

PSYCHOSOCIAL ASPECTS OF PERCEPTION AND EMOTIONAL EXPERIENCE OF OLDER ADULTS DURING THE FIRST WAVE OF THE COVID-19 PANDEMIC IN SLOVAKIA

Miroslava Köverová¹, Beáta Ráczová²

¹ miroslava.koverova@upjs.sk, Department of Psychology, Faculty of Arts, Pavol Jozef Šafárik University in Košice, Slovak Republic, <https://orcid.org/0000-0002-0212-2779>

² beata.raczova@upjs.sk, Department of Psychology, Faculty of Arts, Pavol Jozef Šafárik University in Košice, Slovak Republic, <https://orcid.org/0000-0003-2110-0871>

Človek a spoločnosť
[Individual and Society]

24(1), 35-52

DOI: [10.31577/cas.2021.01.583](https://doi.org/10.31577/cas.2021.01.583)

<http://www.clovekaspolocnost.sk/>

Abstract:

The older population is considered one of those with the highest risk of severe coronavirus infection (Public Health Authority of the Slovak Republic, 2020). This study is a part of research focused on the analysis of the psychosocial aspects of the perception and emotional experience of older Slovak adults as a risk group during the first wave of the COVID-19 pandemic.

Objectives: The first aim of this research was to examine how older adults in Slovakia perceived and experienced the first wave of the COVID-19 pandemic. We were focused on their negative emotional experience – the levels of perceived stress, anxiety and concern (regarding a fear of COVID-19 infection). The second aim was to identify differences in negative emotional experience in older adults according to demographic characteristics. The final aim was to analyze the demographic and psychological characteristics of those groups of older adults who reported extremely low and extremely high levels of negative emotional experience (perceived stress, anxiety, or concern). **Method:** The research was conducted online during the first wave of the COVID-19 pandemic. The participants were 607 adults from Slovakia; 429 women and 178 men aged 61-93 ($M = 68.97$; $SD = 4.76$). They completed a State-Trait Anxiety Inventory, State version (Spielberger et al., 1983), a Perceived Stress Scale (Cohen et al., 1983), and the authors' scales focused on the assessment of the levels of fear of COVID-19 infection (concern), satisfaction with health, powerlessness, ability to deal with the situation of pandemic, loneliness, social isolation, and perceived danger of COVID-19 for themselves, their families and friends and people in Slovakia. Jamovi 1.6.15 and IBM SPSS Statistics 25 software (t-test, Pearson and Spearman correlation coefficients, one-way ANOVA, Chi-square) were used for data analysis.

Results: Descriptive analyses showed that older adults experienced low levels of perceived stress, moderate levels of anxiety, and moderate levels of concern during the first wave of the COVID-19 pandemic. They reported moderate satisfaction with health, low levels of powerlessness, high levels of perceived ability to deal with the situation of the pandemic, moderate levels of loneliness and social isolation, and moderate to high levels of perceived danger of COVID-19 for themselves, their families and friends and people in Slovakia. The second step of the analyses was focused on the differences in perceived stress, anxiety, and concern according to demographic characteristics (gender, employment status, marital status, and household composition). Between-group analyses showed only gender differences in anxiety and concern – women reported higher levels of anxiety and concern than men. The third step of the analyses was focused on the comparison of the demographic and psychological characteristics between the groups of older adults who experienced extremely low and extremely high levels of negative emotions during the pandemic. Two groups were observed only in the case of concern: group 1 with older adults reporting an extremely low fear of COVID-19 infection ($n = 51$) and group 2 with older adults reporting an extremely high fear of COVID-19 infection ($n = 40$). Regarding the demographic characteristics, the two groups of older adults differed significantly only in gender – more women than men experienced an extremely high concern that they would be infected with coronavirus. Age distribution was equivalent across both groups – the

mean age of older adults in group 1 and group 2 was 69.49 and 69.90 years, respectively. The two groups were also comprised of similar numbers of older adults who were single, married, divorced, or widowed and those who lived alone, with a spouse, with a spouse and children, or with children and family. However, significant differences between the two groups were found in psychological characteristics – older adults with extremely high concern reported low satisfaction with health, high powerlessness, low ability to deal with the situation of the pandemic, high loneliness and social isolation, and high perceived danger of COVID-19 for themselves, their families and friends and people in Slovakia.

Limits and conclusions: One of the limitations of the research is that no data were obtained from older adults who were clients of social service facilities; mainly due to restrictions and measures existing at the time of data collection. The research sample consisted only of older adults who lived in their home environment and communicated via social networks. Online skills could have enabled them to search for information about the pandemic or to stay in contact with other people. All this could have positively affected their perception and emotional experience during the first wave of the COVID-19 pandemic, in contrast to the clients of the social service facilities. Despite this limitation, the research study has brought important findings. It showed that older adults did not experience the first wave of the pandemic only negatively and uncovered a risk group of older adults which was at increased risk of negative psychological effects (concern) during the COVID-19 pandemic. The identification of people who are most vulnerable in the elderly population is a key element for providing specific and effective psychological or social assistance.

Key words: Older adults. COVID-19. Anxiety. Stress. Loneliness. Powerlessness. Fear of infection.

Introduction

In Slovakia, the first case of COVID-19 was confirmed on 6th March 2020 (Public Health Authority of the Slovak Republic, 2020). Immediately, the first measures against the spread of the new coronavirus were imposed by the Slovak government. On 12th March 2020, a state of emergency was declared and remains in place (Ministry of Interior of the Slovak Republic, 2020). During the first wave of the COVID-19 pandemic, strict preventive measures imposed not only in Slovakia, but also in other countries, included home isolation, social distancing, increased hand hygiene and wearing face masks (Public Health Authority of the Slovak Republic, 2020a).

The elderly population has been one of the most endangered groups during the COVID-19 pandemic, as older people belong to those with the highest risk of severe coronavirus infection (Centers for Disease Control and Prevention; CDC, 2020; Public Health Authority of the Slovak Republic, 2020a). The results of foreign studies have provided evidence that an increased level of loneliness amongst older adults is one of the consequences of imposed preventive measures (Teater et al., 2020; Palgi et al., 2020). Research studies conducted during the COVID-19 pandemic amongst older adults were primarily focused on the quality of life, mental health, and their relationship to loneliness (Bidzan-Bluma et al., 2020; Carriedo et al., 2020; García-Portilla et al., 2020; Grossman et al., 2021; Robb et al., 2020). The results have shown that loneliness, social isolation and health concerns during the COVID-19 pandemic are significantly associated with emotional problems, anxiety, depression and sleep disorders amongst older adults (García-Portilla et al., 2020; Grossman et al. 2021; Robb et al., 2020).

Regarding social isolation, it has been confirmed that people generally suffer more from feelings of anxiety, sadness (Sepúlveda-Loyola et al., 2020), hopelessness or helplessness (Fouk et al., 2020). In addition, anxiety is considered one of the most common mental health problems amongst older adults (Khademi et al., 2020). Studies have shown that older adults are more prone to anxiety, mainly due to the fact that they are confronted with many problems and deficits associated with increasing age; including decreased activity and mobility, loss of friends (Victor et al., 2000), reduced physical independence, and chronic illness (Stubbs et al., 2016).

The perception of health status, especially its subjective evaluation, plays an important role in mental well-being of older adults (Kačmárová, 2013). As mentioned above, older people can experience more anxiety and stress during the pandemic (Meng et al., 2020), mainly due to their legitimate concerns about the risk of infection and perceived health threat when confronted with the information about the unfavorable prognosis of COVID-19 in the elderly population (Li et al., 2020). According to Halvorsrud et al. (2010), the quality of life of older adults and their mental well-being are directly related to satisfaction with health and conditions in which older people live. Momtaz et al. (2011) add gender as an important predictor of well-being, with women being more prone to experiencing negative emotions.

Mental well-being of older adults is also associated with employment status; although the results of the research studies are inconsistent. According to Staudinger et al. (2019), employment status is a significant predictor of mental well-being, although Jang et al. (2009) or Nikolova and Graham (2014) have not provided evidence of this relationship. A Swedish study (Hellström et al., 2004) on the impact of socio-demographic variables on well-being of older adults has shown that the risk of loneliness, a depressed mood and overall reduced quality of life in this group is associated with older age, health difficulties and living alone, while single-living, older women with deteriorating health were identified as the riskiest group.

The COVID-19 pandemic has brought unexpected changes to everyday life not only among older adults who are at increased risk of being infected with coronavirus, but also among other age groups (Bidzan-Bluma et al., 2020; Teater et al., 2020). In Slovakia, however, only limited research attention was paid to the impact of the pandemic on older adults compared to other countries. The current research was therefore focused on the analysis of psychological aspects of perception and emotional experience among older adults during the first wave of the COVID-19 in Slovakia. The first goal was to examine how older people perceived and experienced the first wave of the COVID-19 pandemic in Slovakia. In particular, we were interested in the level of their negative emotional experience – perceived stress, anxiety, and fear of COVID-19 infection. The second objective was to identify the differences in perceived stress, anxiety, and fear of COVID-19 infection according to demographic characteristics of older adults. The last aim of this study was to analyze the demographic and psychological characteristics of the groups of older adults who reported extremely low and extremely high levels of perceived stress, anxiety, and fear of COVID-19 infection.

Method

Participants and procedure

In this research, 655 adults from Slovakia participated. Both purposive and snowball sampling methods were used. However, the participants had to meet one of the two criteria: be retired or at least 62 years old. The research was conducted online from 31st March 2020 to 2nd May 2020 during the first wave of the COVID-19 pandemic, immediately after the strict preventive measures were imposed by the Slovak government. An online survey was distributed via e-mail or social networks. The participation was voluntary and anonymous.

Out of a total number of 655 filled online forms, there were 48 with missing data, and thus were excluded from further analyses. Consequently, the research sample included 607 retired older adults; 429 women (70.7 %) and 178 men, aged 61-93 years ($M = 68.97$; $SD = 4.76$).

According to the place of residence, the most participants lived in the Bratislava region (24.4 %; $n = 148$) and in West Slovakia regions (Trenčín region = 7.9 %; $n = 48$; Trnava region = 4.4 %; $n = 27$; Nitra region = 3.3 %; $n = 20$); followed by older adults from Central Slovakia regions (Žilina region = 7.9 %; $n = 4$; Banská Bystrica region = 1.6 %; $n = 10$) and East

Slovakia regions (Košice region = 5.8 %; $n = 35$; Prešov region = 1.8 %; $n = 11$). 42.8 % of participants did not report this information.

Among the participants, 512 older adults were completely retired (84.3 %) and 95 were retired but working. The participants were married (60.5 %; $n = 367$), widowed (18 %; $n = 109$), divorced (14.3 %; $n = 87$) or single (7.2 %; $n = 44$). They lived either with a spouse (54.7 %; $n = 332$), alone (30.6 %; $n = 186$), or together with their children and spouse or family (14.7 %; $n = 89$).

Instruments

The participants confirmed an informed content with the research study and then continued with an online survey. They first answered the questions about demographic characteristics: gender, age, region (place of residence), marital status (single, married, widowed, divorced), employment status (completely retired or retired but working) and household composition (living alone, with a spouse, with a spouse and children, with children and family); and then answered an online set of the following questionnaires and scales:

Firstly, the State-Trait Anxiety Inventory, State version (Spielberger et al., 1983; Slovak adaptation Müllner et al., 1980). This inventory was used to assess the level of anxiety during the first wave of the COVID-19 pandemic. A 4-point scale was used to indicate the frequency of positive and negative feelings towards the coronavirus disease situation (1 = almost never; 4 = almost always; 20 items). A high total score indicated a high level of anxiety. In this study, the Cronbach α estimate of the scale was 0.928.

Secondly, the Perceived Stress Scale (PSS; Cohen et al., 1983; Slovak adaptation Ráčzová et al., 2018). A short 4-item form of PSS was used to assess the level of perceived stress in older adults. They reported the frequency of stress-related feelings and thoughts on a 5-point scale (1 = never; 5 = always). A high total score indicated a high level of perceived stress. The internal consistency estimate of the scale (Cronbach α) was 0.767 in this research study.

Scales (the authors' single questions) focused on the assessment of the:

- level of concern – fear of COVID-19 infection (*“To what extent are you concerned that you will be infected with coronavirus?”*; 1 = not at all; 6 = very much),
- level of satisfaction with health (*“To what extent are you satisfied with your current health?”*; 1 = very dissatisfied; 6 = very satisfied),
- level of perceived danger of COVID-19 for a) themselves, b) their families and friends, and c) people in Slovakia (*“How dangerous do you think COVID-19 is for: a) you personally, b) your family and friends, c) people in Slovakia?”*; 1 = not at all dangerous, 6 = very dangerous),
- level of powerlessness during the last week (*“How often have you felt powerless in the last week?”*; 1 = never; 6 = always),
- level of loneliness during the last week (*“In the last week, I have missed the company of other people.”*; 1 = never; 6 = always),
- level of social isolation during the last week (*“In the last week, I have felt isolated from others.”*; 1 = never; 6 = always) and
- level of perceived ability to deal with the situation of the pandemic (*“I am sure that I can deal with the coronavirus pandemic situation.”*; 1 = not at all; 6 = absolutely).

To assess various psychological characteristics among older adults, clearly formulated and easily understandable single questions have previously been used in research studies during the COVID-19 pandemic (Bidzan-Bluma et al., 2020; Robb et al., 2020). Bidzan-Bluma et al. (2020) or Bhattacharjee (2012) argue that single questions can be used if it is impossible to

include the whole scales in the research study. In the current study, single questions were preferred to whole scales especially with regard to possible health impairment in the age group of older adults (e.g. limited vitality, strength, alertness) which can negatively affect their ability to understand the questions or answer time-consuming questionnaires (Quinn, 2010).

Prior to the start of the data collection, the online survey was completed by several older adults in order to ensure the highest possible comprehension of the questions. At the end of the online questionnaire, the participants could provide feedback on the survey (e.g. whether something in the questionnaire was not clear or whether they had problems with any other thing). No complaint was received in this regard.

Statistical analyses

Jamovi 1.6.15 and IBM SPSS Statistics 25 were used to analyze the data. T-tests were used to identify differences in perceived stress, anxiety, and fear of COVID-19 infection according to gender and employment status (completely retired or retired and working).

One-way ANOVA was used to analyze the differences in perceived stress, anxiety, and fear of COVID-19 infection according to marital status (single, married, widowed, or divorced) and household composition (living alone, with a spouse, with a spouse and children, or with children and family).

Pearson and Spearman correlation coefficients were used to identify the relationships of perceived stress, anxiety, and fear of COVID-19 infection with age.

Chi-square was used to test the differences in demographic characteristics (gender, marital status, and household composition) and selected psychological characteristics (satisfaction with health, level of perceived danger of COVID-19, level of powerlessness, level of loneliness and social isolation, and level of perceived ability to deal with the pandemic situation) between two groups of older adults, who reported extremely low and extremely high scores in the level of concern that they would be infected with coronavirus (those who were not at all concerned and those who were very much concerned that they would be infected with coronavirus). This comparison was not conducted between the groups with extremely low and extremely high scores in perceived stress and anxiety, because in both variables only extremely low scores were observed.

Results

Mean levels of tested psychological characteristics

During the first wave of the COVID-19 pandemic, older adults reported low levels of perceived stress ($M = 2.11$; $SD = 0.63$) and moderate levels of anxiety ($M = 1.97$; $SD = 0.47$) and concern/fear of COVID-19 infection ($M = 3.23$; $SD = 1.32$). They also reported moderate satisfaction with health ($M = 4.15$; $SD = 1.19$), low levels of powerlessness ($M = 2.23$; $SD = 1.25$), high levels of perceived ability to deal with the situation of the pandemic ($M = 4.86$; $SD = 1.06$), moderate levels of loneliness ($M = 3.57$; $SD = 1.42$) and social isolation ($M = 3.18$; $SD = 1.52$) and moderate to high levels of perceived danger of COVID-19 for themselves ($M = 3.94$; $SD = 1.48$), their families and friends ($M = 3.98$; $SD = 1.39$) and people in Slovakia ($M = 4.23$; $SD = 1.24$). The results of the descriptive analyses are summarized in Table 1.

Table 1
Descriptive characteristics of tested psychological variables

	Me	M	SD	Min.	Max.	Scale
Anxiety	1.95	1.97	0.47	1	3.25	1-4
Perceived stress	2.00	2.11	0.63	1	4.50	1-5
Fear of COVID-19 infection	3.00	3.23	1.32	1	6	1-6
Satisfaction with health	4.00	4.15	1.19	1	6	1-6
Powerlessness	2.00	2.23	1.25	1	6	1-6
Ability to deal with the situation of the pandemic	5.00	4.86	1.06	1	6	1-6
Loneliness	3.00	3.57	1.42	1	6	1-6
Social isolation	3.00	3.18	1.52	1	6	1-6
Perceived danger of COVID-19 for older adults	4.00	3.94	1.48	1	6	1-6
Perceived danger of COVID-19 for family and friends	4.00	3.98	1.39	1	6	1-6
Perceived danger of COVID-19 for people in Slovakia	4.00	4.23	1.24	1	6	1-6

Differences in perceived stress, anxiety and concern according to demographic characteristics

The analyses of the differences in perceived stress, anxiety, and fear of COVID-19 infection according to demographic characteristics (gender, employment status, marital status, and household composition) identified only gender differences in anxiety ($t_{(605)} = -2.61$; $p = .009$) and fear of COVID-19 infection ($t_{(605)} = -2.67$; $p = .008$). Women reported higher levels of anxiety ($M = 2.01$; $SD = 0.46$) and fear of COVID-19 infection ($M = 3.33$; $SD = 1.32$) than men ($M = 1.90$; $SD = 0.47$ and $M = 3.01$; $SD = 1.29$, respectively). No differences in perceived stress, anxiety, and fear of COVID-19 infection were identified according to employment status, marital status, and household composition (Table 2, Table 3).

Table 2
Differences (t-tests) in perceived stress, anxiety, and fear of COVID-19 infection among older adults according to gender and employment status

	Perceived stress			Anxiety			Fear of COVID-19 infection		
	M (SD)	t (p)	d	M (SD)	t (p)	d	M (SD)	t (p)	d
Gender									
Men	2.07 (0.63)	-0.83 (.404)	-.074	1.90 (0.47)	-2.61 (.009)	-.233	3.01 (1.29)	-2.67 (.008)	-.238
Women	2.12 (0.64)			2.01 (0.46)			3.33 (1.32)		
Employment status									
Completely retired	2.12 (0.65)	0.92 (.358)	.093	1.97 (0.46)	-0.08 (.934)	-.009	3.27 (1.34)	1.52 (.130)	.157
Retired and working	2.06 (0.56)			1.98 (0.51)			3.06 (1.20)		

Table 3

Differences (one-way ANOVA) in perceived stress, anxiety, and fear of COVID-19 infection among older adults according to the marital status and household composition

<i>Marital status</i>	Perceived stress				Anxiety				Fear of COVID-19 infection			
	M	SD	F	p	M	SD	F	p	M	SD	F	p
Single	2.04	0.52			1.94	0.46			3.11	1.06		
Married	2.13	0.61	0.41	.743	1.98	0.45	0.60	.612	3.22	1.33	0.29	.828
Divorced	2.08	0.70			1.93	0.51			3.26	1.40		
Widowed	2.08	0.68			2.01	0.49			3.32	1.35		
<i>I live</i>	M	SD	F	p	M	SD	F	p	M	SD	F	p
Alone	2.11	0.69			1.99	0.47			3.24	1.31		
With a spouse	2.11	0.62	0.42	.735	1.95	0.44	2.34	.072	3.19	1.33	0.77	.510
With children/family	2.05	0.56			1.99	0.57			3.46	1.40		
With a spouse/children	2.22	0.57			2.21	0.46			3.12	1.03		

Associations of age with perceived stress, anxiety and concern

According to the large age range of the participants, analyses of the relationships of age with perceived stress, anxiety, and fear of COVID-19 infection were included. No significant relationships were found ($r_{(605)} = .019$; $p = .639$ with state of anxiety; $r_{(605)} = .005$; $p = .899$ with perceived stress; $r_{(605)} = .012$; $p = .766$ with fear of COVID-19 infection). Regardless of their age, older adults experienced comparable levels of perceived stress, anxiety, and fear of COVID-19 infection.

Demographic and psychological characteristics of older adults with extremely low and extremely high concern

Further analyses revealed that none of the participants reported the highest levels of perceived stress (i.e. average total score = 5.00) and anxiety (i.e. average total score = 4.00). The highest reported average total scores in perceived stress were 4.50 (two participants) and 4.00 (two participants), while the average total scores of the other participants in perceived stress were 3.75 and less. Similar results were observed for anxiety; only 10 participants had an average total score higher than 3.00 and the highest reported score was 3.25 (one participant).

However, in case of fear of COVID-19 infection, two extreme groups similar in size were identified: older adults who reported extremely low fear of COVID-19 infection (group 1; $n = 51$; indicated scale answer 1.00 = not at all concerned) and older adults who reported extremely high fear of COVID-19 infection (group 2; $n = 40$; indicated scale answers 6.00 = very much concerned). Finally, the demographic and psychological characteristics of the two groups were compared to identify older adults, who were prone to feel the highest levels of negative emotions (concern) during the first wave of the COVID-19 pandemic. The results are reported in Tables 4 – 6.

Table 4

A comparison of older adults with an extremely low and extremely high fear of COVID-19 infection in demographic characteristics

		n		χ^2	p	Cramer's V
		Group 1	Group 2			
Gender	Men	20	8	3.88	.049	.207
	Women	31	32			
Marital status	Single	2	0	2.61	.455	.169
	Married	32	22			
	Divorced	8	8			
	Widowed	9	10			
I live	Alone	14	15	2.20	.531	.156
	With a spouse	30	19			
	With children/family	6	6			
	With a spouse/children	1	0			

Group 1 = older adults with extremely low fear of COVID-19 infection ($n = 51$)

Group 2 = older adults with extremely high fear of COVID-19 infection ($n = 40$)

There was a relationship between gender and fear of COVID-19 infection ($\chi^2_{(1, 91)} = 3.88$; $p = .049$); more women than men reported the highest concern that they would be infected with the new coronavirus. There were 31 women and 20 men in group 1; whereas four times more women than men were in group 2 (80 %; $n = 32$ and 20 %, $n = 8$, respectively). The groups did not differ significantly in age ($t_{(89)} = -.41$; $p = .683$); the average age of older adults was 69.49 in group 1 and 69.90 in group 2. There were no significant differences between the two groups in the marital status of older adults ($\chi^2_{(3, 91)} = 2.61$; $p = .455$) and household composition ($\chi^2_{(3, 91)} = 2.20$; $p = .531$). Groups 1 and 2 were thus comprised of similar numbers of older adults who were married, widowed, divorced, or single and lived alone, with a spouse, with a spouse and children, or with children and family (Table 4).

Older adults in group 1 and group 2 significantly differed in psychological characteristics: satisfaction with health ($\chi^2_{(5, 91)} = 16.91$; $p = .005$), powerlessness ($\chi^2_{(5, 91)} = 36.40$; $p < .001$), perceived ability to deal with the situation of the pandemic ($\chi^2_{(4, 91)} = 16.65$; $p = .002$), loneliness ($\chi^2_{(5, 91)} = 13.19$; $p = .022$), social isolation ($\chi^2_{(5, 91)} = 21.10$; $p = .001$) and perceived danger of COVID-19 for themselves ($\chi^2_{(5, 91)} = 66.91$; $p < .001$), for their families and friends ($\chi^2_{(5, 91)} = 54.77$; $p < .001$) and for people in Slovakia ($\chi^2_{(5, 91)} = 35.07$; $p < .001$). The results are reported in Tables 5 and 6.

Group 1 was mainly comprised of older adults who were very satisfied (35.2 %; $n = 18$) and satisfied (35.2 %; $n = 18$) with their health. Older adults in group 2 were less satisfied with their health; 14 (35 %) were satisfied, followed by 12 (30 %) who were rather dissatisfied.

Older adults in group 1 mostly reported that they never felt powerless (74.5 %; $n = 38$) and were absolutely sure that they could deal with the situation of coronavirus pandemic (68.6 %; $n = 35$). In group 2, the same answers to the questions about perceived powerlessness and ability to deal with the situation of the pandemic were reported only by 22.5 % ($n = 9$) and 27.5 % ($n = 11$) older adults, respectively.

Older adults in group 2 felt more lonely; they mostly reported that they often missed the company of other people (37.5 %; $n = 15$) and often felt isolated from others (42.5 %; $n = 17$). In contrast, older adults in group 1 mostly reported that they never missed the company of other people (35.2 %; $n = 18$) and never felt isolated from others (45 %; $n = 23$).

Table 5

A comparison of older adults with extremely low and extremely high fear of COVID-19 infection in psychological characteristics

		n		χ^2	p	Cramer's V
		Group 1	Group 2			
Satisfaction with health	Very dissatisfied	3	1	16.91	.005	.431
	2	1	3			
	3	6	12			
	4	5	8			
	5	18	14			
	Very satisfied	18	2			
Powerlessness <i>(How often have you felt powerless in the last week?)</i>	Never	38	9	36.40	<.001	.632
	2	8	3			
	3	4	15			
	4	0	6			
	5	1	5			
	Always	0	2			
Perceived ability to deal with the situation of the pandemic <i>(I am sure that I can deal with the coronavirus pandemic situation.)</i>	Not at all	0	0	16.65	.002	.428
	2	1	2			
	3	2	4			
	4	2	8			
	5	11	15			
	Absolutely	35	11			
Loneliness <i>(In the last week, I have missed the company of other people.)</i>	Never	18	2	13.19	.022	.381
	2	3	3			
	3	9	8			
	4	4	4			
	5	13	15			
	Always	4	8			
Social isolation <i>(In the last week, I have felt isolated from others.)</i>	Never	23	3	21.10	.001	.482
	2	5	3			
	3	7	7			
	4	7	5			
	5	8	17			
	Always	1	5			

Group 1 = older adults with extremely low fear of COVID-19 infection ($n = 51$)

Group 2 = older adults with extremely high fear of COVID-19 infection ($n = 40$)

Table 6

A comparison of older adults with extremely low and extremely high fear of COVID-19 infection in perceived danger of COVID-19

		n		χ^2	p	Cramer's V
		Group 1	Group 2			
Perceived danger of COVID-19 for older adults (How dangerous do you think COVID-19 is for you personally?)	Not at all dangerous	25	0	66.91	<.001	.858
	2	12	0			
	3	4	0			
	4	4	2			
	5	2	2			
	Very dangerous	4	36			
Perceived danger of COVID-19 for family and friends (How dangerous do you think COVID-19 is for your family and friends?)	Not at all dangerous	13	0	54.77	<.001	.776
	2	16	0			
	3	10	2			
	4	4	3			
	5	4	4			
	Very dangerous	4	31			
Perceived danger of COVID-19 for people in Slovakia (How dangerous do you think COVID-19 is for people in Slovakia?)	Not at all dangerous	3	0	35.07	<.001	.621
	2	10	0			
	3	15	2			
	4	5	3			
	5	9	5			
	Very dangerous	9	30			

Group 1 = older adults with extremely low fear of COVID-19 infection ($n = 51$)

Group 2 = older adults with extremely high fear of COVID-19 infection ($n = 40$)

In group 1, an increase in perceived danger of COVID-19 was observed to be related to an increase in social distance (Table 6); most older adults in this group reported that COVID-19 was not at all dangerous for themselves (49 %; $n = 25$), 25.49 % ($n = 13$) reported that it was not at all dangerous for their families and friends, and only 5.88 % ($n = 3$) reported that COVID-19 was not at all dangerous for people in Slovakia. Older adults with extremely low fear of COVID-19 infection seemed to perceive the danger of COVID-19 as rather distant, unrelated to themselves, more related to their families and friends, and most related to people in Slovakia.

In group 2, however, generalized beliefs about a very high danger of COVID-19 were observed; at least 75 % of older adults in this group reported that COVID-19 was very dangerous not only for themselves (90%; $n = 36$), but also for their families and friends (77.5 %; $n = 31$), and even for people in Slovakia (75%; $n = 30$). Older adults with an extremely high fear of COVID-19 infection thus believed that it was most dangerous for themselves, but they also perceived it as very dangerous for anyone else – their families, friends, and other people in Slovakia.

Discussion

The main aim of this study was to clarify how older adults perceived and experienced the first wave of the COVID-19 pandemic in Slovakia. It was focused on the negative emotional experience of older adults in this period (perceived stress, anxiety, and fear of COVID-19 infection) and its demographic and psychological determinants. The results showed that the first wave of the COVID-19 pandemic did not have solely a significant negative impact on the emotional experience of older adults, although a high risk of severe health and psychological effects of COVID-19 infection for this group was generally communicated (CDC, 2020; Public Health Authority of the Slovak Republic, 2020a). We found that older adults experienced low levels of stress and moderate levels of anxiety and concern during the first wave of the COVID-19 pandemic in Slovakia. These quite favorable outcomes are in line with the findings of a Czech study (Winkler et al., 2020) which reported no significant deterioration in mental health in people over the age of 65 at the beginning of the pandemic. On the contrary, there was a significant deterioration especially in younger people in the age group of 18 to 25 years (Winkler et al., 2020). Large studies conducted in spring 2020 during the first wave of the COVID-19 pandemic obtained similar results and reported that older people, even though they faced various threats during the COVID-19 pandemic, showed higher emotional well-being (Bruine de Bruin, 2021) and lower levels of stress (Kowal et al., 2020) compared to younger people. A study from China, where the first cases of COVID-19 infection occurred, did not actually find any association between age and stress levels in the Chinese sample (Wang et al., 2020). In this context, Chen (2020) considers the role of resilience in older adults. Robb et al. (2020) argue that especially healthier older people show higher resilience and better ability to adapt. One of the explanations for our results can also be the fact stated by Palgi et al. (2020). According to the authors, older adults usually express low reactivity to stress, have more effective emotional regulation, more experience with loneliness and health-threatening situations. As a result, older adults could be less sensitive to the pandemic (Palgi et al., 2020). The results of our research study, which was conducted online, suggest that the availability of modern communication technologies together with the ability of older adults to use them could have also contributed to the higher resilience of older people and helped them cope with stress. During the first wave of the pandemic in Slovakia, computer and online skills could have had a protective effect in relation to potential prolonged loneliness and social isolation, to which older adults may have faced after the implementation of the first strict preventive measures. This is supported by the results of the study by Douglas et al. (2020), which showed that an increase in social isolation was related to the low ability to use online communication tools. According to these benefits of online communication skills, Ibarra et al. (2020) recommend making modern communication technologies easily accessible to older people in the future, for example by training focused on computer literacy and skills, or by making new technologies more user-friendly for older people. Better computer and online skills could thus reduce the negative effects of social isolation and compensate for the lack of social contact in this group. Chen (2020) states that the experience with the COVID-19 pandemic is likely to lead to a comprehensive reassessment of the role of resilience as an important part of the well-being of older adults in the process of healthy aging.

The second aim of this research study was to identify the differences in negative emotional experience (perceived stress, anxiety, and fear of COVID-19 infection) according to demographic characteristics of older adults. Our data provided support only for gender differences in the negative emotional experience during the first wave of the COVID-19 pandemic. Women reported higher concern and higher levels of anxiety than men. This is in line with the results of foreign research studies (Robb et al., 2020; Koloski et al., 2008), which

brought evidence that women, unlike men, suffered from increased risk of anxiety and depression with increasing psychological stress. However, research data (Koloski et al., 2008) also suggest that with age, symptoms of anxiety and depression become less pronounced and may vary in degree.

The analyses did not reveal any differences in the level of negative emotional experience in older adults according to their marital status (married, single, widowed, divorced), employment status (completely retired, retired and working) and household composition (living alone, with a spouse, with a spouse and children, with children and family). Neither age played a significant role in relationship to perceived stress, anxiety, and fear of COVID-19 infection, although the age range in our sample was 32 years. These results are in contrast with the findings of research studies which showed that age and marital status (Bennett, 2005), income (Momtaz et al., 2011), and work status (Staudinger et al., 2019) were significant predictors of psychological well-being in older adults. However, Jang et al. (2009) or Nikolova and Graham (2014) state that the employment status of older adults does not predict their well-being, which is in line with our findings. In general, the relationship between socio-demographic variables and well-being seems to be ambiguous (Taylor, 2019). The inconsistencies of the research findings in this area can be caused by differences in the social and cultural characteristics of the participants across research studies (Ingersoll-Dayton et al., 2004).

The last aim of this research study was to compare the demographic and psychological characteristics of older adults who reported extremely low and extremely high levels of negative emotional experience. From among perceived stress, anxiety, and concern, both extremely low and extremely high scores were observed in the case of concern. We were, therefore, focused only on the comparison of older adults with an extremely low and extremely high fear of COVID-19 infection. Among demographic characteristics, gender was the only significant factor: more women than men reported extremely high concern. More differences between the two groups of older adults were identified in psychological characteristics: older adults with extremely high concern were less satisfied with their health, they felt more lonely and isolated from others, they experienced higher powerlessness, more of them admitted that they could not deal with the situation of the pandemic and they perceived COVID-19 infection as very dangerous not only for themselves, but also for their families and friends and for people in Slovakia. In this regard, Briguglio et al. (2020) state that in older people, health problems together with increased fear of infection can lead to an increase in perceived stress and affect mental health and well-being. Reizer et al. (2020) point out that although fear is a natural protective reaction to a threat, when prolonged, it can cause chronic stress and mental health problems. For instance, the pandemic, which has led to a number of restrictions and frequently changing measures, has been shown to cause several negative psychological reactions across different populations worldwide (Harper et al., 2020; Trzebiński et al., 2020). In this context, we consider it essential to identify which groups of the population (not only older people) are at increased risk experiencing stress-related negative psychological effects at the highest levels.

Limits, benefits of the research and recommendations for practice

One of the limitations of this research is the fact that restrictions and preventive measures existing at the time of data collection did not allow for us to obtain data from older adults who were clients of social service facilities. Thus, the research sample consisted only of older adults who lived in their own households and were also able to communicate via social networks, which could help them not only to have a better access to information about the whole situation of the pandemic, but also to keep in touch with other people or to search for new social contacts. This could have a positive effect on their perception and emotional experience during the first

wave of the pandemic, in comparison with the clients of the social service facilities. Second, family members or other persons could help older adults to complete the questionnaire which could have affected the answers. Despite the limitations, the authors perceive the benefits of the presented research, since the results showed that not all older adults experienced the first wave of the COVID-19 pandemic negatively in terms of perceived stress, anxiety, and concern. We were also able to identify the group of older adults, which was at increased risk of negative psychological effects during the pandemic (concern). Women tended to experience extremely high concern more than men. Older adults who perceived COVID-19 as very dangerous for themselves, their families, friends, and people in Slovakia, reported low satisfaction with health, high loneliness and social isolation, high powerlessness, and low ability to deal with the situation of the pandemic were also at increased risk of experiencing extremely high fear of COVID-19 infection.

The identification of older adults who are most vulnerable to negative psychological effects is particularly important in the context of specific and effective psychological or social support. The COVID-19 pandemic has been a stressful situation, but this study showed that older people perceived and experienced it in different ways and intensities. Older people reported not only negative emotions in this situation and some of them had their own coping resources and did not need professional help. However, older adults who are at increased risk from stress-related negative psychological effects would benefit from professional support. Professional psychological interventions could include alleviation of fear, anxiety, or concern (e.g., with the use of CBT techniques) (Frost et al., 2020), eliminating loneliness and social isolation (e.g., via social support and more frequent mobile or online communication) (Lozupone et al., 2020), increasing confidence in one's own ability to cope with difficult situations, or training in effective coping strategies (what I can do in this situation, what I can influence, what will/will not be helpful) (Chen, 2020).

We consider it necessary to obtain data from older adults who are clients of social service facilities, because their perceptions and emotional experience during the COVID-19 pandemic could have been different in comparison with older adults living in their own households. We also recommend an individual data collection among older adults in future research, since personal contact and assistance from the researcher can help to eliminate the negative effect of disruptive or undesirable factors on answers, and to better understand the perceptions of older adults.

References

- Bennett, K. M. (2005). Psychological wellbeing in later life: The longitudinal effects of marriage, widowhood and marital status change. *International Journal of Geriatric Psychiatry*, 20(3), 280–284. <https://doi.org/10.1002/gps.1280>
- Bhattacharjee, A. (2012). *Social science research: Principles, methods, and practices*. Textbooks Collection.
- Bidzan-Bluma, I., Bidzan, M., Jurek, P., Bidzan, L., Knietzsch, J., Stueck, M., & Bidzan, M. (2020). A Polish and German population study of quality of life, well-being, and life satisfaction in older adults during the COVID-19 pandemic. *Frontiers in Psychiatry*, 11. <https://doi.org/10.3389/fpsyg.2020.585813>
- Briguglio, M., Giorgino, R., Dell'Osso, B., Cesari, M., Porta, M., Lattanzio, F., ... & Peretti, G. M. (2020). Consequences for the elderly after COVID-19 isolation: FEaR (frail elderly amid restrictions). *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.565052>
- Bruine de Bruin, W. (2021). Age differences in COVID-19 risk perceptions and mental health: Evidence from a national US survey conducted in March 2020. *The Journals of Gerontology: Series B*, 76(2), 1–6. <https://doi.org/10.1093/geronb/gbaa074>
- Carriedo, A., Cecchini, J. A., Fernandez-Rio, J., & Méndez-Giménez, A. (2020). COVID-19, psychological well-being and physical activity levels in older adults during the nationwide lockdown in Spain. *The American Journal of Geriatric Psychiatry*, 28(11), 1146–1155. <https://doi.org/10.1016/j.jagp.2020.08.007>
- Centers for Disease Control and Prevention (2020). People at increased risk [online]. Retrieved from: <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/index.html>
- Cohen, S., Kamarack, T., & Mermelstein, R. A. (1983). Global measure of perceived stress. *Journal of Health and Social Behavior*, 24(4), 385–396.
- Chen, L. K. (2020). Older adults and COVID-19 pandemic: Resilience matters. *Archives of Gerontology and Geriatrics*, 89, 104124. <https://doi.org/10.1016/j.archger.2020.104124>
- Douglas, M., Katikireddi, S. V., Taulbut, M., McKee, M., & McCartney, G. (2020). Mitigating the wider health effects of covid-19 pandemic response. *Bmj*, 369–375. <https://doi.org/10.1136/bmj.m1557>
- Fouk, T. A., De Pater, I. E., Schaerer, M., du Plessis, C., Lee, R., & Erez, A. (2020). It's lonely at the bottom (too): The effects of experienced powerlessness on social closeness and disengagement. *Personnel Psychology*, 73(2), 363–394. <https://doi.org/10.1111/peps.12358>
- Frost, R., Nair, P., Aw, S., Gould, R. L., Kharicha, K., Buszewicz, M., & Walters, K. (2020). Supporting frail older people with depression and anxiety: a qualitative study. *Aging & Mental Health*, 24(12), 1977–1984. <https://doi.org/10.1080/13607863.2019.1647132>
- García-Portilla, P., de la Fuente Tomás, L., Bobes-Bascarán, T., Jiménez Treviño, L., Zurrón Madera, P., Suárez Álvarez, M., Menéndez Miranda, I., García Álvarez, L., Sáiz Martínez, P.

- A., & Bobes, J. (2020). Are older adults also at higher psychological risk from COVID-19?. *Aging & Mental Health*, 1-8. <https://doi.org/10.1080/13607863.2020.1805723>
- Grossman, E. S., Hoffman, Y. S., Palgi, Y., & Shrira, A. (2021). COVID-19 related loneliness and sleep problems in older adults: worries and resilience as potential moderators. *Personality and Individual Differences*, 168, 110371. <https://doi.org/10.1016/j.paid.2020.110371>
- Halvorsrud, L., Kirkevold, M., Diseth, Å., & Kalfoss, M. (2010). Quality of life model: predictors of quality of life among sick older adults. *Research and Theory for Nursing Practice*, 24(4), 241–259. <https://doi.org/10.1891/1541-6577.24.4.241>
- Harper, C. A., Satchell, L. P., Fido, D., & Latzman, R. D. (2020). Functional fear predicts public health compliance in the COVID-19 pandemic. *International Journal of Mental Health and Addiction*, 1–14. <https://doi.org/10.1007/s11469-020-00281-5>
- Hellström, Y., Persson, G., & Hallberg, I. R. (2004). Quality of life and symptoms among older people living at home. *Journal of Advanced Nursing*, 48(6), 584–593. <https://doi.org/10.1111/j.1365-2648.2004.03247.x>
- Ibarra, F., Baez, M., Cernuzzi, L., & Casati, F. (2020). A systematic review on technology-supported interventions to improve old-age social wellbeing: loneliness, social isolation, and connectedness. *Journal of Healthcare Engineering*, 1–14. <https://doi.org/10.1155/2020/2036842>
- Ingersoll-Dayton, B., Saengtienchai, C., Kespichayawattana, J., & Aunguroch, Y. (2004). Measuring psychological well-being: Insights from Thai elders. *The Gerontologist*, 44(5), 596–604. <https://doi.org/10.1093/geront/44.5.596>
- Jang, S.N., Cho, S.I., Chang, J., Boo, K., Shin, H.G., Lee, H., & Berkman, L.F. (2009). Employment status and depressive symptoms in Koreans: Results from a baseline survey of the Korean longitudinal study of aging. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 64(5), 677–683. <https://doi.org/10.1093/geronb/gbp014>
- Kačmárová, M. (2013). Subjektívne hodnotená kvalita života seniorov: kvalitatívne a kvantitatívne postupy jej zisťovania. *Československá psychologie*, 57(1), 42–51.
- Khademi, F., Moayedi, S., & Golitaleb, M. (2020). The COVID-19 pandemic and death anxiety in the elderly. *International Journal of Mental Health Nursing*, 30(1), 346–349. <https://doi.org/10.1111/inm.12824>
- Koloski, N. A., Smith, N., Pachana, N. A., & Dobson, A. (2008). Performance of the Goldberg Anxiety and Depression Scale in older women. *Age and Ageing*, 37(4), 464–467. <https://doi.org/10.1093/ageing/afn091>
- Kowal, M., Coll-Martín, T., Ikizer, G., Rasmussen, J., Eichel, K., Studzińska, A., ... & Ahmed, O. (2020). Who is the most stressed during the covid-19 pandemic? Data from 26 countries and areas. *Applied Psychology: Health and Well-Being*, 12(4), 946–966. <https://doi.org/10.1111/aphw.12234>

Li, W., Yang, Y., Liu, Z.-H. et al. (2020). Progression of mental health services during the COVID-19 outbreak in China. *International Journal of Biological Sciences*, 16(10), 1732. <https://doi.org/doi:10.7150/ijbs.45120>

Lozupone, M., La Montagna, M., Di Gioia, I., Sardone, R., Resta, E., Daniele, A., ... & Panza, F. (2020). Social frailty in the COVID-19 pandemic era. *Frontiers in Psychiatry*, 11. <https://doi.org/10.3389/fpsy.2020.577113>

Meng, H., Xu, Y., Dai, J., Zhang, Y., Liu, B. & Yang, H. (2020). Analyze the psychological impact of COVID-19 among the elderly population in China and make corresponding suggestions. *Psychiatry Research*, 289(112983), 1–2. <https://doi.org/10.1016/j.psychres.2020.112983>

Ministry of Interior of the Slovak Republic. Tlačová správa zo dňa 11.03.2020 (Press release from March 11, 2020) [online]. Retrieved from: <https://www.minv.sk/?tlacove-spravy&sprava=pre-koronavirus-je-od-stvrtka-12-marca-vyhlasena-mimoriadna-situacia-na-celom-uzemi-slovenska>

Momtaz, Y. A., Ibrahim, R., Hamid, T. A., & Yahaya, N. (2011). Sociodemographic predictors of elderly's psychological well-being in Malaysia. *Aging & Mental Health*, 15(4), 437–445. <https://doi.org/10.1080/13607863.2010.536141>

Müllner, J., Ruisel, I., & Farkaš, G. (1980). *Dotazník na meranie úzkosti a úzkostlivosti [Questionnaire for measuring state-anxiety and trait-anxiety]*. Bratislava: Psychodiagnostické a didaktické testy, n.p.

Nikolova, M., & Graham, C. (2014). Employment, late-life work, retirement, and well-being in Europe and the United States. *IZA Journal of European Labour Studies*, 3(5), 1–30. <https://doi.org/10.1186/2193-9012-3-5>

Palgi, Y., Shrira, A., Ring, L., Bodner, E., Avidor, S., Bergman, Y., ... & Hoffman, Y. (2020). The loneliness pandemic: Loneliness and other concomitants of depression, anxiety and their comorbidity during the COVID-19 outbreak. *Journal of Affective Disorders*, 275, 109–111. <https://doi.org/10.1016/j.jad.2020.06.036>

Public Health Authority of the Slovak Republic (2020). COVID-19: Slovensko pozná pacienta „0“ [online]. Retrieved from: https://www.uvzsr.sk/index.php?option=com_content&view=article&id=4064:covid-19-slovensko-pozna-pacienta-0q&catid=250:koronavirus-2019-ncov&Itemid=153

Public Health Authority of the Slovak Republic (2020a). COVID-19: Adopted measures, decisions, guidelines [online]. Retrieved from: https://www.uvzsr.sk/index.php?option=com_content&view=category&layout=blog&id=250&Itemid=153

Quinn, K. (2010). Methodological considerations in surveys of older adults: technology matters. *International Journal of Emerging Technologies & Society*, 8(2), 114-133.

Ráčzová, B., Hricová, M., & Lovašová, S. (2018). Overenie psychometrických vlastností slovenskej verzie dotazníka PSS-10 (Perceived Stress Scale) na súbore pomáhajúcich profesionálov [Verification of psychometric properties of the Slovak version of the PSS-10]

questionnaire (Perceived Stress Scale) on the sample of helping professionals]. *Československá psychologie*, 62(6), 552–564.

Reizer, A., Koslowsky, M., & Geffen, L. (2020). Living in fear: The relationship between fear of COVID-19, distress, health, and marital satisfaction among Israeli women, *Health Care for Women International*, 1–21. <https://doi.org/10.1080/07399332.2020.1829626>

Robb, C. E., de Jager, C. A., Ahmadi-Abhari, S., Giannakopoulou, P., Udeh-Momoh, C., McKeand, J., ... & Middleton, L. (2020). Associations of social isolation with anxiety and depression during the early COVID-19 pandemic: a survey of older adults in London, UK. *Frontiers in Psychiatry*, 11. <https://doi.org/10.3389/fpsy.2020.591120>

Sepúlveda-Loyola, W., Rodríguez-Sánchez, I., Pérez-Rodríguez, P., Ganz, F., Torralba, R., Oliveira, D. V., & Rodríguez-Mañas, L. (2020). Impact of social isolation due to COVID-19 on health in older people: Mental and physical effects and recommendations. *The Journal of Nutrition, Health & Aging*, 1–10. <https://doi.org/10.1007/s12603-020-1500-7>

Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory (Form Y1 - Y2)*. Palo Alto, CA: Consulting Psychologists Press.

Staudinger, U. M., Finkelstein, R., Calvo, E., & Sivaramakrishnan, K. (2016). A global view on the effects of work on health in later life. *The Gerontologist*, 56(S2), S281–S292. <https://doi.org/10.1093/geront/gnw032>

Stubbs, B., Aluko, Y., Myint, P. K., & Smith, T. O. (2016). Prevalence of depressive symptoms and anxiety in osteoarthritis: a systematic review and meta-analysis. *Age and Ageing*, 45(2), 228–235. <https://doi.org/10.1093/ageing/afw001>

Taylor, P. (2019). Working longer may be good public policy, but it is not necessarily good for older people. *Journal of Aging & Social Policy*, 31(2), 99–105. <https://doi.org/10.1080/08959420.2019.1576487>

Teater, B., Chonody, J. M., & Hannan, K. (2020). Meeting social needs and loneliness in a time of social distancing under COVID-19: a comparison among young, middle, and older adults. *Journal of Human Behavior in the Social Environment*, 31(1–4), 43–59. <https://doi.org/10.1080/10911359.2020.1835777>

Trzebiński, J., Cabański, M., & Czarnecka, J. Z. (2020). Reaction to the COVID-19 pandemic: The influence of meaning in life, life satisfaction, and assumptions on world orderliness and positivity. *Journal of Loss and Trauma*, 25(6–7), 544–557. <https://doi.org/10.1080/15325024.2020.1765098>

Victor, C., Scambler, S., Bond, J., & Bowling, A. (2000). Being alone in later life: Loneliness, social isolation and living alone. *Reviews in Clinical Gerontology*, 10(4), 407–417. <https://doi.org/10.1017/S0959259800104101>

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C.S., & Ho, R.C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal*

of Environmental Research and Public Health, 17(5), 1729.
<https://doi.org/10.3390/ijerph17051729>

Winkler, P., Formanek, T., Mlada, K., Kagstrom, A., Mohrova, Z., Mohr, P., & Csemy, L. (2020). Increase in prevalence of current mental disorders in the context of COVID-19: Analysis of repeated nationwide cross-sectional surveys. *Epidemiology and Psychiatric Sciences*, 29, E173, 1–8. <https://doi.org/10.1017/S2045796020000888>