COMMENTARY

COVID-19 Fear in Eastern Europe: Validation of the Fear of COVID-19 Scale

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Abstract

COVID-19 is a major source of fear, stress, and anxiety as well as a major factor impacting the health and wellbeing of people worldwide. The present study builds on the recently developed "Fear of COVID-19 Scale" (Ahorsu et al., In International Journal of Mental Health and Addiction, https://doi.org/10.1007/s11469-020-00270-8, 2020). The sample comprised of 850 participants, male and female young adults from Russia and Belarus. The majority of survey participants are university students and graduates. Females, students, and others from Russia report higher levels of COVID-19-related fear than those from Belarus. Respondents from Russia and Belarus report less fear than people from Iran who were surveyed earlier. The scale used for the present survey evidenced a good Cronbach's Alpha measure of internal consistency or reliability (0.809). Clearly, further research is needed across locations and over time about the nature and extent of fear caused by COVID 19. Overall, the FCV-19S appears to be a valuable and brief instrument that may provide useful information for intervention and policy purposes to migrate fear and problem behavior linked to infectious disease outbreaks.

Keywords COVID-19 · Fear · Fear assessment · Fear of COVOD-19 Scale · Cross-national fear

[The feeling] in my mind…oppressed me for many days, a sense of dethronement, a persuasion that I was no longer a master…..At times I suffered from [detachment]...

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watch[ing] it all from the outside, from somewhere inconceivably remote…out of the stress and tragedy of it all. …I went to a room …and locked myself in… to be alone… with fear [and] a strong feeling [about who] to blame for their incapacity to dispose of the [invasion] (Goodreads 2020). The War of the Worlds (1898) or COVID 19 (2020)?

Unlike armed conflicts that tend to have boundaries, infectious disease outbreaks are one of the most distressing forms of disaster to deal with psychologically because of the uncertainty they cause. With few limitations, infectious disease leaves people feeling vulnerable and at risk. Staying braced for the unknown takes a toll on physical and mental wellbeing (Brief et al. 2004; Ruzek 2020; SUNY-IDMH 2020).

On March 27, 2020, the senior author of this commentary was informed about "The Fear of COVID-19 Scale (FCV-19S): Development and Initial Validation" (Ahorsu et al. 2020) for further validation purposes. Drawing on the international network of contacts working with the Ben Gurion University of the Negev – Regional Alcohol and Drug Abuse Research (RADAR) Center, colleagues from Russia and Belarus were asked about possible interest in the scale. Translated to Russian and sent online to students, university faculty members, and friends, and in 48 h, the number of responses received to the FCV-19S was impressive considering government officials' initial dismissiveness of COVID-19. It is important to note that the RADAR Center partnership addressing issues of mutual concern made this commentary possible

Methods

The Qualtrics software platform was used for this online snowball survey (Naderifar et al. 2017). The data collection instrument in English (Ahorsu et al. 2020) was translated to Russian and back translated to English by three English-speaking lecturers from universities in Russia and Belarus to ensure uniform content and vocabulary. The translation method used is consistent with that described by the World Health Organization for such purpose (WHO 2020). The Russian version of the questionnaire was posted online by Moscow State University of Psychology and Education, Penza State University (Russia), and Belarusian State Medical University faculty members to students, colleagues, and friends asking them to invite others to respond. All statistical analyses are being conducted using SPSS, version 25.

Results

This survey included 850 participants, 67.5% ($n = 574$) from Russia and 32.5% ($n = 276$) from Belarus; 73.2% ($n = 622$) were female and 26.8% were ($n = 228$) male. The total sample comprised of 6.2% of the respondents with primary or secondary education, 28.4% university students, and 65.4% university graduates. The mean age of the respondents is 34.8 years (SD = 13.0). The respondents classified their religion as Christianity (65.3%), Islam (1.5%), Judaism (2.0%), Buddhism (1.1%), other (1.8%), and non-denominational (28.3%). Regarding religiosity, 50.3% report being secular and 49.7% religious. Table 1 provides background characteristics of the survey respondents. For the total sample, mean value of the FCV-19S is 17.2 (SD = 4.7), median = 17.0, with a range of 7 to 34. The scale shows good Cronbach's Alpha measure of internal consistency or reliability (0.809). Table 4 provides information about item-total correlation.

Table 1 Socio-demographic data ($n = 850$)

Variables	$n = 850$[1]
Country, % (n)	
Russia	67.5 (574)
Belarus	32.5 (276)
Gender, % (n)	
Female	73.2 (622)
Male	26.8 (228)
Age	
Mean (SD)	34.8 (13.0)
Median	35.0
Range	(12–74)
Education, % (n)	
Primary or secondary school	6.2 (50)
University students	28.4 (228)
University graduates	65.4 (526)
Religious preferences, % (n)	
Christianity	65.3 (521)
Islam	1.5 (12)
Judaism	2.0 (16)
Buddhism	1.1 (0)
Other	1.8 (14)
Non-denominational	28.3 (226)
Religiosity level, % (n)	
Secular	50.3 (402)
Non secular	49.7 (397)
Marital status, % (n)	
Married	46.7 (372)
Other	53.3 (425)

[1] Up to fifty subjects in each group missing data on some variables

Respondents from Russia, compared with those from Belarus, report a higher level of COVID-19 fear ($t_{812} = 2.45$; $p = 0.014$). Based on gender status, females have a significantly higher level of COVOD-19 fear than males ($t_{814} = 5.30$; $p < 0.001$). Regardless of country status, current university students report more fear than those who have graduated ($t_{719} = 3.39$; $p = 0.001$), see Table 2. Survey respondents declaring a religion and being religious evidence higher values of fear than those of non-denominational and secular statuses: $t_{760} = 5.69$; $p < 0.001$ and $t_{763} = 5.00$; $p < 0.001$ respectively. Figures 1 and 2 show the distribution of The FCV-19S values by gender and country.

Results comparing the average values for each of the FCV-19S values, present study, and that published by Ahorsu et al. 2020, evidence lower fear values and total scale mean score among respondents from Russia and Belarus than those from Iran (see Table 3).

Table 2 Values of Fear of COVID-19 Scale by country, gender, and education

	Russia ($n = 574$)	Belarus ($n = 276$)	Female ($n = 622$)	Male ($n = 228$)	University students ($n = 228$)	University graduates ($n = 526$)
Mean (SD)	17.4 (4.7)*	16.6 (4.5)*	17.7 (4.6)***	15.8 (4.6)***	18.0 (4.5)***	16.8 (4.7)***

*$p < 0.05$; ***$p < 0.001$ (t test)

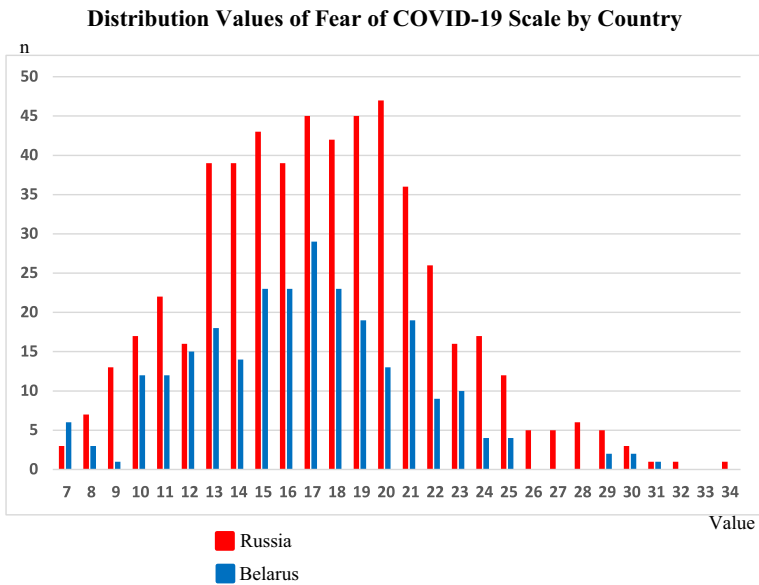**Distribution Values of Fear of COVID-19 Scale by Country**

Fig. 1 Distribution values of Fear of COVID-19 Scale by country

A principal component analysis was conducted on the correlations of the FCV-19S seven items. Two components were extracted with eigenvalues of more than one, and varimax rotation was used to clarify the relationship among factors. The first factor seemed to reflect physiological responses to the COVID-19 with items 3, 6, and 7 most highly correlated. The second factor tends to represent emotional responses to the COVID-19 with items 1, 2, 4, and 5 most highly associated. The two varimax factors accounted for about 51 and 47%, respectively, of the total variance (see Table 4).
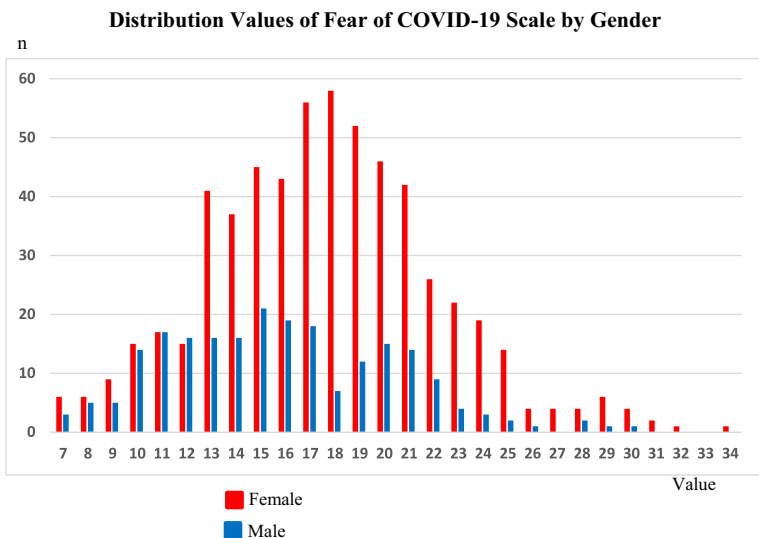
Distribution Values of Fear of COVID-19 Scale by Gender

Fig. 2 Distribution values of Fear of COVID-19 Scale by gender

Table 3 Comparison of Iranian and Russian-Belarusian results

	Items	Iran Mean (SD) ($n = 717$)	Russia and Belarus Mean (SD) ($n = 850$)
1	I am most afraid of COVID-19	3.48 (1.14)***	2.82 (1.00)***
2	It makes me uncomfortable to think about COVID-19	4.01 (0.84)***	3.31 (1.11)***
3	My hands become clammy when I think about COVID-19	3.76 (0.88)***	1.70 (0.76)***
4	I am afraid of losing my life because of COVID-19	4.24 (0.90)***	2.62 (1.14)***
5	When watching news and stories about COVID-19 on social media, I become nervous or anxious	3.53 (1.07)***	3.17 (1.08)***
6	I cannot sleep because I'm worrying about getting COVID-19	4.11 (0.81)***	1.53 (0.66)***
7	My heart races or palpitates when I think about getting COVID-19	4.26 (0.75)***	2.07 (1.00)***
	Total mean	27.39	17.22

***$p < 0.001$ (t test)

Discussion and Conclusion

Efforts, worldwide, are moving toward addressing the impact of COVID-19. Understanding and mitigating human fear including that linked to physical and mental health is a major concern and focal point for intervention (Smith 2006). Clearly, the results of this study evidence the variation of fear by gender, religion, religiosity, academic status, and country factors. These results are preliminary, taken at one point in time across two countries in Eastern Europe—Russia and Belarus. Scale results from Iran and those from Russia and Belarus were collected at different times where government responses to COVID-19 vary along with the nature of public information available about the infectious disease. Therefore, caution should be exercised regarding comparisons and conclusions about COVID-19 fear and its impact.

Table 4 Corrected item-total correlation and proportion of total variance (explained by the first two varimax rotated principal components showing values > 0.500)

	Items	Corrected item-total correlation	Component	
			1	2
1	I am most afraid of COVID-19	0.577		0.613
2	It makes me uncomfortable to think about COVID-19	0.399		0.821
3	My hands become clammy when I think about COVID-19	0.572	0.758	
4	I am afraid of losing my life because of COVID-19	0.613		0.569
5	When watching news and stories about COVID-19 on social media, I become nervous or anxious	0.567		0.644
6	I cannot sleep because I'm worrying about getting COVID-19	0.526	0.841	
7	My heart races or palpitates when I think about getting COVID-19	0.646	0.735	

The authors of the FCV-19S (Ahorsu et al. 2020) are to be commended for their efforts to develop a simple, short, and valid survey instrument—an important, timely, and highly relevant undertaking. The useful information generated by FCV-19S should be used in applied ways. For example, the findings may be relevant for online training of trainers who, in turn, may work with others to help prevent or reduce COVID-19 fear, stress, and anxiety causing problem behavior such as harmful substance use, domestic violence, and crime. Also, sources of information (e.g., tips sheets on helpful ways of coping) disseminated online or by other means should be considered for intervention purposes. Clearly, future research is needed, across locations and over time, to learn more about the utility of the FCV-19S for intervention and policy purposes.

Compliance with Ethical Standards

Conflict of Interest The authors declare no conflict of interest.

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