#### RESEARCH ARTICLE

# The Fear of COVID-19 Scale: A Case of a Filipino Adaptation and Validation Study

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Abstract: As a significant international health emergency, COVID-19, formerly known as 2019-nCov and later termed SARS-Cov-2 or Severe Acute Respiratory Syndrome Coronavirus 2, has introduced a myriad of behavioral, emotional, and social problems, most notably the fear of the virus itself. In response, a team of researchers developed a scale that measures COVID-19-related fear in 2020. Today, however, the scale has not been fully tested among the Filipino population in general. Hence, the present research addressed the situation by adapting and validating the original scale. Confirmatory factor analysis (CFA) and other relevant reliability analyses were employed to assess the scale's reliability and factor structure during the adaptation process, and a variety of local terms were used to describe the fear. The study employed convenience sampling to include 498 Filipino participants. Findings revealed excellent internal consistency at 0.85, whereas the CFA factor loadings were between 0.41 and 0.86, which validated the unidimensional nature of the scale. The Filipino adaptation of the scale in this study is regarded as reliable and valid for Filipinos. Moreover, using the scale may help develop ways to prevent and treat related psychological conditions and assist mental health care professionals in researching related COVID-19 impacts in the Philippines.

Keywords: adaptation, COVID-19, F-FCV-19S, Filipino, translation

The unexpected unfolding of COVID-19 has prompted the global community to enforce guidelines for transmission prevention, methods of treatment, and vaccinations (Ayouni et al., 2021; Huang et al., 2023; Kar et al., 2023; Kotecha et al., 2022; Lin et al., 2022; Mohr et al., 2023). However, as the crisis in global health persists, researchers, public health experts, and healthcare professionals expressed concerns about the imminent ramifications of the virus on individuals' well-being, both emotional and mental,

across different parts of the globe, according to recent studies of various groups of researchers such as Brooks et al. (2020), Xiong et al. (2020), Wang et al. (2020), and C. Wang et al. (2021). It is essential to continue researching the pandemic's factors and causes because there is evidence that it is detrimental to one's mental health. The pandemic has impacted high-income as well as middle- and low-income countries in ways they did not expect. The Philippines, a lower-middle-income country (World Bank, 2022), documented

its first patient who contracted the virus on January 21, 2020 (Department of Health, 2020). Since then, cases substantially increased. Per the latest statistics, there were 63,846 deaths associated with 3,997,941 confirmed cases of COVID-19 as of October 28, 2022 (World Health Organization [WHO], 2022).

Through the collective efforts of the national government, local government units, and other attached public and private entities, the country managed to gradually reduce and control the spread of the virus. The strict implementation of COVID-19 guidelines and programs effectively encouraged the eligible population to get vaccinated and boosted. In fact, as of this writing, 167,252,222 vaccine doses have already been administered to Filipinos (WHO, 2022).

According to recent studies, the pandemic's negative consequences extended beyond individuals' physical health, livelihood, and the global economy. It also affected the people psychologically, as supported by studies conducted by Haleem et al. (2020) and C. Wang et al. (2021). Studies conducted by Aaltonen et al. (2022), Alfaifi et al. (2022), Brooks et al. (2020), Chavez de Lima et al. (2020), and Y. Wang et al. (2021) documented that individuals who were required to undergo quarantine experienced psychological issues comprising of confusion, anger, anxiety, as well as other related disorders. Additionally, greater manifestations of mental and behavioral distress through increased anxiety, depression, and panic symptoms were reported, especially during lockdowns, as evidenced in the studies of Ali et al. (2022), Banks and Xu (2020), Le and Nguyen (2021), and Shoshani and Kor (2022). In the Philippines, factors linked with elevated levels of depression, psychological stress, and anxiety were identified. These factors, according to Tee et al. (2020), include female gender, young age, single, duration of lockdown, poor health status, and discrimination (i.e., those with COVID-19 diagnosis).

Nowadays, it is crucial to focus on the virus's detrimental effects on individuals' psychological well-being to mitigate the potential for more significant and emerging mental health issues in the aftermath of this global health crisis. To help address this issue, Xiang et al. (2020) recommended taking steps to investigate the levels of worry, helplessness, and fear related to the virus. Fear is a significant concern when it comes to mental health, as high levels of fear can disrupt an individual's behavioral response and thought

processes to the virus (Ahorsu et al., 2022). Adding to this discourse, Chang et al. (2022) delved into the distress induced by the fear of the virus, particularly emphasizing its repercussions, not only on the public at large but especially on people grappling with mental illness. This provides insights into the nuanced relationship between fear stemming from COVID-19 and its impact on the mental well-being of vulnerable populations, emphasizing the urgency of specialized interventions and support mechanisms to mitigate adverse effects.

As a normal psychological reaction to a threat, fear can be bothersome if it persists over time, as it did in the case of fear related to infectious diseases and COVID-19 (Pappas et al., 2009; Coelho et al., 2020; Harper et al., 2021). Furthermore, as a maladaptive response, fear is linked with increased levels of distress, which are psychological in nature (Arora et al., 2020; Taylor et al., 2020). Hence, a valid and reliable instrument is considered a sine qua non for medical and mental health care professionals to measure fear related to COVID-19, more so at an individual level.

Ahorsu et al. (2022) responded to the call to create a scale that measures COVID-19-induced fear. The scale is a valid instrument for measuring coronavirus-related fear. There have been various published versions of the scale, which include studies by Bitan et al. (2020; Hebrew), Wakashima et al. (2020; Japanese), Masuyama et al. (2022, Japanese), Midorikawa et al. (2021; Japanese), Barrios et al. (2021; Spanish-Paraguayan), Martinez-Lorca et al. (2020; Spanish), Alyami et al. (2021; Arabic), Fatfouta and Rogoza (2021; German), Nazari et al. (2021; Indonesian), Stankovic et al. (2021; Hungarian), Satici et al. (2021; Turkish), Haktanir et al. (2022; Turkish), Sakib et al. (2022; Bangla), Cavalheiro and Sticca (2022; Brazilian-Portuguese), Faro et al. (2022; (Brazilian-Portuguese), Pang et al. (2022; Malay), Soares et al. (2022; Portuguese), Stanculescu (2022; Romanian), Chi et al. (2022; Chinese), and Bharatharaj et al. (2022; Tamil), among others. When it comes to scaling purposes, knowing the difference between adaptation and translation spells the difference between good and bad research. The conventional approach is to use the available scale in part or its entirety. This approach, although acceptable (as it is widely practiced by the research community), remains lacking in reliability and validity (or trustworthiness in the jargon of quantitative research). As a measuring tool, the scale needs to possess not only the literal sense of the word but also its cultural nuances. In so doing, the adapted items in the scale are guaranteed to possess unique inflections (notably the affective and idiosyncratic ones) to conform to usage in the targeted cultural setting. The conventional five-fold procedure that constitutes the process of scale adaptation starts with forward translation, second is the expert panel's back translation, third is back translation, fourth is pretesting, and last is cognitive interviewing. It reflects the iterative yet refining attempts to achieve the cultural tone of the scales.

In the realm of scale development, especially in social sciences and public health research, with COVID-19 as a relevant example, understanding complex phenomena such as the fear of infectious diseases hinges crucially on the process of validating and refining assessment tools. Alimoradi et al. (2022) thoroughly examined the scale and confirmed that it is a dependable tool for evaluating COVID-19 pandemic-related fear. The review also established that the scale has a unidimensional structure. Building upon this foundation, further studies have since been conducted, which have increased our understanding of the FCV-19S's psychometric reliability and its applicability to various populations. In 2023, Chen et al. analyzed how the scale functioned among specific demographic groups, including students and teachers recruited from primary and middle schools. Their research offered significant insights into the scale's factorial validity. Similarly, in 2023, Lin and Pakpour delivered an extensive review of the scale's worldwide application and its psychometric evaluations, underscoring its ongoing importance amidst the dynamic changes brought about by the virus. The scale, within the specific context of the Philippines, has been used in two recent studies, each with a different analytic focus. The first was that of Basileyo and Garcia (2021), which reported certain personality traits capable of predicting COVID-19related fear. The second study was that of Cahapay et al. (2022), which assessed the scale's validity and reliability among professional Filipino teachers. The latter, however, did not attempt to translate the scale into Filipino as the target sample used in the study was adept in the English language. The rarity of similar investigations that utilized the scale, much less of the construction of a contextualized version

into the Filipino vernacular (i.e., Tagalog) became the study's primary step to fill in the critical gap with a complementary goal of evaluating its psychometric soundness with the general Filipino population as research population. Although the COVID-19 pandemic has since ended and the virus has evolved such that it is no longer considered a widespread threat, our study focuses on the validation of the scale in the Filipino context and its adaptability for potential future pandemics. By emphasizing the enduring importance of scale validation and adaptation, our study acknowledges the pandemic's improvements while contributing to preparations for potential crises.

#### Methods

# Sampling and Procedures

We utilized a cross-sectional design to evaluate the scale's psychometric structure and soundness in Filipino (Table 1) in the present study. By using Google Forms, data were gathered from August 9, 2020, to September 1, 2020. The participants were first provided details regarding the study's objectives, possible risks, and anticipated benefits. Afterward, the online informed consent form was presented, which the participants reviewed. By selecting "Agree" within the digital consent form, participants gave their approval and were then able to access the online questionnaire. The analytic sample for the study included Filipinos who were aged 18 and older, with the exception of three participants aged 17 and 103 participants with missing data. Out of the remaining participants, 360 were male (72.3%), 129 were female (25.9%), and 9 identified as other (1.8%). Participants aged 18 to 68 years old (M = 23.93, SD = 8.92) were finalized. Table 1 provides a breakdown of the analytic sample's comprehensive characteristics in the study. Serving as a foundational framework to ensure sound and responsible social research practices, the ethical guidelines specified by the International Sociological Association (2001) were rigorously complied with by the study throughout the data collection stage. The guidelines included disclosing the method and sources of data, while respecting the security, confidentiality, and anonymity of the research participants as well as the procurement of the "prior informed consent (PIC)."

**Table 1**Participants' Demographics

Variables	n	%		
Sex				
Male	360	72.3		
Female	129	25.9		
Other	9	1.8		
Age (Mean/SD)	23.93	8.92		
Civil Status				
Single	364	73.1		
Married	58	11.6		
In a relationship	72	14.5		
Separated	4	0.8		
Living status				
Living alone	23	4.6		
Living in dorm	8	1.6		
Living with family	456	91.6		
Living with partner	11	2.2		
Education				
Elementary	1	0.2		
High School	31	6.2		
Undergraduate	417	83.7		
Masteral	39	7.8		
Doctoral	7	1.4		
Other	3	0.6		
Employment Status				
Student	302	60.6		
Presently employed	129	25.9		
With business or self-employed	26	5.2		
Not employed	41	8.2		
Covid-19 Diagnosis				
Yes	50	10.0		
No	448	90.0		
Anxiety Disorder Diagnosis				
Yes	113	22.7		
No	385	77.3		

# Adaptation of FCV-19S Into Filipino

In this study, the guidelines from the International Test Commission (2017) were employed as a framework that guided the translation of the scale. To facilitate this process, the technique of forward-backward translation was utilized. The study recruited one psychology

professor as subject matter expert (SME) and one bilingual translator who did the forward translation of the seven-item scale into Filipino. A second translator, proficient in both English and Tagalog but unaware of the original scale, translated both versions of the scale into English. The back-translated versions were then gathered and presented to a group of three experts, who meticulously reviewed and improved the scale's items. Their recommended modifications were taken into account in the final approval of the scale's ultimate version.

# Measures

The study used three scales to measure COVID-19related fear. A scale developed by Ahorsu et al. (2022), the FCV-19S, also referred to as the Fear of COVID-19 Scale, is a self-report inventory with seven items on a 5-point Likert scale, which indicates 1 as "strongly disagree" to 5 as "strongly agree," with a score ranging from 7 to 35. Scores that are higher on the scale suggest a higher level of fear towards the virus. The scale showed acceptable factor loads ranging from 0.66 to 0.74, corrected item-total correlation between 0.47 and 0.56, and a satisfactory internal consistency value of 0.82. The Coronavirus Anxiety Scale (CAS), created by Lee (2020a), is a 5-item scale ranging from 0, which indicates "not at all," to 4, which means "nearly every day over the last 2 weeks", with an exceptional internal consistency score of 0.93. Lastly, the Obsession with COVID-19 Scale (OCS; developed by Lee, 2020b) is a 4-item scale rated on a 5-point Likert scale with scores ranging from 0 being "not at all" to 4 being "nearly every day over the last two weeks." A score of more than 7 on the OCS suggests the presence of maladaptive or problematic thought patterns, and the scale exhibited an acceptable reliability estimate ranging from 0.84 to 0.85.

# Data Analysis

Initially, descriptive statistics were employed to report the characteristics of the sample analyzed in the study. Statistical tools such as the mean, skewness, standard deviation, and kurtosis of the responses were analyzed concerning each item of the scale. Statistics on reliability, including coefficients of Cronbach's alpha along with inter-item consistency and itemtotal correlations, were checked to ascertain internal consistency. Moreover, we assessed the convergent validity of CAS, OCS, and the scale's Filipino version by analyzing the Pearson correlations among their results. Confirmatory factor analysis was also employed to evaluate the scale's structure. The fit indices comprised of the goodness of fit index (GFI), root mean square error of approximation (RMSEA), comparative fit index (CFI), normed fit index (NFI),

and the Tucker-Lewis index (TLI) were determined to test the scale's model fit. According to McDonald and Ho (2002), Marsh et al. (2004), and Hair et al. (2018), a good model should have an RMSEA of less than 0.08, above 0.90 GFI and CFI, and 0.95 NFI and TLI. Lastly, average variance extracted (AVE) and composite reliability (CR) were utilized to assess the convergent validity of the scale. Following Hair et al.'s (2018) guidelines, we ensured the latent variable had an AVE of at least .50 and a CR of at least .70. For all the statistical analyses, the study utilized JASP Version 0.16.4.

#### Results

#### The F-FCV-19S Factor Structure

Before conducting CFA, we evaluated the sample adequacy using Bartlett's and the Keiser-Meyer-Olkin (KMO) tests. The results for the Filipino FCV-19 Scale from Bartlett's Test were statistically significant  $(\chi 2 = 1389.823, df = 21, p < .001)$ , and the value of the KMO turned out to be satisfactory at .866. The two unidimensional models, each composed of seven items, underwent CFA to validate the structure of the Filipino Fear of COVID-19 Scale after the initial steps. Model 1 (Table 2) did not show correlated error variances, leading to acceptable indicators, with GFI, CFI, NFI, TLI, and RMSEA producing values of 0.984, 0.888, 0.880, 0.832, and 0.149 (90% CI: 0.116 - 0.156) (which had a value greater than 0.08), respectively. As per the modification indices, there was notable error covariance within the set of items 1 and 4, 3 and 6, and 6 and 7.

After establishing a correlation among the error variances of the previously mentioned items in the second model (see Figure 1), there was an enhanced value in the fit indices of the model. These indices, which comprised GFI, CFI, NFI, and TLI, achieved values of 0.996, 0.976, 0.969, and 0.955, respectively. Thus, the model had a good fit, with an RMSEA of 0.077 (90% CI: 0.054 - 0.102). The factor loadings of the scale were determined to be high, with values ranging from 0.41 to 0.86. Taking everything into account, this suggests that the structure of the instrument fits a good model, which affirms the psychometric soundness of the scale.

**Table 2**Results From the CFA, Mean, Internal Consistency Alpha, Skewness, Kurtosis, Inter-Item Consistency, and Item-Total Correlation of the Adapted Scale

				Inter-item							
Items	Mean / SD	Factor loadings	Item-total	2nd	3rd	4th	5th	6th	7th	Skewness	Kurtosis
1	3.97 (0.991)	0.64	0.61	0.54	0.21	0.58	0.54	0.35	0.41	-1.225	1.387
2	3.24 (1.082)	0.86	0.71		0.43	0.45	0.60	0.51	0.55	-0.504	-0.730
3	2.00 (0.870)	0.41	0.46			0.19	0.33	0.51	0.42	0.884	0.540
4	3.93 (1.188)	0.69	0.55				0.51	0.32	0.40	-1.183	0.518
5	3.55 (1.064)	0.82	0.69					0.45	0.54	-0.896	0.049
6	2.57 (1.078)	0.65	0.61						0.58	0.412	-0.706
7	2.93 (1.231)	0.85	0.66							-0.062	-1.197
Mean ±SD	3.17 (0.768)										
Composite Reliability	0.819										
Cronbach's α	0.853										
Average Variance Extracted	0.526										

Every value, including factor loadings, inter-item correlations, standard deviation, average variance extracted, and composite reliability, was statistically significant (p<.001).

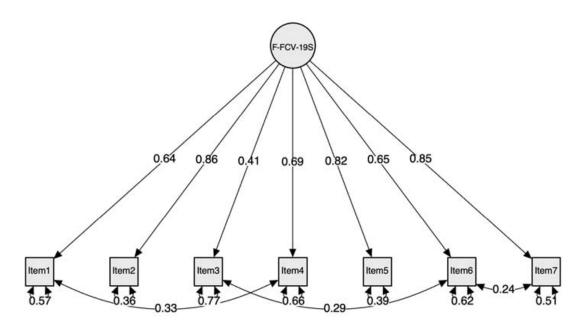


Figure 1. Second Model: CFA Path Diagram of the Filipino FCV-19S

# Reliability and Convergent Validity

The AVE value for the current study was sufficient (.52), and the CR exceeded the required threshold (.81). By correlating the scores of the Filipino version of the scale with two related scales, the CAS and OCS, convergent validity was established. As observed, the association between the F-FCV-19S and the CAS with a coefficient of .52 and the OCS with a coefficient of .58 were found both statistically significant. Gleaning from these results, positive correlations were found among the variables being analyzed, which support the validity of the adapted scale. Additionally, the scale obtained a coefficient of .85 (Table 2), indicating excellent reliability.

#### **Discussion**

The evidence from our study suggests that the structure and framework for the Scale of the Fear of COVID-19 in the Filipino-speaking subpopulation were psychometrically sound. The CFA results validating the scale's unidimensional structure were found to be aligned with previously conducted studies (Elemo et al., 2020; Kassim et al., 2020; Bitan et al., 2020; Wakashima et al., 2020; Midorikawa et al., 2021; Satici et al., 2021, Martinez-Lorca et al., 2020, Alyami et al., 2021; Fatfouta & Rogoza, 2021; Stankovic et al., 2021; Nazari et al., 2021; Sakib et al., 2022; Cavalheiro & Sticca, 2022; Faro et al., 2022; Pang et al., 2022; Stanculescu, 2022; Bharatharaj et al., 2022). Adding to this, Alimoradi et al.'s (2022) comprehensive review further verifies the scale's unidimendionality in assessing COVID-19 fear. Their analysis of Item Response Theory and other key psychometric properties further supports the FCV-19S as a strong cross-cultural instrument, with all seven items contributing unique value. This reinforces the cross-cultural reliability and applicability of the scale, aligning with Lin et al.'s (2021) confirmation of partial invariance across multiple countries. However, they also found subtle variations in how certain scale items functioned across different cultural contexts. It appears from our findings that while the overall structure of the FCV-19S holds, there may be nuanced differences in how Filipino respondents interpret or perceive particular scale items compared to other populations. Emphasizing the importance of continuous cultural contextualization and validation, we underscore

the necessity to ensure the optimal relevance and sensitivity of the scale. This applies not only to the context of the COVID-19 pandemic but also extends to its adaptability for any potential future pandemics.

Likewise, our analysis identified error covariance within the cluster of items 1, 3, 4, 6, and 7. Similar instances of error covariance were also noted in previous adaptation studies, particularly involving items 3, 6, and 7. According to Bitan et al. (2020), the relationships among these items lack the substance to challenge the unidimensionality of the scale, attributing this to sample-related method effects. Moreover, error covariance in the scale may arise from the fact that the items measured are related but distinct aspects of fear related to the virus. The recent studies of Masuyama et al. (2022), Sawicki et al. (2022), and Huarcaya-Victoria et al. (2022) have addressed instances of error covariance by exploring a more complex structure, such as the bifactor structure of the scale. This approach yielded specific factors or dimensions (e.g., emotional fear, physiological fear, symptomatic expressions of fear) to examine if they better fit the data compared to a simple single-factor model. For instance, Chen et al. (2023) validated the scale in a large survey involving teachers and students, revealing excellent factorial validity and reliability. Interestingly, their study unveiled a two-factor structure, deviating from the typical single-factor solution, with high covariance observed between items 6 and 7 due to shared specific commonalities indicating an independent factor, suggesting that a two-factor structure might be more suitable for different populations. However, Pakpour et al. (2020) noted that a two-factor model needs a clearer theoretical direction than a unidimensional model. The psychometric testing of the scale has shown consistency in its unidimensionality across various populations. Although previous studies analyzed different general populations, such as the Iranian general population (Ahorsu et al., 2022) and the Bangla general population (Sakib et al., 2020) among others, Chang et al. (2022) specifically validated the scale among individuals with mental illness, demonstrating satisfactory psychometric properties with a singlefactor structure. This suggests that the FCV-19S can maintain its unidimensionality not only across different populations but also when assessing pandemic-related fear among vulnerable populations. In Al-Shannaq et al. (2022) and Caycho-Rodríguez et al.'s (2022) studies on older adults, the same unidimensional model was

found to be most evident and stable among vulnerable populations.

Whether it follows a single-factor structure or a two-factor model, evaluating the dimensionality of the FCV-19S is crucial. This provides insights into the scale's potential applicability and reliability in diverse situations, as this is important in general contexts and at-risk groups. Thus, earlier studies that have been done combined with the present study's findings, we can safely infer that the FCV-19S is useful in assessing COVID-19 fear in general, educational, and clinical settings. However, it is also important to recognize the technical aspects this study has brought up, such as the error covariance found in specific items, as identified in our analysis and supported by Bitan et al. (2020). Therefore, continuous efforts should be made to refine the scale while carefully navigating potential complexities introduced by the interrelatedness of specific items. This highlights the significance of FCV-19S in understanding COVID-19-related fear and its psychosocial factors in different situations and among various groups, including potentially at-risk populations. Despite this recognition, certain gaps, such as determining the responsiveness to fear reduction interventions (Alimoradi et al., 2022), prompt an acknowledgment of the ongoing necessity to enhance the scale's effectiveness in diverse contexts. This understanding reinforces the ongoing commitment to refining the FCV-19S, ensuring its applicability and impact across a broad spectrum of situations and populations.

The adaptation of the scale into the Filipinospeaking sample has shown to have strong reliability with an internal consistency coefficient of .85, aligning with prior adapted versions (Alyami et al., 2021; Barrios et al., 2021; Bharatharaj et al., 2022; Bitan et al., 2020; Cavalheiro & Sticca, 2022; Chi et al., 2022; Choi et al., 2022; Elemo et al., 2020; Faro et al., 2022; Iversen et al., 2022; Martinez-Lorca et al., 2020; Nazari et al., 2021; Pang et al., 2022; Sakib et al., 2022; Stanculescu, 2022; Yang et al., 2022). However, the present study's reliability was markedly higher than other adaptations (Kassim et al., 2020; Wakashima et al., 2020; Fatfouta & Rogoza, 2021; Satici et al., 2021; Haktanir et al., 2022; Stankovic et al., 2021). Furthermore, positive associations were found between the F-FCV-19S and related scales, the CAS and OCS, indicating acceptable convergent validity. In a recent study (Evren et al. 2022), the FCV-19S demonstrated adequate convergence with the OCS and CAS, supporting its use as a reference scale.

The study on validating the FCV-19S in the Filipino-speaking population significantly contributes to understanding the dynamics of fear during the pandemic and its potential relevance in future infectious disease challenges. This study confirms the scale's unidimensional structure and provides a framework that can be applied to various transmissible contexts, facilitating a rapid assessment of fear. The findings from the study, including the impact of fear on mental health, cultural nuances in fear expression, and the utility of FCV-19S as a psychometric tool, can inform future research and public health interventions. According to Lin et al. and Pakpour et al.'s study in 2023, the FCV-19S remains relevant in post-pandemic scenarios and can be a valuable asset in comprehending emotional reactions to infectious diseases and potential threats. The present study, set in a specific cultural context, offers a scaffolding for adapting fear assessment tools to diverse populations, serving as a template for future researchers confronting novel pandemics.

During unforeseen public health emergencies such as the COVID-19 pandemic, the importance of a proactive approach to mental health is emphasized by the findings of this study. It is also worth mentioning that researchers and public health officials can gain a more in-depth understanding of a population's mental health during pandemics by adapting and applying fear assessment tools to specific cultural and linguistic nuances. The relevance of this study extends beyond the COVID-19 era and provides valuable insights for future pandemics. Addressing the psychological dimensions of fear as the global community remains susceptible to emerging infectious threats will continue to be a crucial aspect of public health responses. This study urges researchers to consider and adapt fear assessment tools for diverse populations, ultimately leading to an in-depth understanding of the intricate interplay between infectious diseases and mental health.

It is also essential to consider some limitations when interpreting the study results. First, selection bias may have been introduced by the convenience sampling procedure employed by the study, as only those who received the survey URL had the opportunity to participate. This limitation is reinforced by the online method of gathering the research data, which may

have precluded the participation of other population groups, that is, those who belong to disadvantaged and vulnerable groups (i.e., elderly, people with disabilities, and communities without internet access). Admittedly, the same conditions impact, to a significant extent, the generalizability of the study. Second, causation cannot be established because the study was cross-sectional. Thirdly, self-report measures were employed in the current study, which may potentially produce a form of bias associated with the significant presence of socially desirable responses. Fourth, future research may focus on examining the discriminant and predictive validity aspects of the scale to discover the range of the theoretical ambit of the original scale when tested in different adaptation contexts. Notwithstanding the abovementioned limitations, our results lend initial support for the cultural affordance of the scale as adapted in the Filipino context. The Filipino Fear of COVID-19 Scale may prove promising in its prospective usage in various settings such as clinical, educational, and other applicable settings in the country. With the adapted scale, the social dimension of fear as a culture-based emotion may now be amenable to empirical investigations, notably by Filipino psychologists and researchers who are in such areas of interest.

### References

- Aaltonen, K. I., Saarni, S., Holi, M., & Paananen, M. (2022). The effects of mandatory home quarantine on mental health in a community sample during the COVID-19 pandemic. *Nordic Journal of Psychiatry*, 77(1) 1–8. https://doi.org/10.1080/08039488.2022.2061047
- Ahorsu, D. K., Lin, C.-Y., Imani, V., Saffari, M., Griffiths, M. D., & Pakpour, A. H. (2022). The fear of COVID-19 scale: Development and initial validation. *International Journal of Mental Health and Addiction*, 20(3), 1537–1545. https://doi.org/10.1007/s11469-020-00270-8
- Al-Shannaq, Y., Mohammad, A. A., & Khader, Y. (2022). Psychometric properties of the Arabic version of the Fear of COVID-19 Scale (FCV-19S) among Jordanian Adults. *International Journal of Mental Health and Addiction*, 20(5), 3205–3218. https://doi.org/10.1007/s11469-021-00574-3
- Alfaifi, A., Darraj, A., & El-Setouhy, M.. (2022). The psychological impact of quarantine during the COVID-19 pandemic on quarantined non-healthcare workers, quarantined healthcare workers, and medical staff at the quarantine facility in Saudi Arabia. *Psychology Research*

- *and Behavior Management*, *15*, 1259–1270. https://doi.org/10.2147/prbm.s362712
- Ali, A., Siddiqui, A. A., Arshad, M. S., Iqbal, F., & Arif, T. B. (2022). Effects of COVID-19 pandemic and lockdown on lifestyle and mental health of students: A retrospective study from Karachi, Pakistan. *Annales Medico-Psychologiques*, *banks*(6), S29–S37. https://doi.org/10.1016/j.amp.2021.02.004
- Alimoradi, Z., Lin, C. Y., Ullah, I., Griffiths, M. D., & Pakpour, A. H. (2022). Item response theory analysis of the Fear of COVID-19 Scale (FCV-19S): A systematic review. *Psychology Research and Behavior Management*, 15, 581–596. https://doi.org/10.2147/PRBM.S350660
- Alyami, M., Henning, M., Krägeloh, C. U., & Alyami, H. (2021). Psychometric evaluation of the Arabic version of the Fear of COVID-19 Scale. *International Journal of Mental Health and Addiction*, 19(6), 2219–2232. https://doi.org/10.1007/s11469-020-00316-x
- Arora, A., Jha, A. K., Alat, P., & Das, S. S. (2020). Understanding Coronaphobia. *Asian Journal of Psychiatry*, *54*, 102384. https://doi.org/10.1016/j.ajp.2020.102384
- Ayouni, I., Maatoug, J., Dhouib, W., Zammit, N., Fredj, S. B., Ghammam, R., & Ghannem, H. (2021). Effective public health measures to mitigate the spread of COVID-19: A systematic review. *BMC Public Health*, *21*(1), 1–14. https://doi.org/10.1186/s12889-021-11111-1
- Banks, J., & Xu, X. (2020). The mental health effects of the first two months of lockdown during the COVID-19 pandemic in the UK. *Fiscal Studies*, 41(3), 685–708. https://doi.org/10.1111/1475-5890.12239
- Barrios, I., Ríos-González, C., O'Higgins, M., González-Urbieta, I., García, O., Almirón-Santacruz, J., Navarro, R., Melgarejo, O., Ruiz Díaz, N., Castaldelli-Maia, J. M., Ventriglio, A., & Torales, J. (2021). Psychometric properties of the Spanish version of the Fear of COVID-19 Scale in the Paraguayan population. *Irish Journal of Psychological Medicine*, 38(4), 266–271. https://doi:10.1017/ipm.2021.5
- Basileyo, A., & Garcia, F. (2021). Personality and fear during the Covid-19 pandemic. *PAPSCU Excellent Academic Research Link (PEARL) Bulletin*, 2(3), 47–54.
- Bharatharaj, J., Alyami, M., Henning, M. A., Alyami, H., & Krägeloh, C. U. (2022). Tamil version of the Fear of COVID-19 Scale. *International Journal of Mental Health and Addiction*, 20(4), 2448–2459. https://doi.org/10.1007/s11469-021-00525-y
- Bitan, D. T., Grossman-Giron, A., Bloch, Y., Mayer, Y., Shiffman, N., & Mendlovic, S. (2020). Fear of COVID-19 Scale: Psychometric characteristics, reliability, and validity in the Israeli population. *Psychiatry Research*, 289, 113100, 1–5. https://doi.org/10.1016/j.psychres.2020.113100

- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: A rapid review of the evidence. *The Lancet*, 395(10227), 912–920. https://doi.org/10.1016/s0140-6736(20)30460-8
- Cahapay, M., Anoba, J. L. D., Amador, R. M., Garcia, K. B., Rotas, E. E., & Carreon, T. R. (2022). An evaluation of Fear of COVID-19 Scale in professional Filipino teachers. *International Journal of Educational Research and Innovation*, (17), 1–13. https://doi.org/10.46661/ijeri.6181
- Cavalheiro, F. R. S., & Sticca, M. G. (2022). Adaptation and validation of the Brazilian version of the Fear of COVID-19 Scale. *International Journal of Mental Health and Addiction*, 20(2), 921–929. https://doi.org/10.1007/s11469-020-00415-9
- Caycho-Rodríguez, T., Tomás, J. M., Barboza-Palomino, M., Ventura-León, J., Gallegos, M., Reyes-Bossio, M., & Vilca, L. W. (2022). Assessment of Fear of COVID-19 in older adults: Validation of the Fear of COVID-19 Scale. *International Journal of Mental Health and Addiction*, 20(2), 1231–1245. https://doi.org/10.1007/s11469-020-00438-2
- Chang, K. C., Hou, W. L., Pakpour, A. H., Lin, C. Y., & Griffiths, M. D. (2022). Psychometric testing of three COVID-19-related scales among people with mental illness. *International Journal of Mental Health and Addiction*, 20(1), 324–336. https://doi.org/10.1007/s11469-020-00361-6
- Chaves de Lima, C. V., Cândido, E. L., da Silva, J. A., Albuquerque, L. V., Menezes Soares, L. D., do Nascimento, M. M., de Oliveira, S. A., & Rolim Neto, M. L. (2020). Effects of quarantine on mental health of populations affected by Covid-19. *Journal of Affective Disorders*, 275, 253–254. https://doi.org/10.1016/j.jad.2020.06.063
- Chen, H., Chen, Y., Zhao, Y., Gamble, J. H., Lin, Y., Griffiths, M. D., & Pakpour, A. H. (2023). Psychometric evaluation of Fear of COVID-19 Scale (FCV-19S) among Chinese primary and middle schoolteachers, and their students. *Current Psychology*, 42, 12557–12573. https://doi.org/10.1007/s12144-021-02471-3
- Chi, X., Chen, S., Chen, Y., Chen, D., Yu, Q., Guo, T., Cao, Q., Zheng, X., Huang, S., Hossain, M. M., Stubbs, B., Yeung, A., & Zou, L. (2022). Psychometric evaluation of the Fear of COVID-19 Scale among Chinese population. *International Journal of Mental Health and Addiction*, 20(2), 1273–1288. https://doi.org/10.1007/s11469-020-00441-7
- Choi, E. P. H., Duan, W., Fong, D. Y. T., Lok, K. Y. W., Ho, M., Wong, J. Y. H., & Lin, C.-C. (2022). Psychometric evaluation of a Fear of COVID-19 Scale in China: Cross-sectional study. *JMIR Formative Research*, *6*(3), e31992. https://doi.org/10.2196/31992

- Coelho, C. M., Suttiwan, P., Arato, N., & Zsido, A. N. (2020). On the nature of fear and anxiety triggered by COVID-19. Frontiers in Psychology, 11, 3109. https:// doi.org/10.3389/fpsyg.2020.581314
- Department of Health. (2020, January 30). DOH confirms first 2019-Ncov case in the country; assures public of intensified containment measures. https://doh.gov.ph/doh-press-release/doh-confirms-first-2019-nCoV-case-in-the-country
- Elemo, A. S., Satici, S. A., & Griffiths, M. D. (2020). The Fear of COVID-19 Scale: Psychometric properties of the Ethiopian Amharic version. *International Journal* of Mental Health and Addiction, 21, 878–889. https:// doi.org/10.1007/s11469-020-00448-0
- Evren, C., Evren, B., Dalbudak, E., Topcu, M., & Kutlu, N. (2022). Measuring anxiety related to COVID-19: A Turkish validation study of the Coronavirus Anxiety Scale. *Death Studies*, 46(5), 1052–1058. https://doi.org/10.1080/07481187.2020.1774969
- Faro, A., Silva, L. D. S., Santos, D. N. D., & Feitosa, A. L. B.. (2022). The Fear of COVID-19 Scale adaptation and validation. *Estudos de Psicologia (Campinas)*, *39*, 1–10. https://doi.org/10.1590/1982-0275202239e200121
- Fatfouta, R., & Rogoza, R. (2021). Psychometric properties and factor structure of the German version of the Fear of COVID-19 Scale. *OMEGA Journal of Death and Dying*, 88(3), 1121–1135. https://doi.org/10.1177/00302228211062360
- Hair, J. F., Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2018). *Multivariate data analysis* (8th ed.). Cengage Learning EMEA.
- Haktanir, A., Seki, T., & Dilmaç, B. (2022). Adaptation and evaluation of Turkish version of the Fear of COVID-19 Scale. *Death Studies*, 46(3), 719–727. https://doi.org/10.1080/07481187.2020.1773026
- Haleem, A., Javaid, M., & Vaishya, R. (2020). Effects of COVID-19 pandemic in daily life. *Current Medicine Research and Practice*, 10(2), 78–79. https://doi.org/10.1016/j.cmrp.2020.03.011
- Harper, C. A., Satchell, L. P., Fido, D., & Latzman, R. D. (2021). Functional fear predicts public health compliance in the COVID-19 pandemic. *International Journal of Mental Health and Addiction*, 19(5), 1875–1888. https://doi.org/10.1007/s11469-020-00281-5
- Huang, P. C., Chen, I. H., Barlassina, L., Turner, J. R., Carvalho, F., Martinez-Perez, A., Gibson-Miller, J., Kürthy, M., Lee, K. H., Griffiths, M. D., & Lin, C. Y. (2023). Expanding protection motivation theory to explain vaccine uptake among United Kingdom and Taiwan populations. *Human Vaccines & Immunotherapeutics*, 19(1), 1–9. https://doi.org/10.108 0/21645515.2023.2211319
- Huarcaya-Victoria, J., Villarreal-Zegarra, D., Podestà, A., & Luna-Cuadros, M. A. (2022). Psychometric properties

- of a Spanish version of the Fear of COVID-19 Scale in general population of Lima, Peru. *International Journal of Mental Health and Addiction*, 20(1), 249–262. https://doi.org/10.1007/s11469-020-00354-5
- International Sociological Association. (2001). *Code of ethics*. https://www.isa-sociology.org/en/about-isa/code-of-ethics
- International Test Commission. (2017). ITC guidelines for translating and adapting tests (second edition). *International Journal of Testing*, *18*(2), 101–134. https://doi.org/10.1080/15305058.2017.1398166
- Iversen, M. M., Norekvål, T. M., Oterhals, K., Fadnes, L. T., Mæland, S., Pakpour, A. H., & Breivik, K. (2022). Psychometric properties of the Norwegian version of the Fear of COVID-19 Scale. *International Journal of Mental Health and Addiction*, 20(3), 1446–1464. https://doi.org/10.1007/s11469-020-00454-2
- Kar B., Kar N., & Panda M. C. (2023). Social trust and COVID-appropriate behavior: Learning from the pandemic. *Asian Journal of Social Health and Behavior*, 6(3), 93–104. https://doi.org/10.4103/shb.shb\_183\_22
- Kassim, M. A. M., Ayu, F., Kamu, A., Pang, N. T. P., Ho, C.
  M., Algristian, H., Sahri, M., Hambali, N. L., & Omar, A.
  (2020). Indonesian version of Fear of COVID-19 Scale:
  Validity and reliability. *Borneo Epidemiology Journal*, 1(2), 124–135.
- Kotecha, I. S., Vasavada, D. A., Kumar, P., Nerli, L. M. R., Tiwari, D. S., & Parmar, D. V. (2022). Knowledge, attitude, and belief of health-care workers toward COVID-19 vaccine at a tertiary care center in India. *Asian Journal of Social Health and Behavior*, 5(2), 63–67. https://doi.org/10.4103/shb.shb\_20\_21
- Le, K., & Nguyen, M. (2021). The psychological consequences of COVID lockdown. *International Review of Applied Economics*, *35*(2), 147–163. https://doi.org/10.1080/02692171.2020.1853077
- Lee, S. A. (2020a). Coronavirus Anxiety Scale: A brief mental health screener for COVID-19 related anxiety. *Death Studies*, 44(7), 393–401. https://doi.org/10.1080/07481187.2020.1748481
- Lee, S. A. (2020b). How much "thinking" about COVID-19 is clinically dysfunctional? *Brain, Behavior, and Immunity*, 87, 97–98. https://doi.org/10.1016/j.bbi.2020.04.067
- Lin, Y., Fan, W., Ahorsu, D. K., Lin, Y. C., Weng, C., & Griffiths, M. D. (2022). Associations between vaccination and quality of life among Taiwan general population: A comparison between COVID-19 vaccines and flu vaccines. *Human Vaccines & Immunotherapeutics*, 18(5), 1–8. https://doi.org/10.1080/21645515.2022.2079344
- Lin, C. Y., Hou, W. L., Mamun, M. A., Aparecido da Silva, J., Broche-Pérez, Y., Ullah, I., Masuyama, A., Wakashima, K., Mailliez, M., Carre, A., Chen, Y. P., Chang, K. C., Kuo, Y. J., Soraci, P., Scarf, D., Broström, A., Griffiths,

- M. D., & Pakpour, A. H. (2021). Fear of COVID-19 Scale (FCV-19S) across countries: Measurement invariance issues. *Nursing Open*, 8(4), 1892–1908. https://doi.org/10.1002/nop2.855
- Lin, C.-Y., & Pakpour, A. H. (2023). Fear of COVID-19 Scale (FCV-19S). In Krägeloh, C.U., Alyami, M., Medvedev, O.N. (Eds.), *International handbook of behavioral health assessment* (pp. 1–24. Springer. https://doi.org/10.1007/978-3-030-89738-3 8-1
- Marsh, H. W., Hau, K. T., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling*, *11*(3), 320–341. https://doi.org/10.1207/s15328007sem1103\_2
- Martinez-Lorca, M., Martínez-Lorca, A., Criado-Álvarez, J. J., Cabañas Armesilla, M. D., & Latorre, J. M. (2020). The fear of COVID-19 scale: Validation in Spanish university students. *Psychiatry Research*, *293*, 1–6. https://doi.org/10.1016/j.psychres.2020.113350
- Masuyama, A., Shinkawa, H., & Kubo, T. (2022). Validation and psychometric properties of the Japanese version of the Fear of COVID-19 Scale among adolescents. *International Journal of Mental Health and Addiction*, 20(1), 387–397.
- https://doi.org/10.1007/s11469-020-00368-z
- McDonald, R. P., & Ho, M.-H. R. (2002). Principles and practice in reporting structural equation analyses. *Psychological Methods*, 7(1), 64–82. https://doi.org/10.1037/1082-989X.7.1.64
- Midorikawa, H., Aiba, M., Lebowitz, A., Taguchi, T., Shiratori, Y., Ogawa, T., Takahashi, A., Takahashi, S., Nemoto, K., Arai, T., & Tachikawa, H.. (2021). Confirming validity of the Fear of COVID-19 Scale in Japanese with a nationwide large-scale sample. *PLOS ONE*, *16*(2), 1–13. https://doi.org/10.1371/journal.pone.0246840
- Mohr, N. M., Plumb, I. D., Harland, K. K., Pilishvili, T., Fleming-Dutra, K. E., Krishnadasan, A., Hoth, K. F., Saydah, S. H., Mankoff, Z., Haran, J. P., Briggs-Hagen, M., León, E. S., Talan, D. A., & Project PREVENT Network. (2023). Presence of symptoms 6 weeks after COVID-19 among vaccinated and unvaccinated US healthcare personnel: A prospective cohort study. *BMJ Open*, *13*(2), 1–9. https://doi.org/10.1136/bmjopen-2022-063141
- Nazari, N., Safitri, S., Usak, M., Arabmarkadeh, A., & Griffiths, M. D. (2021). Psychometric validation of the Indonesian version of the Fear of COVID-19 Scale: Personality traits predict the fear of COVID-19. *International Journal of Mental Health and Addiction*, 21, 1348–1364. https://doi.org/10.1007/s11469-021-00593-0
- Pakpour, A. H., Griffiths, M. D., Chang, K.-C., Chen, Y.-P., Kuo, Y.-J., & Lin, C.-Y. (2020). Assessing the fear of

- COVID-19 among different populations: A response to Ransing et al. (2020). *Brain, Behavior, and Immunity*, 89, 524–525. https://doi.org/10.1016/j.bbi.2020.06.006
- Pang, N. T. P., Kamu, A., Hambali, N. L. B., Mun, H. C., Kassim, M. A., Mohamed, N. H., Ayu, F., Rahim, S. S. S. A., Omar, A., & Jeffree, M. S. (2022). Malay version of the Fear of COVID-19 Scale: Validity and reliability. *International Journal of Mental Health and Addiction*, 20(1), 263–272. https://doi.org/10.1007/s11469-020-00355-4
- Pappas, G., Kiriaze, I. J., Giannakis, P., & Falagas, M. E. (2009). Psychosocial consequences of infectious diseases. *Clinical Microbiology and Infection*, 15(8), 743–747. https://doi.org/10.1111/j.1469-0691.2009.02947.x
- Sakib, N., Israfil Bhuiyan, K. M., Hossain, S., Mamun, F. A., Hosen, I., Abdullah, A. H., Sarker, M. A., Mohiuddin, M. S., Rayhan, I., Hossain, M., Sikder, M. T., Gozal, D., Muhit, M., Shariful Islam, S. M., Griffiths, M. D., Pakpour, A. H., & Mamun, M. A. (2022). Psychometric validation of the Bangla Fear of COVID-19 Scale: Confirmatory factor analysis and Rasch analysis. *International Journal of Mental Health and Addiction*, 20(5), 2623–2634. https://doi.org/10.1007/s11469-020-00289-x
- Satici, B., Gocet-Tekin, E., Deniz, M. E., & Satici, S. A. (2021). Adaptation of the Fear of COVID-19 Scale: Its association with psychological distress and life satisfaction in Turkey. *International Journal of Mental Health and Addiction*, 19(6), 1980–1988. https://doi.org/10.1007/s11469-020-00294-0
- Sawicki, A. J., Zemojtel-Piotrowska, M., Balcerowska, J. M., Sawicka, M. J., Piotrowski, J., Sedikides, C., Jonason, P. K., Maltby, J., Adamovic, M., Agada, A. M. D., Ahmed, O., Al-Shawaf, L., Appiah, S. C. Y., Ardi, R., Babakr, Z. H., Bălţătescu, S., Bonato, M., Cowden, R. G., Chobthamkit, P., ... Z and, S. (2022). The Fear of COVID-19 Scale: Its structure and measurement invariance across 48 countries. Psychological Assessment, 34(3), 294–310. https://doi.org/10.1037/pas0001102
- Shoshani, A., & Kor, A. (2022). The mental health effects of the COVID-19 pandemic on children and adolescents: Risk and protective factors. *Psychological Trauma: Theory, Research, Practice, and Policy, 14*(8), 1365–1373. https://doi.org/10.1037/tra0001188
- Soares, F. R., Afonso, R. M., Martins, A. P., Pakpour, A. H., & Rosa, C. P. (2022). The Fear of the COVID-19 Scale: Validation in the Portuguese general population. *Death Studies*, 46(9), 2093–2099. https://doi.org/10.1080/074 81187.2021.1889722
- Stankovic, M., Papp, L., Nyul, B., Ivankovits, L., Peto, Z., & Toreki, A. (2021). Adaptation and psychometric evaluation of Hungarian version of the Fear of

- COVID-19 Scale. PLOS ONE, *16*(12), 1–13. https://doi.org/10.1371/journal.pone.0261745
- Stanculescu, E. (2022). Fear of COVID-19 in Romania: Validation of the Romanian version of the Fear of COVID-19 Scale using graded response model analysis. *International Journal of Mental Health and Addiction*, 20(2), 1094–1109. https://doi.org/10.1007/s11469-020-00428-4
- Taylor, S., Landry, C. A., Paluszek, M. M., Fergus, T. A., McKay, D., & Asmundson, G. J. (2020). Development and initial validation of the COVID stress scales. *Journal of Anxiety Disorders*, 72, 102232. https://doi.org/10.1016/j.janxdis.2020.102232
- Tee, M. L., Tee, C. A., Anlacan, J. P., Aligam, J. G., Reyes, W. C., Kuruchittham, V., & Ho, R. C. (2020). Psychological impact of COVID-19 pandemic in the Philippines. *Journal of Affective Disorders*, 277, 379–391. https://doi.org/10.1016/j.jad.2020.08.043
- World Bank. Data for the Philippines, lower middle income. Retrieved (2022, October 12), from https://data.worldbank.org/?locations=PH-XN
- World Health Organization. (2022). Philippines situation. https://covid19.who.int/region/wpro/country/ph
- Wakashima, K., Asai, K., Kobayashi, D., Koiwa, K., Kamoshida, S., & Sakuraba, M. (2020). The Japanese version of the fear of COVID-19 scale: Reliability, validity, and relation to coping behavior. *PLOS ONE*, *15*(11), 1–14. https://doi.org/10.1371/journal.pone.0241958
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., McIntyre, R. S., & Ho, C. (2020). A longitudinal study on the mental health of general population during the COVID-19 epidemic in China. *Brain, Behavior, and Immunity*, 87, 40–48. https://doi.org/10.1016/j.bbi.2020.04.028
- Wang, C., Tee, M., Roy, A. E., Fardin, M. A., Srichokchatchawan, W., Habib, H. A., Tran, B. X., Hussain, S., Hoang, M. T., Le, X. T., Ma, W., Pham, H. Q., Shirazi, M., Taneepanichskul, N., Tan, Y., Tee, C., Xu, L., Xu, Z., Vu, G. T., ... Kuruchittham, V.. (2021). The impact of COVID-19 pandemic on physical and mental health of Asians: A study of seven middle-income countries in Asia. *PLOS ONE*, *16*(2), e0246824. https://doi.org/10.1371/journal.pone.0246824
- Wang, Y., Shi, L., Que, J., Lu, Q., Liu, L., Lu, Z., Xu, Y., Liu, J., Sun, Y., Meng, S., Yuan, K., Ran, M., Lu, L., Bao, Y., & Shi, J. (2021). The impact of quarantine on mental health status among general population in China during the COVID-19 pandemic. *Molecular Psychiatry*, 26(9), 4813–4822. https://doi.org/10.1038/s41380-021-01019-y
- Xiang, Y.-T., Yang, Y., Li, W., Zhang, L., Zhang, Q., Cheung, T., & Ng, C. H. (2020). Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. The Lancet Psychiatry, 7(3), 228–229. https://doi.org/10.1016/s2215-0366(20)30046-8

Xiong, J., Lipsitz, O., Nasri, F., Lui, M. W., Gill, H., Phan, L., Chen-Li, D., Iacobucci, M., Ho, R., Majeed, A., & McIntyre, R. S. (2020). Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *Journal of Affective Disorders*, 277, 55–64. https://doi.org/10.1016/j.jad.2020.08.001

Yang, W., Li, P., Huang, Y., Yang, X., Mu, W., Jing, W., Ma, X., & Zhang, X. (2022). Cross-cultural adaptation and validation of the Fear of COVID-19 Scale for Chinese university students: A cross-sectional study. *International Journal of Environmental Research and Public Health*, 19(14), Article No. 8634. https://doi.org/10.3390/ijerph19148624