Journal of School and Educational Psychology
2023, Vol. 3, No. 1, 22-33
https://doi.org/10.47602/josep.v3i1.34
https://journalofschoolpsychology.com

RESEARCH ARTICLE

Psychometric properties of the Turkish version of the COVID-19 Impact Scale in university students

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Abstract

The psychological impacts of the COVID-19 pandemic have substantially changed and this requires a new measurement tool reflecting these changes. The COVID-19 Impact Scale (CIS) assesses the psychological stress responses to the COVID-19 pandemic. This study, for the first time, examined the psychometric properties of the Turkish version of the CIS in university students by focusing on its internal consistency reliability, factor structure, criterion validity and predictive validity. Using a cross-sectional research design, data were collected from 486 university students studying at a public university in Turkey. Participants completed the CIS and Kessler Psychological Distress Scale-6 using an online survey. The results showed that the CIS had excellent internal consistency reliability. Results of exploratory and confirmatory yielded a one-factor solution for the scale with high factor loadings. Also, the results showed that the CIS was not only significantly positively correlated with psychological distress but also accounted for a significant amount of unique variance in the prediction of psychological distress after controlling for the effects of age and gender. These results suggest that the CIS is a psychometrically sound scale with good evidence of reliability and validity in Turkish university students. The CIS can be confidently used for research and clinical practices.

Keywords: COVID-19 Impact Scale, reliability, validity, psychological distress, Turkish adaptation

The COVID-19 virus first appeared in Wuhan, China in December 2019, and quickly affected the whole world. The new type of coronavirus (COVID-19) was declared a global pandemic by the World Health Organization (WHO) on March 11, 2020 (WHO, 2020). As of 16 December 2022, there were 647,972,911 confirmed cases of COVID-19 and 6,642,832 deaths in the world, while there were 17,004,677 confirmed cases of COVID-19 and 101,419 deaths in Turkey (WHO, 2020). The COVID-19 disease can be transmitted from the mouth, eye mucosa or nose to healthy people who come into contact with the surfaces with droplets dispersed from patients who do not show symptoms. Therefore, asymptomatic patients are one of the biggest obstacles to coping with the pandemic. After the outbreak was declared a pandemic, people were asked to stay at home and socially isolate themselves to avoid being infected (Rossi et al., 2020). With the spread of the pandemic, well-intentioned measures such as lockdowns and social distancing taken by the authorities have limited people's access to mental health services (Gunnell et al., 2020; Su et al., 2021). Later, various measures were taken in many areas such as transportation, economy, education, entertainment, and health (Armiya'u et al., 2022; Arslan & Burke, 2021; Chirico et al., 2022; Dempsey & Burke, 2021; Green, 2022; Green & Yıldırım, 2022; Hu et al., 2022; Rehman et al., 2022).

Undoubtedly, university students are among those most affected by the negative effects of the pandemic. University students represent one of the key community-building blocks that deserve adequate attention during the pandemic. With the spread of the pandemic, educational institutions were among the first places to be closed in many countries (Ebrahim et al., 2022). In addition to the uncertainty of COVID-19 on the general student population, it has been the beginning of a very difficult process in terms of university students' participation in life, satisfaction, reaching their dreams, and academic career advancement (Arslan & Coşkun, 2022; Sahu, 2020; Von Soest et al., 2020).

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Because workshops, conferences, sports and other events where university students get stressed and socialise have been postponed or cancelled (Von Soest et al., 2020). In addition, university students have begun to worry about what kind of learning process and examination system awaits them (Silva et al., 2021). According to a study conducted on university students, mental health problems experienced by students in Israel and Russia during the pandemic increased their vulnerability to substance abuse (Yehudai et al., 2020). The COVID-19-related stressors were found to be associated with dysfunctional well-being and mental health outcome such as burnout, psychological distress, loneliness and anxiety (Arslan, 2021; Arslan & Kelly, 2022; Arslan & Yıldırım, 2021; Çağış & Yıldırım, 2022; Geçer & Yıldırım, 2021; Green et al., 2022a, 2022c; Kirby et al., 2023; Majercakova Albertova & Bolekova, 2022; Yıldırım, 2021; Yıldırım & Cicek, 2022). A meta-analysis study found that 29.1% of university students had anxiety symptoms (Ebrahim et al., 2022).

People started to be adversely affected by these measures after a certain period. Dong and Bouey stated in their study in China that the pandemic has started to pose a public health problem for the general public, including mental and physical health (Dong & Bouey, 2020). The pandemic has been declared by the WHO as a public health problem of international concern (WHO, 2020). Looking at the recent literature studies, it has been determined that people experience serious psychological problems such as depression, anxiety, suicidal ideation, coronavirus stress, infection anxiety, helplessness, burnout, loneliness and extreme stress during the COVID-19 pandemic (Arslan et al.., 2021; Su et al., 2021; Yıldırım et al., 2021). During a global crisis, such mental health problems can have serious consequences for personal and community health. The COVID-19 pandemic has been a complex, multifaceted source of stress for many people. Mental health problems have increased in the population due to fear and uncertainty (Green et al., 2022b), and anxiety caused by quarantine and social distance orders (Min et al., 2022).

The pandemic has not only reduced people's mental health and well-being but also limited the services people can access. Despite all the measures taken to reduce the negative effects associated with the virus, recent evidence shows that these measures have negative psychological effects on people's mental health. Adverse psychological effects can be observed in different population groups such as patients infected with the COVID-19 virus, families and friends of infected people, and healthcare workers caring for infected people (Xiang et al., 2020; Yıldırım & Güler, 2022). Measures taken to prevent the pandemic from spreading further have an impact on the psychological health of individuals. Such measures were significantly affected by a variety of mental health problems, such as anger, fear, irritability, pessimism, boredom, depression, anxiety, indecision, loneliness, and suicidal ideation (Yıldırım & Güler, 2022). In other studies, it has been determined that patients infected or suspected of the COVID-19 virus experience emotional trauma related to diagnosis, treatment and prognosis, and this causes fear, anxiety, depression and insomnia in them (Brooks, 2020; Lai et al., 2020).

The COVID-19 pandemic has prolonged much more than previous pandemics and has universally disrupted the life of the general public and consumed people day by day (Min et al., 2022; Yıldırım & Güler, 2022). In a study conducted by Wang et al. on Chinese university students, it was determined that COVID-19 burnout was effective on students' coronavirus stress, anxiety and overeating. It has been found that COVID-19 burnout exacerbates the indirect pathway between students' stress from the coronavirus and overeating through anxiety (Wang et al., 2022).

Present study

Therefore, to prevent such psychological problems, it is necessary to understand what negative psychological disorders people experience during the pandemic. Although some previous studies have identified adverse psychological effects under pandemic conditions, most of these studies are based on a relatively short pandemic period or limited subjects (healthcare workers, confirmed patients) (Gardner & Moallef, 2015; Maunder et al., 2006; McAlonan et al., 2007). There is a lack of tools that comprehensively measure the psychological distress experienced by the general public due to the pandemic and how they change as the pandemic continues.

There are some pandemic-specific measures developed to assess psychological problems arising from the COVID-19 pandemic. These scales included but were not limited to the COVID-19 Perceived Risk Scale (Yıldırım & Güler, 2022), COVID-19 Burnout Scale (Yıldırım & Solmaz, 2022), Coronavirus Stress Scale (Arslan et al., 2020), COVID-19 Fear Scale (Ahorsu et al., 2020), Coronavirus Anxiety Scale (Lee, 2020), COVID-19 Psychological Distress Scale (Feng et al., 2020), COVID-19 Stress Scales (Taylor et al., 2020), the COVID-19 Impact on Quality of Life Scale (Repišti et al., 2020), and the COVID-19 Phobia Scale (Arpaci et al., 2020).

The scales developed in the early days of the pandemic by focusing on measuring pathological responses such as fear, stress, anxiety, phobia, burnout, risk, and trauma. All of these pathological responses reflect acute stress responses commonly seen in the early pandemic phase (Ahorsu et al., 2020; Taylor et al., 2020). Therefore, it is necessary to routinely confirm and monitor the psychological problems of the pandemic. To facilitate this, a reliable and valid assessment tool is essential that reflects the characteristics of the current pandemic and is easily applicable to the general population (Min et al., 2022).

The COVID-19 Impact Scale (CIS) has been developed to address this gap (Min et al., 2022). The scale assesses individuals' fear of COVID-19, depression, anxiety, subjective well-being, and suicidal ideation. It was found that the CIS was positively correlated with depression, anxiety, suicidal ideation and fear of COVID-19, and negatively correlated with subjective well-being. A single-factor structure was obtained by using explanatory factor analysis, in the scale. In confirmatory factor analysis, goodness-of-fit values with the single-factor model were found to be excellent. The internal consistency coefficient of the CIS scale was 0.91, and the reliability of the scale was found to be high. It supports that the CIS is a valid assessment of the emotional problems and deterioration of quality of life caused by the COVID-19 pandemic. As the COVID-19 pandemic prolongs, the need to develop a new scale to reflect these changes has emerged due to the changing psychological responses to the pandemic. Existing measurement tools related to COVID-19 were designed to evaluate the degree of stress for each stressor (Park et al., 2020) or to assess only emotional stress responses to COVID-19 (Arslan et al., 2020; Yıldırım & Solmaz, 2022). The CIS scale is different from other pandemic measurement tools in that it is more inclusive, practical and easily applicable to the general population. Therefore, in the development of the CIS scale, it was aimed to reflect on previous mental health research that problems related to routine work, professional activities, interpersonal relationships and difficulties in functioning in daily life have increased and that the evaluation aspects of one's functioning are also important along with emotional reactions. The scale was aimed to measure the perceived difficulties and various negative emotional reactions in the functioning of daily life.

As of now, the CIS has been adapted into Spanish by showing good reliability and validity evidence (Caycho-Rodríguez et al., 2022). Therefore, it is important to provide further evidence regarding the reliability and validity of CIS in different countries to improve its utility across the culture. To address this, the current study aimed to investigate the psychometric properties of the CIS in Turkish university students. To that end, the following hypotheses were generated: (i) the CIS will demonstrate adequate internal consistency, (ii) the CIS will show a one-factor solution, (iii) the CIS will positively correlate with psychological distress, and (iv) the CIS will uniquely predict psychological distress after controlling for age and gender.

Method

Participants

A total of 486 university students studying different courses at a public university in Turkey took part in the study by using an online survey. For the planned analysis, the data were randomly split into two subsamples. Subsample 1 included 243 participants whose ages ranged between 18 and 25 years (M = 20.07, SD = 2.19), while subsample 2 comprised participants whose ages varied from 18 to 25 years (M = 20.81, SD = 2.36). There were 53.1% females in subsample 1 and 50.2% females in subsample 2. Informed consent was obtained from all participants who were informed about the confidentiality and anonymity of responses.

Measures

COVID-19 Impact Scale (CIS; Min et al., 2022) is a 10-item self-reported measure developed to assess the psychological and emotional stress responses to the COVID-19 pandemic and difficulty with activities of daily living. Participants were asked to answer each item using a 5-point Likert scale ranging from 0 (none) to 4 (very severe/very often). An example item is “Please indicate how much your current life is affected by the COVID-19 related problems.’’ Higher scores on the CIS represent a greater impact of COVID-19. In the original study, excellent internal consistency reliability (α=0.90) was reported for the CIS. In this study, excellent internal consistency reliability was found in subsample 1 (α=.92) and subsample 1 (α=.90).

Kessler Psychological Distress Scale (K6; Kessler et al., 2002) was used to measure psychological distress. The K6 includes 6 items, which are scored based on a 5-point Likert-type scale ranging from 1 (none of the time) to 5 (all of the time). An example item is "During the past 30 days, approximately how often did you feel nervous." Higher scores on the K6 indicate greater severity of psychological distress. The scale demonstrated excellent internal consistency reliability estimates among Turkish adults (Altun et al., 2019). In this study, good internal consistency reliability was found in both subsamples ($\alpha = .87$).

Translation procedure

Based on the well-established protocols for cross-cultural adaptation, we used a forward-backwards method for the translation of the scale to assure that the CIS was culturally relevant in Turkish. First, the CIS was translated into Turkish by three independent professional researchers who are fluent in English and Turkish. Second, the first author of this study, who is fluent in English and Turkish, reviewed the provisional Turkish translation and discussed any inconsistencies with the independent translators. Third, the confirmed Turkish translation form of the scale CIS was then back-translated into English by another researcher who at this time was unfamiliar with the original version of the English scale. Afterwards, both the forward and backward translations of the CIS were compared for equivalence and checked for cultural suitability. The final Turkish version of the CIS can be found in the Appendix.

Data analysis

Descriptive statistics were computed for both subsamples. Exploratory factor analysis (EFA) was employed to uncover the underlying factorial structure of the CIS using Subsample 1. Confirmatory factor analysis (CFA) was performed to ascertain the emerging factor structure of the scale using Subsample 2. In the CFA, the most commonly used fit statistics with their corresponding values were used to evaluate the model fit to the data. The statistics include the normed fit index (NFI), the comparative fit index (CFI), the root square error of approximation (RMSEA), standardized root mean square residual (SRMR $\leq .08$) and the ratio of chi-square ($\chi 2$) to degrees of freedom (df) known as CMIN/DF. The acceptable values are considered as NFI and CFI > 0.90 and RMSEA and CMIN/DF<0.08 and 5, respectively (Wu, 2010). Furthermore, we estimated the Pearson correlations to present the evidence of criterion validity and regression analysis to test predictive validity in both subsamples. The results were interpreted with conventional effect sizes: $.1 \leq r < .3$ = small, $.3 \leq r < .5$ = moderate, and $r \geq .5$= large (Cohen, 1988).

Results

Descriptive statistics and correlation analysis

Table 2 presents means, standard deviations, distribution of variables, and correlation coefficients of the scales measuring COVID-19 impact and psychological distress. Data did not violate the assumption of normality since the skewness and kurtosis values were within an acceptable range of ±2 (Curran et al., 1996). Item analysis also showed a normal distribution for each item on the scale (see Table 1).

Table 1. Mean, standard deviation, the tests of normality, reliability and factor loadings for the scale's items

	Subsample 1 (n =243)							Subsample 2 (n =243)					
Item	Mean	SD	Skew	Kurt	IC	CD	FL	Mean	SD	Skew	Kurt	IC	CD
Item 1	2.30	1.07	-0.31	-0.29	0.59	0.92	0.55	2.00	1.09	-0.12	-0.53	0.48	0.89
Item 2	2.31	1.03	-0.34	-0.36	0.61	0.92	0.56	2.05	1.02	-0.23	-0.20	0.51	0.89
Item 3	1.85	1.20	0.07	-0.82	0.68	0.92	0.74	1.67	1.04	0.20	-0.46	0.65	0.88
Item 4	1.62	1.14	0.19	-0.64	0.80	0.91	0.85	1.35	0.96	0.18	-0.41	0.71	0.88
Item 5	1.66	1.22	0.19	-0.81	0.80	0.91	0.86	1.47	1.11	0.33	-0.55	0.66	0.88
Item 6	1.16	1.13	0.61	-0.47	0.77	0.91	0.84	1.10	1.06	0.58	-0.59	0.73	0.88
Item 7	1.40	1.14	0.42	-0.63	0.81	0.91	0.87	1.22	1.11	0.62	-0.34	0.66	0.88
Item 8	1.29	1.16	0.58	-0.42	0.73	0.91	0.79	1.21	1.11	0.60	-0.45	0.73	0.88
Item 9	1.74	1.21	0.18	-0.81	0.69	0.92	0.67	1.56	1.06	0.27	-0.40	0.63	0.88
Item 10	1.91	1.25	0.02	-0.93	0.61	0.92	0.59	1.77	1.15	0.12	-0.63	0.59	0.89

Note: M = mean; SD = standard deviation; Skew = skewness; Kurt = kurtosis; IC = item-total correlations; CD = Cronbach's alpha if item deleted; FL = factor loading

We estimated correlation coefficients between the COVID-19 impact and psychological distress in both subsamples. The correlation results are reported in Table 2. The COVID-19 impact was significantly positively correlated with psychological distress in subsample 1 (r = .36, p < 0.01) and subsample 2 (r = .28, p < 0.01). Based on Cohen's (1988) conventional effect size criterion, it can be concluded that the effect size was small to moderate.

Table 2. Descriptive and correlation analysis

	Subsample 1 (n =243)							
	Descriptive statistics				Correlations			
Variable	Mean	SD	Skew	Kurt	1.	2.	3.	4.
1. Age	20.07	2.19	0.61	-0.84	—	.00	.00	.06
2. Gender	1.53	0.50	-0.12	-2.00		—	.11	.11
3. COVID-19 impact	17.25	8.91	0.11	-0.46			—	.36**
4. Psychological distress	17.22	5.17	0.05	-0.25				—
	Subsample 2 (n =243)							
1. Age	20.81	2.36	0.26	-1.20	—	-.03	.09	.08
2. Gender	1.50	0.50	-0.01	-2.02		—	.19**	.16*
3. COVID-19 impact	15.39	7.65	0.18	0.21			—	.28**
4. Psychological distress	17.47	5.08	0.24	-0.18				—

**. p < 0.01; *. p < 0.05; Skew = skewness; Kurt = kurtosis

Factorial structure

The ratio of the number of subjects to items is suggested to be 5:1 with a minimum number of 100 participants (Gorsuch & Hillsdale, 1983) showing that the sample size was sufficient for factor analysis. Using the maximum-likelihood extraction method on Subsample 1, the analysis showed that Bartlett's test for sphericity, [$\chi 2$ (45) = 1718.24, p < .001] and Kaiser's measure of sampling adequacy (KMO = .91) were adequate for factor analysis. A one-factor solution that explained 59.80% of the total variance (eigenvalues = 5.98) was found to represent the data. This result was further supported by the Scree plot, with only one factor being greater than one on the plot. Factor loadings ranged between .55 and .87 (see Table 1) and all items significantly correlated with the general factor.

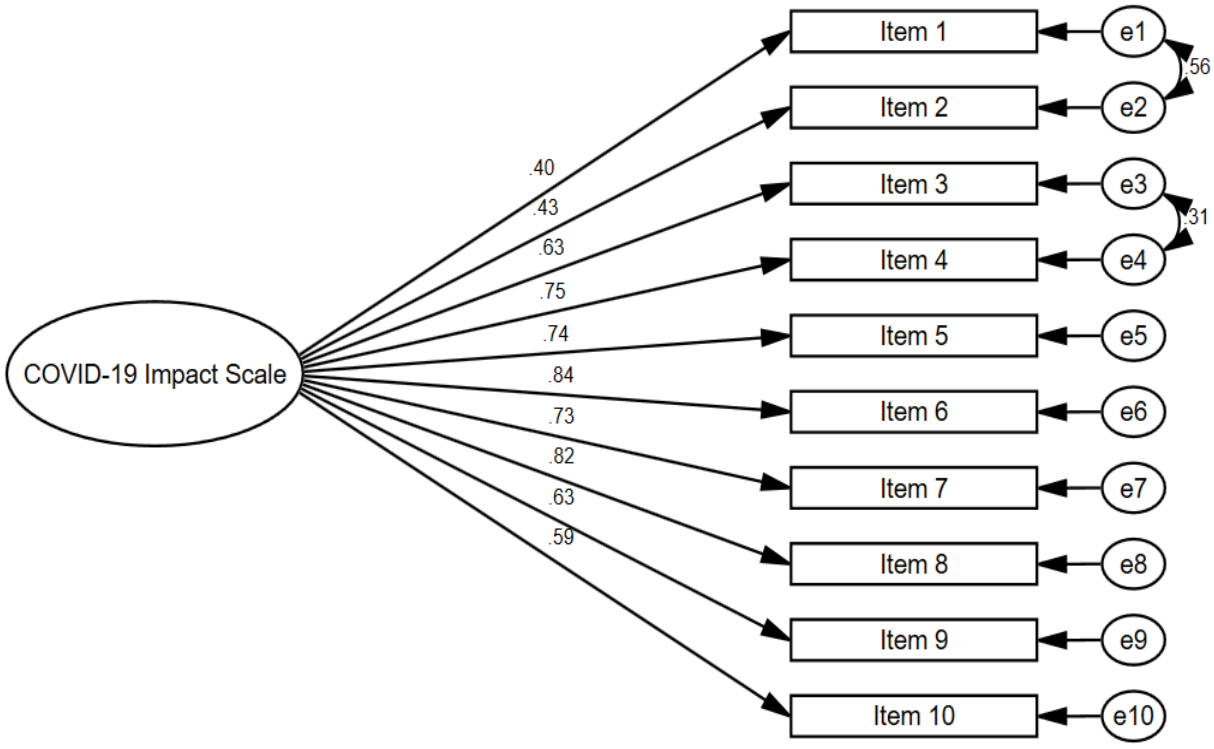

Figure 1. Standardised factor loading of the COVID-19 Impact Scale

The CFA was conducted to test the hypothesis the items on the CIS were loaded as a one-factor structure (see Figure 1). The results initially indicated poor goodness of fit [$\chi 2$ (35) = 257.559, $p < .0.01$, CIMIN/DF = 7.34, NFI = 0.82, CFI = 0.82, RMSEA = 0.16 and SRMR =.08]. Following the modification indices by covarying item 1 with item 2 and item 3 with item 4, the results of the goodness of fit indices were satisfactory, [$\chi 2$ (33) = 149.343, $p < .0.01$, CIMIN/DF = 4.53, NFI = 0.91, CFI = 0.91, RMSEA = 0.10 and SRMR =.06] with good standardized factor loadings ranging between .40 and .82.

Predictive validity

Hierarchical multiple regression analysis was performed to investigate the predictive utility of the CIS in predicting psychological distress after controlling for the effects of age and gender. A summary of these results is presented in Table 3. The results indicated that over and above the effects of age and gender, the CIS was able to explain a significant amount of the unique variance in psychological distress scores both in subsample 1 [F (3, 239) = 12.73, $p < 0.01$, $R = .37$, $R^2 = .14$, $\Delta R^2 = .12$] and subsample 2 [F (3, 239) = 8.40, $p < 0.01$, $R = .31$, $R^2 = .10$, $\Delta R^2 = .06$].

Discussion

Using a sample of Turkish university students, the current study sought to assess the psychometric properties of the Turkish version of the CIS to ensure this was a reliable and valid scale that can be utilized to evaluate the psychological and emotional stress responses to the COVID-19 pandemic and difficulty with daily living activities. The results indicated that the Turkish CIS had a unidimensional factor structure, excellent internal consistency, and good criterion, construct, and predictive validity. These results confirm the hypotheses of this study.

Table 3. Multiple regression analyses predicting psychological distress from the COVID-19 impact, age and gender

	Subsample 1 (n =243)			
Predictor	B	β	t	*p*
Step 1	F (2, 240) = 2.01, $p > 0.05$, $R = .13$, $R^2 = .02$			
Age	0.15	0.06	1.01	0.32
Gender	1.15	0.11	1.73	0.08
Step 2	F (3, 239) = 12.73, $p < 0.01$, $R = .37$, $R^2 = .14$, $\Delta R^2 = .12$			
Age	0.15	0.06	1.07	0.28
Gender	0.74	0.07	1.19	0.24
COVID 19 impact	0.20	0.35	5.80	0.00
	Subsample 2 (n =243)			
Step 1	F (2, 240) = 4.09, $p < 0.05$, $R = .18$, $R^2 = .03$			
Age	0.19	0.09	1.41	0.16
Gender	1.63	0.16	2.53	0.01
Step 2	F (3, 239) = 8.40, $p < 0.01$, $R = .31$, $R^2 = .10$, $\Delta R^2 = .06$			
Age	0.14	0.06	1.04	0.30
Gender	1.14	0.11	1.79	0.08
COVID 19 impact	0.17	0.26	4.06	0.00

To date, to the best of our knowledge, the original study, in which the measure was developed (Min et al., 2022), was the only study that has previously investigated the psychometric properties of the measure of the CIS. Overall, our findings were in accordance with previous research using the CIS. The internal consistency of the Turkish CIS was .92 and .90 in two subsamples, respectively, which is very similar to that reported for the original scale ($\alpha = .91$) (Min et al., 2022). Criterion validity analysis indicated significant positive correlations with psychological distress as assessed by the K6, suggesting that students who have a high level of COVID-19 impact can report more psychological distress. This was also consistent with previous research as assessed mental health and well-being measures such as depression, anxiety, suicidal ideation, and subjective well-being (Min et al., 2022).

Results of the EFA and CFA presented evidence for the unidimensional structure of the Turkish CIS. Factor loadings were all significant and strong (range .55 to .87 for EFA and .40 to .82 for CFA), compatible with the original version of the scale (ranged .60 to .82 for EFA and 0.72 to 0.86 for CFA) (Min et al., 2022). However, by covarying item 1 with item 2 and item 3 with item 4, the fit statistics reported in this study were relatively lower than the fit statistics reported in the original study (Min et al., 2022). The variation between the findings of the present study and the study of Min et al. (2022) may be related to the characteristics of the sample which may affect the outcomes of the same variable (Yıldırım & Çelik-Tanrıverdi, 2021; Yildirim et al., 2018). Future research is warranted to provide further evidence regarding the factor structure of the CIS to improve its utility in research and practice.

The COVID-19 impact was found to predict a significant amount of variance in psychological distress over and beyond the effects of age and gender. This suggests that students, who report greater levels of COVID-19 impact, experience more psychological distress despite age and gender differences. These findings are consistent with earlier research showing that individuals with high levels of COVID-19 impacts experience more symptoms of mental health problems (e.g., depression, anxiety, suicidal ideation) and poor subjective well-being (Min et al., 2022). In addition, the amount of unique variance explained in psychological distress was relatively smaller in Subsample 2 (6%) than in Subsample 1 (12%). Despite this variation, the proportion of variance explained in psychological distress is significantly different from 0, suggesting that the COVID-19 impact has significant explanatory power. Based on Cohen's (1988) conventional criteria of effect size, where .02 = small, .15 = medium, and .35 = large, the unique amount of variance accounted for can be practically meaningful, meaning that intervention focusing on the reduction of psychological and emotional stress responses to the COVID-19 pandemic and difficulty with activities of daily living applied at an individual-level could perhaps have a large effect at the population level. However, it is worth noting that there is a substantial amount of variance remaining as unexplained in psychological distress. As such, it would be impossible to draw a definitive conclusion that the COVID-19 impact is the only predictor of psychological distress, rather it can be assumed that the COVID-19 impact has a relative contribution to psychological distress. Further research is required to determine other possible predictors of psychological distress.

Taken together, this study advanced the evidence concerning the psychometric properties of CIS in multiple ways. First, the Turkish CIS had excellent internal consistency reliability and factorial validity, suggesting that researchers can confidently use the CIS to measure the concept of COVID-19 impact in Turkish student populations like many other measures (Yildirim & Balahmar, 2022; Yıldırım et al., 2021; Yıldırım & Maltby, 2022; Yıldırım & Özaslan, 2022). Second, the Turkish CIS had good criterion validity with the measure of psychological distress, meaning that students with high levels of CIS tend to report more psychological distress. Third, the Turkish CIS predicted psychological distress over and above the effects of age and gender, suggesting that the CIS is uniquely important for mental health outcomes (e.g., distress) for both gender and young and relatively older students.

This study is not without limitations that need to be taken into account in future research. First, the sample purely contained university students. Future research should collect data from populations with different demographic backgrounds (e.g., adults, at-risk individuals; Arslan & Coşkun; 2023) to improve the generalizability of the findings. Second, there is a need to test the measurement invariance across gender, samples, and cultures alongside discriminant validity and test-retest reliability. Finally, the results presented in this study were based on cross-section research data, which solely relied on self-reported measures obtained at a single point in time. Future research should verify the emerging association between CIS and psychological distress.

Compliance with Ethical Standards

Acknowledgements

The authors would like to thank all the participants who voluntarily took part in this study.

Competing interests

The authors acknowledge no conflict of interest.

Ethical standards

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The study received ethical approval from the ethical review board of Batman University (reference number: 2022/08-07).

Informed consent

All study participants provided informed consent before involvement in the study, in accordance with the study protocol approved by the institutional research board.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article

Data availability statement

The data that support the findings of this study are available at reasonable request from the corresponding author.

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Received: November 25, 2022
Accepted: December 25, 2022
Published Online: January 5, 2023

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Appendix: Turkish version of COVID-19 Impact Scale

KOVİD-19 Etki Ölçeği

Yönerge: Değerli katılımcı, aşağıda sizinle ilgili bazı ifadeler bulunmaktadır. Lütfen her bir ifadeyi dikkatlice okuyunuz ve mevcut durumunuzu en iyi tanımlayan yanıtı seçiniz. Doğru ya da yanlış cevap yoktur. Sizden beklenen her bir soruyu içtenlikle cevap vermenizdir. Lütfen bütün sorularla ilgili görüşlerinizi ifade ediniz.

Sorular	Hiç	Nadiren	Bazen	Sık sık	Çok sık
1. Lütfen, mevcut hayatınızın KOVİD-19 ile ilgili sorunlardan ne kadar etkilendiğini belirtiniz.	0	1	2	3	4
2. Lütfen, KOVİD-19 ile ilgili sorunlar nedeniyle mevcut yaşam kalitenizin ne kadar zarar gördüğünü belirtiniz.	0	1	2	3	4
3. Şu anda, KOVİD-19 ile ilgili sorunlar hakkında ne kadar endişelisiniz?	0	1	2	3	4
4. Şu anda, KOVİD-19 ile ilgili sorunlarla ilgili ne sıklıkla stres yaşıyorsunuz?	0	1	2	3	4
5. Şu anda, KOVİD-19 ile ilgili sorunlar konusunda ne kadar yorgunluk yaşıyorsunuz?	0	1	2	3	4
6. Şu anda, KOVİD-19 ile ilgili sorunlardan dolayı ne kadar depresyondasınız?	0	1	2	3	4
7. Şu anda, KOVİD-19 ile ilgili sorunlarla ilgili ne sıklıkla rahatsızlık yaşıyorsunuz?	0	1	2	3	4
8. Şu anda, KOVİD-19 ile ilgili sorunlar konusunda ne sıklıkla öfke yaşıyorsunuz?	0	1	2	3	4
9. KOVİD-19 ile ilgili sorunlar kişilerarası ilişkinizi ne kadar etkiledi?	0	1	2	3	4
10. KOVİD-19 ile ilgili sorunlar çalışmalarınızı, işinizi veya ev işlerinizi ne kadar etkiliyor?	0	1	2	3	4

Açıklama: Ölçek tek boyutludur ve tersten kodlanan madde yoktur. Toplam puan, yanıtların toplanmasıyla hesaplanır. 0 ile 40 arasında değişen puan ne kadar yüksekse, KOVİD-19'un psikolojik ve duygusal stres tepkileri ve günlük yaşam aktivitelerinde zorlukta o kadar fazla olur.