DOI
https://doi.org/10.18690/um.ff.7.2025.6

ISBN
978-961-299-047-3

6. Mental Health, Burnout and Stress-Related Symptoms Among Youth: Prevalence and Pandemic Effects

Gordana Kuterovac Jagodić,[1] Darja Maslić Seršić,[1] Sandra Antulić Majcen[2]
[1] University of Zagreb, Faculty of Humanities and Social Sciences, Department of Psychology, Zagreb, Croatia
gkuterovac@ffzg.hr, dmaslic@m.ffzg.hr
[2] Institute for Social Research in Zagreb, Zagreb, Croatia
sandra@idi.hr

The chapter examines youth mental health in Croatia and Slovenia through validated measures of depression, anxiety, stress (DASS-9), burnout (BAT-12), and self-reported worries. Results indicate elevated levels of impairment, with over one-quarter of young people in both countries reporting severe depressive symptoms, around 20% reporting severe anxiety, and nearly one-third reporting high stress, with Croatian respondents consistently showing slightly higher levels of depression and stress. Burnout symptoms were more pronounced among students than employed youth, which underlines the role of educational settings as environments of heightened psychological strain. There were statistically significant gender and age disparities observed: young women, particularly in the youngest cohorts, reported the highest levels of mental health difficulties, whereas older women showed improvement. Among men, different age-related trends emerged. Socio-economic status also influenced outcomes, with financially better-off youth reporting fewer symptoms.

Keywords:
youth,
mental health,
DASS-9,
burnout,
Croatia,
Slovenia

University of Maribor Press

Beyond direct health concerns and illness-related stressors pertaining to the SARS-CoV-2 virus, several stressors and life disruptions associated with the COVID-19 pandemic have been identified, such as social and relational stressors, school-related stressors, financial and job-security stressors, as well as media-related stressors (Graupensperger et al., 2023). The implications of COVID-19-related stressors may be particularly prominent for adolescents and young adults, who are at higher risk for mental health concerns and risky health behaviours.

The major lifestyle changes experienced by youth, their peers, and their families may act as environmental stressors for mood fluctuation. Young people were encouraged to actively avoid social activities due to fear of the coronavirus and were confined to their homes for extended periods of time. This social isolation was associated with a higher risk of depression and anxiety, increased psychological distress, as well as an increase of negative affect and loneliness as shown in research and meta-analysis involving adolescents, high school students, and young adults (Kauhanen et al., 2023; Loads et al., 2020; Wang et al., 2021). Woon et al. (2021) found that university students who felt frustrated because of a loss of daily routine and study disruption, and who had pre-existing medical or mental health conditions were more likely to experience elevated anxiety and depressive symptoms. More social support from family and friends of those students, as well as studying medicine-related courses, were associated with lower levels of anxiety.

The global economic recession triggered by the COVID-19 pandemic led to an increase in insecurity and distress as well as anxiety and depression, particularly among youth from families with low socioeconomic status (Xiaochen, 2021). Jeriček Klanšček & Furman (2023) also found that Slovenian adolescents from socially disadvantaged families had poorer conditions for academic performance during the pandemic, fewer opportunities to socialise online with friends, and were more likely to feel lonely, have lower well-being, and be at higher risk for depression. Van Loon et al. (2022) followed adolescents for 15 months during the COVID-19 pandemic and identified three different groups regarding stress, depression, and anxiety reactions over time. Most adolescents (67%) reported stable low levels of depression and anxiety; a smaller subgroup (30%) reported stable moderate levels; and the smallest group (3%) was characterised by initially high levels of depression and anxiety which decreased over the course of the pandemic. These adolescents, with initially high levels of depressive and anxiety symptoms, more often lived in one-

parent households and reported lower social support before the pandemic. Although a decrease in mental health was observed for the majority of adolescents, improvement was also noticed in some research. For example, Cost et al. (2022) found that adolescents with internalising symptoms of impaired mental health benefited from the lockdowns and restrictions due to less social pressure and reduced physical contact (e.g., with friends, teachers) and more free time. Forte et al. (2021) studied youth in Croatia, Italy, and Romania, and found that younger age, being a girl, having someone close who died from COVID-19, living in a small flat, and not spending time outside were the characteristics associated with a higher risk of anger, sadness, boredom or emptiness, and anxiety.

Several empirical studies have shown a decline in youth mental health and increased stress levels in Croatia and Slovenia during the pandemic. In Slovenia, Kirič et al. (2022) found an increase in suicidal ideation and attempted suicides among children and adolescents after the first year of the COVID-19 pandemic. They also found that the observed increase did not correspond to the school closures but was more strongly associated with the duration of the pandemic. Matić et al. (2022) found that Slovenian young adults (aged 18-32) exhibited average levels of depression, anxiety, and stress symptoms during the initial phase of the pandemic. However, these symptoms were significantly more pronounced during the final phase, specifically during the Omicron wave. During this period, most participants reported at least moderate levels of depression and anxiety. Only 36% of participants reported normal levels of depressive symptoms, 40.5% reported normal levels of anxiety, and 39.9% reported normal levels of stress.

Buško and Bezinović (2021) studied COVID-19 related stressors among high school students in Croatia and identified differences in the stressfulness of specific distance-schooling situations. Students least often reported concerns about receiving feedback from teachers (around 15%), while 50-70% experienced stress regarding uncertainty about returning to school, missing live lectures, struggling to grasp complex subject matter, assignment overload, and meeting deadlines. They also identified students in the final year of high school education as the most vulnerable since they were exposed to several additional sources of potential stressors connected to uncertainties about the timing and format of final graduation exams and procedures related to university admissions. Jokić Begić et al. (2020) found that about 60% of high school students expressed concern about whether they would

acquire adequate knowledge for their future professions, and 75% were concerned about passing exams and successfully completing the academic year. Additionally, 75% of students were worried about their health, due to prolonged sitting and screen exposure, and their mental health and well-being due to stress. According to the same study, even at that early stage of the pandemic, 3% of high school students had sought and received professional psychological help, while many more estimated they would need it in the near future (27% maybe, 8% probably, 3% definitely).

In a time marked by worry and uncertainty, individuals started self-isolating to reduce COVID-19 transmission rates. Social isolation was a key public health measure mandated by law; consequently limiting access to social support during this stressful period. Accordingly, Szkody et al. (2020) concluded that individuals who are isolated due to the COVID-19 pandemic may experience negative effects on their mental and physical health because of a lack of support. They found that perceptions of social support buffered the negative impact of COVID-19 worry on psychological health when the length of time spent self-isolating was considered. The results of this study suggest that anxiety about COVID-19, social support, and self-isolation affect individuals' psychological health during stressful times. In addition, data have shown that COVID-19 also had a negative impact on parents' mental health and their problems. Changes in parenting and pressure on youth increased due to isolation, so the risk of deterioration of communication within families and rates of maltreatment and abuse rose in some families (Ragavan et al., 2020). The lack of communication, along with increased maltreatment in some families, contributed to a rise in mental health symptoms during the pandemic. Tang et al. (2021) found positive effects of parental-child discussion about COVID-19; adolescents who discussed this with their parents experienced less depression, anxiety, and stress and more life satisfaction.

The repercussions of the decline in mental health observed among students in secondary and higher education during the pandemic may be long-lasting, even if mental health itself appears to recover. Mental health is known to function as a psychological mechanism that mediates the relationship between contextual factors and school-to-work transition (STWT) outcomes. An unsuccessful transition, whether from school to the labour market or from secondary school to higher education, can have long-term negative consequences, which may further exacerbate already impaired mental health. Policies that support the mental health of pupils and

students offer a means for society (i.e., institutions) to reduce the negative impact of contextual factors on STWT outcomes. In other words, adverse socioeconomic conditions often lead to unsuccessful STWT outcomes, which are associated with reduced psychological well-being. It also clarifies how institutional (e.g., the education system or labour market) and social (e.g., family or peer) support can influence these outcomes in a given context (Tausig et al., 2011).

According to EUROSTAT (2022), in 2019, Croatia recorded one of the highest proportions of people suffering from symptoms of chronic depression in the EU – 11.6%, compared to the EU average of 7.2%. Although both Croatia and Slovenia (7.9%) reported above-average rates of chronic depression; both countries are unique in terms of the age distribution of affected individuals. In 14 EU Member States, the highest prevalence of chronic depression was reported among the oldest age group (65 years and older). In contrast, Croatia and Slovenia were the only countries where the lowest prevalence was not observed among the youngest group (ages 15-24). Interestingly, the same survey revealed that only in Cyprus, Slovenia, and Sweden a higher proportion of people aged 15-24 reported poor social support than those aged 65 and older.

This chapter focuses on the general mental health of young people in Croatia and Slovenia, specifically, the symptoms of stress, depression, and anxiety, as well as contextual mental health, such as burnout related to student or work roles (Schaufeli et al., 2020). To this end, we analysed self-reported symptoms of depression, anxiety, and stress, as well as burnout, among young people aged 16 to 29, using data collected in the two countries.

6.1 The prevalence of depression, anxiety, and stress symptoms

Experienced symptoms of depression, anxiety, and stress were measured using a version of the Depression Anxiety Stress Scale (DASS; DASS-42 and DASS-21; Lovibond & Lovibond, 1995), an instrument suitable for screening mental health in the general population aged 16 and older. In this project, we administered the short version of the scale, DASS-9, which has been specifically validated as a triage tool for assessing the psychological health of youth (Yusoff, 2013). The ASS-9 contains three items for each symptom group: depression, anxiety, and stress. Respondents rated their symptoms on a 4-point scale ranging from 0 ("not at all/very rarely") to

3 ("very much/most of the time during the past week"). Depressive symptoms refer to the inability to experience pleasure or happiness, feelings of inertia, and hopelessness. Anxiety symptoms involve physiological arousal, panic, and situational anxiety. Stress symptoms are characterised by irritability, restlessness, and heightened reactivity.

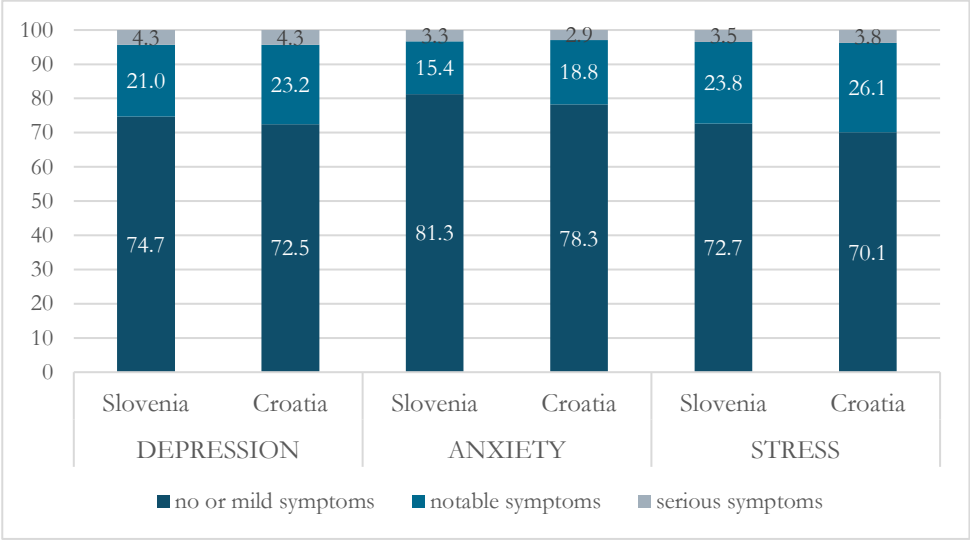

Figure 6.1: Percentage of participants reporting no or mild symptoms, notable symptoms, and serious symptoms (%)
Source: YO-VID, 2023

Our findings, illustrated in Figure 6.1, reveal that on average, over 4% of participants from both countries reported experiencing serious depressive symptoms. This indicates that those young people experienced these symptoms at a high intensity and for a substantial portion of the time. This finding was unexpected, as clinical levels of depressive symptoms are typically observed in around 1% of the population (ranging between 1% and 3% according to the highest estimates). In our samples, extreme levels of symptoms were less prevalent in the domains of stress and anxiety but still exceeded expected levels. On the other hand, the results also indicated that more than 25% of participants in both countries reported notable depressive symptoms; around 20% reported notable anxiety symptoms; and, finally, 30% of participants in the Croatian sample and 27% in the Slovenian sample reported experiencing intense stress.

When we compare our data to the only available internationally validated study of the short form of the DASS-9 (Yusoff, 2013), the results are similarly concerning, demonstrating strong support for the finding of a decline in general mental health among the youth population (ages 16–29) in Croatia and Slovenia. In the validation study, Yusoff (2013) administered the scale to two cohorts of applicants to a public medical school (N=839), along with the longer version of the scale, DASS-21. He adapted the international norms available for the DASS-21 to the short version, DASS-9, which has been shown to be psychometrically sound and suitable for epidemiological research, as in our case. The DASS-9 demonstrated good psychometric properties for this purpose. When we apply these norms to our samples, the results clearly indicate increased symptoms of impaired mental health. Figure 6.2. presents data for the total DASS-9 score and the depressive symptoms subscale. Compared to international norms established a decade ago, our results show that mental health difficulties among the youth population in both countries are higher than expected.

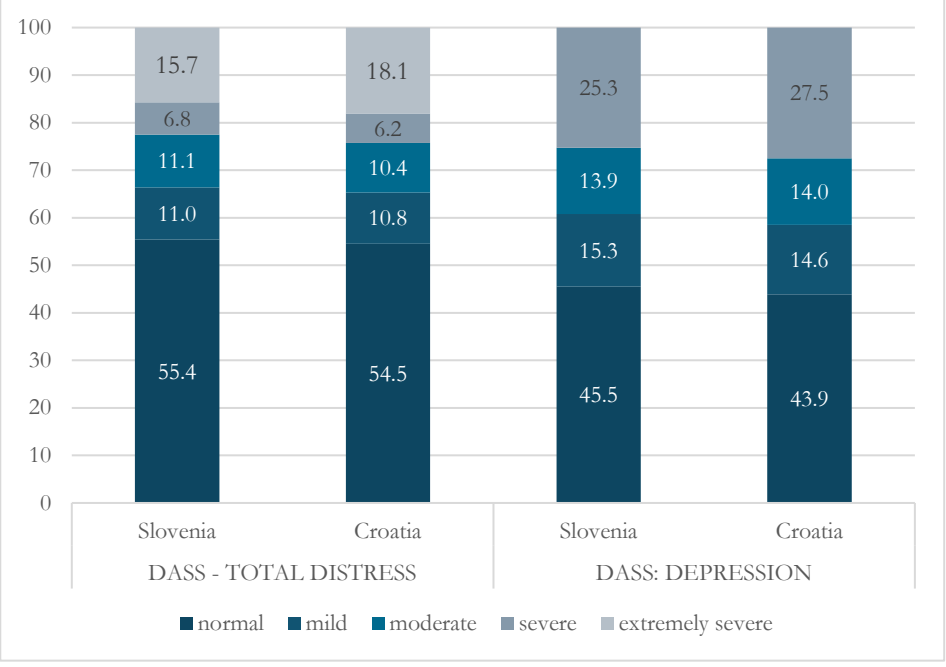

Figure 6.2: The share of individuals according to the available international norms (Yusoff, 2013) (%)

Source: YO-VID22, 2023

It is important to note that the results showed similar trends and levels in both countries. Statistically significant differences between the countries were found in specific symptoms of depression (t=2.262; df=2501; p=.024; Croatia: M=2.43; SD=2.106; Slovenia: M=2.24, SD=2.122), stress (t=2.228; df=2501; p=.026; Croatia: M=2.71; SD=1.923; Slovenia: M=2.53, SD=2.024) and in total scores (t=2.107; df=2501; p=.035; Croatia: M=7.12; SD=5.270; Slovenia: M=6.67, SD=5.386), as shown in Figure 6.3.

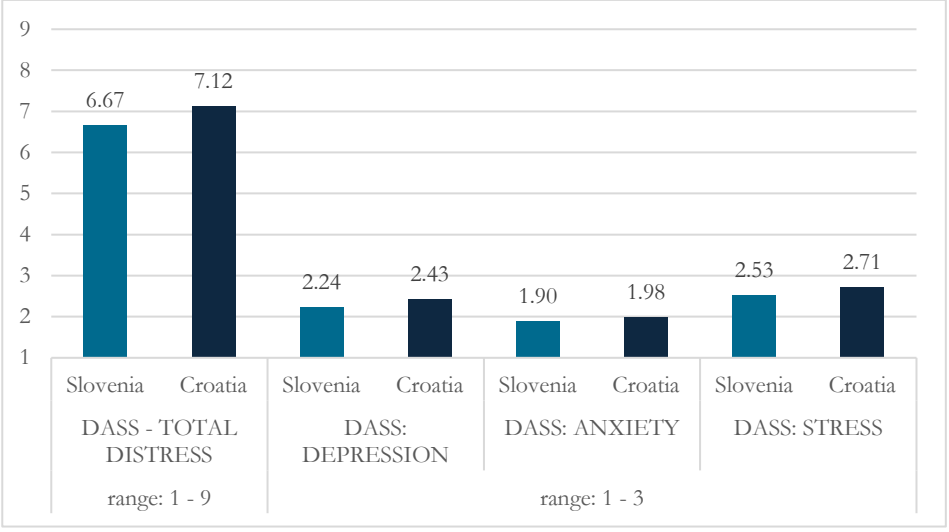

Figure 6.3: Average (mean) scores on DASS-9 total score (range 1-9) and DASS subscales (range 1-3) by country
Source: YO-VID22, 2023

Additionally, significant differences were observed based on age and gender, regardless of the country. While young women generally reported higher levels of symptoms compared to young men, the age-related trends varied between genders. Among women, symptom levels tended to decrease with age, whereas among men, the opposite pattern emerged; older young men, on average, reported more symptoms than their younger counterparts. As illustrated in Figure 6.4, and based on combined data from both countries, the most pronounced gender differences were found in the youngest age group, highlighting adolescent girls as the subgroup at highest risk for impaired mental health. This finding suggests that girls aged 16 to 19 constitute a particularly vulnerable group to mental health challenges. Several

factors may contribute to this increased vulnerability, including hormonal and developmental changes typical of adolescence, heightened social and academic pressures, and greater exposure to pandemic-related stressors such as social isolation and disruptions in education and family dynamics. Additionally, research indicates that girls are often more likely to recognize and report emotional difficulties, which may also influence the higher prevalence of reported symptoms. These results highlight the need for targeted mental health support and interventions specifically designed to address the needs of adolescent girls in this age group.

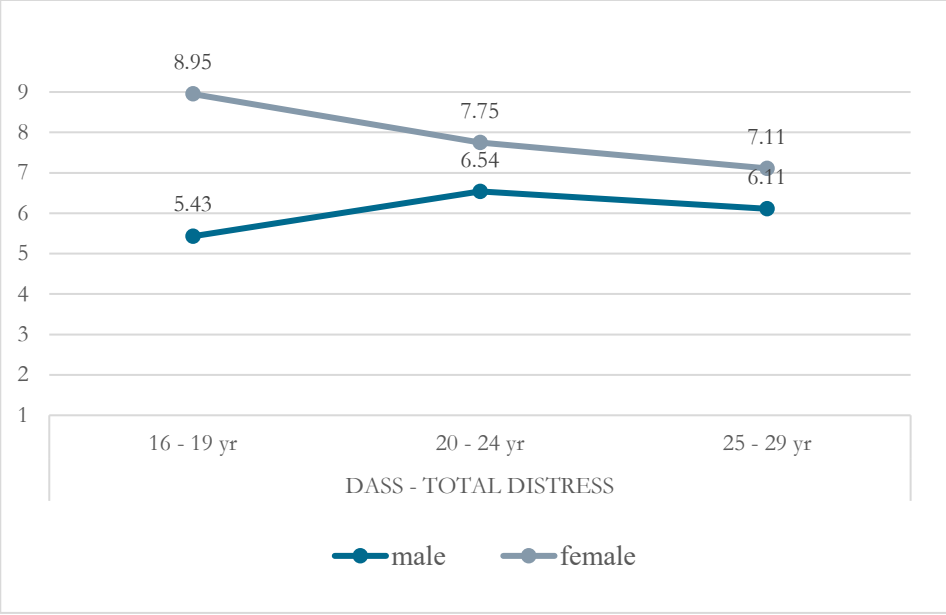

Figure 6.4: Gender and age differences in impaired mental health symptoms: Average total scores on the Depression, Anxiety, and Stress Scale (DASS-9)
Note: Results are averaged across both countries; Source: YO-VID22, 2023

Quotes from young people who participated in focus groups (N=100; age 16-29; Slovenia and Croatia) are included to provide a deeper, qualitative insight into the lived experiences behind the quantitative data. These personal accounts illustrate the specific struggles and worries young people face regarding their mental health, thereby enriching the understanding of the statistical findings and highlighting the real-world impact of the issues discussed.

> "Considering that I've been diagnosed with depression, every day is kind of a struggle in itself and it all depends on how I wake up that day, and whether I'll have enough therapy to get me up (...) I mean, logically speaking, my life isn't bad, definitely from the outside if someone were to look at it they would say "You have an okay life, yeah, everything's great" but when you look through that lens of pessimism that's simply built into you, everything looks ten times worse. So, I'm not exactly the most satisfied with life, and now (...)."

(Female, high school student & employed, Croatia).

> "Now, as for these mental health needs, I think they are available, maybe more to adults, I mean, they are also available to minors, but in order to get there, they have to go through their parents or someone, and I think the problem is that they don't seek help as much because they would have to go to another institution, if they don't want to seek mental help at school, they would have to go through their parents, and I think a lot of them are prevented from doing so because they don't want to share that information with their parents. I think that more work should be done on this so that it can be achieved in some other way."

(Male, high school student, Croatia)

In both countries, young people reported significant mental health issues, particularly depression, during the post-pandemic period. The most vulnerable group identified was girls aged 16 to 19.

6.2 Symptoms of burnout

To gain deeper insights into the mental health of young people in Croatia and Slovenia, we assessed their symptoms of burnout. Burnout refers to impaired mental health that arises as a consequence of prolonged exposure to stress, typically resulting from an imbalance between the demands a person faces and the resources (both personal and situational) available to them. This highly demanding situation requires significant effort, and when such circumstances persist over time, they can lead to chronic exhaustion and the development of burnout syndrome. This syndrome is recognised as a specific form of reactive mental health impairment.

Traditionally, burnout has been measured within the context of employment, where it is most commonly defined and recognised. (WHO, 2019). However, it can also arise from other goal-oriented and mandatory activities, such as schooling. To

measure burnout symptoms, we administered a new instrument – the Burnout Assessment Tool (BAT; Schaufeli et al., 2020; Schaufeli & De Witte, 2023) – to individuals engaged in such activities, including secondary and higher education students, those combining study and work, and those who are employed.

The instrument conceptualises burnout syndrome as a second-order factor composed of four primary symptom clusters: (1) exhaustion – a severe loss of physical and mental energy and a reduced ability to recover; (2) emotional impairment – a diminished capacity to regulate emotional responses; (3) cognitive impairment manifested through forgetfulness and lack of concentration; and (4) mental distancing – psychological withdrawal and a sense of detachment from one's job or education. Given that the study participants were engaged in various obligatory activities, educational and professional, a general version of the instrument was used, along with its short 12-item version designed for group triage (Schaufeli et al., 2020; Tomas et al., 2023).

In this section, we present the main findings on observed burnout symptom levels and analyse group differences based on the type of mandatory activity participants were engaged in schooling, higher education, a combination of study and work, or employment.

Firstly, it must be emphasised that, once again, no significant differences were found between the national samples in the average levels of burnout symptoms among the active young population (aged 16–29). The average symptom level, measured on a scale from 1 to 5 (1 – not at all; 5 – to the highest extent), was 2.56 (SD=0.77) for the Croatian sample and 2.61 (SD=0.74) for the Slovenian sample; t=-1.49; p=.136). Although statistical norms for young people engaged in various types of activities are not yet available, these values suggest somewhat higher average levels of burnout symptoms compared to those found in the general working population.

Finally, significant differences were observed between groups with different activity statuses (F=3.546; p=.014), and *post hoc* tests indicated a significant difference between the employed group and those involved in education. On average, employed individuals reported significantly fewer symptoms of burnout. Besides the group differences, a high interindividual variability of the results should be noted – the vertical lines in the Figure 6.5. illustrate standard deviation that follows

corresponding arithmetic means. The same patterns were observed in the Slovenian and in the Croatian sample, so the cumulative data are presented.

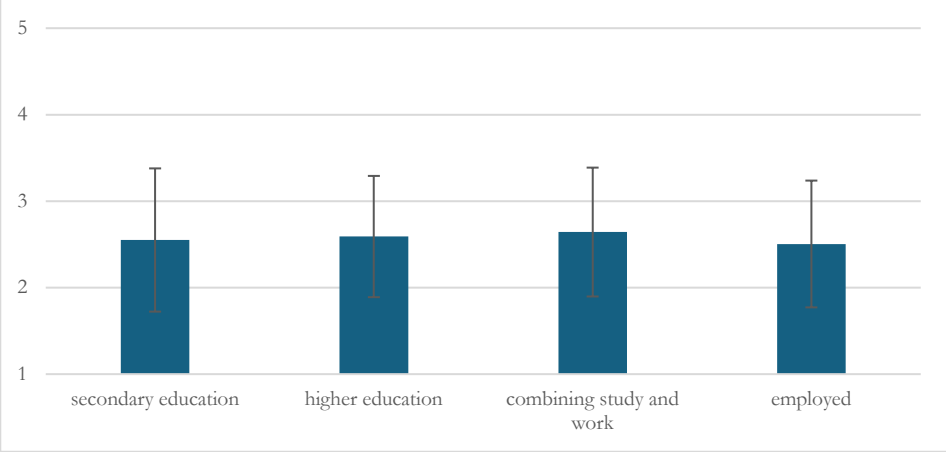

Figure 6.5: Experienced burnout symptoms across groups with different statuses: secondary education, higher education, combining study and work, and employed (both countries – mean scores)
Source: YO-VID22, 2023.

In both Croatia and Slovenia, young people reported significant levels of burnout symptoms during the post-pandemic period. Employed individuals reported significantly fewer burnout symptoms than those in education. The most vulnerable group identified were girls aged 16 to 19.

Quotes from young people who participated in focus groups (N=100; age 16-29; Slovenia and Croatia) can serve as an illustration of young people's perspectives on their perceived stress in everyday life.

> "I am not very satisfied with the faculty. I'm simply not satisfied with the way it was designed for us, the way the timetable was made, the overcrowding with obligations, the simple behaviour of individual professors. There is some support in the sense that they tell us that they have some counselling as part of the high school, something like that, but I think it should start with changing things at the high school so there wouldn't be so much stress about all that and there wouldn't be so much need for these supports."
>
> (Female, high school student, Croatia)

> "I train every day – gyms. Sometimes I don't have much time, but I go anyway because I think that sometimes mental health is much more important than any kind of studying and exams, and sometimes, even if I go to training and study less, I achieve better results because I somehow let out all the stress there. And I think that's the most important thing."
>
> (Female, high school student, Croatia)

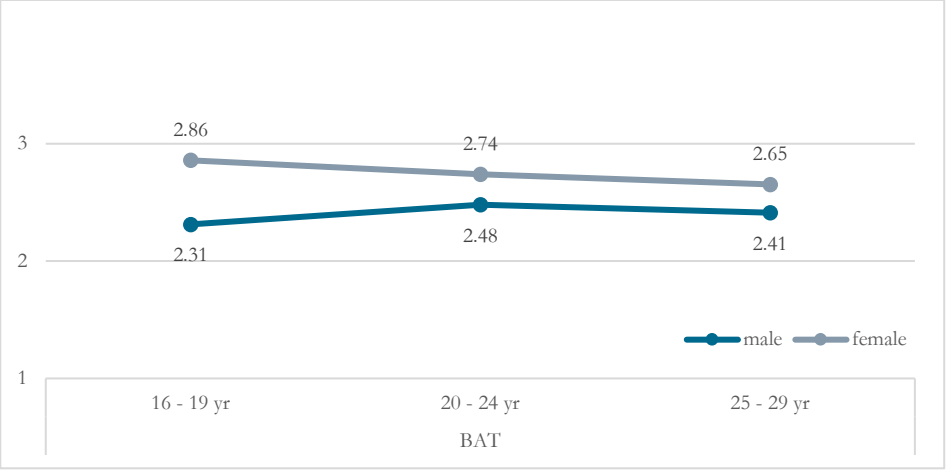

Figure 6.6: Gender and age differences in burnout symptoms: Average total scores on the BAT-12

Gender and age differences in burnout symptoms followed the same pattern observed in general mental health measures (i.e., DASS-9), with the youngest women (ages 16-19) reporting the highest levels of symptoms. In addition to gender and age differences - where young women consistently reported lower levels of general (depression, anxiety and stress symptoms measured by DASS-9) and contextual (burnout symptoms measured by BAT-12) mental health, with the youngest group (ages 16–19) identified as the most vulnerable - a consistent negative correlation with individual socio-economic status[1] was observed for both mental health indicators in both countries. The Pearson correlation coefficients were −.145 (Croatia) and −.148

[1] As an indicator of the family's socio-economic status, the *item "Which of the following best describes the financial situation in your household?"* was used. This item was assessed on the scale: 1- We don't have enough money for basic bills (e.g., electricity, heating) and food; 2 - We have enough for basic bills and food, but not for clothes and shoes; 3 - We have enough money for food, clothes and shoes, but not enough for more expensive things (e.g., refrigerator, TV); 4 - We can afford more expensive things, but not as expensive as a car or an apartment; 5 - We can afford everything we need for a good standard of living).

(Slovenia) with the DASS score, and −.175 (Croatia) and −.136 (Slovenia) with the BAT score, where all correlations were statistically significant ($p<.001$). These results indicate that the socio-economic status of a young person's family may serve as either a risk or a protective factor for mental health. Individuals who rated their financial background more favourably reported significantly fewer symptoms of impaired mental health. Research suggests that females are generally more attuned to their emotional states and more likely to report psychological distress, which may partly explain the higher reported symptom levels. Additionally, future research should examine the role of self-set goals in the experience of burnout. The goals and expectations of girls may be higher than those of boys at that age. These likely function as self-imposed demands, the fulfilment of which depletes energy and leads to burnout. These factors combined highlight the complex interplay between biological, psychological, and social influences in contributing to gender disparities in burnout during adolescence.

In both countries, young people with a more favourable self-rated socio-economic background reported significantly fewer symptoms of impaired mental health.

6.3 Differences in perceived stress levels between the pre-pandemic (2018) and post-pandemic (2023) periods

Our results regarding the prevalence of reported symptoms, measured according to available statistical norms defined in earlier periods, indirectly indicate a significant deterioration in mental health. Given the recent emergence of mental health as a public health issue, direct comparisons across time are lacking. Such comparisons require comparable results based on standardised instruments for measuring self-reported symptoms administered to representative samples in different periods, and this kind of data is quite rare. This scarcity holds true for Slovenia and Croatia as well. In this project, we had a unique opportunity to compare data from representative samples of young people from Croatia (Gvozdanović et al., 2019) and Slovenia assessed in 2018 as part of the FES Youth Study Southeast Europe (FES, 2019), and again in 2023, in our study across several well-being indicators. Here, we present a comparison of reported worries related to school, high school, or work—key aspects of young people's central life roles. Our aim was to determine whether

there was a significant difference in those indicators between the pre-pandemic (2018) and post-pandemic (2023) periods.

The perceived level of stress was examined with the item "In your opinion, what is everyday life like in your school/university?" for young people in the education system, or with the comparable form of the item "How would you assess your current job?" for young people who are employed. Additionally, for unemployed young people, the item was worded as follows: "What is your life like as an unemployed person?" The answers were assessed on a 5-point Likert scale, where 1 indicated "very difficult and stressful," 2 indicated "quite difficult and stressful," 3 indicated "somewhat difficult and stressful," 4 indicated "easy and not particularly stressful," and 5 indicated "very easy and completely stress-free." For the analysis, the items were recoded, whereby a lower assessment implies a lower level of perceived stress, or a higher assessment implies a higher level of stress.

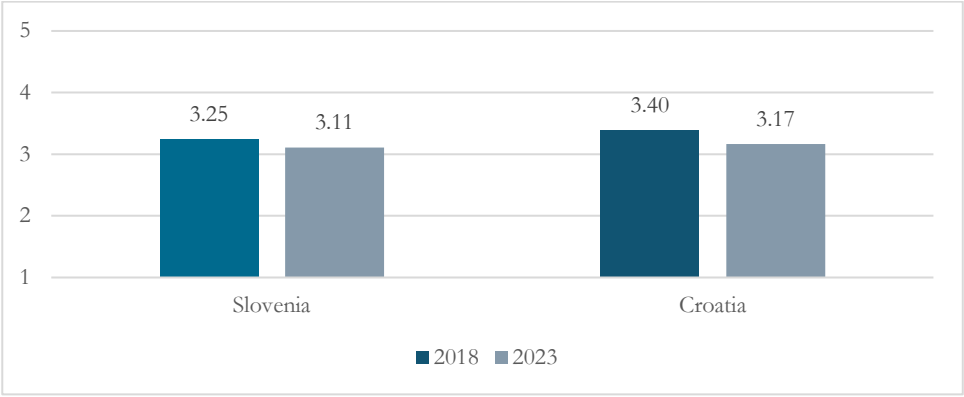

Figure 6.7: Perceived stress level (at school/high school or at work) between 2018 and 2023 by Country (mean scores)

Note: differences between countries in 2018, t=2.910; df =1213; p=.004; Source: YSEE 2018/2019, YO-VID22, 2023.

In the pre-pandemic period, almost 90% of young people in Croatia reported that their daily life at school/higher education or work was at least somewhat difficult and stressful (47.5% somewhat, 34.3% quite a bit, 8% very difficult and stressful). The situation is somewhat better for young people in Slovenia, 43.9% of them reported that their daily life at school/higher education or work was somewhat stressful and difficult, 27% quite a bit and 9.9% of them reported that it was very

difficult and stressful. The average levels of experienced stress are consistent with these findings. As shown in Figure 6.7, in the pre-pandemic period (2018), young people in Croatia (M=3.40; SD=.795) reported a statistically significantly higher level of perceived stress experienced in their school or work environment (t=2.910; df=1213; p<0.05) compared to young people in Slovenia (M=3.25; SD=.937). Additionally, in both countries, perceived stress in the educational or work environment was stable across different socio-economic circumstances[2] of the young people's families.

In both countries, girls perceived their educational or work environment as statistically significantly more stressful (Slovenia: M=3.34; SD=.917; t=2,342; df=617; p=.020; Croatia: M=3.47; SD=.818; t=2,437; df=549; p=.014) than young men did (Slovenia: M=3.17; SD=.949; Croatia: M=3.31; SD=.757). While the perceived level of stress in the educational or work environment in Slovenia was stable across age groups, in Croatia, young people aged 20 to 24 reported a higher level of perceived stress (M=3.52; SD=.784) compared to the oldest age cohort (25-29 years; M=3.26; SD=.824) and the youngest age group (16-19 years; M=3.34; SD=.787; F=4.536; p<.05). Young people in the 20-24 age group are mostly involved in the higher education system, and some of them are also working. Some young people at that age are entering the labour market and are in the early stages of career development, which can also be challenging. In addition to the demands of higher education, a possible reason for the higher perceived stress level could be the availability of support systems in an educational or work environment.

Compared to the pre-pandemic period, the perceived level of stress in their school or work environment in the post-pandemic period (2023) is statistically significantly lower, both in Croatia (M=3.17; SD=.948; t=5.079; df=1795; p=.001) and in Slovenia (M=3.11; SD=.912; t=3.130; df=1876; p=.002). In the post-pandemic period, 77.2% of young people in Croatia reported that their daily life at school/higher education or work is at least somewhat difficult and stressful (45.8% somewhat, 21.7% quite a bit, 9.7% very difficult and stressful). For comparison,

[2] As an indicator of the family's socio-economic status, the *item "Which of the following best describes the financial situation in your household?"* was used. This item was assessed on the scale: 1- We don't have enough money for basic bills (e.g., electricity, heating) and food; 2 - We have enough for basic bills and food, but not for clothes and shoes; 3 - We have enough money for food, clothes and shoes, but not enough for more expensive things (e.g., refrigerator, TV); 4 - We can afford more expensive things, but not as expensive as a car or an apartment; 5 - We can afford everything we need for a good standard of living).

45.4% of young people in Slovenia reported that their daily life at school/higher education or work is somewhat stressful and difficult, 21.3% quite a bit and 7.6% of them reported that it was very difficult and stressful. The perceived level of stress in the educational or work environment was analysed with respect to gender and age groups of young people in both countries (Figure 6.8.).

In both countries, the perceived levels of stress related to school, higher education, or work have, on average, somewhat decreased in the post-pandemic period compared to the pre-pandemic period. However, the experience remains pronounced; 77.2% of young people in Croatia and 45.4% in Slovenia reported that their daily life in these roles is at least somewhat difficult and stressful. The difference between the countries is consistent with the pre-pandemic period, indicating that young people in Croatia continue to experience significantly higher levels of stress related to central life roles – education and work.

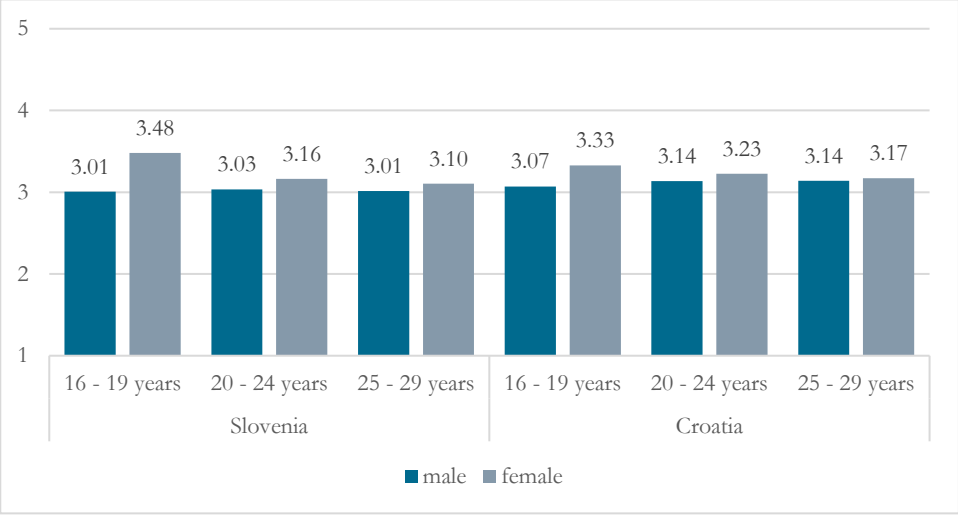

Figure 6.8: Perceived stress level (at school/high school or work) in the post-pandemic period by country (mean scores)
Source: YO-VID22, 2023

In the post-pandemic period, young people in Croatia (M=3.17; SD=.948) reported similar levels of perceived stress experienced in their school or work environment compared to young people in Slovenia (M=3.11; SD=.912). In both countries, girls perceived their educational or work environment as statistically significantly more

stressful (Slovenia: M=3.23, SD=.890; t=4.435; df=1254; p=.001; Croatia: M=3.23; SD=.927; t=2.263; df=1199; p=.024) than did young men (Slovenia: M=3.00, SD=.919; Croatia: M=3.11, SD=.964). Although the perceived level of stress in the educational or work environment both in Slovenia and Croatia is stable across different age groups, young people in Croatia who are enrolled in the education system (M=3.23; SD=.940) report a significantly higher level of perceived stress compared to other groups of young people (employed: M=3.08; SD=.923; unemployed: M=3.08; SD=1.093; F2,1198=3.641; p=.027). Compared to the pre-pandemic period, when in both countries the perceived stress in the educational or work environment was stable across different socio-economic circumstances of the young people's families, in the post-pandemic period, there is a weak but statistically significant correlation (rho=- .082; p<.01) between perceived stress in the educational or work environment and socio-economic background of young people in Croatia. In Croatia, higher levels of stress in educational and work environments were associated with young people coming from families of lower socioeconomic status.

6.4 Conclusions and recommendations

In this project, we approached mental health from three different perspectives: (1) Measuring the prevalence of self-reported symptoms of impaired mental health; (2) Examining symptoms of burnout among various groups based on education and employment status; (3) Assessing experienced worries regarding central life roles before and after the pandemic. The latter measure refers to traditional single-item indicators, and allowed us to compare the current project's results with parallel data collected in the FES 2018 Youth Study project. On the other hand, the first two sets of measures were based on standard psychological instruments (DASS-9 and BAT-12) and were applied exclusively in the current research. Several key findings emerged from the results. Below, we present these findings and discuss their implications for social policy:

Young people report elevated levels of depressive symptoms, anxiety, and perceived stress. Over 25% report serious depressive symptoms in both countries; around 20% report serious anxiety symptoms; and 30% of young people in Croatia and 27% in Slovenia report experiencing high levels of stress. These findings are consistent with recent data from the WHO (2024), which indicate that depression, anxiety, and

behavioural disorders are among the leading causes of illness and disability among adolescents. Additionally, suicide is identified as the third leading cause of death among individuals aged 15–29. It is also worth noting that some significant differences were found between the countries - young people in Croatia reported, on average, higher levels of depressive and stress symptoms. However, the effects were small and do not indicate any qualitative differences between the samples.

The results of this project demonstrate that Croatia and Slovenia are not exceptions in the global trend of deteriorating mental health among young people. In this context, both countries should follow global recommendations for institutional and public strategies to support youth mental health and well-being. These strategies should adopt an interdisciplinary approach, integrating efforts from governmental, non-governmental, and civil sectors. Moreover, addressing this issue should involve not only mental health professionals, such as psychologists and psychiatrists, but also educators, managers, and others who work directly with young people. Furthermore, tackling this challenge requires close collaboration between research and practice. Such cooperation can yield insights into the causes of the phenomenon, the development of valid assessment tools, identify effective coping strategies, and ultimately implement them at individual, group, and societal levels.

– Additionally, the use of a burnout assessment tool, administered as a supplementary measure of context-related psychological well-being, revealed that burnout symptoms are more prevalent among younger individuals in education than among those who are employed.

Burnout symptoms among youth deserve greater attention in the future, as this particular form of mental health impairment may help us better understand its underlying causes. Burnout is a specific, reactive type of mental health impairment that arises from prolonged exposure to stress. This stress results from a disbalance between situational demands and the resources available to the individual for effective coping. In other words, burnout shifts the responsibility for mental health impairments onto the environment, specifically, schools and workplaces. Theories explaining the situational causes of burnout serve as a valuable guide for targeted, context-based interventions. These interventions should focus on shaping environments in which young people engage with their life roles (education and work) in ways that are aligned with their needs. Focusing on the quality of

employment and education will likely have a more profound and lasting impact on well-being than treating the individual or group-level consequences of unhealthy environments. The key to mitigating burnout symptoms lies in the hands of employers, managers, teachers, and education policymakers. The role of mental health professionals is to support and enhance the competencies of these stakeholders in creating healthier, more supportive environments.

- In general, young women reported more symptoms of mental health impairment than young men, which is a pattern also observed in other age groups. Interestingly, when analysing all symptoms, i.e., depression, anxiety, stress, and burnout, we observed distinct trends for young men and women. Among young women, the youngest age groups reported the highest levels of mental health difficulties. Older young women (those in their late twenties) reported fewer symptoms, suggesting an improvement in mental health with age. For young men, the trend differed, with adolescent girls emerging as the highest-risk group for impaired mental health in both countries.

Beyond highlighting the need for gender- and age-sensitive approaches to mental health, these findings accentuate the heterogeneity of the young population respecting their socio-economic status.

- Socio-economic status of a young person's family may serve as either a risk or protective factor for mental health. Individuals with a better self-rated financial background reported significantly fewer symptoms of impaired mental health.

The observed individual differences in all measures used to assess the mental health of young people in Croatia and Slovenia exceeded the differences in their demographic characteristics. Policy measures should consider the psychological needs of the target population and respect individual differences in responses to the same environmental demands.

- Strategies aimed at supporting youth mental health must take into account the diversity among young people. Individual differences in mental health may stem from variations in psychological needs and the subjective experience of objective stressors. Effective strategies should be grounded in this

understanding and should tailor interventions to the specific experiences and challenges faced by different subgroups within the youth population.

References

Buško, V., & Bezinović, P. (2021). Experiences with online teaching and psychological adjustment of high-school students at the onset of the COVID-19 pandemic in Croatia. *Frontiers in psychology*, 12, 647991.

Cost, K. T., Crosbie, J., Anagnostou, E., Birken, C. S., Charach, A., Monga, S., Kelley, E., Nicolson, R., Maguire, J. L., Burton, C. L., Schachar, R. J., Arnold, P. D., & Korczak, D. J. (2022). Mostly worse, occasionally better: impact of COVID-19 pandemic on the mental health of Canadian children and adolescents. *European child & adolescent psychiatry*, 31(4), 671–684. https://doi.org/10.1007/s00787-021-01744-3

EUROSTAT (2022a). *Statistics of young people neither in employment nor in education or training.* https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Statistics_on_young_people_neither_in_employment_nor_in_education_or_training.

EUROSTAT (2022b). *Mental Well-being and social support statistics.* https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Mental_well-being_and_social_support_statistics&oldid=412722

Friedrich-Ebert-Stiftung (2019). *Youth Studies Southeast Europe 2018/2019*. https://www.fes.de/en/youth-studies/

Forte, A.; Orri, M.; Brandizzi, M.; Iannaco, C.; Venturini, P.; Liberato, D.; Battaglia, C.; Nöthen-Garunja, I.; Vulcan, M.; Brusìc, A.; et al. (2021). "My Life during the Lockdown": Emotional Experiences of European Adolescents during the COVID-19 Crisis. Int. *J. Environ. Res. Public Health*, 18, 7638. https://doi.org/10.3390/ijerph18147638

Graupensperger, S., Cadigan, J.M., Einberger, C. *et al.* (2023). Multifaceted COVID-19-Related Stressors and Associations with Indices of Mental Health, Well-being, and Substance Use Among Young Adults. *Int J Ment Health Addiction* 21, 418–431. https://doi.org/10.1007/s11469-021-00604-0

Gvozdanović, A., Ilišin, V., Adamović, M., Potočnik, D., Baketa, N. and Kovačić, M. (2019). *Youth study Croatia 2018/2019*. Zagreb: Friedrich Ebert Stiftung. https://library.fes.de/pdf-files/id-moe/15265.pdf

Jeriček Klanšček, H., & Furman, L. (2023). Socioeconomic Deprivation and Inequalities in Mental Well-Being during the COVID-19 Pandemic among Adolescents. *International Journal of Environmental Research and Public Health*, 20(13), 6233. http://dx.doi.org/10.3390/ijerph20136233

Jokić Begić, N., Hromatko, I., Jurin, T, Kamenov, Ž., Keresteš, G., Kuterovac Jagodić, G., Lauri Korajlija, A., Maslić Seršić, D., Mehulić, J., Mikac, U. (2020). In: Bogdan, Andreja (ur.), *Kako smo svi mi? Rezultati istraživanja psihičkog zdravlja za vrijeme pandemije COVID- 19 u Hrvatskoj// Koronavirus i mentalno zdravlje: psihološki aspekti, savjeti i preporuke*. Hrvatska psihološka komora; Hrvatsko psihološko društvo (HPD), pp. 415-460.

Kauhanen, L., Wan Mohd Yunus, W., Lempinen, L. et al. (2023). A systematic review of the mental health changes of children and young people before and during the COVID-19 pandemic. *Eur Child Adolesc Psychiatry*, 32, 995–1013 https://doi.org/10.1007/s00787-022-02060-0

Kirič, B., Leben Novak, L., Lušicky, P., & Drobnič Radobuljac, M. (2022). Suicidal behavior in emergency child and adolescent psychiatric service users before and during the 16 months of the COVID-19 pandemic. *Frontiers in psychiatry*, 13, 893040.

Loades, M.E., Chatburn, E., Higson-Sweeney, N., Reynolds, S., Shafran, R., Brigden, A., et al. (2020). Rapid systematic review: the impact of social isolation and loneliness on the mental health of

children and adolescents in the context of COVID-19. *J Am Acad Child Adolesc Psychiatry.* 59: 1218–39. e3. doi: 10.1016/j.jaac.2020.05.009

Matić T, Pregelj P, Sadikov A, Rus Prelog P. (2022). Depression, Anxiety, Stress, and Suicidality Levels in Young Adults Increased Two Years into the COVID-19 Pandemic. *Int J Environ Res Public Health,* 26; 20(1):339. doi: 10.3390/ijerph20010339. PMID: 36612666; PMCID: PMC9819448.

Naterer, A., Lavrič, M., Klanjšek, R., Flere, S., Rutar, T., Lahe, D., Kuhar, M., Hlebec, V., Cupar, T. and Kobše, Ž. (2019). *Youth study Slovenia 2018/2019*. Berlin: Friedrich Ebert Stiftung. https://library.fes.de/pdf-files/id-moe/15278.pdf

Ragavan, M. I., Culyba, A. J., Muhammad, F. L., & Miller, E. (2020). Supporting adolescents and young adults exposed to or experiencing violence during the COVID-19 pandemic. *Journal of Adolescent Health,* 67(1), 18-20.

Schaufeli WB, De Witte H, Desart S. (2020). User Manual Burnout Assessment Tool (BAT) – Version 2.0. KU Leuven, Belgium: *Unpublished internal report*.

Schaufeli, W., & De Witte (2023). H. Burnout Assessment Tool (BAT) A fresh look at burnout. In: *International Handbook of Behavioral Health Assessment*. Cham: Springer International Publishing. pp. 1-24.

Szkody, E.; Stears, M.; Stanhope, L. and McKinney, C. (2020). Stress-Buffering Role of Social Support during COVID-19. *Family Process,* 1-14. doi: 10.1111/famp.12618

Tang, S., Xiang, M., Cheung, T., & Xiang, Y. T. (2021). Mental health and its correlates among children and adolescents during COVID-19 school closure: The importance of parent-child discussion. *Journal of affective disorders*, 279, 353-360. https://doi.org/10.1016%2Fj.jad.2020.10.016

Tausig, M., Fenwick, R., Tausig, M., & Fenwick, R. (2011). *Work and mental health in social context* (pp. 161-183). Springer: New York.

Tomas, J., Maslić Seršić, D., Mikac, U., Rebernjak, B., Buško, V., & De Witte, H. (2024). Validation of the Croatian version of the short form of the Burnout Assessment Tool: Findings from a nationally representative sample. *International Journal of Selection and Assessment*, 32(1), 40-53.

van Loon, A.W.G., Creemers, H.E., Vogelaar, S. *et al.* (2022). Trajectories of adolescent perceived stress and symptoms of depression and anxiety during the COVID-19 pandemic. *Sci Rep* 12, 15957. https://doi.org/10.1038/s41598-022-20344-y

Wang, C., Wen, W., Zhang, H., Ni, J., Jiang, J., Cheng, Y., ... & Liu, W. (2021). Anxiety, depression, and stress prevalence among high school students during the COVID-19 pandemic: A systematic review and meta-analysis. *Journal of American high school health*, 1-8. https://doi.org/10.1080/07448481.2021.1960849

Woon, L. S., Leong Bin Abdullah, M. F. I., Sidi, H., Mansor, N. S., & Nik Jaafar, N. R. (2021). Depression, anxiety, and the COVID-19 pandemic: Severity of symptoms and associated factors among university students after the end of the movement lockdown. *PloS one*, 16(5), e0252481. https://doi.org/10.1371/journal.pone.0252481

World Health Organization (2024). *Burn-out an "occupational phenomenon": International Classification of Diseases*. https://www.who.int/news/item/https://www.who.int/news/item/28-05-2019-burn-out-an-occupational-phenomenon-international-classification-of-diseases

World Health Organization (2024). *Mental health of adolescents. https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health*

Xiaochen, Y., Jingfen, Z., Ziyue, C., Yinliang, T., Yaping, H.E. (2021). Influence of individual and family characteristics on middle school students' mental health status during COVID-19 pandemic. *Scl Health China*. 42:858–62. doi: 10.16835/j.cnki.1000-9817.2021.06.014

Yusoff, M. S. B. (2013). Psychometric properties of the depression anxiety stress scale in a sample of medical degree applicants. *International Medical Journal*, 20(3), 295–300.

About the authors

Dr. **Gordana Kuterovac Jagodić**, is a tenured full professor at the Chair of Developmental Psychology at the Faculty of Humanities and Social Sciences, University of Zagreb. She has served as Head of the Chair and was also Head of the Department of Psychology. She teaches developmental psychology at all study levels and has supervised numerous graduate, specialist, and doctoral theses. Her research focuses on risk factors in child and youth development (such as war, pandemics, and social media), developmental transitions, and parenting. She has received several awards for her professional and scientific contributions. Prof. Kuterovac Jagodić is a member of the Croatian Psychological Society, the Management Board of the Croatian Psychological Chamber, and the EuroPsy National Committee for Croatia. She is also the Croatian representative on the Board of Scientific Affairs of the European Federation of Psychological Associations (EFPA). She is the author and co-author of numerous scientific papers and books, actively participates in national and international research projects, and regularly translates and reviews professional literature.

Dr. **Darja Maslić Seršić**, is a Professor of Psychology in the Department of Psychology, Faculty of Humanities and Social Sciences, University of Zagreb. She teaches courses in Research Methods, Organisational Psychology, Occupational Health Psychology, and Vocational Behaviour. Her research is in the field of Work and Organisational Psychology, with a focus on work-related well-being, work motivation, and adaptive career behaviour. Her specific research interests include occupational stress, burnout, job insecurity, school-to-work transition, and unemployment. She received her degree in Psychology (1989), M.A. (1993), and Ph.D. (2000) from the Faculty of Humanities and Social Sciences, University of Zagreb, where she has been employed since 1990. Since 2012, she has held the position of Full Professor in the field of Work and Organisational Psychology. From 2016 to 2022, she served as the Head of the Doctoral Program in Psychology at the University of Zagreb. She currently serves as Head of the Chair of Experimental Psychology.

Dr. **Sandra Antulić Majcen**, has been employed at the Institute for Social Research in Zagreb since 2023, as a senior research assistant on the project YO-VID22: Youth Well-being and Support Structures Before, During and After the COVID-19 pandemic (Croatian Science Foundation). With a background in psychology and educational sciences, she has actively participated in various national and international projects focused on education, with a special emphasis on self-evaluation, quality and system-level improvements. Her research interests focus on the well-being of children and young people, especially those from vulnerable social groups, with the aim of better understanding their needs and advocating for more inclusive and supportive environments.