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# Longitudinal Analysis of COVID-19 Anxiety and Mental Well-being during Lockdown: The Role of Emotional Self-efficacy and Mindfulness Practices in Slovenian Adults - Insights for Post-Pandemic Mental Health and Education

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## 1 COVID-19 and mental health

Even though COVID-19 pandemic is no longer present, the data collected at the time of the pandemic are still be used in studies and can provide valid insights. Findings from such studies may be used to inform education as well as public mental-health policies about relevance of certain topics. These findings are particularly relevant for the design of future educational strategies and programs which will help to ensure that pupils, students and teachers have the necessary tools to face potential future challenges, while at the same time being better able to contribute to creating an encouraging and supportive learning environment.

The COVID-19 pandemic and the restrictions imposed by governments, in order to prevent the spread of the virus, have created an enormous health and economic burden, and challenged our mental health and well-being. There is evidence of this from research focusing on the negative aspects of psychological functioning, such as stress, anxiety, and depression during the pandemic (e.g., Elmer et al., 2020; Moccia et al., 2020; Wang et al., 2020a). Less research (e.g., Pellerin & Raufaste, 2020) has focused on the positive aspects of human functioning and how this has changed during the COVID-19 pandemic, and even less on protective factors for better coping with the challenges of the pandemic. In the current paper, we focus on both negative and positive aspects of psychological functioning, namely COVID-19 anxiety and mental well-being, as well as on potential

protective factors, namely emotional self-efficacy and practicing mindfulness. Firstly, we are interested in how COVID-19 anxiety and mental well-being changed during the first lockdown in Slovenia and secondly, whether emotional self-efficacy and practicing mindfulness play a protective role in maintaining one's mental well-being and lowering specific COVID-19 anxiety.

The nation-wide lockdown due to the pandemic at the time of the study provided opportunities to analyse possible protective factors for better psychological responses during the specific time of increased stress related to the pandemic and lockdown. The findings are especially important in light of the reoccurring lockdowns and their severe consequences for mental health, which is also reflected in higher suicide rates (O'Connor et al., 2020). The current study offers insights into supporting mechanisms that can be used in future challenges related to mental health during the COVID-19 pandemic, and other possible crises.

Mental well-being is a positive aspect (feeling good and functioning well) of mental health (Tennant et al., 2007), and can be used as an indicator of mental health. Conversely, anxiety is an indicator of poorer mental health and lower mental well-being. The regulation of both mental well-being and anxiety is challenged in times of extreme stress. Cross-sectional data has been used to document decreases in mental well-being during the COVID-19 pandemic (e.g., Mazza et al., 2020, Wang et al., 2021). For instance, in adult samples from the USA, 55% of participants reported lower mental well-being during the pandemic, compared to before the pandemic (Otu et al., 2020). Furthermore, Wang et al. (2021) reported participants experiencing physical symptoms resembling COVID-19 to be associated with lower mental health. This seems to suggest that COVID-19 is perceived as a threat and that affects adverse mental health outcomes. There are also several longitudinal studies showing decreases in well-being corresponding to the onset of COVID-19. There is longitudinal evidence for a decrease in well-being compared to pre-COVID-19 from China (Wang et al., 2020a), France (Pellerin & Raufaste, 2020), Spain (González-Sanguino et al., 2020), the UK (O'Connor et al., 2020) and Israel (Kimhi et al., 2020). Some studies have also followed mental health status through lockdowns. For instance, in China, Wang et al. (2020b), reported that the levels of stress, anxiety and depression initially found were maintained through the weeks of lockdown. Mental health levels were maintained in Spain, at least for the first two weeks of lockdown, followed by a decrease in anxiety, depression and

posttraumatic stress disorder once lockdown ended (González-Sanguino et al., 2020). A decrease in anxiety and an increase in mental well-being was also documented in the first weeks of lockdown in the UK (O'Connor et al., 2020). The pattern of stability or change in different aspects of psychological functioning during pandemic thus probably depends on the time points compared (e.g., pre- versus during, during versus post-; only during pandemic/lockdown). Findings suggest that after an initial decrease in psychological functioning, levels are either maintained or improve with time.

### *1.1 Protective factors*

One of the known protective factors for mental well-being and anxiety is emotional self-efficacy. Emotional self-efficacy is directly related to stress management, since it is defined as the perceived ability to cope with negative emotions (Muris, 2002). It requires the self-appraisal of one's emotional competencies in the emotional regulation domain (Alessandri et al., 2015). Emotional regulation is a challenge in times of intense stress such as pandemic (Gros & Munoz, 1995). Another frequently investigated protective factor for mental well-being and anxiety is practising mindfulness. Mindfulness is an unbiased present-centred awareness, accompanied by states of clarity and compassion (Kabat-Zinn, 2003). It can be cultivated by practicing the moment-to-moment awareness of objects, body sensations, and emotions, and accepting them as they are, without judging or trying to change them (Maloney et al., 2016). Mindfulness techniques usually focus on the awareness of breathing or physical sensations in the body (e.g., body scanning), so-called inner or meditation-based exercises, and sometimes on the awareness of the body in movement (e.g., yoga, walking meditation), so-called body or yoga-based exercises (Kabat-Zinn, 2003). Mindfulness, meditation and body scanning support the self-regulation that is put to test in times of extreme stress by enhancing subjective well-being and psychological resources (e.g., Dambrun et al., 2019). Practising mindfulness reduces psychological stress and fosters stress resilience (Khouri et al., 2013). Zhu et al. (2021) found evidence of practising mindfulness to be a protective factor in mental health during the COVID-19 pandemic. We can therefore expect practicing mindfulness to play a role in COVID-19 anxiety and mental well-being during the lockdown. It trains individuals to be present in the moment, and thus not focusing on worries related to the future or past, and at the same time promotes acceptance. Acceptance can be especially important when facing a difficult life event that is not under one's control,

since it is a mental attitude that allows non-reactivity in the present moment, no matter the content of one's experience (Lindsay & Creswell, 2017).

Several studies have also longitudinally investigated the protective factors for well-being and related constructs during the lockdown. For instance, Pellerin and Raufaste (2020) investigated week to week changes in several dimensions of well-being. They also examined the role of several protective factors, including self-efficacy, hope, gratitude, acceptance, and wisdom, and reported their beneficial role in well-being. Among other things, they also reported the positive effects of self-efficacy on psychological and inner well-being through a reduction in the negative effect of health threat. As relevant to our theme, acceptance was also beneficial for emotional and inner well-being. In a two-wave longitudinal study during the lockdown, Prinzing et al. (2020) found that resilience (associated with emotional self-efficacy) had beneficial effects for coping with the stress imposed by the COVID-19 pandemic.

### *1.2 Current study*

Considering the unique time of the COVID-19 pandemic and its link to psychological functioning, the aim of our study was to examine week to week changes in positive and negative aspects of psychological functioning, COVID-19 anxiety and mental well-being, during the first lockdown in Slovenia. The present study is the first to analyse psychological functioning during the COVID-19 pandemic in Slovenia using a longitudinal design. Our basic assumption was that the threat of the COVID-19 disease and very sudden and severe restrictions, as well as the necessary rapid lifestyle changes (e.g., working from home, social isolation, the closure of organised leisure activities, shops, restaurants, and social events), meant that mental well-being would be at its lowest point at the beginning of the lockdown and would slowly increase through the weeks of lockdown; the opposite would be true for COVID-19 anxiety - it would be at its highest point at the beginning of the lockdown and would slowly decrease over the following weeks of lockdown. We are also interested in whether this week-to-week change is affected by emotional self-efficacy and practicing mindfulness. We hypothesise that emotional self-efficacy and practicing mindfulness predict higher initial levels of mental well-being, as well as lower initial levels of COVID-19 anxiety, and more stable trajectories during the lockdown.

We aim to answer specific research questions:

1. Has mental well-being changed during the lockdown for the COVID-19 pandemic?
2. Has COVID-19 anxiety changed during the lockdown for the COVID-19 pandemic?
3. Do emotional self-efficacy and practicing mindfulness have an effect on the initial levels and changes in COVID-19 anxiety and mental well-being during the lockdown for the COVID-19 pandemic?

## 2 Method

### *2.1 Participants*

Forty-five Slovenian participants were included in the convenience sample, collected via the snowball method (through email lists and social media). The data comes from a larger study of psychological responses to the COVID-19 pandemic, but only participants with complete data from at least two-time points were included in the current sample. The participants ($n$ = 45) at time 1 (T1) were mostly female (86.7%; 11.1% male; 2.2% non-binary), aged between 18 and 72 ($M$ = 39.4; $SD$ = 14.6), employed (62.2%; 13.3% students; 11.1% retired; 8.9% self-employed; 4.4% unemployed), mostly worked from home (59.4%; 21.9% mostly worked at their workplace; 12.5% waiting at home; 6.3% other), had completed a 4-to-5 year university degree (48.9 %; 20.0% 2-to-3 year higher education degree, 15.6% doctorate or scientific Master's program; 13.3% high school, 2.2% non-completed primary school), lived with one other person (40%; 28.9 lived with two other persons; 20% lived with three or more other persons; 11.1% lived alone), and indicated that they were not infected with COVID-19 (97.8%; 2.2 % did not know because they weren't tested). The participant demographics at T2 (n = 41; 85.4% female), T3 (n = 21; 95.2% female), and T4 (n = 18; 88.9% female) did not significantly differ compared to T1.

### *2.2 Instruments*

The instrument battery consisted of questionnaires capturing psychological responses to the COVID-19 pandemic and emotional competencies. Demographics and information on being interested in or using inner and/or body exercises were collected. Items were reformulated to match the specific period of the COVID-19 pandemic.

The Warwick-Edinburgh *Mental Well-being* scale (WEMWBS; Tennant et al., 2007) was used as a measure of mental well-being. Fourteen items (1 = "never" to 5 = "always"; originally formulated as 1 = "none of the time" to 5 = "all of the time") assessed the frequency of positive aspects of mental health during the COVID-19 pandemic. Reliability and validity are well documented, including on a Slovenian sample (Cilar et al., 2019). Cronbach's α in our study ranged from .90 to .96 in our four measurements.

*COVID-19 anxiety* measured specific situational anxiety during the pandemic. The scale created for this study is based on the items from the LAOM (Lestvica Anksioznosti za Otroke in Mladostnike) Anxiety Scale (Kozina, 2012). The 4 items aimed to capture anxiety specific to the COVID-19 pandemic (e.g., "I am worried about getting infected with COVID-19."). Participants reported how often the statements were true for them during the COVID-19 pandemic (1 = "never" to 5 = "always"). Its validity is supported through correlations with established measures (e.g., general anxiety, mental well-being; Kozina et al., 2021). Cronbach's α in our study ranged from .85 to .91 in our four measurements.

The *Emotional Self-Efficacy* scale (Muris, 2002) is taken from the self-efficacy questionnaire for children (SEQ-C). The eight items (1 = "not at all" to 5 = "very well") evaluate the ability to regulate unpleasant emotions. Its reliability and validity are well-documented in children and adolescents (Tan & Chellappan, 2018), and the scale has also been used with adults (Vieluf et al., 2020). Cronbach's α in our study ranged from .87 to .96 in our four measurements.

The use of *Inner* (meditation-based) *and Body* (yoga-based) *exercises* were indicated by providing the most appropriate response about an experience with, and interest in meditation, or similar inner exercises, and yoga or similar body exercises. The five possible answers were: 1 - "I meditate or practice similar inner exercises on a regular basis."; 2 - "I have done meditation or similar inner exercises before and I like it, but I don't practice on a regular basis."; 3 - "I have done meditation or similar inner exercises before, but it is not the right thing for me." 4 - "I have never done meditation or similar inner exercises before, but I would like to try." 5 - "I have never done meditation or similar inner exercises before and I am not interested in trying it out." As both inner and body exercises correspond to practicing mindfulness, the answers were used as indicators of the variable *Practicing Mindfulness*. The answers were recoded to 1 [practicing mindfulness, which

included answers 1 and 2 from *Inner* and/or *Body exercises*) and 0 (not practicing mindfulness, which included answers 3, 4, and 5).

### *2.3 Procedure*

The COVID-19 epidemic in Slovenia was first declared on the 12th of March 2020, and most restrictive measures were put into effect on the 16th of March 2020 (e.g., closing of schools; cancelling public transport; closing of non-essential service activities such as bars and restaurants; limiting the movement of people outside the municipality of residence; closure of country borders). The epidemic lasted until the 15th of May 2020. The study began at the peak of the restrictive measures in effect during the first lockdown in Slovenia. The restrictive measures were unchanged for the first two weeks of the study, and then they were gradually loosened (e.g., removing the limit on movement outside municipalities, reopening some non-essential service activities such as hairdressers and restaurants, and opening public transport, but schools remained closed, as did the country's borders). The first measurement (T1) started on the 8th of April 2020. After completing the questionnaire battery at T1, participants were asked if they were willing to participate in follow-up questionnaires, and those who agreed left their email addresses (stored separately from the responses to provide anonymity), to receive the questionnaire battery again. Participants received the follow-up batteries in seven-day intervals upon completion of T1; meaning that there is some overlap between the time waves depending on when the participant completed the survey for the first time. Data collection at the fourth measurement (T4) ended on the 13th of May 2020, before the end of the first epidemic. Participants with completed data from at least two measurements are included in the analyses. Consent for data collection was indicated by reading a description of the study and continuing to fill out the questionnaire battery.

### *2.4 Data analysis*

After examining the descriptive statistics, correlations and reliabilities using IBM SPSS Statistics 27, the raw data was plotted, and the trajectories suggested linear changes over time. We employed the latent growth curve (LGC) models to examine the longitudinal change over time using Mplus (Version 8.5). A robust maximum likelihood (MLR) algorithm was used to handle missing data and assess parameters in the model. We retained all participants in the analyses when using the maximum likelihood algori-

thm, including those with incomplete data, and there was no need to »correct« the data (e.g., replace missing values with the arithmetic mean or regression); the estimates of parameters and their standard errors are based on all available data (Peugh & Enders, 2004). First, we conducted analyses of the unconditional LGC models, where the latent factors (intercept and slope; the parameters describing the growth curve) were created for four observed repeated measures (mental well-being, COVID-19 anxiety), allowing us to examine the intra-individual change over time. The values assigned to the intercept were constrained to be equal (i.e., they were fixed to 1) and values assigned to the factor loadings of the slope manifested indicators that referred to the interpretation of time (i.e., each value represented one week). In the second step, conditional LGC models were examined by adding covariates into the model (emotional self-efficacy, practicing mindfulness) at the subject level (estimating the effects of the covariates on the latent growth parameters). A direct effect of the covariates enabled us to examine whether the covariates explained (some of) the inter-individual differences in the growth curves (Stoel et al., 2004). As all modification indices were below the value of 10, no correlated errors were included between the items in any of the models. Model fit was assessed with comparative fit indices (CFI), root mean square error of approximation (RMSEA), and standardised root mean square residual (SRMR), following a recommendation from Hu and Bentler (1999) for a good fit: CFI > 0.95, RMSEA < 0.06 and the SRMR < 0.08. The following cut-off values were applied for adequate fit: CFI > 0.90, RMSEA < 0.08 and the SRMR < 0.08 (Hair et al., 1998).

### *2.5 Ethical Compliance Section*

The authors have no funding to disclose. All procedures performed in studies involving human participants were in accordance with the ethical standards of the Educational Research Institute and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The authors declare they have no conflict of interest. Informed consent was obtained from all individuals included in the study.

## 3 Results

After reporting the descriptive statistics and correlations, the results of the unconditional and conditional LGC models for mental well-being and COVID-19 anxiety are presented.

### *3.1 Descriptive Results*

Means, standard deviations and correlations between the scales used at four time-points (mental well-being, COVID-19 anxiety) and the time-invariant covariates (emotional self-efficacy, practicing mindfulness) are presented in Table 27. The descriptive statistics for mental well-being show that participants reported a gradual increase in levels of mental well-being from T1 to T3, followed by a decrease at T4, while the levels of COVID-19 anxiety decreased from T1 to T4. Skewness and kurtosis values were considered acceptable for all included variables, and therefore no variables needed to be transformed.

Mental well-being was positively connected to emotional self-efficacy at all time-points except for t4, and it was only positively correlated with practicing mindfulness in T3. COVID-19 anxiety was negatively correlated with emotional self-efficacy in T1, and was not connected with practicing mindfulness at all (see Table 27).

Table 27: Descriptive statistics and correlations between mental well-being, COVID-19 anxiety and selected covariates

| | *M* | *SD* | Skewness | Kurtosis | Emotional self-efficacy | Practicing mindfulness |
|---|---|---|---|---|---|---|
| Mental well-being (T1) | 3.72 | 0.59 | 0.18 | -0.89 | .69*** | .07 |
| Mental well-being (T2) | 3.77 | 0.63 | -0.01 | 0.12 | .61*** | .21 |
| Mental well-being (T3) | 3.91 | 0.64 | -0.51 | 0.38 | .65** | .48* |
| Mental well-being (T4) | 3.83 | 0.82 | -1.04 | 0.04 | .40 | -.16 |
| COVID-19 anxiety (T1) | 2.58 | 0.96 | 0.23 | -0.72 | -.41** | .01 |
| COVID-19 anxiety (T2) | 2.24 | 0.82 | 0.14 | -0.94 | -.21 | .16 |
| COVID-19 anxiety (T3) | 1.98 | 0.73 | 0.38 | 0.18 | -.23 | .03 |
| COVID-19 anxiety (T4) | 1.69 | 0.81 | 1.08 | 0.72 | .24 | .20 |
| *M* | | | | | 3.73 | 0.78 |
| *SD* | | | | | 0.61 | 0.42 |
| Skewness | | | | | 0.05 | -1.38 |
| Kurtosis | | | | | -0.22 | -0.09 |

Notes: *$p < .05$, **$p < .01$, ***$p < .001$.

### *3.2 Latent Growth Curve Models*

#### 3.2.1 Unconditional LGC models

Unconditional LGC models (measurement model, without covariates) were used to calculate the intra-individual differences in the growth path

of mental well-being and COVID-19 anxiety over four time-points (within-person model) during the COVID-19 pandemic.

Table 28: Unconditional LGC model parameters and fit indices of mental well-being and COVID-19 anxiety over four time-points

| | Intercept | | r | Slope | | Model fit | | |
|---|---|---|---|---|---|---|---|---|
| | *M* | Var | | *M* | Var | CFI | RMSEA | SRMR |
| Mental well-being | 3.740*** | 0.247*** | 0.020 | 0.017 | 0.005 | 0.967 | 0.124 [0.000-0.264] | 0.056 |
| COVID-19 anxiety | 2.575*** | 0.794*** | -0.153 | -0.268*** | 0.063 | 1.000 | 0.000 [0.000-0.155] | 0.056 |

Notes: *** $p \leq 0.001$

Table 28 shows that both unconditional LGC models have a good fit with the data, with the exception of RMSEA for mental well-being. The inconsistency between CFI and RMSEA is well documented and the reasons for it are still being investigated, however, as suggested by Lai and Green (2016) an alternative index can be used as a combination of both, ɣ = RMSEA - (1-CFI), and if ɣ is larger than 0, as in our case, CFI is a better approximation of the fit. In both models, the means and the variances of the intercept (the average initial levels and the inter-individual differences in the initial levels) were statistically significant. The average intra-individual change (the mean of the slope) was statistically significant for COVID-19 anxiety, its negative value indicating a significant rate of decrease in the measured concept over time. There was a slight increase in mental well-being over time, but this was statistically insignificant. We found no statistically significant inter-individual differences in intra-individual change over time (variances of the slope) in either model. A negative covariance (above the significance boundary, $p = .10$) between the intercept and slope (describing the relationship between the starting point and the rate of change), connected to the negative slope in the COVID-19 anxiety model, shows that higher initial levels were related to a steeper decline in the outcome over time.

### 3.2.2 Conditional LGC models

We present the findings of the conditional LGC models, separately for mental well-being and COVID-19 anxiety, with two covariates (emotional self-efficacy, practicing mindfulness), included as time-invariant predictors of

intercept and slope, allowing us to explain the variation of parameters in different individuals.

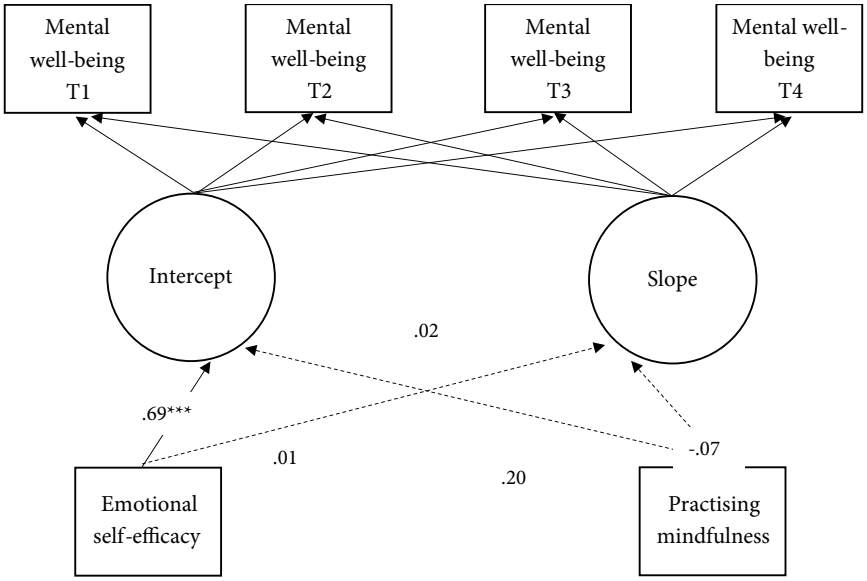


Figure 15: The conditional LGC model for mental well-being, measured at four time-points (T1-T4), including two covariates (emotional self-efficacy and practicing mindfulness). The numbers are the unstandardised coefficient estimates. Solid lines represent significant paths and dashed lines indicate non-significant paths or correlations. ***p< .001.

The LGC model for mental well-being, with two time-invariant factors (emotional self-efficacy and practicing mindfulness) as predictors of intercept and slope (see Figure 15), shows an adequate fit to the data: CFI = .981, RMSEA = .074, 90% CI [.000, .193], SRMR = .077. Emotional self-efficacy was significantly and positively connected to the intercept of mental well-being, meaning that those who were more emotionally self-efficient had better mental well-being at the initial onset. Practicing mindfulness undergoes the same pattern, but is not statistically significant ($p$ = .13). None of the covariates was significantly connected to the slope.

The LGC model for COVID-19 anxiety (see Figure 16), with two time-invariant factors (emotional self-efficacy and practicing mindfulness) as predictors of intercept and slope, shows an adequate fit to the data: CFI = .973, RMSEA = .075, 90% CI [.000, .193], SRMR = .079. Emotional self-efficacy was significantly and negatively connected to the inter-

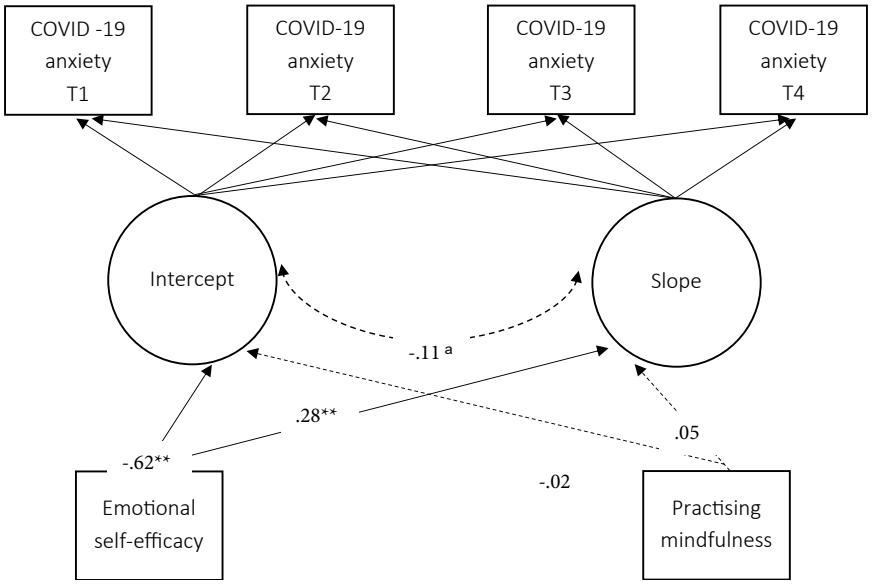


Figure 16: The conditional LGC model for COVID-19 anxiety, measured at four time-points (T1-T4), including two covariates (emotional self-efficacy and practicing mindfulness). The numbers are the unstandardised coefficient estimates. Solid lines represent significant paths and dashed lines indicate non-significant paths or correlations. **p< .01, [a]p < .10.

cept of COVID-19 anxiety, meaning that those who are more emotionally self-efficient had experienced less COVID-19 anxiety in the initial starting point. Emotional self-efficacy was also connected significantly and positively to the rate of change over time, and significantly and positively connected to the rate of change over time represented by the slope. According to Curran et al. (2004), a significant regression coefficient in the relationship between predictors in slope is necessary but does not provide sufficient information on its own to explain the complex effects. Additional information from the plot (see Figure 17) is needed to interpret the regression coefficient. Participants with less ability in emotional self-efficacy thus experienced a steeper decrease in COVID-19 anxiety, but their COVID-19 anxiety was higher to begin with. Practicing mindfulness was not significantly connected to either of the parameters. Participants with lower ability in emotional self-efficacy experienced a steeper decrease in COVID-19 anxiety, but their COVID-19 anxiety was higher to begin with. Practicing mindfulness was not significantly connected to either of the parameters.

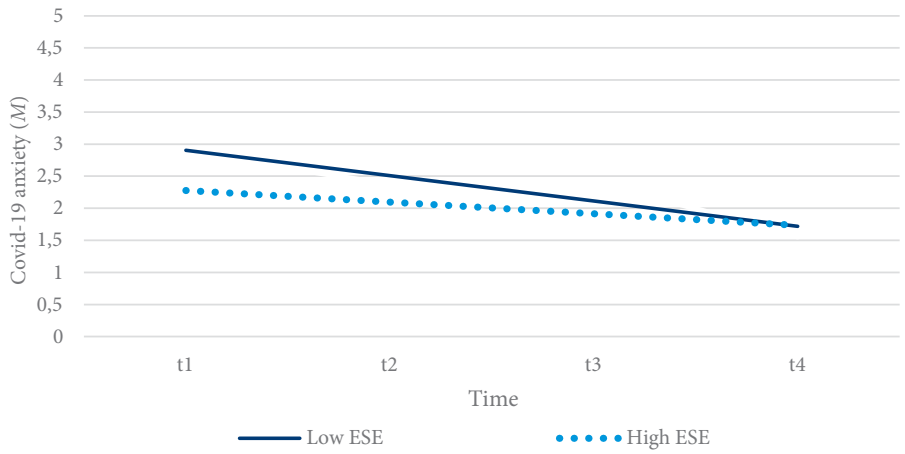


Figure 17: The trend lines for COVID-19 anxiety, measured at four time-points (T1-T4), differentiated in two groups by the 50th percentile (median) on the emotional self-efficacy scale (ESE).

## 4 Discussion

We examined positive (mental well-being) and negative (COVID-19 anxiety) aspects of mental health during the first lockdown in a four-wave online study of adult participants in Slovenia. Measurements were taken during the first lockdown and the restrictions in Slovenia were relatively stable, which gave us the opportunity to investigate mental health with more focus on the individual protective factors. We were interested in whether, and how, COVID-19 anxiety and mental well-being changed from week to week during the lockdown, and secondly, whether initial levels and changes over time were affected by emotional self-efficacy and practicing mindfulness.

It was hypothesised that the immense and sudden challenges at both individual and societal levels related to the COVID-19 disease and its spread meant that mental well-being would be its lowest point at the beginning of the lockdown, and would slowly increase during the lockdown, and similarly, that COVID-19 anxiety would be at its highest point at the beginning of the lockdown and would slowly decrease in the following weeks of lockdown. The unconditional LCG model for COVID-19 anxiety showed that the intercept mean and variance were significant. The former means that the intercept significantly differed from zero (which in our case does not have any interpretable implications, given that the response scale ranged from 1 to 5). Significant intercept variance means that participants differed

in their initial levels of COVID-19 anxiety. The slope mean was also significant and negative, indicating that there was a significant decrease in COVID-19 anxiety over the weeks. The unconditional LCG model for mental well-being showed that there were significant differences in the initial levels of mental well-being between participants (significant variances of the intercept; the intercept mean was also significant, which in our case has no practical value as explained above for COVID-19 anxiety) and that the change in time is not significant (nonsignificant slope mean).

The results of the LCG unconditional models show that the slope (changes during lockdown) was significant for COVID-19 anxiety, but not for mental well-being, indicating that COVID-19 anxiety significantly decreased over time through the four waves in the three weeks of lockdown, while the levels of mental well-being remained stable. This could be due to different levels of specificity/generality in the constructs; mental well-being could be considered more general, and perhaps, as such, more stable, whereas COVID-19 anxiety is more situation-specific (state anxiety), and was thus more subject to change during the lockdown. State anxiety is a combination of the person (trait anxiety) and the situation effects (Endler & Kocovski, 2001). Under stressful or acute fear situations, such as the COVID-19 pandemic, it is considered a normal response (Endler & Kocovski, 2001). It is also expected that situational/state anxiety will be, as suggested by its name, situationally dependent. For COVID-19 anxiety specifically, this means that it is high during the higher risk of getting infected (or when there is perception of high risk; i.e., when there are strict restrictions), and low when the risk (or perception of the risk) of being infected decreases. This means that it is high in the initial stage of the spread, when COVID-19 was perceived as an unknown threat (and the risk of being infected was perceived as increased), and low when the threat was better understood (e.g., more information on the virus) and the risk of being infected was perceived as decreased. Once the situation or perception of threat is no longer present, state anxiety lowers, which is the phenomenon that was documented in the Spanish study with the ending of the lockdown (González-Sanguino et al., 2020). The context-dependence of the specific COVID-19 anxiety mentioned was also established in the comparison between COVID-19 anxiety in Russian and Belarussian students (Gritsenko et al., 2020). The context of the pandemic was different in both countries, with Russia imposing stricter measures and Belarus continuing with "life as usual". Students from Belarus thus reported lower levels of COV-

ID-19 anxiety compared to students from Russia. In Slovenia, the restrictions were relatively stable across the four waves, and therefore, we assume that there were coping mechanisms and specific levels of adaptation to the "new normal".

Secondly, we examined whether differences in initial levels and week to week changes in COVID-19 anxiety and in mental well-being were affected by the two-time invariant covariates, emotional self-efficacy and practicing mindfulness. We hypothesised that emotional self-efficacy and practicing mindfulness would predict higher initial levels of mental well-being, as well as lower initial levels of COVID-19 anxiety, and more stable trajectories during the lockdown. The conditional LCG model was used to examine the effect of emotional self-efficacy and practicing mindfulness on the intercept (initial level) and slope (rate of change). For COVID-19 anxiety, emotional self-efficacy negatively predicted the intercept and positively predicted the slope, whereas practicing mindfulness was not a significant predictor. This means that participants with a lower level of emotional self-efficacy had higher levels of COVID-19 anxiety at the starting point, and a steeper slope, indicating greater improvement (i.e., a decrease) in COVID-19 anxiety during lockdown compared to participants with higher levels of emotional self-efficacy. For the latter individuals, a flatter slope indicates a more stable trajectory for COVID-19 anxiety. It seems that higher emotional self-efficacy, manifesting in better regulation of negative emotions, protects individuals from high COVID-19 anxiety and at the same time helps individuals to be more stable (i.e., independent of outside circumstances)and self-centred. Other studies also report that lower emotional stability was associated with increased feelings of worry and stress during the pandemic (Somma et al., 2020). O'Connor et al. (2020) reported individuals with pre-existing mental health problems as having more mental health difficulties during the COVID-19 pandemic, which may also be the result of difficulties with emotional regulation. As regards to mental well-being, emotional self-efficacy positively predicted the intercept and not the slope. This means that participants with higher levels of emotional self-efficacy have higher mental well-being at the starting point, however, the level of emotional self-efficacy was not significantly associated with the rate of change.

To our surprise, practicing mindfulness did not predict any of the parameters (intercept or slope) of COVID-19 anxiety or mental well-being. Based on the well-documented negative relationships between mindful-

ness and anxiety (e.g., Dambrun et al., 2019), we would assume practicing mindfulness was also a protective factor during the period of high stress (Zhu et al., 2021). For instance, mindfulness enhances acceptance and lowers intolerance of the uncertainty that was associated with higher levels of generalised anxiety during the lockdown in the UK (Rettie & Daniels, 2020). The same study, however, established that coping strategies play an important role. In future studies, it would therefore make sense to include coping strategies to investigate their effect. The absence of significant effects may also be a specific characteristic of our sample. As our sample was collected using a snowball method, allowing people (who were interested in inner and body exercises) to apply for the study, it included a large proportion of people involved in these kinds of activities, which is not the case in the general population. The study should be replicated with larger and more representative samples.

### *4.1 Limitations*

The biggest limitation of our study was the small sample size, followed by the additional attrition of participants throughout the assessments (however, this problem was addressed using a maximum likelihood algorithm to assess the parameters of the LGC models), especially in the third assessment, which may be a sign that many online studies were taking place in Slovenia at that time, or of a loss of interest in the phenomenon. Snowball sampling also does not ensure that the population sample is representative, and specific groups may be under-represented, such as in our case men, and participants with lower levels of education. As the participants responded at different times (e.g., participants were given access to the online questionnaires on a weekly basis but they could respond to it later, and there were time differences in T1 due to participants still deciding about their participation in the study) the contextualisation of findings based on week-to-week changes in restrictions is limited. One more limitation of this study is not having pre-COVID-19 pandemic measures for comparison with the data. We must also take into consideration that the COVID-19 anxiety measure is new, due to the obvious novelty of the context, but has shown adequate psychometric properties so far (Kozina et al., 2021). Although the sample is very heterogeneous, our analyses did not include any demographic variables as covariates, due to the biased sample, especially in terms of gender and age. In future studies, we suggest expanding the size

of the sample, while also trying to gather a more representative one, additionally allowing for the conjunction of the demographics with the models.

### *4.2 Conclusions*

Findings show that COVID-19 anxiety decreased over four waves during the first lockdown (in relatively stable restrictions), and no changes were observed in mental well-being. Self-efficacy played an important protective role in COVID-19 anxiety, but practicing mindfulness was not related to mental health. Considering the unique time of the COVID-19 pandemic and its link to mental health, the added value of our study is its longitudinal design, such as week to week changes in the positive and negative aspects of psychological functioning, COVID-19 anxiety and mental well-being, during the lockdown. With relatively stable lockdown and restriction measures during data collection, we could focus more closely on individual functioning without it being affected by major contextual changes. The present study is the first to analyse mental health during the COVID-19 pandemic in Slovenia, using a longitudinal design. The findings are relevant for future efforts to support better coping with the challenges of the COVID-19 pandemic (or similar threats), also in the light of preventing high suicidal ideation (e.g., O'Connor et al., 2020) and supporting the promotion of emotional self-efficacy. This can be done as part of nationwide prevention programs on mental health as well through integration of social and emotional competences in education. The pandemic has provided us with important insights into the extent to which emotional competencies are crucial, not only for our day-to-day well-being and mental health but also to prepare us for the challenges of tomorrow.

The findings of this study are also important from the perspective of teacher education, both initial and in-service, as it provides insights into the importance of involving topics of social and emotional competences (including emotional self-efficacy) in their education.

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