih emocija i pokazuju bolje ishode mentalnog zdravlja (20,22), što objašnjava razlike u ishodišta mentalnog zdravlja i tijekom pandemije.

Istraživanje Steeg i sur. (23) bavilo se usporedbom pojavnosti namjernog samoozljeđivanja prije i tijekom pandemije na području Velike Britanije za sve dobne skupine. Od lipnja 2020. do srpnja 2021. godine adolescenti u dobi 10 – 17 godina češće su registrirani u primarnoj zdravstvenoj zaštiti zbog samoozljeđivanja, nego što je to bilo u istom razdoblju godinu dana ranije (23), dok druge dobne skupine nisu pokazale povećanje stope samoozljeđivanja. Drugo istraživanje, provedeno u 10 zemalja (Engleska, Škotska, Irska, Austrija, Italija, Mađarska, Srbija, Turska, Oman i Ujedinjeni Arapski Emirati), provjeravalo je razlike u hitnim psihijatrijskim prijama zbog namjernog samoozljeđivanja djece i adolescenata tijekom karantene zbog pandemije COVID-19 u ožujku i travnju 2020., u odnosu na isto razdoblje 2019. godine (24). Iako je u karantenskom razdoblju broj hitnih

of self-aggressive behaviours. The COVID-19 pandemic, which in June 2022 registered 6.3 million deaths and over 530 million infection cases, has affected all aspects of young people's lives. Various studies have shown that during the pandemic young people experienced more mental health problems than older people, especially because of various social restrictions that needed to be introduced (e.g. 18, 19). These findings can be explained by the socioemotional selectivity theory (20), which states that young people are motivated by behaviours and activities related to “the preparation for the future”, which have largely been restricted during the pandemic, whereas older people are motivated by positive experiences, which were still possible during the pandemic. Furthermore, according to the Strength and Vulnerability Integration Model (21), older adults show less reactivity to daily stressors, experience fewer negative emotions, and show better mental health outcomes (20, 22), which also explains the differences in the mental health outcomes during the pandemic.

A study conducted by Steeg et al. (23) focused on the comparison of the occurrence of self-harm before and during the pandemic among all age groups in the UK. From June 2020 to July 2021, adolescents aged 10 to 17 years were more frequently admitted in primary healthcare due to self-harm compared with the same period in the previous year (23), while no increase in the rates of self-harm was observed in other age groups. Another study implemented in 10 countries (England, Scotland, Ireland, Austria, Italy, Hungary, Serbia, Turkey, Oman and United Arab Emirates) examined the changes in emergency psychiatric admissions for self-harm of children and adolescents during the COVID-19 lockdown in March and April of 2020 compared with the same period in 2019 (24). Although emergency psychiatric admissions decreased during the lockdown, an increase in self-harm was recorded, from 50% in 2019 to 57% in 2020 (24). An Australian

psihijatrijskih prijama opao, svejedno je zabilježen porast samoozljeđivanja, s 50 % u 2019. na 57 % u 2020. godini (24). Australsko istraživanje je pratilo promjene u pojavnosti samoozljeđivanja i suicidalnih misli u hitnim prijamima na godišnjoj razini prije pandemije (2015. – veljača 2020.) te tijekom pandemije (ožujak 2020. – lipanj 2021.). Rezultati su pokazali rast ovih ponašanja od 8,4 % godišnje prije pandemije, dok se od pandemije postotak povećao na 19,2 % rasta godišnje, poglavito zbog porasta kod djevojaka u dobi 13 – 17 godina (čak 47,1 % godišnje od pandemije), dok kod mladića nije bilo značajnog porasta (25). Brausch i sur. (26) usporedili su dva uzorka američkih adolescenata – prije i nakon početka pandemije po različitim parametrima mentalnog zdravlja i zaključili da su mladi u pandemijskom uzorku iskazali više simptoma internaliziranih problema i suicidalnih misli od mladih prije pandemije. Kod kanadskih adolescenata (27) također je primjetan porast u stopama samoozljeđivanja i suicidalnih misli u pandemiji, a posebno su rizični bili mladi koji pokazuju teškoću u rodnom identitetu, nisu živjeli s oba roditelja, pokazuju druge probleme mentalnog zdravlja ili češću uporabu marihuane.

## Prediktori samoozljeđivanja i suicidalnih misli

Prema Integriranom teorijskom modelu ne-suicidalnog samoozljeđivanja (28), postoji niz čimbenika rizika i ranjivosti koji dovode do samoozljeđivanja kod mladih. Distalni čimbenici rizika odnose se na genetsku predispoziciju za visoku emocionalnu i kognitivnu reaktivnost, zlostavljanje i zanemarivanje u djetinjstvu te obiteljsko neprijateljstvo i kritiziranje. Distalni čimbenici rizika predviđaju intrapersonalne i interpersonalne čimbenike ranjivosti. Intrapersonalni čimbenici ranjivosti su snažne neugodne emocije i kognicije te niska tolerancija stresa. Interpersonalni čimbenici ranjivosti su nerazvijene komunikacijske vještine i nerazvijene vještine rješavanja problema u socijalnim odnosima.

study examined the changes in the annual occurrence of self-harm and suicidal ideations in emergency departments before the pandemic (2015 – February 2020) and during the pandemic (March 2020 – June 2021). The results showed an increase in these behaviours of 8.4% per year before the pandemic, while in the period since the COVID-19 pandemic the growth increased to 19.2% per year, primarily due to increased presentations of girls aged 13 to 17 (as much as 47.1% per year since COVID-19), whereas no significant increase was observed in adolescent boys (25). Brausch et al. (26) compared two samples of American adolescents, before and after the emergence of the pandemic, on various parameters of mental health and concluded that young people in the pandemic sample showed more symptoms of internalizing problems and suicidal ideation than young people before the pandemic. In Canadian adolescents (27), there was also a noticeable increase in the rates of self-injury and suicidal ideation during the pandemic. Mainly at risk were young people who showed difficulty with gender identity issues, did not live with both parents, showed other mental health problems or more frequent use of marijuana.

## Predictors of Self-injury and Suicidal Ideations

According to the Integrated Theoretical Model of NSSI (28), there are a number of risks and vulnerability factors leading to NSSI in young people. Distal risk factors refer to the genetic predisposition for high emotional and cognitive reactivity, childhood abuse and maltreatment, and familial hostility and criticism. Distal risk factors forecast intrapersonal and interpersonal vulnerability factors. Intrapersonal vulnerability factors are highly aversive emotions and cognitions and poor stress tolerance. Interpersonal vulnerability factors are poor communication skills and poor social problem-solving skills. Together, these vulnerability factors

Zajednički, ovi čimbenici ranjivosti predviđaju emocionalne reakcije zbog stresnih događaja koji izazivaju preveliku ili premalu pobuđenost kod mlade osobe ili pak zbog stresnih događaja koji su preveliki socijalni zahtjevi na mladu osobu. U interakciji odgovora na stres sa specifičnim čimbenicima ranjivosti na koncu dolazi do samoozljeđivanja u funkciji regulacije afektivnog iskustva ili regulacije socijalnih situacija. Pojedini čimbenici iz opisanog teorijskog modela nesuicidalnog samoozljeđivanja (28) potvrđeni su u različitim istraživanjima. Primjerice, višestruko je potvrđeno kako su distalni čimbenici nepovoljnih životnih događaja poput zlostavljanja i zanemarivanja rizični faktori za pojavu i veću učestalost nesuicidalnog samoozljeđivanja kod mladih (29,30). Među intrapersonalnim čimbenicima u istraživanjima se posebno ističe povezanost nesuicidalnog samoozljeđivanja i loše slike o sebi (31), dok je u interpersonalnim čimbenicima važan nedostatak strategija nošenja sa stresom, što se kontinuirano pokazuje kao prediktor nesuicidalnog samoozljeđivanja (31). Dodatno, kao rizični čimbenici u istraživanjima i namjernog i nesuicidalnog samoozljeđivanja pokazali su se ženski rod, starija dob adolescenata, niži materijalni status obitelji, anksiozna privrženost, narušeno mentalno zdravlje, nedostatak socijalne podrške (npr. 32, 33).

Prediktori suicidalnih misli slični su spomenutim prediktorima samoozljeđivanja. Prema Joinerovoj Interpersonalnoj teoriji suicidalnog ponašanja (34) možemo općenito podijeliti prediktore suicidalnosti na one koji dovode do kapaciteta za počinjenje suicida te prediktore koji jačaju želju za počinjenjem suicida. Prediktori vezani uz kapacitet za počinjenje odnose se na iskustva različitih nepovoljnih životnih događaja, poput nesreća, gubitaka i zlostavljanja, kao i iskustva samoozljeđivanja koja dovode do habituacije na bol i smanjenja straha od smrti kod pojedinaca. To je u skladu s nalazima istraživanja o kumulativnim nepovoljnim životnim događajima kao prediktorima suicidalnih misli (35), posebice

predict emotional reactions due to stressful events that trigger over- or under-arousal of a young person, or due to stressful events that present unmanageable social demands for a young person. The interaction between the stress response and the specific vulnerability factors finally leads to NSSI, which functions as a means of regulating affective experience or a social situation. Certain factors from the described theoretical model of NSSI (28) have been confirmed by different studies. For example, a number of studies have confirmed that distal factors of adverse life experiences, such as abuse and maltreatment, represent risk factors for the occurrence and higher frequency of NSSI among young people (29, 30). Among intrapersonal factors, studies especially highlight the connection between NSSI and poor self-image (31), while among interpersonal factors they point to a lack of strategies for coping with stress as an important deficiency, which repeatedly emerges as a predictor of NSSI (31). Additionally, studies have shown that risk factors for DSH and NSSI include female gender, older adolescent age, lower family economic status, anxious attachment, mental health problems, and a lack of social support (e.g. 32, 33).

Predictors of suicidal ideations are similar to the above-mentioned predictors of self-injury. According to Joiner's Interpersonal theory of suicidal behaviour (34), predictors of suicidality can generally be divided into those that lead to the capacity to commit suicide and the predictors that strengthen the suicidal desire. The predictors related to the capacity to commit suicide refer to experiencing various negative life events, such as accidents, losses and abuse, as well as experiences of NSSI, which lead to pain habituation and reduced fear of death in individuals. This is in line with the findings of the studies focusing on cumulative adverse life experiences as predictors of suicidal ideations (35), particularly various forms of abuse (36), and the above-mentioned relationship between

raznih oblika zlostavljanja (36), kao i o već spomenutoj vezi samoozljeđivanja i suicidalnih misli (1). Prediktori vezani uz želju za počinjenjem suicida odnose se na čimbenike narušene slike o sebi i izolacije. Narušena slika o sebi povezana je s doživljajem mlade osobe da je na teret obitelji i drugima u okolini te suicid vidi kao olakšavanje svojim bližnjima. Izolacija je povezana s doživljajima nedovoljnog pripadanja i otuđenja zbog kojih se mlada osoba ne osjeća kao integralni dio obitelji, kruga prijatelja ili drugih, njoj vrijednih, grupa. Ponovno, navedeni čimbenici se mogu pronaći u nizu istraživanja, u različitim oblicima istraživanih varijabli, poput narušenog mentalnog zdravlja i sniženog samopoštovanja (37), nedostatka strategija konstruktivnog suočavanja sa stresom (38), više roditeljske kontrole, a manje roditeljske topline i razumijevanja (39), socijalne izolacije i nedostatka prijatelja, kao i generalnog nedostatka socijalne podrške (40).

Samoozljeđivanje sa suicidalnom namjerom i suicidalnom misli ili bez njih snažni su prediktori počinjenja suicida (15) te ih je potrebno dodatno istražiti. Uz to, unatoč prisutnosti problema samoozljeđivanja i suicidalnosti, u Hrvatskoj su i dalje o tome provedena malo-brojna istraživanja, uglavnom na kliničkim uzorcima (33,41-43). Stoga su ciljevi ovoga istraživanja bili:

1. Usporediti pojavnost samoozljeđivanja i suicidalnih misli na uzorku srednjoškolaca Grada Zagreba 2016. i 2021. godine;
2. Istražiti pojavnost i prediktore samoozljeđivanja i suicidalnih misli kod srednjoškolaca.

## METODA

### Sudionici

U istraživanju su sudjelovali učenici 1. razreda zagrebačkih srednjih škola pri čemu je 2016. godine sudjelovalo 269 učenika, a 2021. godine

NSSI and suicidal ideations (1). The predictors related to the suicidal desire refer to the factors of impaired self-image and isolation. Impaired self-image is connected to a young person's experience of being a burden to their family and other people in their environment, which is why suicide is viewed as a relief for these people. Isolation is related to the experiences of alienation and insufficient sense of belonging, due to which a young person does not feel as an integral part of the family, a circle of friends or other groups that are important to them. Once again, these factors can be found in a number of studies and in various forms of analysed variables, such as mental health problems and lower self-esteem (37), a lack of strategies to cope with stress in a constructive manner (38), higher levels of parental control, with less parental warmth and understanding (39), social isolation and a lack of friends, as well as a general lack of social support (40).

NSSI, DSH and suicidal ideations are strong predictors for committing suicide (15) and therefore require further studies. In addition, despite the presence of the problems of NSSI and suicidality, few studies on these issues have to date been implemented in Croatia, mainly on clinical samples (33,41-43). Therefore, the objectives of this study were: (1) to compare the occurrence of self-injury behaviours and suicidal ideations on a sample of high-school students in the City of Zagreb in 2016 and 2021 and (2) to study the occurrence and predictors of self-injury behaviours and suicidal ideations in high-school students.

## METHOD

### Participants

The participants of the study were 1st grade students from high schools in Zagreb, with 269 students participating in 2016, and 353 in 2021. The most represented group in both sam-

353 učenika. U oba uzorka najzastupljeniji su bili učenici koji pohađaju gimnazije (tablica 1.) te je prosječna dob bila 15 godina (tablica 2.).

U tablici 3. prikazana je raspodjela sudionika prema rodu, pri čemu je 2021. godine raspodjela bila ravnomjerna, dok su u uzorku iz 2016. bile zastupljenije učenice. Većina sudionika dolazi iz cjelovitih obitelji, pri čemu je udio onih koji imaju razvedene roditelje u oba uzorka oko 16 % (tablica 4.). Većina sudionika procjenjuje da dolaze iz obitelji prosječnog materijalnog statusa (tablica 5.).

were the students attending gymnasium (Table 1) and the average age of participants was 15 (Table 2).

Table 3 shows the distribution of participants by gender, which was equal in 2021, while female students prevailed in the 2016 sample. The majority of participants came from intact families, with the proportion of students whose parents were divorced being about 16% in both samples (Table 4). The majority of participants estimated that their families were of average economic status (Table 5).

**TABLICA 1.** Raspodjela sudionika prema vrsti srednjoškolskog programa koji pohađaju  
**TABLE 1.** Distribution of participants according to the type of high school programme

	2016. godina		2021. godina	
	Frekvencija / Frequency	Postotak / %	Frekvencija / Frequency	Postotak / %
Trogodišnja strukovna škola / Three-year vocational school	56	21,0	127	36,2
Četverogodišnja strukovna škola / Four-year vocational school	76	28,5	71	20,2
Gimnazija / Gymnasium	135	50,6	153	43,6

**TABLICA 2.** Dob sudionika  
**TABLE 2.** Participants' age

	Min	Max	M	SD
2016. godina	14	17	15,16	0,468
2021. godina	14	16	14,78	0,468

**TABLICA 3.** Raspodjela sudionika prema rodu  
**TABLE 3.** Participants' gender

	2016. godina		2021. godina	
	Frekvencija / Frequency	Postotak / %	Frekvencija / Frequency	Postotak / %
Ženski / Female	170	63,2	162	45,9
Muški / Male	99	36,8	191	54,1

**TABLICA 4.** Raspodjela sudionika prema bračnom statusu roditelja  
**TABLE 4.** Distribution of participants according to parents' marital status

	2016. godina		2021. godina	
	Frekvencija / Frequency	Postotak / %	Frekvencija / Frequency	Postotak / %
U zajedničkom braku ili izvanbračnoj zajednici / Marriage or cohabitation	209	78,0	288	82,5
Razvedeni / Divorced	42	15,7	55	15,8
Udovac/udovica / Widowed	12	4,5	2	0,6
Ostalo / Other	5	1,9	4	1,1



**TABLICA 5.** Raspodjela sudionika prema procjeni materijalnog statusa obitelji  
**TABLE 5.** Distribution of participants according to the assessment of the family economic status

	2016. godina		2021. godina	
	Frekvencija / Frequency	Postotak / %	Frekvencija / Frequency	Postotak / %
Manje od drugih obitelji / Less than other families	32	12,1	25	7,4
Kao i druge obitelji / Like other families	173	65,3	220	64,7
Više od drugih obitelji / More than other families	60	22,6	95	27,9

## Instrumentarij

### Sociodemografska obilježja

U oba istraživanja prikupljeni su podaci o spolu, dobi, vrsti srednjoškolskog programa koji učenik pohađa i bračnom statusu roditelja. Sudionici su također procjenjivali financijske mogućnosti svoje obitelji u usporedbi s drugim obiteljima. Na svim navedenim pitanjima sudionici su odabirali neki od unaprijed ponuđenih odgovora osim na pitanju o dobi koje je bilo otvoreno. Ispitan je i niz drugih sociodemografskih obilježja sudionika, no ona neće biti korištena u analizama u sklopu ovog rada.

### Samoozljeđivanje i suicidalne misli

U istraživanju 2016. godine korišten je Upitnik samoiskaza rizičnog i delinkventnog ponašanja SRDP-2015 (44) u sklopu kojeg su ispitana i autoagresivna ponašanja. Od sudionika se tražilo da navedu koliko su se često u posljednjih godinu dana ponašali na određene načine, a bili su im ponuđeni odgovori na ljestvici: 0 – niti jednom, 1 – jednom ili dvaput, 2 – nekoliko puta godišnje, 3 – jednom mjesečno, 4 – nekoliko puta mjesečno i 5 – nekoliko puta tjedno. Nesuicidalno samoozljeđivanje je ispitano korištenjem čestice „*Namjerno se povrijedio/la (npr. rezao/la se, čupao/la, palio/la, udarao/la, grebao/la do krvi), a da si nisi htio/htjela oduzeti život*“, a suicidalne misli česticom „*Razmišljao/la o tome da počiniš samoubojstvo*“.

Kriterijske varijable su 2021. godine ispitane korištenjem Inventara preuzimanja rizika i

## Instruments

### Socio-demographic characteristics

The data on gender, age, type of high school programme the student attended and their parents' marital status were collected in both surveys. The participants also assessed the family economic status in relation to other families. For all these questions, participants selected their response from a predefined set of options, except for the question about the respondent's age, which was open-ended. A number of other participants' socio-demographic characteristics were also examined, but these features will not be used in this paper's analyses.

### Self-injury and suicidal ideations

In 2016, the Self-Reported Delinquency and Risk Behaviours Questionnaire (SRDP-2015) was used (44), which included the assessment of self-aggressive behaviours. The participants were asked to state how often in the past year they behaved in certain ways, and they provided their responses on the following scale: 0 – Not even once, 1 – Once or twice, 2 – Several times a year, 3 – Once a month, 4 – Several times a month, and 5 – Several times a week. NSSI was tested through the item “*Have you deliberately hurt yourself (e.g. cut your skin, pulled, burned, hit or scratched parts of your body) without the intention of taking your life?*”, and suicidal ideations were tested through the item “*Have you thought about committing suicide?*”.

The Risk-Taking and Self-Harm Inventory for Adolescents (45) examined the criterion vari-

samoranjavanja adolescenata (*The Risk-Taking and Self-Harm Inventory for Adolescents*; 45) pri čemu je ukupno korišteno odabranih 13 čestica. Za ispitivanje namjernog samoozljeđivanja sa suicidalnom namjerom ili bez nje korišteno je 11 čestica (na primjer „*Jesi li se ikada namjerno porezao/la?*“), a za suicidalne misli čestica „*Jesi li ikada ozbiljno razmišljao/la da počiniš samoubojstvo?*“. Sudionici su odgovore davali na ljestvici: 0 – nikada, 1 – jednom, 2 – više od jednom i 3 – mnogo puta. Ukupan rezultat za samoozljeđivanje dobiven je kao prosjek svih 11 odgovora pri čemu viši rezultat ukazuje na veću učestalost samoozljeđivanja. Nakon ispunjavanja upitnika sudionici su odgovarali na dva dodatna pitanja o samoozljeđivanju, jesu li se ikada namjerno ozlijedili te ako jesu, koje su sve dijelove tijela namjerno ozljeđivali, pri čemu su im na tom pitanju bili ponudeni odgovori.

### Roditeljstvo

Karakteristike roditeljstva ispitane su Upitnikom socijalnog konteksta roditeljstva (*Parents as Social Context Questionnaire*, PASCQ, 46) u sklopu kojeg su sudionici procjenjivali ponašanja svojih roditelja prema njima, i to posebno za majku, a posebno za oca. Ukupno se upitnik sastoji od 24 čestice za svakog roditelja, koje su podijeljene u 6 podljestvica (po 4 čestice za svaku podljestvicu): toplina, odbijanje, struktura, kaos, potpora autonomiji i prisila. Sudionicima su ponudeni odgovori na ljestvici: 1 – uopće se ne slažem, 2 – većinom se ne slažem, 3 – većinom se slažem i 4 – u potpunosti se slažem. U sklopu ovog rada izračunati su ukupni rezultati za oba roditelja zajedno na svakoj od podljestvica kao prosjeci svih pripadajućih čestica, a viši rezultati na pojedinoj podljestvici ukazuju na njenu veću izraženost u roditeljskom ponašanju iz perspektive sudionika.

### Samopojmanje

Samopojmanje sudionika ispitano je korištenjem Marshovog upitnika samoopisivanja II (*Self-Description Questionnaire II*, SDQ II;

ables in 2021, with a total of 13 selected items being used. To assess self-injury behaviour, 11 items were used (e.g. “*Have you ever intentionally cut your skin?*”), and the item “*Have you ever seriously thought about killing yourself?*” was used to assess suicidal ideations. The participants provided their responses on the following scale: 0 – Never, 1 – Once, 2 – More than once, and 3 – Many times. The total score for DSH was calculated as the average of all 11 responses, and the higher score indicates the higher frequency of DSH. After completing the questionnaire, the participants provided answers to two additional questions on DSH: whether they had ever deliberately injured themselves, and if they had, which body parts they had deliberately injured (with answer options provided for that question).

### Parenthood

The characteristics of parenting style were examined by means of the Parents as Social Context Questionnaire (PASCQ, 46), whereby the participants assessed their parents’ behaviours, separately for mothers and fathers. The questionnaire comprises a total of 24 items for each parent, divided into the following 6 subscales (with 4 items per subscale): Warmth, Rejection, Structure, Chaos, Autonomy Support and Coercion. The participants provided their responses using the following scale: 1 – Completely disagree, 2 – Mostly disagree, 3 – Mostly agree, and 4 – Completely agree. For the purposes of this paper, total results for both parents together were calculated for each subscale as average scores of all corresponding items, with higher results on individual subscale indicating its higher presence in parental behaviour, as seen from the participants’ perspective.

### Self-concept

Participants’ self-concept was assessed by means of the Marsh’s Self-Description Questionnaire II – SDQ II (47), with only four fol-

47) pri čemu su u ovom istraživanju korištene samo četiri podljestvice koje se odnose na tjelesni izgled (8 čestica), samopoštovanje (10 čestica), odnos s vršnjacima istog (10 čestica) i s vršnjacima suprotnog spola (8 čestica). Primjer čestice za samopoštovanje je „Većinu toga što radim, uradim dobro“. Ponudena ljestvica za davanje odgovora bila je: 1 – netočno, uopće me ne opisuje, 2 – uglavnom netočno, 3 – više netočno nego točno, 4 – više točno nego netočno, 5 – uglavnom točno, 6 – točno, u potpunosti me opisuje. Ukupni rezultati za sve četiri podljestvice izračunati su kao prosjek odgovora na pripadajućim česticama pri čemu su pojedine čestice prethodno obrnuto kodirane na način da viši rezultat ukazuje na pozitivnije samopoznavanje.

### Suočavanje sa stresom

Za ispitivanje suočavanja sa stresom korišten je Njemački upitnik suočavanja za djecu i adolescente (*German Coping Questionnaire for Children and Adolescents SVF-KJ*; 48) koji se sastoji od 36 čestica podijeljenih u 9 podljestvica (po 4 čestice za svaku podljestvicu): umanjivanje, distrakcija/rekreacija, kontrola, pozitivne samoupute, traženje socijalne podrške, pasivno izbjegavanje, ruminacija, ravnodušnost, agresija. Primjer tvrdnje je „Radim plan kako riješiti problem“. Od sudionika se traži da označe koliko često čine pojedine radnje kada se nalaze u nekoj stresnoj situaciji ili se suočavaju s nekim problemom na ljestvici: 0 – nikada, 1 – rijetko, 2 – ponekad, 3 – često i 4 – gotovo uvijek. U ovom radu su podljestvice grupirane u nekonstruktivne (izbjegavanje, ruminacija, rezignacija, agresija) i konstruktivne načine suočavanja sa stresom (umanjivanje, distrakcija/rekreacija, kontrola, pozitivne samoupute, traženje socijalne podrške) te su dva ukupna rezultata dobivena kao prosjek odgovora na svim pripadajućim česticama pri čemu viši rezultat ukazuje na češće korištenje nekonstruktivnih, odnosno konstruktivnih načina suočavanja.

lowing subscales being used in this study: physical appearance (8 items), general self-esteem (10 items), same-sex relationships (10 items) and opposite-sex relationships (8 items). A sample item for general self-esteem is “*Most of the things I do, I do well*”. The response scale was provided and included the following options: 1 – False, does not describe me at all, 2 – Mostly false, 3 – More false than true, 4 – More true than false, 5 – Mostly true and 6 – True, fully applies to me. The total scores for all four subscales were calculated as the average response for corresponding items, with certain items being previously reversely coded, so that the higher score indicated a more positive self-concept.

### Coping with stress

The German Coping Questionnaire for Children and Adolescents, SVF-KJ (48) was used to test coping with stress. The test consists of 36 items divided into 9 subscales (with 4 items per each subscale): minimisation, distraction/recreation, situation control, positive self-instructions, social support, passive avoidance, rumination, resignation, and aggression. A sample item was “*I make a plan how to fix the problem*”. Participants were asked to rate how often they performed certain actions when they were faced with a problem or a stressful situation, by using the following scale: 0 – Never, 1 – Rarely, 2 – Sometimes, 3 – Often, and 4 – Almost always. In this paper, these subscales were divided into non-constructive (avoidance, rumination, resignation, aggression) and constructive ways of coping with stress (minimisation, distraction/recreation, situation control, positive self-instructions, seeking social support). Thus, two total scores were obtained as the average responses to all corresponding items, with the higher result indicating a more frequent usage of non-constructive, i.e., constructive ways of coping.

## Postupak

Podatci prikupljeni 2016. godine dio su većeg longitudinalnog projekta (IP-2014-09-8546 Ekonomske teškoće obitelji, psihosocijalni problem i obrazovni ishodi adolescenata u vrijeme ekonomske krize – FEHAP) koji je financirala Hrvatska zaklada za znanost. Podatci su prikupljeni u tri vremenske točke, a u ovom radu korišteni su oni iz prve točke, kada su sudionici pohađali 1. razred srednje škole te su izdvojeni podatci samo iz zagrebačkih srednjih škola, dok je cijelo istraživanje provedeno u šest županija središnje Hrvatske. Prikupljanje podataka se provodilo grupno u razredima tijekom proljeća 2016. godine i trajalo je dva školska sata. Prije prikupljanja podataka roditelji učenika bili su upoznati s istraživanjem na roditeljskim sastancima i u pisanom obliku.

U jesen 2021. godine podatci su prikupljeni u sklopu pilot istraživanja za veći projekt (IP-2020-02-5967 Međugeneracijski prijenos rizika za mentalno zdravlje adolescenata – INTRAD) koji također financira Hrvatska zaklada za znanost. Podatci su prikupljeni grupno u učionicama sudionika tijekom jednog školskog sata, a roditelji su prethodno bili informirani o istraživanju pisanim putem. U oba istraživanja posebna je pažnja obraćena tome da cijeli postupak prikupljanja, obrade podataka i izvještavanja o njima bude proveden u skladu s Etičkim kodeksom istraživanja s djecom (49) te se posebno vodilo računa o dobrovoljnosti sudjelovanja, anonimnosti sudionika i povjerljivosti prikupljenih podataka. Također su oba istraživanja prije provedbe odobrili Ministarstvo znanosti i obrazovanja i Etičko povjerenstvo Pravnog fakulteta u Zagrebu.

## Obrada podataka

Pri usporedbi rezultata iz 2016. i 2021. odgovori na pripadajućim česticama su dihotomizirani kako bi se mogao usporediti udio mladih koji

## Procedure

In 2016, the data were collected as part of a larger longitudinal project (IP-2014-09-8546 Family Economic Hardship, Psychosocial Problems and Educational Outcomes of Adolescents in the Time of Economic Crisis – FEHAP) funded by the Croatian Science Foundation. The data were collected at three time points, but in this paper only the data from the first point are used, when the participants attended 1st grade of high school. Furthermore, only the data related to Zagreb high schools were used, while the whole study was implemented in six counties of Central Croatia. Group data collection was conducted in classes during two school hours in the spring of 2016. Prior to data collection, parents were informed about the study during the parents' meetings and in writing.

In autumn 2021, the data were collected as part of a pilot study conducted for a larger project (IP-2020-02-5967 Intergenerational Risk Transmission for Adolescent Mental Health – INTRAD), also funded by the Croatian Science Foundation. The data were collected in groups, in participants' classrooms during one school hour, with parents being previously informed about the study in writing. In both studies, special attention was paid to ensuring that data collection, processing and reporting procedures were fully in line with the Code of Ethics for Research Involving Children (49). The aspects of voluntary participation, participant anonymity and confidentiality of collected data were particularly taken into account. Prior to their implementation, the Ministry of Science and Education and the Ethical Review Board of the Faculty of Law in Zagreb approved both studies.

## Data processing

When the results from 2016 and 2021 were compared, the responses on corresponding items were dichotomised to enable a comparison between the proportion of young people

navode da su barem jednom i onih koji navode da se uopće nisu ponašali na ispitivane načine. Kada se radilo o samoozljeđivanju, iz podataka iz 2021. korištena je čestica samoprocjene jesu li se barem jednom namjerno ozlijedili, a ne ukupni rezultat na ljestvici, kako bi se osigurala što veća usporedivost s rezultatima iz 2016. Za navedene usporedbe korišten je hi-kvadrat test.

Kako bi se ispitali prediktori samoozljeđivanja i suicidalnih misli korišteni su podatci prikupljeni 2021. godine te su provedene hijerarhijske regresijske analize. Pritom je kod samoozljeđivanja kao kriterij korišten ukupni rezultat na ljestvici.

## REZULTATI

Dobiveni rezultati ukazuju na porast određenih problema kod zagrebačkih srednjoškolaca. Naime, 2016. godine 17,0 % učenika navelo je da su se barem jednom samoozljeđivali bez suicidalne namjere, dok je 2021. godine taj udio iznosio čak 29,1 %, odnosno postotak u drugom istraživanju bio je gotovo dvostruko veći ( $\chi^2 = 11,501$ ,  $p < ,001$ ). Kada se sagledaju ljestvični podatci iz 2021. godine, prosječan odgovor sudionika je da se nikada nisu samoozljeđivali ( $M = 0,41$ ;  $SD = 0,585$ ), što je u skladu s postotkom učenika koji navode da su se barem jednom ponašali na taj način. U 2021. godini dodatno je ispitano i na kojim su se dijelovima tijela samoozljeđivali te se pokazalo da se u najvećem broju radi o rukama, dlanovima, prstima i noktima (tablica 6.). Kod suicidalnih misli nisu nađene značajne razlike između dva istraživanja ( $\chi^2 = ,584$ ,  $p > ,05$ ), no u oba je udio sudionika koji su iskazali da su barem jednom

who reported certain behaviours on at least one occasion, and those who reported that they had never behaved in the manners being assessed. Regarding DSH in 2021, the item on whether the participants had ever deliberately hurt themselves was used instead of the overall score on the scale in order to ensure maximum comparability with the 2016 data. Chi-square test was used to perform the comparisons.

The data collected in 2021 were used to test the predictors of self-injury and suicidal ideations, with hierarchical regression analyses being performed. In doing so, the total score on the scale was used as the criterion for self-injury.

## RESULTS

The results obtained point to an increase in certain problems in high school students in Zagreb. Namely, 17.0% of students reported having injured themselves without suicidal intent on at least one occasion in 2016, while in 2021 this share was as high as 29.1%, i.e., the percentage almost doubled in the second study ( $\chi^2 = 11,501$ ,  $p < .001$ ). When the scale data for 2021 are observed, the average participants' response is that they never engaged in hurting themselves ( $M = 0.41$ ;  $SD = 0.585$ ), which is in line with the percentage of students who reported that they had behaved in this manner on at least one occasion. The 2021 study additionally tested which parts of the body had been affected by self-harm, and the results revealed that these were largely arms, hands, fingers and nails (Table 6). No significant differences were found regarding suicidal ideations between the two studies ( $\chi^2 = .584$ ,  $p > .05$ ), but in both iterations the proportion of participants who reported having con-

**TABLICA 6.** Raširenost samoozljeđivanja pojedinih dijelova tijela  
**TABLE 6.** Prevalence of self-injury of specific body parts

Torzo/trup, trbuh, stražnjica ili bokovi / Torso, stomach, buttocks or hips	Glava / Head	Lice / Face	Vrat / Neck	Ruke, dlanovi, prsti, nokti / Hands, arms, fingers, nails	Noge, stopala, nožni prsti / Legs, feet, toes
27,0%	23,6%	10,1%	12,4%	84,3%	38,2%

razmišljali o suicidu bio visok (2016. 27,7 %, a 2021. 24,8 %).

Daljnje analize su pokazale da značajno više samoozljeđivanja iskazuju djevojke nego mladići, i to otprilike dvostruko više, a ista je situacija i kod suicidalnih misli (tablica 7.). Takav se trend nalazi i u rezultatima iz 2016. godine i u podacima prikupljenima 2021. godine. Što se materijalnog statusa tiče, u tablici 8 prikazane su razlike u postotcima mladih koji su iskazali da se samoozljeđuju i imaju suicidalne misli ovisno o tome kako mladi procjenjuju materijalni status svojih obitelji (imaju manje novaca od drugih obitelji, jednako kao druge obitelji ili više od drugih obitelji). Mladi koji procjenjuju da njihove obitelji imaju manje novaca od drugih iskazuju najviše samoozljeđivanja i suicidalnih misli (tablica 8.).

Kako bi se ispitaio doprinos pojedinih prediktorskih varijabli u objašnjavanju samoozljeđivanja i suicidalnih misli izračunate su hijerarhijske regresijske analize u kojima su kao prediktori redom uvedene sociodemografske varijable, varijable roditeljstva, različiti aspekti samopoimanja i strategije suočavanja sa stresom. Prethodno su izračunate korelacije između

suicida na najmanje jednom događaju bio visok (27,7% u 2016. i 24,8% u 2021.).

Daljnje analize su pokazale da značajno više samoozljeđivanja iskazuju djevojke nego mladići, i to otprilike dvostruko više, a ista je situacija i kod suicidalnih misli (tablica 7.). Takav se trend nalazi i u rezultatima iz 2016. godine i u podacima prikupljenima 2021. godine. Što se materijalnog statusa tiče, u tablici 8 prikazane su razlike u postotcima mladih koji su iskazali da se samoozljeđuju i imaju suicidalne misli ovisno o tome kako mladi procjenjuju materijalni status svojih obitelji (imaju manje novaca od drugih obitelji, jednako kao druge obitelji ili više od drugih obitelji). Mladi koji procjenjuju da njihove obitelji imaju manje novaca od drugih iskazuju najviše samoozljeđivanja i suicidalnih misli (tablica 8.).

To test the contribution of individual predictor variables in explaining self-injury and suicidal ideations, hierarchical regression analyses were performed, in which the following predictors were introduced: socio-demographic variables, variables of parenthood, different aspects of self-concept and strategies for coping with stress. Correlations between all tested variables

**TABLICA 7.** Rodne razlike u samoozljeđivanju i suicidalnim mislima  
**TABLE 7.** Gender differences in self-injury and suicidal ideation

		Djevojke / Adolescent girls	Mladići / Adolescent boys	$\chi^2$
Samoozljeđivanje / Self-injury	2016. godina	21,3%	9,5%	6,017**
	2021. godina	38,2%	19,9%	12,770***
Suicidalne misli / Suicidal ideation	2016. godina	33,9%	16,7%	9,099**
	2021. godina	34,2%	15,8%	14,030***

\*\*p<.01; \*\*\*p<.001

**TABLICA 8.** Razlike u postotcima samoozljeđivanja i suicidalnih misli između mladih iz obitelji različitog materijalnog statusa  
**TABLE 8.** Differences in self-injury and suicidal ideation between adolescents from families of different economic status

		Manje od drugih obitelji / Less than other families	Kao i druge obitelji / Like other families	Više od drugih obitelji / More than other families	$\chi^2$
Samoozljeđivanje / Self-injury	2016. godina	38,7%	12,4%	18,3%	12,982**
	2021. godina	52,4%	25,5%	32,2%	7,084*
Suicidalne misli / Suicidal ideation	2016. godina	48,4%	24,9%	25,0%	7,528*
	2021. godina	66,7%	20,9%	24,7%	20,977***

\*p<.05; \*\*p<.01; \*\*\*p<.001

đu svih ispitivanih varijabli koje su prikazane u tablici 9. Pritom je kao indikator bračnog statusa korištena dichotomizirana varijabla gdje su roditelji koji su u braku ili izvanbračnoj zajednici kategorizirani u jednu, a svi ostali u drugu skupinu. Korelacijska analiza pokazala je da određene sociodemografske varijable nisu bile značajno povezane s kriterijskima te one nisu uvrštene u daljnje analize, odnosno za kriterij samoozljeđivanja korišten je samo rod sudionika, a za suicidalne misli i procjena materijalnog statusa obitelji.

Kada je kao kriterijska varijabla korišteno samoozljeđivanje (tablica 10.), ženski rod pokazao se značajnim prediktorom u prvom koraku analize kojim je objašnjeno 7,6 % varijance kriterija. Uvođenjem varijabli roditeljstva objašnjeno je dodatnih 26,4 % varijance samoozljeđivanja te su se kao značajni prediktori

had previously been calculated, as shown in Table 9. In this process a dichotomous variable was used, whereby parents who are married or cohabitating were listed in one group, and all others parents in the other. The correlation analysis showed that certain socio-demographic variables were not significantly related to criterion variables, which is why they were excluded from further analyses, i.e., only the participants' gender was used for the criterion of self-injury, with the assessment of family's economic status also included for the criterion of suicidal ideations.

When self-injury was used as a criterion variable (Table 10), female gender proved to be a significant predictor in the first step of the analysis, which accounted for 7.6% of the criterion variance. The introduction of parenthood variables accounted for the additional 26.4% of the self-injury variance, with lower parental warmth

**TABLICA 9.** Korelacije pretpostavljenih prediktorskih i kriterijskih varijabli  
**TABLE 9.** Correlations between predictors and criterion variables

	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
Samoozljeđivanje / Self-injury	,757**	-,256**	,047	,022	-,041	-,432**	,486**	-,311**	,367**	-,436**	,302**	-,505**	-,369**	-,348**	-,191**	-,171**	,485**
Suicidalne misli / Suicidal ideations	-	-,232**	,051	,026	-,113*	-,388**	,407**	-,389**	,315**	-,410**	,251**	-,526**	-,446**	-,355**	-,226**	-,191**	,503**
Rod / Gender	-	-,514**	,073	-,012	,012	-,052	,126*	-,048	,039	,083	,248**	,159**	,204**	,209**	-,047	-,460**	
Vrsta srednjoškolskog programa / Type of high school programme	-	-,053	,164**	,088	-,106	-,138*	,004	,048	-,072	-,089	-,009	,018	-,179**	,176**	,452**		
Bračni status roditelja / Parents' marital status	-	-,086	,036	-,074	,003	-,036	,065	-,056	-,041	-,055	-,029	-,040	-,045	-,050			
Materijalni status / Family economic status	-	-,018	,014	,022	,007	,040	,038	,135*	,188**	,134*	,092	,065	,010				
Toplina / Warmth	-	-,438**	,516**	-,393**	,655**	-,355**	,362**	,221**	,343**	,202**	,227**	-,180**					
Odbijanje / Rejection	-	-,323**	,647**	-,509**	,603**	-,387**	-,241**	-,338**	-,108	-,129*	,288**						
Struktura / Structure	-	-,257**	,607**	-,190**	,330**	,256**	,273**	,280**	,220**	-,244**							
Kaos / Chaos	-	-,459**	,697**	-,331**	-,154*	-,223**	-,090	-,047	,387**								
Potpora autonomiji / Autonomy support	-	-,443**	,402**	,253**	,286**	,153*	,274**	-,196**									
Prisila / Coercion	-	-,260**	-,147*	-,137*	-,018	-,164**	,240**										
Samopoštovanje / General self-esteem	-	,700**	,643**	,536**	,336**	-,517**											
Samopojmanje tjelesnog izgleda / Physical appearance	-	,525**	,553**	,255**	-,369**												
Odnosi s vršnjacima istog spola / Same-sex relationships	-	,543**	,209**	-,316**													
Odnosi s vršnjacima suprotnog spola / Opposite-sex relationships	-	,167**	-,320**														
Konstruktivno suočavanje / Constructive coping	-																,111*
Nekonstruktivno suočavanje / Non-constructive coping	-																

\*p<.05; \*\*p<.01

**TABLICA 10.** Rezultati hijerarhijske regresijske analize za samoozljeđivanje kao kriterij  
**TABLE 10.** Results of hierarchical regression analysis for self-harm as a criterion

Model	Prediktori / Predictors	b	SE	$\beta$
1	<b>Rod / Gender</b>	<b>-,329</b>	<b>,072</b>	<b>-,283**</b>
$R^2_{\text{corr}} = 0,08$ ; $\Delta F = 21,11^{**}$ ; $F = 21,11^{**}$ ; $\%V = 7,6$ ; $\Delta\%V = 7,6$				
2	<b>Rod / Gender</b>	<b>-,309</b>	<b>,062</b>	<b>-,266**</b>
	<b>Toplina / Warmth</b>	<b>-,324</b>	<b>,091</b>	<b>-,272**</b>
	<b>Odbijanje / Rejection</b>	<b>,259</b>	<b>,070</b>	<b>,279**</b>
	Struktura / Structure	,032	,068	,032
	Kaos / Chaos	-,006	,072	-,007
	Potporna autonomiji / Autonomy support	-,104	,087	-,100
	Prisila / Coercion	,002	,069	,002
$R^2_{\text{corr}} = 0,34$ ; $\Delta F = 17,12^{**}$ ; $F = 18,90^{**}$ ; $\%V = 34,0$ ; $\Delta\%V = 26,4$				
3	<b>Rod / Gender</b>	<b>-,253</b>	<b>,061</b>	<b>-,218**</b>
	<b>Toplina / Warmth</b>	<b>-,295</b>	<b>,088</b>	<b>-,247**</b>
	<b>Odbijanje / Rejection</b>	<b>,211</b>	<b>,068</b>	<b>,227**</b>
	Struktura / Structure	,052	,066	,052
	Kaos / Chaos	-,016	,069	-,018
	Potporna autonomiji / Autonomy support	-,061	,083	-,058
	Prisila / Coercion	-,008	,066	-,009
	<b>Samopoštovanje / General self-esteem</b>	<b>-,164</b>	<b>,053</b>	<b>-,250**</b>
	Samopoimanje tjelesnog izgleda / Physical appearance	-,060	,041	-,108
	Odnosi s vršnjacima istog spola / Same-sex relationships	-,011	,048	-,016
	Odnosi s vršnjacima suprotnog spola / Opposite-sex relationships	,067	,035	,119
$R^2_{\text{corr}} = 0,40$ ; $\Delta F = 7,12^{**}$ ; $F = 15,86^{**}$ ; $\%V = 40,2$ ; $\Delta\%V = 6,2\%$				
4	<b>Rod / Gender</b>	<b>-,148</b>	<b>,065</b>	<b>-,128*</b>
	<b>Toplina / Warmth</b>	<b>-,299</b>	<b>,086</b>	<b>-,251**</b>
	<b>Odbijanje / Rejection</b>	<b>,226</b>	<b>,066</b>	<b>,243**</b>
	Struktura / Structure	,081	,064	,081
	Kaos / Chaos	-,078	,070	-,086
	Potporna autonomiji / Autonomy support	-,093	,082	-,089
	Prisila / Coercion	-,027	,065	-,031
	Samopoštovanje / General self-esteem	-,093	,056	-,142
	Samopoimanje tjelesnog izgleda / Physical appearance	-,052	,040	-,094
	Odnosi s vršnjacima istog spola / Same-sex relationships	-,017	,047	-,024
	<b>Odnosi s vršnjacima suprotnog spola / Opposite-sex relationships</b>	<b>,070</b>	<b>,034</b>	<b>,125*</b>
	Konstruktivno suočavanje / Constructive coping	-,044	,052	-,047
	<b>Nekonstruktivno suočavanje / Non-constructive coping</b>	<b>,173</b>	<b>,044</b>	<b>,271**</b>
$R^2_{\text{corr}} = 0,44$ ; $\Delta F = 7,87^{**}$ ; $F = 15,42^{**}$ ; $\%V = 43,6$ ; $\Delta\%V = 3,4$				

\*p&lt;,05; \*\*p&lt;,01



istaknuli niža toplina i veće odbijanje od roditelja. U trećem koraku uvedene su prediktorske varijable samopoimanja čime je objašnjeno još 6,2 % varijance. Samopoštovanje je ovdje bilo jedini poseban značajan prediktor pri čemu niže samopoštovanje predviđa veću učestalost samoozljeđivanja. Posljednjim korakom objašnjeno je dodatnih 3,4 % varijance kriterija te se pokazalo da češće korištenje nekonstruktivnih obrazaca nošenja sa stresom kod sudionika predviđa češće samoozljeđivanje. U tom posljednjem koraku analize samopoštovanje više nije bilo značajan prediktor, što je vjerojatno posljedica medijskih efekata. Također se u tom koraku samopoimanje odnosa s vršnjacima suprotnog spola pokazalo kao dodatan značajan prediktor, gdje je moguće da se radilo o posljedici visokih interkorelacija različitih aspekata samopoimanja. Ukupno je analizom objašnjeno 43,6 % varijance samoozljeđivanja.

U tablici 11. prikazani su rezultati hijerarhijske regresijske analize za suicidalne misli kao kriterijsku varijablu. Sociodemografske varijable objasnile su 4,7 % kriterija, pri čemu je ženski rod i ovdje bio značajan samostalni prediktor. Roditeljske varijable objašnjavaju 22,9 % suicidalnih misli, a osim niske topline i visokog odbijanja koji su bili značajni i u prethodnoj analizi, pokazalo se da je manja struktura u roditeljstvu također prediktor suicidalnih misli. Uloga roda i roditeljskih varijabli ostala je značajna i nakon uvođenja varijabli samopoimanja, čime je objašnjeno još 10,0 % varijance kriterija. Lošije samopoimanje tjelesnog izgleda istaknulo se kao jedini značajan prediktor suicidalnih misli u ovom bloku varijabli te je zadržalo svoju značajnost i u posljednjem koraku analize. Ponovno je strategijama suočavanja sa stresom objašnjen značajan postotak varijance kriterija (4,3 %) te su se nekonstruktivni obrasci istaknuli kao zaseban prediktor. U posljednjem koraku analize rod i struktura u roditeljstvu izgubili su značajnost kao prediktori suicidalnih misli, što se vjerojatno može

and higher parental rejection emerging as significant predictors. In the third step, predictor variables of self-concept were introduced, which accounted for the further 6.2% of the variance. Self-esteem proved to be the only significant individual predictor, with lower self-esteem predicting a higher frequency of self-injury. The last step accounted for the additional 3.4% of the criterion variance and showed that more frequent usage of non-constructive stress-coping strategies predicts more frequent self-injury among participants. In this final step of the analysis, self-esteem was no longer a significant predictor, which is probably a consequence of mediating effects. In addition, the opposite-sex peer relations emerged as an additional significant predictor in this step, which may have been caused by high inter-correlations of different aspects of self-concept. The analysis accounted for a total of 43.6% of the self-injury variance.

Table 11 shows the results of the hierarchical regression analysis for suicidal ideations as a criterion variable. Socio-demographic variables accounted for 4.7% of criteria, with female gender re-emerging as a significant individual predictor. Parenthood variables accounted for 22.9% of suicidal ideations. In addition to low parental warmth and high parental rejection, which had proven to be significant in prior analysis, it was shown that less structure in parenting was also a predictor of suicidal thoughts. The roles of gender and parental variables remained significant even after self-concept variables had been introduced, which accounted for the further 10.0% of the criterion variance. More negative self-concept of physical appearance emerged as the only significant predictor of suicidal ideations in this block of variables, and its significance was preserved in the final step of the analysis. The stress-coping strategies once again accounted for a significant percentage of the criterion variance (4.3%) and non-constructive strategies emerged as a separate predictor. In the last step of the analysis the variables of gender and structure in parenting

**TABLICA 11.** Rezultati hijerarhijske regresijske analize za suicidalne misli kao kriterij  
**TABLE 11.** Results of hierarchical regression analysis for suicidal ideations as a criterion

Model	Prediktori / Predictors	b	SE	$\beta$
1	<b>Rod / Gender</b>	<b>-,420</b>	<b>,116</b>	<b>-,232**</b>
	Materijalni status obitelji / Family economic status	-,082	,104	-,050
R <sup>2</sup> <sub>corr</sub> = 0,05; $\Delta F = 6,81^{**}$ ; F = 6,81 <sup>**</sup> ; %V = 4,7; $\Delta\%V = 4,7$				
2	<b>Rod / Gender</b>	<b>-,385</b>	<b>,104</b>	<b>-,212**</b>
	Materijalni status obitelji / Family economic status	-,091	,091	-,056
	<b>Toplina / Warmth</b>	<b>-,329</b>	<b>,150</b>	<b>-,178*</b>
	<b>Odbijanje / Rejection</b>	<b>,293</b>	<b>,115</b>	<b>,200**</b>
	<b>Struktura / Structure</b>	<b>-,308</b>	<b>,112</b>	<b>-,198**</b>
	Kaos / Chaos	,010	,119	,007
	Potporna autonomiji / Autonomy support	-,030	,145	-,018
	Prisila / Coercion	,067	,114	,049
R <sup>2</sup> <sub>corr</sub> = 0,28; $\Delta F = 13,22^{**}$ ; F = 12,15 <sup>**</sup> ; %V = 27,6; $\Delta\%V = 22,9$				
3	<b>Rod / Gender</b>	<b>-,315</b>	<b>,101</b>	<b>-,174**</b>
	Materijalni status obitelji / Family economic status	-,002	,086	-,001
	<b>Toplina / Warmth</b>	<b>-,310</b>	<b>,143</b>	<b>-,168*</b>
	<b>Odbijanje / Rejection</b>	<b>,224</b>	<b>,110</b>	<b>,153*</b>
	<b>Struktura / Structure</b>	<b>-,255</b>	<b>,106</b>	<b>-,164*</b>
	Kaos / Chaos	,026	,111	,018
	Potporna autonomiji / Autonomy support	,015	,136	,009
	Prisila / Coercion	,027	,107	,020
	Samopoštovanje / General self-esteem	-,103	,085	-,102
	<b>Samopojmanje tjelesnog izgleda / Physical appearance</b>	<b>-,291</b>	<b>,068</b>	<b>-,336**</b>
	Odnosi s vršnjacima istog spola / Same-sex relationships	,023	,079	,022
	Odnosi s vršnjacima suprotnog spola / Opposite-sex relationships	,103	,058	,118
	R <sup>2</sup> <sub>corr</sub> = 0,38; $\Delta F = 10,09^{**}$ ; F = 12,77 <sup>**</sup> ; %V = 37,6; $\Delta\%V = 10,0\%$			
4	Rod / Gender	-,142	,106	-,079
	Materijalni status obitelji / Family economic status	-,028	,083	-,017
	<b>Toplina / Warmth</b>	<b>-,320</b>	<b>,138</b>	<b>-,173*</b>
	<b>Odbijanje / Rejection</b>	<b>,252</b>	<b>,106</b>	<b>,172*</b>
	Struktura / Structure	-,200	,103	-,129
	Kaos / Chaos	-,075	,112	-,053
	Potporna autonomiji / Autonomy support	-,024	,133	-,015
	Prisila / Coercion	-,006	,104	-,005
	Samopoštovanje / General self-esteem	,023	,088	,023
	<b>Samopojmanje tjelesnog izgleda / Physical appearance</b>	<b>-,265</b>	<b>,066</b>	<b>-,307**</b>
	Odnosi s vršnjacima istog spola / Same-sex relationships	,011	,076	,010
	Odnosi s vršnjacima suprotnog spola / Opposite-sex relationships	,105	,056	,119
	Konstruktivno suočavanje / Constructive coping	-,112	,085	-,077
	<b>Nekonstruktivno suočavanje / Non-constructive coping</b>	<b>,301</b>	<b>,071</b>	<b>,301**</b>
R <sup>2</sup> <sub>corr</sub> = 0,42; $\Delta F = 9,10^{**}$ ; F = 13,04 <sup>**</sup> ; %V = 41,9; $\Delta\%V = 4,3$				

\*p<,05; \*\*p<,01

pripisati medijacijskim efektima. Odabranim prediktorima objašnjeno je ukupno 41,9 % varijance suicidalnih misli.

## RASPRAVA

Prvi cilj ovog rada bio je usporediti pojavnost samoozljeđivanja i suicidalnih misli na uzorku srednjoškolaca Grada Zagreba u petogodišnjem razdoblju. Rezultati ukazuju na značajan porast samoozljeđivanja kod mladih, koje se gotovo udvostručilo (29,1 % 2021. godine u odnosu na 17 % 2016. godine). Iako se pojavnost suicidalnih misli nije povećala (27,7 % 2016. i 24,8 % 2021.), ovaj veliki skok autoagresivnog ponašanja ukazuje na značajne poteškoće mentalnog zdravlja mladih u (post)pandemijском razdoblju. Kao što je u uvodu naglašeno, samoozljeđivanje sa suicidalnom namjerom ili bez nje nerijetko dovodi do samih pokušaja suicida (15,34,50) te je time alarm za trenutne i buduće probleme u ponašanju i doživljavanju adolescenata i zahtijeva ranu intervenciju sa svrhom smanjivanja rizika od suicida (51). Kako se adolescenti samoozljeđuju najčešće na području ruku (to se događa kod preko 80 % mladih iz našeg uzorka koji se samoozljeđuju), moguća je vjerojatnost ranog uočavanja problema od (brižnih) odraslih, ali i od bliskih prijatelja. U tu je svrhu o ovoj temi potrebna edukacija školskih djelatnika, ali i otvaranje tabuiziranih tema kao što su samoozljeđivanje i suicidalnost i s učenicima i roditeljima.

Kako u ovom, tako se i u drugim istraživanjima pokazalo kako se pandemija COVID-19 negativno odrazila na mentalno zdravlje, pogotovo mladih (23,24). Robillard i sur. (52) navode kako jedan od povoda samoozljeđivanju je nemogućnost regulacije emocija, naročito u situacijama koje su izvan naše kontrole i koje ne možemo riješiti. Autori navode da je pandemija upravo jedna od takvih situacija i time objašnjavaju porast samoozljeđivanja u doba pandemije, koje dodatno eskalira kod mladih koji su

lost their significance as predictors of suicidal thoughts, which is likely to be attributed to mediating effects. Selected predictors accounted for a total of 41.9% variance of suicidal ideations.

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## DISCUSSION

The first objective of this paper was to compare the prevalence of self-injury behaviour and suicidal ideations on a sample of high-school students in the City of Zagreb over a five-year period. The results indicate a significant, almost two-fold increase in self-injury among young people (29.1% in 2021 compared with 17% in 2016). Although the occurrence of suicidal ideation did not increase in the same period (27.7% in 2016 and 24.8% in 2021), such a surge in self-aggressive behaviours points to significant mental health problems in young people in the (post)pandemic period. As pointed out in the Introduction, NSSI and DSH frequently lead to suicide attempts (15,34,50), and therefore represent an alarm for the current and future problems in adolescents' behaviour and experiences requiring early interventions aimed at reducing suicide risk (51). Since adolescents most frequently self-injure their hands and arms (which was the case for over 80% of young people in our sample who engage in self-injury behaviour), the likelihood of an early detection of the problem by (caring) adults or close friends is possible. Therefore, training school staff about this issue is necessary, along with opening up taboo topics such as self-injury and suicidality for discussion with students and parents.

In the context of the pandemic, its negative impact on mental health, particularly among youth, was confirmed by a number of studies (23, 24). Robillard and et al. (52) state that one of the reasons for self-injury is the inability to regulate emotions, especially in situations beyond our control and that we cannot solve. The authors state that the pandemic is precisely one of those situations and thus explain the in-

distanciraniji od svojih vršnjaka. Stoga je neizmjerljivo važno u budućnosti pri odlučivanju o epidemiološkim mjerama voditi računa kako će se one odraziti na mentalno zdravlje građana, jer je ono neizostavni dio zdravlja uopće (53). Jedan od pomaka u tom smjeru bilo bi uključivanje stručnjaka mentalnog zdravlja (psihologa, psihijatar, socijalnih radnika...) u stožere koji odlučuju o zdravstvenim i socijalnim politikama u kriznim situacijama, a što tijekom pandemije COVID-19 u Hrvatskoj nije bio slučaj. Mjere izolacije i *online* nastave pridonijele su otežanom zadovoljavanju razvojnih potreba u adolescenciji, a djecu koja odrastaju u obiteljima koje su u riziku stavila su u još nesigurnije i resursima oskudnije okruženje te time i u veći rizik od pojave poteškoća mentalnog zdravlja (23,54).

U literaturi se dosljedno pokazuje kako su djevojke u većem riziku i za samoozljeđivanje i za suicidalne misli od mladića (39,55), a isto je potvrđeno i u ovom istraživanju. Izrazito je važno istaknuti kako, iako kod oba roda vidimo značajan porast samoozljeđivanja, gotovo dvostruki broj djevojaka (u odnosu na mladiće) i u prvom i u drugom valu istraživanja izvješćuje o oba istraživana problema u spektru suicidalnosti. Ovakav nalaz u kojem su djevojke pod značajno većim rizikom od suicidalnosti ukazuje na to da bi se u budućim istraživanjima trebalo provoditi odvojene analize za mladiće i djevojke, istražiti specifične prediktore samoozljeđivanja i suicidalnih misli djevojaka odnosno mladića, dok je u praktičnom radu potrebno što prije usmjeriti se na zaštitu mentalnog zdravlja djevojaka i jačati zaštitne čimbenike koji doprinose očuvanju i promicanju njihovog mentalnog zdravlja.

Što se tiče socioekonomskih obilježja, veći udio samoozljeđivanja i suicidalnih misli vidljiv je kod mladih lošijeg materijalnog statusa. Odrastanje u siromaštvu (ili riziku od siromaštva) za sobom povlači niz nepovoljnih životnih okolnosti (npr. učestali nepovoljni

crease in self-injury during the pandemic, which further escalates among young people who are more distant from their peers. It is vitally important that any future decisions on epidemiological measures consider the impact that these measures have on citizens' mental health, which is an integral part of the overall health (53). A positive step in that direction would be to ensure that mental health professionals (e.g., psychologists, psychiatrists, social workers, etc.) are included in the bodies responsible for making decisions on health and social policies in crisis situations (such as the Civil Protection Headquarters in Croatia), which was not the case in Croatia during the COVID-19 pandemic. The measures of social isolation and online learning contributed to difficulties in meeting developmental needs during adolescence. Children growing up in at-risk families were restricted to less safe and deprived environments, which increased their risk of mental health problems (23,54).

The literature consistently shows that girls are at higher risk of both NSSI and suicidal ideations than boys (39, 55), and this was confirmed in this study as well. It is essential to point out that, although we see a significant increase in self-injury in both genders, almost twice as many adolescent girls (when compared to adolescent boys) reported experiencing both of the studied problems from the spectrum of suicidality in both the first and the second wave of the study. This finding, in which girls are at a significantly higher risk of suicidality, indicates that in future research, separate analyses should be conducted for boys and girls, whereas specific predictors of self-injury and suicidal thoughts of girls and boys should be investigated. At the same time, in practical work, it is necessary to focus on protecting girls' mental health as soon as possible and to strengthen the protective factors contributing to preserving and promoting their mental health. With respect to socio-economic characteristics, a higher share of self-injury and suicidal ideations was noted among young people of lower financial status. Growing

životni događaji, izraženi stres, nedovoljno resursa za optimalni psihosocijalni razvoj adolescenata, nedostupnost, niže obrazovanje i/ili nedovoljna uključenost roditelja u probleme odrastanja djece, stigmatizacija u školskom okruženju...), koje mogu prethoditi ili dodatno održavati poteškoće mentalnog zdravlja mladih.

Kako je drugi cilj ovog rada bio istražiti prediktore samoozljeđivanja i suicidalnih misli kod srednjoškolaca uz već navedene sociodemografske čimbenike provjeren je doprinos i nekih osobnih i roditeljskih čimbenika u objašnjavanju navedenih konstrukata. Rezultati hijerarhijskih regresijskih analiza ukazuju da odabrani skupovi prediktora objašnjavaju izrazito visoke postotke varijance i samoozljeđivanja (43,6 %) i suicidalnih misli (41,9 %). Pritom je manje izražavanje topline od roditelja i više odbijanja povezano s obje vrste autoagresivnih pokazatelja, dok je izostanak strukture i vođenja od roditelja povezan s većom suicidalnošću mladih. Prema Joinerovoj Interpersonalnoj teoriji suicidalnog ponašanja (34) osjećaj nepripadanja nikome je jedan od glavnih elemenata koji vode ka pokušaju i/ili počinjenju suicida, a opetovano odbijanje od strane roditelja i izostanak pokazivanja roditeljske topline, ljubavi i prihvaćanja u osjetljivom adolescentskom razdoblju mogu izrazito narušiti pojedinčevu sliku o sebi i podržati vjerovanje da je neželjen/a ili da nigdje ne pripada. S druge strane, kako navodi Pećnik (56), struktura i vođenje već od najranije dobi jedan su od četiri stupa roditeljstva koja su u najboljem interesu djeteta i odgovaraju na djetetove potrebe za sigurnošću, predvidivošću i kompetentnošću. Kod adolescenata usmjerenje mlade osobe, postavljanje jasnih granica prihvatljivog i neprihvatljivog ponašanja, objašnjavanje određenih pravila (ponašanja) te podržavanje u suočavanju s problemima može doprinijeti uspješnijem suočavanju s problemima te smanjenim „tunelskim“ načinom raz-

up in poverty (or at risk of poverty) implies a series of adverse living conditions (e.g. more frequent negative life events, high stress, inadequate resources for adolescents' psychosocial development, lower parental education level, their lack of availability and/or their insufficient involvement in their children's growing-up problems, stigmatisation in school environment, etc.), which may precede or further sustain mental health problems in young people.

Having in mind that the second objective of this paper was to study the predictors of self-injury behaviour and suicidal ideations in high-school students, in addition to the above socio-demographic factors, the contribution of certain personal and parental factors in explaining these constructs was also examined. The results of hierarchical regression analyses indicated that the selected sets of predictors accounted for markedly high variance percentages of both self-injuries (43.6%) and suicidal ideations (41.9%). Lower expression of parental warmth and more frequent parental rejections were related to both types of self-aggressive indicators, while a lack of structure and parental guidance was tied to higher suicidality among young people. According to Joiner's interpersonal theory of suicidal behaviour (34), the feeling of not belonging to anyone is one of the key elements leading to an attempt or an act of suicide, and repeated parental rejection and a lack of expressing parental warmth, love and acceptance during the sensitive adolescent period may seriously undermine a person's self-image and support the belief that they are unwanted and do not belong anywhere. On the other hand, as noted by Pećnik (56), from the earliest age, structure and guidance constitute one of the four pillars of parenting, which are in the best interest of the child and respond to the child's needs for security, predictability and competence. For adolescents, guiding a young person, setting clear limits of acceptable and unacceptable behaviours, explaining certain rules (of behaviour), and providing support in

mišljanja, tipičnom za pojedince sklone počinjenju suicida (57, 58).

Što se tiče samopoimanja adolescenata, percepcija vlastitog tjelesnog izgleda pokazala se značajnom u predviđanju suicidalnih misli. Usmjerenost na vlastiti tjelesni izgled znatno je veća u razdoblju adolescencije u odnosu na raniji period života (59, 60) i zadovoljstvo izgledom uvelike određuje i generalnu sliku o sebi i psihosocijalno funkcioniranje uopće (61). Povezanost (ne)zadovoljstva tjelesnim izgledom, samopoštovanja i mentalnog zdravlja posebno je značajna kod djevojaka (60,62) koje su, kako je i ranije prikazano, ranjivije za samoozljeđivanje i suicidalne misli. Također, nisko samopoštovanje se pokazalo značajnim u predviđanju samoozljeđivanja adolescenata, što je u skladu s Nockovim Integriranim teorijskim modelom samoozljeđivanja (28) prema kojem intrapersonalni faktori ranjivosti, među kojima su i snažne averzivne kognicije i emocije usmjerene prema sebi, predviđaju neadekvatne ili neprilagođene odgovore osobe na stres, što vodi samoozljeđivanju.

Konačno, posljednji skup prediktorskih varijabli odnosio se na načine suočavanja sa stresom, koji su također objasnili značajan postotak varijance obih kriterija (3,4 % i 4,3 %). U ovom istraživanju u grubo smo, iz ranije navedenih statističkih razloga, podijelili načine suočavanja na konstruktivne i nekonstruktivne i upravo su se potonji pokazali značajnima u predviđanju samoozljeđivanja i suicidalnih misli. Nekonstruktivni načini suočavanja uključivali su izbjegavanje, ruminaciju, rezignaciju i agresiju. Iz ranijih istraživanja već je dobro poznato da su ruminacije česte kod suicidalnih mladih i onih koji se samoozljeđuju (63-65), a što se tiče agresivnosti, istraživanja pokazuju da su mladi koji iskazuju eksternalizirane probleme u ponašanju češće u riziku od samoozljeđivanja i suicida od onih mladih koji nemaju te probleme (66,67). Nadalje, strategije izbjegavanja suočavanja u koje se ubraja

facing challenges may contribute to better coping and reduced “tunnel vision”, which is a way of thinking typical for individuals prone to committing suicide (57, 58).

With respect to adolescents’ self-concept, the perception of one’s own physical appearance proved to be significant in predicting suicidal ideations. The focus on one’s physical appearance is considerably higher in the period of adolescence than in pre-adolescent life (59, 60) and satisfaction with one’s physical appearance has a large influence on the general self-image as well as the overall psychosocial functioning (61). The relation between (dis)satisfaction with physical appearance, self-esteem and mental health is particularly significant in girls (60,62) who are, as previously shown, more vulnerable to self-injury and suicidal thoughts. In addition, low self-esteem proved to be significant for predicting self-injuring among adolescents, which is in line with Nock’s integrated theoretical model of NSSI (28), whereby intrapersonal vulnerability factors, including high self-directed aversive cognitions and emotions, predispose a person to inadequate or maladapted responses to stress, which, in turn, lead to self-injury.

The last set of predictor variables was related to ways of coping with stress, which also explained a significant percentage of variance of both criteria (3.4% and 4.3%). For statistical reasons outlined above, in this paper we divided the stress coping strategies into constructive and non-constructive, with the latter emerging as significant for predicting both self-injuries and suicidal thoughts. Non-constructive stress-coping strategies included avoidance, rumination, resignation and aggression. It is well-known from earlier studies that ruminations are common among suicidal youth and those who engage in self-injury (63, 64, 65), and with regard to aggression, studies show that young people with externalising behaviour problems are at a higher risk of NSSI and suicide than young people without such problems (66, 67). Further-

i resignacija kao odustajanje od suočavanja, može voditi izolaciji i otuđenju koji povećavaju vjerojatnost suicidalnosti kod mladih te su i ranija istraživanja pokazala kako je ono povezano s internaliziranim i eksternaliziranim problemima kod mladih (68). Iako ovi nalazi imaju jasne praktične implikacije i ukazuju na to koji načini suočavanja sa stresom nisu korisni i mogu dovesti do problema mentalnog zdravlja, važno je mladima osvijestiti kojim obrascima ponašanja zamijeniti te nekonstruktivne, odnosno podučiti ih konstruktivnim načinima suočavanja sa stresom, kao što je rješavanje problema, osvještavanje i traženje socijalne podrške, ne samo od vršnjaka, već i od odraslih, primjenjivanje kognitivnih samouputa i sl. Takve tehnike pridonose jačanju otpornosti mladih i razvoju samosvijesti, u čemu su dobri, a u čemu nisu te kako se suočiti s teškim situacijama koje ih zasigurno čekaju u životu. Pri takvom osnaživanju mladih važno je da su odrasli koji su s njima u kontaktu topli, brižni, strukturirajući, reflektivni na njihove potrebe te usmjeravajući, budući da se pokazalo da su upravo ta obilježja roditeljstva zaštitni čimbenik u prevenciji mentalnog zdravlja.

Na kraju, iako je ovo istraživanje dalo vrijedne nalaze, pogotovo s obzirom na to da je tema suicidalnosti u općoj populaciji adolescenata kod nas izrazito rijetko znanstveno istraživana, važno je upozoriti i na neke nedostatke njegove provedbe. Kao prvo, kako je istraživanje provedeno 2021. godine zapravo je probno istraživanje inače većeg znanstvenog projekta, korišten je relativno mali prigodni uzorak, što onemogućava generaliziranje rezultata na populaciju učenika prvih razreda zagrebačkih srednjih škola, već usporedbom podataka iz dva vala istraživanja možemo vidjeti tek trend u promjenama poteškoća mentalnog zdravlja mladih. Dodatni nedostatak u ovoj prigodnosti je to što su u uzorku podzastupljene strukovne škole koje pohađaju većinom učenice, a

more, avoidant coping strategies, which include resignation and giving up, can lead to isolation and alienation, which, in turn, increase the likelihood of suicidality among youth. As earlier studies have shown, such behaviour is related to internalising and externalising problems among youth (68). Although these findings have clear practical implications and indicate which stress coping strategies are not useful and can lead to mental health problems, it is important to raise young people's awareness of behavioural patterns which should replace these non-constructive behaviours, i.e. teach them the constructive stress coping strategies, such as problem-solving and seeking social support, not only from their peers, but also from adults, applying cognitive self-instructions, etc. These techniques help build resilience and develop self-awareness about things young people are good at and things they are not so good at, and show them how to cope with difficult situations they may well encounter in their lifetime. In such youth empowerment activities, it is important that adults interacting with young people are warm, caring and reflective of their needs, and that they provide structure and guidance, since it has been proven that these characteristics of parenthood are a protective factor in mental health prevention.

Finally, although this study provided valuable findings, especially given the fact that the topic of suicidality in the general population of adolescents is very rarely scientifically studied, it is important to address some of the limitations of its implementation. First of all, since the study implemented in 2021 was actually a pilot study of a larger scientific project, a relatively small convenience sample was used, which prevents the generalisation of results to the population of 1st grade students from high schools in Zagreb. Instead, the comparison of the data obtained in the two studies allows us to simply observe a trend in the changes of mental health problems in youth. An additional limitation of the convenience sample used is that vocational schools attended large-

koje su nam se u ranijim istraživanjima pokazale najrizičnijima u ovom spektru problema (no, da su bile zastupljenije, već sada istaknute promjene u suicidalnosti i samoranjavanju mladih bi vjerojatno bile još nepovoljnije). Također, iako se u literaturi (naročito američkoj) jasno razdvaja nesuicidalno samoozljeđivanje (*nonsuicidal self-injury* – NSSI) od namjernog samoozljeđivanja (*deliberate self-harm* – DSH), mjerni instrument korišten u ovom istraživanju nije ispitivao namjeru počinjenja suicida pri samoranjavanju. Konačno, usporedba između rezultata iz dvaju istraživanja prezentirana u ovom radu nije direktno usporediva kako nije riječ ni o longitudinalnim podacima ni o istoj metodologiji istraživanja, već su samo uspoređeni podaci o prevalenciji samoranjanja i suicidalnih misli. Buduća istraživanja usmjerena većem razumijevanju poteškoća mentalnog zdravlja mladih općenito, a suicidalnosti i samoranjanja u adolescenciji pogotovo, izrazito su potrebna. Naravno, poželjno je da se pritom koriste veliki uzorci na općoj populaciji, ne samo kliničkoj koja je češće zastupljena, te da se mladi prate već od predadolescentnog razdoblja, prije nego se problemi najčešće pojavljuju. Pritom se pokazalo također izrazito važnim voditi računa o rodnim razlikama i specifičnostima poteškoća mentalnog zdravlja djevojaka u odnosu na mladiće.

ly by female students were underrepresented in the sample, and earlier studies had shown that these students are at the highest risk for these problems (had these students been better represented, the observed changes in suicidality and NSSI among youth would likely have been even more unfavourable). Furthermore, although in literature (particularly American) non-suicidal self-injury (NSSI) is distinguished from deliberate self-harm (DSH), the measuring instrument used in this study in 2021 sample did not examine suicidal intent in the act of inflicting self-harm. Finally, a comparison of the results from the two studies presented in this paper was not directly comparable, given that these were neither longitudinal data, nor was the research methodology the same: instead, simply the data on the prevalence of self-injury behaviour and suicidal thoughts were compared. Future research focused on enhancing the understanding of mental health problems in young people in general, and particularly of suicidality and self-injury in adolescence, is highly needed. Naturally, such studies should aim to use large samples of general population, rather than only clinical population, which is more frequently represented, and young people should be monitored from pre-adolescent age, when the problems most frequently emerge. At the same time, it was also important to consider gender differences and the specifics of girls' mental health difficulties compared to boys.

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