Original Article

Turkish Validity and Reliability Study of the Covid-19 Anxiety Syndrome Scale

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Abstract

Aim: This study was conducted to adapt the Covid-19 Anxiety Syndrome Scale (C-19ASS) to Turkish culture, and to perform its validity and reliability.

Method: 245 participants were included in the study. Within the scope of validity, content validity, predictive validity and exploratory and confirmatory factor analyses were performed, the internal consistency reliability Cronbach Alpha coefficient was calculated for the scale reliability, and the intraclass correlation (ICC) was calculated for the test-retest.

Results: The items of the scale were translated from English to Turkish and presented to expert opinion for language and content validity. The mean value of the Content Validity Index and the Content Validity Ratios was found to be 1.0. As a result of the Exploratory Factor Analysis, the Kaiser-Meyer-Olkin value was found to be 0.849, and the fit indices obtained as a result of the Confirmatory Factor Analysis were found to be (χ^2 /sd: 1.810; RMSEA: 0.058; GFI: 0.962; CFI: 0.969). As result of the reliability analysis, the Cronbach Alpha coefficient (α) of all scales and sub-dimensions was found between 0.736 and 0.817. As a result of the test-retest, the ICC coefficient was found to be 0.816 for the whole scale.

Conclusion: The C-19ASS was found to be a valid and reliable measurement tool for measuring the COVID-19 anxiety syndrome.

Keywords: coronavirus (COVID-19), anxiety syndrome, scale, validity, reliability

Introduction

Since December 2019, the world has been struggling against a new pandemic caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV2). This virus has led to fear because it causes extremely severe symptoms in some individuals and spreads very rapidly (Wang et al., 2020; Zarghami, 2020). Prevention efforts such as social distancing, using masks, constant hand and body hygiene, and government-sponsored policies such as "staying at home, working from home, and school from home" bring along significant changes in all areas of human life. Individuals used to direct socialization (physically) have put some distance between each other with the fear of spreading the virus through physical contact, and this clearly causes a stressful situation for some people (Wulandari & Hidayat, 2020).

There is a large literature base indicating that those who experience pandemic-related psychological problems are inclined to exhibit high levels of post-traumatic stress disorders, general stress, anxiety, health-related anxiety, and suicidal tendencies, which may last far beyond the pandemic (Chong et al., 2004; Wu et al., 2009; Yip et al., 2010; Wheaton et al., 2012). Return to normalization will inevitably entail exposure to environments, such as public transport, offices, cinemas, and theaters, which are associated with a higher risk of infection. There may be many individuals who will find it difficult to return to a fully "social" life owing to maladaptive coping styles, which will intensify COVID-19 anxiety (Lee, 2020). Recent research in the UK has revealed that post-quarantine anxiety and anxiety levels are significantly higher than before and may affect both work and social interaction for a while (Duffy & Allington, 2020).

Syndrome is a set of findings that appear as a single phenomenon when they come together and appear to be unrelated to each other (Ahorsu, et al., 2020). The COVID-19 pandemic has caused significant threats to the physical health and lives of people. Furthermore, it has also triggered various psychological problems such as panic disorder, anxiety, and depression. Studies involving the combination of many scales related to the anxiety caused by the COVID-19 pandemic are available in the literature (Tosun Altinoz et al., 2022; Gozpinar et al., 2021; Ay et al., 2022; Evren et al., 2022). However, we think that determining whether "anxiety COVID-19 syndrome" а characterized by avoidance, control, worry and threat monitoring (combined) will emerge is important in terms of tracking individuals and identifying vulnerable groups in the pandemic and post-pandemic period. In addition, existing scales may not be sufficient to measure the psychological consequences of social isolation, fear and anxiety during the COVID-19 pandemic, which has been shown to have a significant global impact. In line with the research in psychopathology (Wells, 2000; Hayes, 2004; Barlow et al., 2014), maladaptive coping styles such as constantly avoiding, conflicting, controlling, worrying, or perceiving as a threat may play a critical role in leading to severe psychological problems at a later stage. Therefore, the COVID-19 anxiety syndrome should be different from the COVID-19 threat, fear, and anxiety in conceptual and psychometric terms.

Reasonable attention to COVID-19 warnings can be helpful in keeping people safe during the crisis, but excessive vigilance can have mentally devastating and unhealthy consequences. People's negative experiences in their personal lives and exposure to media coverage of the pandemic can also increase their fears and concerns (Kumar & Somani, 2020; Lee, 2020; Shuja et al., 2020). This is because individuals may not be able to think clearly and rationally when reacting to COVID-19 with high levels of anxiety (Ahorsu et al., 2020; Lee, 2020). In one study, it was reported that psychological responses hypochondriasis and anxiety such as negatively affect the health and well-being of individuals during an infectious disease epidemic (Pappas et al., 2009).

Upon reviewing the literature, many scales assessing COVID-19-related fear, threat, stress, and anxiety symptoms, such as the Fear of COVID-19 Scale, Coronavirus Anxiety Scale, COVID-19 related Psychological Distress Scale, COVID-19 Traumatic Stress Scale and Perceived Risk of Coronavirus Scale, are observed (Conway et al., 2020; Ahorsu et al., 2020; Lee, 2020; Tosun Altınoz et al., 2022; Gozpinar et al., 2021; Ay et al., 2022; Evren et al., 2022). However, no valid and reliable scales that measure the anxiety syndrome caused by COVID-19 in people have been encountered in Turkish literature. The pandemic is influencing the whole world, and it has been thought that such a measurement instrument should be provided in Turkish to measure the COVID-19 anxiety status and the anxiety syndrome likely to develop in societies using different languages. By using the scale in different populations (nurse, doctor, parent, pregnant women, etc.), it can help early and timely intervention by enabling evaluation. Therefore, the study was conducted to check the validity and reliability of the COVID-19 Anxiety Syndrome Scale (C-19ASS) and perform its adaptation to Turkish culture.

Methods

Study Design, Data Collection and Sampling: This study was conducted methodologically and cross-sectionally. The study was performed as an online survey across Turkey between April-May 2021. The sample size of the study was determined in line with the principle of including participants ten times the number of scale items (Alpar, 2012). Accordingly, it was decided to apply the Turkish translation of

"The COVID-19 Anxiety Syndrome Scale," consisting of 9 items, to at least 90 participants (10x9=90). The sample group was comprised of 245 participants who agreed to participate in the study and met the inclusion criteria (being at the age of 18 years and over, being minimum an elementary school graduate, volunteering to participate in the study, being able to understand and read Turkish well, having smartphone/computer/tablet computer and wireless internet). In the literature, it is reported that the sample to be considered for test-retest to determine the time invariance of the measurement tool and the consistency of the correlation coefficient needs to consist of at least 30 individuals (Akgul, 2005; Tavsancil, 2014), and the test-retest of the scale was performed by sending it again to 41 participants online two weeks later. The study was carried out as an online survey. The online survey created by the researchers through Google Forms was shared over groups. Responses were collected on e-tables over Google Drive.

Instruments: Data were collected using the "Descriptive Information Form" prepared by the researchers, the "COVID-19 Anxiety Syndrome Scale," "Coronavirus Anxiety Scale," and "Fear of COVID-19 Scale".

Descriptive information form: The questionnaire prepared by the researchers to determine the participants' socio-demographic characteristics contains a total of 11 questions related to age, gender, education status, how income-expense level is described, employment status, etc.

The COVID-19 Anxiety Syndrome Scale (C-19ASS): The COVID-19 Anxiety Syndrome Scale (C-19ASS), prepared by Nikčević and Spada (2020), is a scale that examines individuals' experiences of the ways to cope with the COVID-19 threat in the last two weeks, is a Likert-type scale, has four grades (4= Almost every day for two weeks, 3= More than a week, 2 = A few days, 1 = Rarely, less than one or two days, 0= Never experienced), and consists of 9 items and two subscales. In the original study of the scale, Cronbach's alpha value was found to be 0.86 for the first subscale, Perseveration (Factor 1), and 0.77 for the other subscale, Avoidance (Factor 2). Coronavirus Anxiety Scale (CAS): In the study, the CAS, which was developed by Lee

(2020) and studied for Turkish validity and reliability by Bicer et al. (2020), was used. The scale is a measurement tool addressing knowledge and opinions about COVID-19. The CAS is a 5-point Likert-type scale consisting of five questions and a single subscale. The scale grading is performed as "0- Never," "1- Rarely, less than one or two days," "2- A few days," "3- More than 7 days," and "4- Almost every day for the last two weeks." Cronbach's Alpha reliability coefficient was calculated as 0.83 in the Turkish validity and reliability study of the scale. In this study, Cronbach's Alpha reliability coefficient was found to be 0.90.

The Fear of COVID-19 Scale (FC-19S): The Fear of COVID-19 Scale, developed by Ahorsu et al. (2020) and studied for Turkish validity and reliability by Bakioglu et al. (2020), is a scale that consists of seven items, a single subscale, and a 5-point Likert-type grading system (1: Strongly disagree and 5: Strongly agree). The total score received from all items of the scale reflects the COVID-19 fear of the individual. Scores to be obtained from the scale vary between 7 and 35. A high score received from the scale indicates that the COVID-19 fear is high. Cronbach's Alpha internal consistency coefficient of the original scale is 0.82. Cronbach's Alpha reliability coefficient was calculated as 0.86 in the Turkish validity and reliability study of the scale. In this study, Cronbach's Alpha reliability coefficient of the scale was found to be 0.88.

Language Validity of the Scale: For language validity, Ana V. Nikčević, one of the authors who developed the scale, was first contacted, and her permission was obtained via e-mail. Moreover, attention was paid to using the most appropriate sentence structure in the language and idioms while translating the scale items to Turkish. At the initial stage, the scale was translated from English to Turkish separately by two academic members who had a good command of Turkish and English and were specialized in the Department of Pediatric Nursing and Department of Psychology, and a translator who knew English at a professional level. Then, these translations were evaluated by the researchers, and the Turkish form of the scale was re-structured. This form was translated back to English by an independent linguist.

Following the corrections, the scale was adapted to Turkish, and equivalence to the original English form was achieved. Afterward, the translation stage was completed.

Content validity of the scale: The scale translated from English to Turkish was presented to expert opinions for content validity. It was sent to a total of 11 experts from the Departments of Psychiatric Nursing, Pediatric Nursing, Internal Medicine Nursing, Psychology, Educational Sciences and Sociology. Experts were requested to evaluate each item for suitability and comprehensibility. They were asked to score each statement between 1-4 (1 point: not suitable, 2 points: slightly suitable, 3 points: suitable, 4 points: completely suitable) and to openly write their opinions and recommendations for each item. In line with expert opinions, the items were revised, and necessary changes were made. Consequently, as a result of the evaluation by experts, 9 scale items were corrected in terms of language and expression, with experts' recommendations and contributions. To evaluate expert opinions, the Content Validity Index (CVI) was used. To determine whether experts considered an item necessary, for all items, the CVI was calculated by finding the mean content validity ratio (CVR). As the number of experts was 11, it was concluded that items with a CVR value higher than 0.59 met the necessary criteria (Alpar, 2012; Yeşilyurt & Capraz, 2018). In our study, the Content Validity Index (CVI) was found to be 1.0 in the mean CVR. Since CVI>CVR was reached, the content validity of the scale was found statistically significant.

Ethical Considerations of the Study: After permission was obtained via e-mail from the first author who developed the scale to conduct the Turkish validity and reliability study, the study's ethics approval was received from Sakarya University Faculty of Medicine Non-Interventional Research Ethics Committee (Number: E-71522473-050.01.04-252325) and the Turkish Ministry of Health. Individuals who volunteered to participate in the study read the informed consent form that emphasized the anonymity and privacy of participants and stated that they gave consent for participation by filling out the survey.

Statistical Analysis: In the study, data on 245 participants were transferred to and evaluated in IBM SPSS Statistics 25 and IBM SPSS AMOS 20. Descriptive statistics (n, %) were given for categorical variables. In the evaluation of the scores given by the experts, the Content Validity Index and Content Validity Ratio were calculated. Within the scope of the scale's validity and reliability analyses, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were performed. Finally, to determine the internal consistencies of the factors, reliability analysis, Cronbach's alpha coefficient calculation, and test-retest were carried out. The Spearman correlation analysis was conducted to review the correlation between the scales.

Results

The mean age of 245 individuals who participated in the study was 35.86±13.29 years (min:18, max: 72 years), 51% were university graduates, 86.5% had nuclear families, 62% were married, 70.2% had income equal to expenses, 51.4% were employed, 20.4% had had the COVID-19 infection, and 24.5% were vaccinated against COVID-19 (Table 1). A statistically significant difference was found between the participants' genders, perceived economic levels, employment status, and the C-19ASS (p<0.05). Thus, the total C-19ASS scores were higher in female participants compared to male participants, in individuals who considered their economic levels moderate compared to those who considered their economic levels poor, and in employed individuals compared to unemployed individuals (Table 1).

Construct validity: To determine the construct validity of the scale, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were performed.

Exploratory Factor Analysis (EFA): After EFA was applied, "the Principal Components Method" was preferred as a factor extraction method. To examine the factor structure, the Kaiser-Meyer-Olkin (KMO) test was performed to determine sample adequacy, and Bartlett's test was applied to decide on analysis would factor whether be administered to the scale (Alpar, 2012) (Table 2).

As seen in Table 2, the scale aiming to measure the COVID-19 Anxiety Syndrome was developed on the basis of two theoretical dimensions. These dimensions are "F1" and "F2". Within this framework, exploratory factor analysis was carried out to reveal the factor design of the tool. Before the exploratory factor analysis, the Kaiser-Meyer-Olkin (KMO) test was implemented. As a result of the analysis, the KMO value was found to be 0.849. In line with this finding, the sample size was concluded to be "adequate at an excellent level" to conduct factor analysis (Cokluk et al., 2012). Moreover, when the results of Bartlett's test of sphericity were reviewed, the chi-square value was observed to be significant ($\chi 2$ (36)= 653.53; p<0.01). After data's suitability to factor analysis was confirmed, exploratory factor analysis was conducted using Principal Components Analysis and Varimax Rotation methods to examine the scale's factor structure. As a result of the analysis, there were two components with eigenvalues above 1 for nine items included in the analysis. The contribution of these components to total variance is 55.365%. In the analysis repeated for the two factors, the contribution of the factors to the total variance was observed to be 28.347% for "F1" and 27.019% for "F2." In the exploratory factor analysis performed to reveal the scale's factor design, the level accepted for factor loading values was determined to be 0.400.

Confirmatory Factor Analysis (CFA) Results

According to CFA, the outcome of the scale's structural equation model was significant at p=0.000, and nine items and two subscales that comprised the scale were correlated with the scale's structure. Since the model was found not to be concordant enough as a result of the analysis, model improvement studies were performed. First, the chi-square drop values were reviewed for probable changes to be made in the model by looking at the modification indices table. Changes that reduced concordance during improvement

were determined, and new covariances were formed for excess values with high covariance (Marsh et al. 2006) (e5-e7; e6-e9). Items within the subscales of the scale and the factor load of each item are given; the scale items were found to have factor loads between 0.76 and 0.816 (Figure 1).

According to the first-level multi-factor analysis results, concerning the goodness of fit indices of the COVID-19 Anxiety Syndrome Scale, an excellent fit was shown with SRMR 0.042, RMSEA 0.058, GFI 0.96, AGFI 0.92, CFI 0.96, and $\chi 2$ 1.810 (p=0.000) (Table 3).

Predictive Validity

In the study, the correlation between the COVID-19 Anxiety Syndrome Scale and the FC-19S and CAS was examined. Despite the normal distribution of the C-19ASS and FC-19S, the CAS did not have a normal distribution. Therefore, predictive validity was tested using Spearman's correlation analysis.

Correlation analysis was applied to test the correlation between the participants' mean total scores of the C-19ASS, FC-19S, and CAS. According to the correlation analysis, a statistically significant and positive correlation is observed between the participants' mean total scores of the C-19ASS, FC-19S, and CAS (p<0.01).

The Scale's Reliability

As seen in Table 2, Cronbach's Alpha value was calculated as 0.736 for Factor 1, 0.745 for Factor 2, and 0.817 for the overall scale (9 items).

Test-Retest Reliability

The scale was re-applied to 41 out of 245 participants two weeks later to measure the stability of the scale. A high fit was observed between the retest and the first test (ICC=0.816). The correlation coefficients between the retest and the first test were found to be r: 0.655 in Factor 1 subscale and r: 0.756 in Factor 2 subscale (Table 5).

Variables		N (%)	Mean±SD*	test/p
	Female	200 (81.6)	20.0±7.70	t: 3.438**
Gender	Male	45 (18.4)	15.08±8.85	0.001****
	Primary education	15 (13)	18.66 ± 8.72	
Education Status	High school	54 (22)	16.92±8.22	F. 1 00***
	University	125 (51)	19.66 ± 7.98	F: 1.88****
	Master's degree/PhD	34 (13.9)	20.58±7.00	0.132
	Nuclear	212 (86.5)	18.87 ± 7.91	F 1 201
Family Type	Extended	26 (10.6)	19.69±8.43	F: 1.281
	Fragmented	7 (2.9)	23.71±12.82	0.280
Marital	Married	152 (62)	19.02±8.33	E. 0.200
	Single	80 (32.7)	18.96±7.00	F: 0.290
Status	Divorced/Widowed	13 (5.3)	20.76±12.08	0.749
Perceived	Good (1)	40 (16.3)	17.80±8.83	F: 3.553
Economic	Moderate (2)	172 (70.2)	$19.94{\pm}7.81$	0.030*
Level	Poor (3)	33 (13.5)	16.24 ± 8.30	2>3
Employment	Yes	126 (51.4)	20.10±8.57	t: 2.010
Status	No	119 (48.6)	18.03±7.53	0.046*
COVID-19	Yes	50 (20.4)	20.70 ± 8.09	+ 1 621
Infection	No	102 (78.8)	18 60+8 07	0.104
Status		195 (70.0)	18.00±8.07	0.104
COVID-19	Yes	60 (24.5)	19.88±8.16	t: 0 860
Vaccination	No	185 (75 5)	18 84+8 13	0 301
Status		105 (15.5)	10.07-0.13	0.371

Table	1.	Comparison	of th	ie participants'	socio-demographic	characteristics	and	the
	CO	VID-19 anxie	ty syr	idrome scale				

Mean Age: 35.86±13.29 (min:18, max: 72 years⁺)

*Mean±SD: Mean±Standard Deviation, ** Student's T-test, ***F-Test (One-Way Analysis of Variance=ANOVA), ****p<0.05 significance level, †Min-Max: Minimum-Maximum,

Table 2. Results of exploratory factor analysis and reliability analysis regarding the COVID-19 anxiety syndrome scale

Factors and items	Variance Explained (%)	Self-Value (A)	Factor Loadings
Perseveration (Factor 1): (α=0.736)	28.347	3.791	
7. I have checked my family members and loved one for the signs of coronavirus (COVID-19).			0.729
9. I have imagined what could happen to my family members if they contracted coronavirus (COVID-19).			0.720
6. I have read about news relating to coronavirus (COVID-19) at the cost of engaging in work (such as writing emails, working on word documents or spreadsheets).			0.713
8. I have been paying close attention to others displaying possible symptoms of coronavirus (COVID-19).			0.684
Avoidance (Factor 2): (a=0.745)	27.019	1.192	
3. I have avoided going out to public places (shops, parks) because of the fear of contracting coronavirus (COVID-19).			0.817
1. I have avoided using public transport because of the fear of contracting coronavirus (COVID-19).			0.760
5. I have avoided touching things in public spaces because of the fear of contracting coronavirus (COVID-19).			0.611
2. I have checked myself for symptoms of coronavirus (COVID-19).			0.562
4. I have been concerned about not having adhered strictly to social distancing guidelines for coronavirus (COVID-19).			0.407
Total (α = 0.817) 55.365			
Kaiser-Meyer-Olkin (KMO) test= $0.849 \times 2(36)$ =	653.53		

Bartlett's test of sphericity (p) = 0.000^*

Fit Index	Fit Index Values	Perfect Fit Values	Acceptable Compliance Values
χ^2/sd	1.810	≤3	≤5
GFI	0.962	\geq 0.90	≥ 0.85
CFI	0.969	≥ 0.97	≥ 0.95
TLI	0.954	≥ 0.95	\geq 0.90
AGFI	0.929	≥ 0.90	≥0.85
RMSEA	0.058	≤ 0.05	≤ 0.08
SRMR	0.042	\leq 0.05	≤ 0.08

Table	3.	Fit	inde	x values	and	good	fit	values	of	the	measurement	model

(GFI: Goodness of Fit Index, CFI: Comparative Fit Index, TLI:Tucker–Lewis Index, AGFI: Adjusted Goodness of Fit Index, RMSEA:Root Mean Square Error of Approximation, SRMR: Standardized Root Mean Square Residual)

	C-19ASS	C-19ASS	C-19ASS	FC-19S	CAS
		Factor-1	Factor-2		
C-19ASS	1.000	0.833**	0.901**	0.364**	0.320**
р	-	0.000*	0.000*	0.000*	0.000*
C-19ASS –		1.000	0.531**	0.416**	0.370**
Factor-1					
р		-	0,000*	0.000*	0.000*
C-19ASS –			1.000	0.249**	0.230**
Factor -2					
р			-	0.000*	0.000*
FC-19S				1.000	0.575^{**}
р				-	0.000*
CAS					1.000
р					-
p<0.01		** Sp	earman's Correlati	on	

ICC *	ICC Values at 95%	р		
ice	Confidence Interval			
0.655	(0.426-0.799)			
0.756	(0.626-0.850)	0.000		
0.816	(0.724-0.886)			
	ICC * 0.655 0.756 0.816	ICC Values at 95% Confidence Interval 0.655 (0.426-0.799) 0.756 (0.626-0.850) 0.816 (0.724-0.886)		

Table 5.	Test-retest	results	of the	COVID-19	anxiety	syndrome	scale	and	it's
subscales	5								

*ICC: Intraclass Correlation Coefficient



Figure 1. Measurement model of the COVID-19 anxiety syndrome scale

Discussion

In this study, conducted to examine the psychometric characteristics of the Turkish adaptation of the C-19ASS (Nikčević & Spada, 2020), female participants, employed individuals, and individuals who perceived their economic levels as moderate were found to have high scores from the COVID-19 Anxiety Syndrome Scale (Table 1). In previous studies, COVID-19 anxiety levels were also found to be higher in the female gender than the male gender (Erdogdu et al., 2020; Oducado et al., 2021). Since employment status may be associated especially with the negligence of social distancing rules during the COVID-19 pandemic, it may lead to high COVID-19 anxiety levels. The COVID-19 anxiety levels of the participants who stated a moderate level of perceived economic status (income equal to expenses) were observed to be higher than the participants who indicated a poor level. The pandemic period causes negative transformations both in psychological health and in socioeconomic terms. In the study carried out by Kanik et al., (2020), the effects of individuals' perceived socioeconomic levels, concerns about both their personal economic status and the economic situation of the country on their psychological well-being during the pandemic period were investigated, and it was revealed that, as individuals' concerns about their personal economic status increased, their well-being decreased. However, individuals' income levels did not influence their well-being significantly. Therefore, in our study, individuals who stated a moderate level of perceived economic status experienced a higher increase in their concerns about their personal economic status. Thus, their COVID-19 anxiety levels can be said to be higher.

In the assessment of construct validity, factor analysis is conducted to investigate under what dimensions scale items are gathered and whether they will be gathered (Karakoç & Dönmez, 2014). In this study, EFA and CFA were performed for construct validity. The KMO value of 0.849 obtained in this study indicates that the sample size is at a "very good" level in terms of adequacy. In the study, the analysis result of Bartlett's test of sphericity is X^2 =653.53, p=0.000, which is significant. These results show that the sample size is suitable for factor analysis (Alpar, 2012; Kalayci, 2018). In the literature, it is reported that a rate of 40%-60% at which the factor loads created in EFA explain the total variance will be considered adequate (Alpar, 2012). In this study, the scale explains 55.365% of the total variance together with all subscales, pointing at adequacy.

In factor analysis, which was performed to determine which factors items were loaded on, items 4 and 6 were loaded on Factor 2 instead of Factor 1. This situation may have resulted from cultural differences (Korkmaz, 2007; Erkuş, 2010). Therefore, it is normal for validity and reliability values to be different in scale adaptation studies from different cultures.

Confirmatory factor analysis is conducted to evaluate whether the correlation of the items forming a factor is adequate (Alpar, 2012). CFA is recommended to be performed after EFA (Boetang et al., 2018). The measurement model established to confirm the structure consisting of nine items was analyzed. The model was observed to be confirmed with nine items and two subscales. In CFA, the factor loads of all items in the scale were observed to vary between 0.376 and 0.816 (Figure 1).

As a result of the CFA performed to determine whether the original structure of the scale was confirmed in Turkish society, an excellent fit was shown with goodness-of-fit index values of SRMR 0.042, RMSEA 0.058, GFI 0.96, AGFI 0.92, CFI 0.96, and $\chi 2$ 1.810 (p=0.000) (Alpar, 2012; Erkorkmaz et al., 2013; Seçer, 2018; Karagoz, 2019). The results are similar to those in the study of Nikčević & Spada, (2020).

In the Turkish literature, two scales measuring COVID-19 anxiety (Biçer et al., 2020; Akkuzu et al., 2020) and fear (Bakioglu et al., 2020) were encountered. For the predictive validity of the scale, correlation analysis was carried out between the mean total scores of the C-19ASS, FC-19S (Bakioglu et al., 2020) and the CAS (Bicer et al., 2020), and a statistically significant positive correlation was revealed (p<0.01). Accordingly, it is widely supported that as COVID-19 anxiety

and fear increase, the COVID-19 anxiety syndrome also increases, and the predictive validity of the scale is provided.

To calculate the reliability of the scale, Cronbach's alpha reliability coefficient and the test-retest method were used. The reliability coefficient of the measurement tool is desired to be as close to 1.0 as possible. A Cronbach's alpha coefficient between 0.80 and 1.00 is thought to indicate a highly reliable scale (Alpar, 2012; Secer, 2018). In the literature, mostly Cronbach's alpha coefficient is used to test the reliability of a scale, and it is suggested to pay attention to values higher than 0.7 (Alpar, 2012). In this study, Cronbach's alpha values of the subscales Factor 1 and Factor 2 and the overall scale were calculated as 0.736, 0.745, and 0.817, respectively. In the study performed by Nikčević & Spada, (2020), Cronbach's alpha values vary between 0.77 and 0.86. In other studies, the values were found as 0.85 and 0.83 for the overall scale (Nikčević et al., 2021; Oducado et al., 2021). These values were shown as 0.79 in the study of Akkuzu et al., (2020) and 0.83 in the study of Bicer et al., (2020). Compared to other studies, this study has similar results, indicating that the scale is highly reliable.

Another reliability method used the most frequently is test-retest analysis. With testretest analysis, the scale's consistency in repetitive applications and time invariance are examined (Karakoc & Donmez, 2014). The absence of a statistically significant difference between the two measurements in the comparison of the mean scores received from both applications shows that results are timeinvariant, similar, and reliable. To this end, the time interval between two measurements should be between two-three and four-six weeks (Esin 2014). In this study, the scale was applied to 41 individuals at an interval of two weeks, in line with the literature. A high fit is observed between the retest and the first test (ICC=0.816) (Secer 2018).

Conclusion and Recommendations: According to the validity and reliability analysis results of the scale's Turkish adaptation, it can be used as a valid and reliable measurement tool to measure the anxiety syndrome in individuals aged 18 years and over. The scale can be used by researchers in studies on this subject, as well as by healthcare professionals in the relevant field.

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