Development of the COVID-19 Stigma Perception Scale

COVID-19 Damgalanma Algısı Ölçeğinin Geliştirilmesi

Elif KANT
Ataturk University, Faculty of Nursing, Department of Nursing Fundamentals, Erzurum, Türkiye
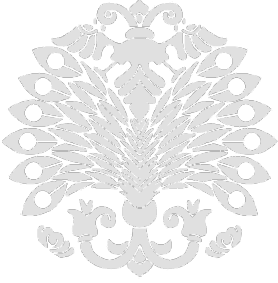
Reva BALCI AKPINAR
Ataturk University, Faculty of Nursing, Department of Nursing Fundamentals, Erzurum, Türkiye

Gülay İPEK ÇOBAN
Ataturk University, Faculty of Nursing, Department of Nursing Fundamentals, Erzurum, Türkiye

ABSTRACT

Objective: The aim of this study is to develop a valid and reliable measurement tool to be used to determine the stigma perception experienced by individuals with COVID-19 during the disease process.

Methods: The study was conducted in the methodological research type. The data of the study were collected with the draft COVID-19 Stigma Perception Scale developed by the researchers between March and June 2021. The study included 316 individuals who had COVID-19 disease.

Results: Explanatory and Confirmatory factor analysis was used to evaluate the scale's factor structure, yielding a 3-dimensional structure that explained 47.76 per cent of the overall variation. The compatibility values of the scale were found as X^2/sd =2.17, RMSEA= .060, SRMR=.05, NFI =.80, CFI = .90, GFI =.85, AGFI= .80 and TLI = .90. Internal consistency, two-half reliability analyses, and item analyses were conducted to be able to determine the reliability of the scale, as a result of which adequacy was attained for the reliability of the scale.

Conclusion: As a result of this research, it has been determined that and 37-item scale developed to evaluate the perception of COVID-19 stigma is both a valid and reliable measurement tool. This scale should be tested and used for different languages and cultures.

Keywords: Covid-19, stigma, scale development, factor analysis

ÖZ

Amaç: Bu çalışmanın amacı, COVID-19'lu bireylerin hastalık sürecinde yaşadıkları damgalanma algısını belirlemek için kullanılabilecek geçerli ve güvenilir bir ölçüm aracı geliştirmektir.

Yöntem: Araştırma metodolojik araştırma türünde yürütülmüştür. Araştırmanın verileri araştırmacılar tarafından Mart-Haziran 2021 tarihleri arasında geliştirilen taslak COVID-19 Damgalanma Algısı Ölçeği ile toplanmıştır. Çalışmaya COVID-19 hastalığını geçirmiş 316 birey dahil edilmiştir.

Bulgular: Ölçeğin faktör yapısını değerlendirmek için açıklayıcı ve doğrulayıcı faktör analizi kullanılarak toplam varyasyonun yüzde 47,76'sını açıklayan 3 boyutlu bir yapı elde edilmiştir. Ölçeğin uyum indeks değerleri X^2/sd =2,17, RMSEA= .060, SRMR=.05, NFI =.80, CFI = .90, GFI =.85, AGFI= .80 ve TLI = .90 olarak bulunmuştur. Ölçeğin güvenirliğini belirlemek amacıyla iç tutarlılık, iki yarı güvenirlik analizleri ve madde analizleri yapılmış ve bunun sonucunda ölçeğin güvenirliği açısından yeterliliğe ulaşılmıştır.

Sonuç: Bu araştırma sonucunda, COVID-19 damgalanma algısını değerlendirmek amacıyla geliştirilen 37 maddelik bu ölçeğin hem geçerli hem de güvenilir bir ölçme aracı olduğu tespit edilmiştir. Bu ölçeğin farklı dil ve kültürler için test edilmesi ve kullanılması gerekmektedir.

Anahtar Kelimeler: COVID-19, damgalanma, ölçek geliştirme, faktör analizi

Introduction

The COVID-19 epidemic, which was first reported in Wuhan, China in December 2019, spread rapidly and was declared a pandemic by the World Health Organization, is still in effect even though it was initially controlled by isolation measures and later by vaccination (WHO, 2022). With the reporting of the first case, people entered a period full of uncertainties and this situation led to including stigma, mental problems and psychological reactions (Shah et al., 2021; Stuijfzand et al., 2020).

Stigmatization is described as "unfair treatment of a person or group because of a distinct attribute they possess" (Abioye et al., 2011). Stigma may involve negative, abusive, aggressive, demeaning, and discriminating attitudes toward a person or group suffering from a disease. Individuals diagnosed with contagious diseases and their families, healthcare professionals, healthcare institutions, certain countries or races, certain regions or neighbourhoods, and those returning from overseas are particularly vulnerable to this type of stigma (Shigemura et al., 2020). When stigmatization is evaluated in terms of individuals who are stigmatized, it becomes clear that stigmatization can lead to deterioration of the social relations of these individuals with society besides social isolation, decreased social support, lower self-esteem, stress, anxiety, feelings of shame and guilt, inadequacy, pessimism, hopelessness, helplessness and social exclusion. Sometimes a person with a contagious disease may feel stigmatized despite the fact that there is no obvious reason for the stigma. Another important consequence of stigma is that it prevents the from seeking treatment and participating in treatment by concealing their disease. (Corrigan et al.,2014; Kadıoglu & Hotun, 2015; Oran & Şenuzun, 2008). It is known that many people with the epidemic are afraid to even get tested due to these situations, continue their lives by risking both their own health and the health of others. Stigma psychology also causes anger in the person towards society. For this very reason, some infected individuals who wish to take revenge on society for ignoring their feelings and identities may engage in the behaviour of infecting others intentionally and deliberately. In fact, similar stigmatization outcomes have been observed in the past. Past epidemics not only have killed people on a massive scale by physically affecting them, but they have also impacted the relationships between people and groups within society throughout their reign and rocked the relationship between the rulers and the ruled. Furthermore, it has generated a host of familial, societal, and economic consequences, thus resulting in a long-term and serious public health problem (Artvinli, 2020). Today, during the Covid-19 pandemic,

people indifferent countries have been subjected to discrimination based on race, ethnicity, gender, religion, socio-economic class or age. (Chung & Li, 2020). All of this suggests that future epidemics or other public health emergencies could amplify this negative effect enormously. Many nations have developed new scales based on the scales available (HIV, SARS, EBOLA, and Tuberculosis) to be able to determine not only the stigma perception of COVID-19 patients but also that of health care personnel (Al Houri et al., 2022; Elgohari et al., 2021; Juniarti et al., 2023; Nochaiwong et al., 2021; Pallavi, et al., 2023; Wilandika, et al., 2023). So far, only two studies have been conducted in Türkiye to investigate the stigma perception of healthcare workers. (Bana, 2020; Teksin et al., 2020). No valid and reliable measurement tool has been developed in Türkiye that can measure the stigma perception of COVID-19 sufferers. The present study was designed and conducted to fill this gap.

Method

Type of Research: This study was carried out using a methodological research approach.

Location and Time of the Study: The present study data were collected in Türkiye between March and June 2021.

Research Sample: Individuals who had COVID-19 last one year and met the inclusion criteria were included in the study. The sample size was calculated using the criterion of being 5-10 times larger than the number of scale items suggested for methodological investigations (Bryman& Cramer, 2001). The number of items in the scale was reduced to 45 items as a result of expert opinions and statistical analysis. Appropriate sample size was achieved by applying the scale to 7 times the number of items (n=316).

Inclusion Criteria for the Research: Individuals who had COVID-19 in the last year, between the ages of 18-65, using the WhatsApp application, speaking Turkish and answering all the questions given in the item pool, were included in this study.

Instruments for Data Collection: An online questionnaire created with Google Forms was used to collect study data. The form was divided into two parts, the first of which included questions regarding the participants' characteristics information. In the second part, questions about the draft COVID-19 stigma perception scale were included.

Participants Characteristics Form: Participants Characteristics Form was developed by the researchers. In this form, questions such as "age, gender, **marital status,** education level, income status, when the disease was transmitted, hospitalization status, length of hospital stay,

quarantine period" were included in this form.

The Draft of the COVID-19 Stigma Perception Scale: The item pool of the draft scale was created by the researchers using the stigma perception scales in the literature (Cassiani-Miranda et al., 2020; Cenat et al., 2021; Dar et al., 2020; Duy et al., 2020; Dye et al.,2020; Imran et al., 2020). The draft scale items with 85 statements were graded as strongly disagree (1 point), disagree (2 points), undecided (3 points), agree (4 points), and strongly agree (5 points). The scale's elements were all coded straight, and the theoretical cut-off point was determined to be 75 and above [(The highest score that can be obtained from the scale + The lowest score that can be obtained from the scale /2)+1] (Şeker & Gençdoğan, 2020). The stronger the perception of COVID-19 stigma, the higher the scale score.

Data Forms Application: Using the snowball sampling method, the link to the online survey form developed using Google forms was forwarded to the individuals with a COVID-19 history through WhatsApp. The questionnaire was supposed to take about 15 minutes to complete.

Data Evaluation: In the analysis of the data collected within the scope of the study, 11 different statistical analyses were applied, all of which were conducted using the SPSS for Windows 22.00 statistical package program. The confirmatory factor analysis was performed with the AMOS 20 package program. The analyses in issue were Cronbach Alpha coefficient, Correlation Analysis, Student t-Test, KMO (Kaiser-Meyer Olkin), Sample Adequacy analysis, Barlett's Sample Size Test, Explanatory Fact Analysis, Principal Component, Varimax Vertical Rotation, Scree Plot test, Kolmogorov-Smirnov test, and Confirmatory factor analysis.

Ethical Principles of the Research: Participants were first presented with a short paragraph explaining the purpose of the research. This paragraph also made it clear that information will be kept confidential and participation in the study is entirely optional. Ethical approval was obtained from Atatürk University Faculty of Nursing Ethics Committee (No: 5/7 and dated 18.09.2020), and study permission was obtained from the Ministry of Health of the Republic of Türkiye (No: …-2020-09-14T14_46_37).

Results

31.6% of those surveyed were between the ages of 18 and 25, 63.0% were women, 52.8% were married, 61.1% were university graduates, 59.8% had a middle income, and 34.5% were infected with COVID-19 between October, November, December 2020, 92.1% were not hospitalized, 48.0 % were treated as inpatients for 5 to 10 days, and 41.5% were kept in quarantine for 5 to 10 days (Table 1).

Table 1.
Participants Characteristics of the Samples (n=316)

		n	%
Age	18-25 years old	100	31.6
	26-35 years old	91	28.8
	36-45 years old	77	24.4
	46-55 years old	32	10.1
	56-65 years old	16	5.1
	Min-Max	18-65	
	$\overline{X}$ ±SD	33.22±11.34	
Gender	Female	199	63.0
	Male	117	37.0
Marital status	Married	167	52.8
	Single	149	47.2
Educational status	Primary Education	12	3.7
	Secondary Education	46	14.6
	Undergraduate	193	61.1
	Graduate	65	20.6
Income status	Good	111	35.1
	Average	189	59.8
	Bad	16	5.1
When he was caught with the disease	2020-April-May-June	20	6.3
	2020-July-August-September	79	25.0
	2020-October-November December	109	34.5
	2021-January-February-March	41	13.0
	2021-April-May-June	67	21.2
Hospitalization status	Yes	25	7.9
	No	291	92.1
How many days was he hospitalized?	5-10 days	12	48.0
	11-15 days	7	28.0
	16-20 days	3	12.0
	Other-21 days and above	3	12.0
How many days was he in quarantine at home?	5-10 days	131	41.5
	11-15 days	118	37.3
	16-20 days	55	17.4
	Other-21 days and above	12	3.8

Content validity

The item pool of the COVID-19 stigma perception scale was developed by researching relevant literature constructing an item pool of 85 items (Cassiani-Miranda et al., 2020; Cenat et al., 2021; Dar et al., 2020; Duy et al., 2020; Dye et al.,2020; Imran et al., 2020). Following the construction of this pool, opinions were solicited from 17 academician experts in their fields to assess whether the initial form of the scale was appropriate. In response to the feedback

received, certain statements on the scale were amended, resulting in the removal of 15 items from the scale. Then, the content validity of the scale was evaluated. The KGO criterion for 17 experts was stated as 0.529 (Yesilyurt & Capraz, 2018). Since the KGO value of 25 items in the scale was lower than 0.529, 25 items were removed from the scale in this way. After these items were removed, the KGI (Content Validity Index) was calculated from the average of their KGO and was found to be 0.73. It was observed that the content validity of the 45-item structure created in this direction became statistically significant.

Internal Consistency

The Cronbach Alpha coefficient was evaluated as an indicator of the internal consistency and homogeneity of the COVID-19 Stigma Perception Scale and found to be 0.929. This investigation resulted in the removal of 8 items from the scale. The correlations between items and totals varied from 0.72 to 0.36.

Construct validity

Exploratory factor analysis

While the Kaiser-Meyer-Olkin (KMO) test was used in the exploratory factor analysis to determine whether the data collected from the study group was suitable for factor analysis, the Bartlett test was used to determine whether the relationships between the variables to be analysed were significant or not and whether they were different from zero. In this study, the KMO value was found to be 0.993, while the Bartlett test X^2 value was found to be 6069.257, sd: 666 (p = .000< .05). The COVID-19 Stigma Perception Scale, which has 37 items, was subjected to exploratory factor analysis using the principal components method and the varimax transformation. The factor analysis revealed a 7-factor structure with an eigenvalue greater than 1.00, accounting for 70% of the overall variance. When this seven-factor structure was further analysed, it was discovered that there were two factors, each consisting of two items. It was concluded that this structure was inadequate. Therefore, we used the Scree Plot test, which is generally suggested in such instances, to choose the factors up to the first sudden change in the number of factors and the slope of the graph curve (Figure 1).
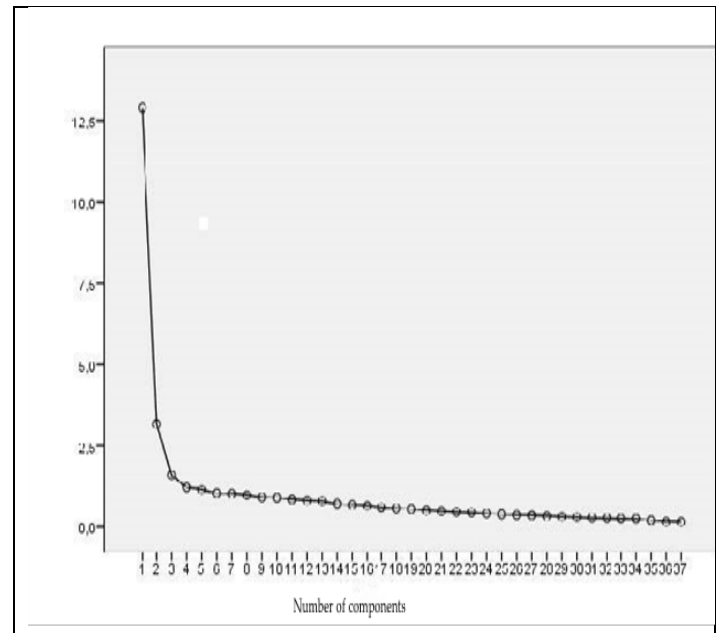

Figure1. Scree Plot Test

According to the graph obtained as a result of the Scree Plot test, the first sudden change in the eigenvalue was that of the third factor after the first one. The COVID-19 Stigma Perception Scale, which consists of 37 items, was divided into three factors based on the findings of the Scree Plot test. The Principal Components Method and Varimax Transformation were then used again as the explanatory factor analysis. Analysis of the table revealed that the 3-factor structure with an eigenvalue greater than 1.00 accounting for 47.76 of the total variances was confirmed thanks to the factor analysis of the COVID-19 Stigma Perception Scale with 37 items. Table 2 lists the factors to which the components belong.

It was determined that the COVID-19 Stigma Perception Scale has a three-factor structure. The first factor was called "Stigma Avoidance Behaviours Displaying Dimension", the second factor was called "Blame Behaviours Dimension" and the third factor was called "Self-Exclusion Dimension" (Table 2).

Table 2.			
Distribution of the Items on the COVID-19 Stigma Perception Scale by Factor	1	2	3
Stigma Avoidance Behaviours Displaying Dimension			
Item 12. Although I needed care, I avoided going to the hospital due to the negative thoughts of others.	.610		
Item 13. I did not let anyone know about my disease to avoid their reactions.	.533		
Item 14. The fact that my house was visited by COVID-19 filiation teams made me feel uncomfortable.	.573		
Item 25. The fact that COVID-19 sufferers were being watched by the officials was rather disturbing.	.469		
Item 27. I hid my illness because I was ashamed of the possibility of infecting others.	.733		
Item 29. I didn't let anyone know about my disease fearing that they would say "You have COVID-19," so I spent the whole time at home.	.808		
Item 31. Those whom I care about constantly phoned me when they learned that I had COVID-19.	.578		
Item 32. I'm afraid of being called a COVID patient forever.	.662		
Item 34. I did not undergo a test for COVID-19 when I displayed its symptoms, fearing that I would be excluded.	.748		
Item 36. Health-care workers treated me as if I had not been responsible enough to protect against the disease.	.498		
Item 39. It was unnecessary for anyone other than my family to know that I had COVID-19.	.589		
Item 40. It was a better approach to conceal the disease in order not to be stigmatized.	.755		
Item 43. Despite knowing that I had COVID-19, I carried on with my normal life in order not to be rejected.	.746		
Item 44. It is perfectly normal for people to avoid me during my disease.	.670		
Blame Behaviours Dimension			
Item 3. Nobody wants to be in the same environment as me because I have COVID-19.		.468	
Item 4. My relatives judged me for spreading the disease to others.		.595	
Item 5. My social relationships have deteriorated due to the disease.		.630	
Item 6. Even those closest to me cut off their relationships with me because of the disease.		.622	
Item 7. I was exposed to insulting remarks because I was carrying the COVID virus.		.551	
Item 8. I was humiliated as a COVID suspect.		.633	
Item 9. People kept avoiding avoided me even after my quarantine period was over.		.672	
Item 10. People thought I contracted the disease because I had not taken the necessary precautions.		.353	
Item 11. I was verbally attacked because I had spread the disease.		.668	
Item 16. I was reluctant to go out in public even after the quarantine for ashamed of being labelled a COVID-sufferer.		.497	
Item 17. I began to feel lonely as a result of the discriminatory attitudes displayed by other people.		.499	
Item 19. Bad comments about me had a negative influence on my mental health.		.514	
Item 21. The attitudes of people who learned that I had COVID-19 were to breaker		.532	
Item 24. I noticed that those around me were avoiding me even after I had fully recovered.		.602	
Self-Exclusion Dimension			
Item 15. I regarded myself as a harmful person throughout the process.			.426
Item 20. The mention of my name as COVID patient made me very disturbed			.551
Item 22. I felt guilty thinking that I had spread the disease to my family and those around me.			.535
Item 23. I was disturbed by the fact that where I lived was referred to as a quarantine zone.			.558
Item 28. I was afraid that my afflicted relatives would accuse me of spreading it.			.505
Item 33. I felt terrible when I saw the medical workers approaching me wearing a mask, gloves, and an apron.			.368
Item 35. I felt compelled to inform everyone with whom I came into contact after the quarantine that I was no longer infected.			.570
Item 42. I was sensitive about who I would tell about my disease in order not to alarm people.			.481
Item 45. The talk of COVID-19 subject started to bother me greatly after I had made a recovery.			.441
The variance explained %	20.538	16.551	10.669
The total of the variances explabined %	20.538	37.089	47.76

Table 3.
Correlation Matrix for the COVID-19 Stigma Perception Scale and Its Subscales

	1	2	3	4
1.Stigma Avoidance Behaviours Displaying Dimension	1			
2.Blame Behaviours Dimension	.631**	1		
3 Self-Exclusion Dimension	.519**	.704**	1	
4-Total score of the COVID-19 Stigma Perception Scale	.816**	.920**	.851**	1
Arithmetic average	19.97	23.79	18.51	62.27
Standard deviation	5.94	7.78	6.00	17.11
Cronbach's Alpha coefficient	.910	.882	.760	.929
Number of items	14	14	9	37
Range	22.00	32.00	27.00	74.00
(**) p<0.001				

The correlation values of the COVID-19 Stigma Perception Scale with the subscales are presented in Table 3. The results reveal that the COVID-19 Stigma Perception Scale has a three-factor structure and that it can be used to measure the COVID-19 stigma perceptions of people with a COVID-19 background (Table 3).

Table 4.
Two-half Reliability Values of the COVID-19 Stigma Perception Scale

Cronbach's Alpha	First half	Value	.895
		Number of items	19ᵃ
	Second half	Value	.852
		Number of items	18ᵇ
		Total number of items	37
Correlation between the two halves			.774
Spearman-Brown coefficient	Equal length		.873
	Unequal length		.873
Guttman Split-Half coefficient			.860
a.The items are: S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S13, S14, S15, S16, S17, S19, S20, S21, S22.			
b.The items are: S22, S23, S24, S25, S27, S28, S29, S31, S32, S33, S34, S35, S36, S39, S40, S42, S43, S44, S45.			

The split half-reliability values for the internal consistency of the COVID-19 Stigma Perception Scale were all high, as presented in Table 4.

Table 5.
Item-Total Score Correlation of COVID-19 Stigma Perception Scale

Scale items	r	p	Scale items	r	p
Item 3	.409**	.000	Item 23	.610**	.000
Item 4	.561**	.000	Item 24	.663**	.000
Item 5	.613**	.000	Item 25	.618**	.000
Item 6	.660**	.000	Item 27	.576**	.000
Item 7	.640**	.000	Item 28	.518**	.000
Item 8	.670**	.000	Item 29	.595**	.000
Item 9	.562**	.000	Item 31	.420**	.000
Item 10	.456**	.000	Item 32	.720**	.000
Item 11	.667**	.000	Item 33	.423**	.000
Item 12	.707**	.000	Item 34	.606**	.000
Item 13	.605**	.000	Item 35	.483**	.000
Item 14	.622**	.000	Item 36	.574**	.000
Item 15	.487**	.000	Item 39	.479**	.000
Item 16	.647**	.000	Item 40	.605**	.000
Item 17	.717**	.000	Item 42	.360**	.000
Item 19	.668**	.000	Item 43	.501**	.000
Item 20	.653**	.000	Item 44	.397**	.000
Item 21	.656**	.000	Item 45	.541**	.000
Item 22	.494**	.000			
** P<0.001					

When the table is examined, all Item-Total score correlations of the items of the Covid-19 Stigma Perception Scale were found to be significant at the p<0.01 significance level (Table 5).

Confirmatory factor analysis (CFA)

Confirmatory factor analysis (CFA) was used to test the compatibility of the 3-factor and 37-item model developed from the exploratory factor analysis (EFA), the results of which are presented in Figure 2.

As shown in Figure 2, the compatibility indices of the COVID-19 Stigma Perception Scale are significant. The compatibility values of the model were calculated as $X^2/sd =2.17$, RMSEA= .060, SRMR=.05, NFI =.80, CFI = .90, GFI =.85, AGFI= .80 and TLI = .90.
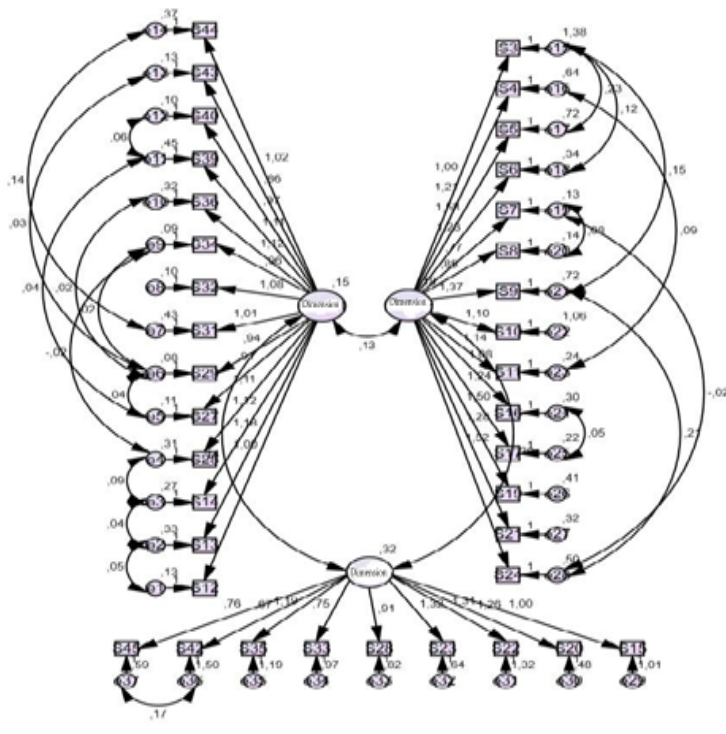
Figure 2. CFA Graph

Discussion

Stigma is a serious public health issue that has a negative impact on the emotional, mental, and physical health of those who are discriminated against, as well as the community in which they live, and can occasionally be as dangerous as the disease itself. Many societies stigmatize or label diseases with stigmas to varying degrees within the framework of their own prejudices. Therefore, it is vital to assess the stigmas and their consequences in relation to the characteristics of the society in which they emerge. No measurement tool with validity and reliability for the stigma perception of individuals with a COVID-19 history has been established in Türkiye. The present study, therefore, aims to close this gap by constructing a valid and reliable stigma perception scale for those with a COVID-19 history.

When using factor analysis to collect data, there are various criteria to consider, the first of which is sample size. This is a critical criterion for determining the generalizability and stability of factor analysis results. For reliable factor results, a ratio of ten observations per variable (1:10) is recommended. In factor analysis, 50 is regarded as very poor, 100 poor, 200 moderate, 300 good, 500 very good, and 1000 excellent for sufficient sample size (Çokluk et al., 2010). Furthermore, in order to generalize the results of factor analysis, the rate of observation per variable should be at the suggested ratios of 1:10 or 1:20 (Seçer, 2018). In this study, it was discovered that 316 individuals divided by 37 items equals 8.54 (316 people / 37 items = 8.54). This

finding indicates that the sample size is compatible with the generalizability of the results.

KMO value takes a value between 0 and 1. This value approaching one indicates that the factor structure is more reliable. In this study, the KMO value was found to be 0.993. KMO value, which can take values between 0 and 1; Between 0.5 and 0.7 is interpreted as normal, between 0.7 and 0.8 as good, between 0.8 and 0.9 as very good, and above 0.9 as excellent. (Field, 2005). This finding shows that the sample size is appropriate for factor analysis. As a result of the Bartlett Sphericity test, the fact that the Chi-square value is significant at the $p<0.05$ significance level is interpreted as the sample size being good for factor analysis and the correlation matrix being appropriate. (Field, 2005; Buyukozturk, 2002)

The EFA was performed to determine the factor structure of the scale, and a 3-dimensional structure was obtained that explained 47.76 % of the total variance. While Kline claimed that the rate of variance explained in scale development and adaptation studies should be at least 40%, Henson and Roberts indicated that this rate should be at least 52% and above. (Kline, 2011; Henson & Roberts, 2006). Given that factor loads of 0.30 and above are regarded as acceptable in factor analysis (Buyukozturk, 2002). The factor load of all the items available on the scale is greater than 0.30. The number of iterations was five 5. Taking these into consideration, it can be stated that the value obtained as a result of the exploratory factor analysis throughout the research phase is adequate to determine the factor structure of the scale.

CFA was used to test the model compatibility of the factor structure derived from EFA, the result of which revealed that the model compatibility indices were sufficient (X^2/sd =2.17, RMSEA = .060, SRMR = .05, NFI = .80, CFI = .90, GFI = .85, AGFI = .80, and TLI = .90). On the whole, the model appears to have achieved the expected degree of compatibility values (Bayram, 2010). In line with the literature and theoretical views on the 3-factor structure that was obtained following the determination of the model compatibility of the COVID-19 Perception (Stigma) Scale, these factors were named "Stigma Avoidance Behaviours Displaying Dimension", "Blame Behaviours Dimension", and "Self-Exclusion Dimension" in line with the literature and theoretical views.

The split-half method is employed together with the Cronbach alpha coefficient to assess the internal consistency of the scale that has been developed, following which Guttman and Spearman-Brown reliability coefficients are determined. The scale was split into two halves considering the COVID-19 Perception Stigma Scale's internal consistency reliability coefficients, as a consequence of

which all the consistency values were found high for both halves. In scale development and adaptation studies, the reliability value is generally expected to be .70 and above in order for the scales to be considered reliable (Karagoz, 2014). Besides, the item analysis method was used to test the internal consistency of this scale. The correlation coefficient between each of the items on a newly developed scale and the total value is expected to be high. The lowest value that can be an indicator of the consistency of an item with the entire test is given as 0.30 (Terwee et al., 2007). Accordingly, this study the correlation values found are above the acceptable level for item analysis. Likewise, item total and item remaining correlation results are predicted to be statistically significant. According to Table 5, all the Item-Total score correlations of the items available on the COVID-19 Stigma Perception Scale were of statistical significance ($p< .01$).

The findings of this study are consistent with the findings of previous studies (Al Houri et al., 2022; Elgohari et al., 2021; Juniarti et al., 2023; Nochaiwong et al., 2021; Pallavi, et al., 2023; Wilandika, et al., 2023).

Limitations of the study: The present study was unable to undertake a preliminary pilot investigation.

Conclusion and Recommendations

As a result of this research, it has been determined that this Turkish and 37-item scale developed to evaluate the perception of COVID-19 stigma is both a valid and reliable measurement tool. This scale should be tested and used for different languages and cultures.

References

Abioye, I.A., Omotayo, M.O., & Alakija, W, (2011). Socio-demographic determinants of stigma among patients with pulmonary tuberculosis in Lagos, Nigeria. *African Health Science*, 11(1), 100-104. doi:10.4314/ahs.v11i3.70078

Al Houri, H. N., Alhouri, A., Akasheh, R. T., Jovanovic, C. E., Al-Tarcheh, H., Arrouk, D. M. N., ... & Latifeh, Y. (2022). The development and validation of a novel COVID-19 stigma scale among healthcare workers (COVISS-HCWs). *BMC Health Services Research*, 22(1), 1481. https://doi.org/10.1186/s12913-022-08911-5

Artvinli, F. (2020). History of epidemics. A brief overview of the social and political aspects. Turkish Medical Association. COVID-19 pandemic 6th-month evaluation report.https://www.ttb.org.tr/kutuphane/covid19-rapor_6/covid19rapor_6_Part9.pdf

Bana, P.E. (2020). Evaluation of the social implication perception of healthcare employees in the COVID-19 outbreak process. *Press Academia Procedia*, 11(23), 115-119.

Bayram, N. (2010). Introduction to structural equation modelling: AMOS applications. Bursa: Ezgi Bookstore.

Bryman, A., & Cramer, D. (2001). Quantitative data analysis with SPSS release 10 for London: Routledge.

Buyukozturk, Ş. (2002). Data analysis handbook for the social sciences. Ankara: Pegema Publishing.

Cassiani-Miranda, A.C., Campo-Arias, A., Tirado-Otalvaro, A.F., Luz Adriana Botero, T. & Scoppetta, O. (2020). Stigmatization associated with COVID-19 in the general Colombian population. *International Journal of Social Psychiatry*, 8, 1-9. doi:10.1177%2F0020764020972445

Cenat, M.J., Noorishad, G.P., Kokou-Kpolou, K.C., Dalexis, D.R., Hajizadeh, S., Guerrier, M... Rousseau, C. (2021). Prevalence and correlates of depression during the COVID-19 pandemic and the major role of stigmatization in low and middle-income countries: A multinational cross-sectional study. *Psychiatry Research,* 297, 113714. doi:10.1016/j.psychres.2021.113714

Chung, R.Y.N., & Li, M.M. (2020). Anti-Chinese Sentiment during the 2019-nCoV outbreak. *Lancet*, 395(10225), 686-687. doi:10.1016/S0140-6736(20)30358-5.

Corrigan, P.W., Druss, B.G., & Perlick, D.A. (2014). The impact of mental illness stigma on seeking and participating in mental health care. *Psychological Science in the Public Interest*, 15(2), 37-70. doi:10.1177%2F1529100614531398

Çokluk, Ö., Sekercioglu, G., & Buyukozturk, Ş. (2010). SPSS and LISREL applications for multivariate statistics for social sciences. Ankara: Pegem Academy.

Dar, S.A., Khurshid, S.Q., Wani, Z.A., Knaham, A., Haq, I., Shah, N.N… Mustafa, H. (2020). Stigma in coronavirus disease-19 survivors in Kashmir, India: A cross-sectional exploratory study. *Plos One*, 15(20), 13. doi: 10.1371/journal.pone.0240152

Duy, C.D., Nong, V.M., Van, A.N., Thu, T.D., Thu, N.D., & Quhang, T.N. (2020). COVID-19-related stigma and its association with the mental health of healthcare workers after quarantine in Vietnam. *Psychiatry and Clinical Neurosciences*, 74, 550–573. doi:10.1111%2Fpcn.13120

Dye, D.T., Alcantara, L., Siddigi, G., Barbosu, M., Sharma, S., Panko, T… Pressman, E. (2020). Risk of COVID-19-related bullying, harassment and stigma among healthcare workers: an analytical cross-sectional global study. *BJM Journals*, 10(12), 15. doi:10.1136/bmjopen-2020-046620

Elgohari, H. M., Bassiony, M. M., Sehlo, M. G., Youssef, U. M., Ali, H. M., Shahin, I., … & Mahdy, R. S. (2021). COVID-19 Infection stigma scale: psychometric properties. *The Egyptian Journal of Neurology, Psychiatry and Neurosurgery*, 57(1), 61. doi: 10.1186/s41983-021-00317-0

Field, A. (2005). Discovering statistics using SPSS. London: Sage Publishing.

Henson, R.K., & Roberts, J.K. (2006). Use of exploratory factor analysis in published research. *Educational and Psychological Measurement*, 66, 393- 416. doi:10.1177%2F0013164405282485

Imran, N., Afzal, H., Aamer, I., Hashmi, A., Shabbir, B., Asif, A… Farooq, S. (2020). Scarlett Letter: A study based on the experience of stigma by COVID-19 patients in quarantine. *Pakistan Journal of Medical Sciences,* 36(7), 1471-1477. doi:10.12669%2Fpjms.36.7.3606

Juniarti, N., Susanti, R. D., Yani, D. I., & Nurhasanah, N. (2023). Psychometric development and evaluation of a COVID-19 social stigma scale in Indonesia. *Plos One*, 18(4), e0283870. doi: 10.1371/journal.pone.0283870

Kadıoglu, M., & Hotun, Ş.N. (2015). Stigmatization and women. *Health and Society*, 25(3), 3-9.

Karagoz, Y. (2014). SPSS 21.1 applied biostatistics for medicine, pharmacy, dentistry, and health sciences. Ankara: Nobel Akademi Publishing.

Kline, B.P. (2011). An easy guide to factor analysis. New York: The Guildford Press.

Nochaiwong, S., Ruengorn, C., Awiphan, R., Kanjanarat, P., Ruanta, Y., Phosuya, C., … & Wongpakaran, T. (2021). COVID-19 public stigma scale (COVID-PSS): development, validation, psychometric analysis and interpretation. *BMJ Open*, 11(11), e048241. doi: 10.1136/bmjopen-2020-048241

Oran, N.T., & Şenuzun, F. (2008). A chain that needs to be broken in society: HIV/AIDS stigma and coping strategies. *International Journal of Human Sciences*, 5(1), 1-16.

Pallavi, P., Bakhla, A. K., Akhouri, P. K., Kisku, R. R., & Bala, R. (2023). Stigma scale adaptation and validation for measuring COVID-19. *Stigma Cureus*, 15(5): e38744. doi: 10.7759/cureus.38744

Seçer, İ. (2018). Psychological test development and adaptation process SPSS and LISREL applications. Ankara: Memoir Publishing.

Shah, S.M.A., Mohammad, D., Qureshi, M.F.H., Abbas, M.Z., & Alem, S. (2021). Prevalence, psychological responses and associated correlates of depression, anxiety and stress in a global population, during the coronavirus disease (COVID-19) pandemic. *Community Mental Health Journal,* 57, 101–110. doi:10.1007/s10597-020-00728-y

Shigemura, J., Ursano, R.J., Morganstein, J.C., Kurosawa, M., & Benedek, D.M. (2020). Public responses to the novel 2019 coronavirus (2019-nCoV) in Japan: mental health consequences and target populations. *Psychiatry and Clinical Neurosciences,* 74(4), 281. doi:10.1111%2Fpcn.12988

Stuijfzand, S., Deforges, C., Sandoz, V., Sajin, C.T., & Jaques, C. (2020). Psychological impact of an epidemic/pandemic on the mental health of healthcare professionals: a rapid review. *BMC Public Health*, 20:1230. https://doi.org/10.1186/s12889-020-09322-z

Şeker, H., Gençdoğan, B. (2020). Developing measurement tools in psychology and education. Ankara: Nobel Academic Publishing.

Teksin, G., Uluyol, B.O., Onur, O.S., Teksin, M.G., Özdemir, & H.M. (2020). Stigma-related factors and their effects on healthcare workers during COVID-19 pandemics in Türkiye: A multicentre study. *The Medical Bulletin of Sisli Etfal Hospital*, 54(3), 281-290. doi:10.14744%2FSEMB.2020.02800

Terwee, C.B., Bot, S.D., de Boer, M.R., Windt, D.A., Knol, D.L., & Dekker, J. (2007). Quality criteria were proposed for measurement properties of health status questionnaires. *Journal of Clinical Epidemiology,* 60(1), 34–42. doi: 10.1016/j.jclinepi.2006.03.012

WHO (2022, November 30). Weekly epidemiological update on COVID-19. https://www.who.int/publications/m/item/weekly-

epidemiological-update-on covid-19---30-november-2022

Wilandika, A., Gartika, N., & Salami, S. (2023). Social stigma against individuals with COVID-19: scale development and validation. *Health Psychology and Behavioral Medicine*, 11(1), 2155166. https://doi.org/10.1080/21642850.2022.2155166

Yesilyurt, S., & Capraz, C. (2018). A road map for the content validity used in scale development studies. *Journal of Erzincan University Faculty of Education,* 20(1), 251-264. doi:10.17556/erziefd.297741.

Genişletilmiş Özet

İlk olarak Aralık 2019'da Çin'in Wuhan kentinde bildirilen ve hızla yayılan ve Dünya Sağlık Örgütü tarafından pandemi ilan edilen COVID-19 salgını, başlangıçta izolasyon önlemleriyle ve daha sonra aşılama ile kontrol altına alınmasına rağmen hala etkisini sürdürmektedir. İlk vakanın bildirilmesiyle birlikte insanlar belirsizliklerle dolu bir döneme girmiş ve bu durum damgalanma, ruhsal sorunlar ve psikolojik tepkileri de beraberinde getirmiştir.

Damgalama, "bir kişinin veya grubun sahip olduğu belirli bir özellik nedeniyle haksız muamele görmesi" olarak tanımlanmaktadır. Damgalama bazen belirli bir hastalığı yaşayan bir kişi veya gruba, olumsuz, kötüleyici, düşmanca, değersizleştirici ve ayrımcı tutumları içermektedir. Bulaşıcı hastalık tanısı alan kişiler ve aileleri, sağlık çalışanları, sağlık kurumları, belirli ülke veya ırklar, belirli bölge veya mahalleler ve yurt dışından dönenler bu tür damgalanmaya karşı özellikle savunmasızdır. Damgalama, damgalanan bireyler açısından ele alındığında, toplumla var olan sosyal ilişkilerin bozulmasına, sosyal izolasyona, sosyal desteğin azalmasına benlik değerinin ve benlik saygısının düşmesine, strese, anksiyeteye, utanma ve suçluluk duygusunun yaşanmasına, yetersizlik, karamsarlık, umutsuzluk, çaresizlik ve dışlanmışlık gibi düşüncelerin ortaya çıkmasına neden olmaktadır. Damgalanma algısının ortaya çıkardığı diğer önemli sonuç ise; kişilerin hastalığını gizleyerek tedavi arayışını ve tedaviye katılımını engellemesidir. Salgın hastalığa sahip birçok kişinin bu durumlar nedeni ile test dahi yaptırmaktan korktuğu, hem kendi sağlığını hem de başkalarının sağlığını riske atarak yaşamlarına devam ettiği bilinmektedir. Damgalanma psikolojisi aynı zamanda kişide topluma karşı öfkeye de neden olmaktadır. Bu öfke nedeni ile bazı insanlar bunu kendilerine yapan, duygularını ve kimliğini hiçe sayan topluma karşı intikam arzusu ile bilerek ve isteyerek dahi bulaştırma davranışı içine girebilmektedirler. Geçmişteki salgın hastalıklar insanları fiziksel olarak etkileyerek büyük çapta öldürmekle kalmamış, aynı zamanda hükümdarlıkları boyunca toplumdaki kişi ve gruplar arasındaki ilişkileri de etkilemiş ve yönetenlerle yönetilenler arasındaki ilişkileri sarsmıştır. Birçok ülke, yalnızca COVID-19 hastalarının değil, aynı zamanda sağlık personelinin de damgalanma algısını belirleyebilmek için mevcut ölçeklere (HIV, SARS, EBOLA ve Tüberküloz) dayalı yeni ölçekler geliştirmiştir.Şu ana kadar Türkiye'de sağlık çalışanlarının damgalanma algısını araştıran sadece iki çalışma yürütülmüştür. Türkiye'de COVID-19 hastalarının damgalama algısını ölçebilecek geçerli ve güvenilir bir ölçüm aracı geliştirilmemiştir. Çalışma bu boşluğu doldurmak için tasarlanmış ve yürütülmüştür.

Bu çalışma metodolojik araştırma türünde yapılmıştır. Araştırmanın evrenini Mart–Haziran 2021 tarihleri arasında COVID 19 hastalığını geçiren, örneklemini ise araştırma kriterlerine uyan çalışmaya katılmayı kabul eden bireyler oluşturmuştur. Örneklem büyüklüğü, metodolojik çalışmalar için önerilen ölçek madde sayısından 5-10 kat daha fazla olması şartına göre belirlenmiştir. Uzman görüşleri ve istatistiksel analizler neticesinde 45 maddeye indirilen ölçek, madde sayısının 7 katına (n=316) uygulanarak uygun örneklem büyüklüğüne ulaşılmıştır. Araştırmanın verileri google formlar üzerinden oluşturulan online anket formu ile toplanmıştır. Form 2 bölümden oluşmaktadır. Birinci bölümde katılımcıların sosyo-demografik özelliklerin sorgulandığı sorular, ikinci bölümde ise COVID 19 damgalanma algısı ölçeği soruları bulunmaktadır. Bu ölçek damgalanma algısı ölçeklerinden faydalanılarak ve araştırmacıların kendilerinin oluşturdukları 45 sorudan oluşan 5 likertli bir ölçektir. Ölçek maddeleri kesinlikle katılmıyorum (1 puan), katılmıyorum (2 puan), kararsızım (3 puan), katılıyorum (4 puan), kesinlikle katılıyorum (5 puan) olarak derecelendirilmiştir. Ölçekte bulunan bütün maddeler düz kodlanmış ve teorik kesme noktası 75 ve üzeri olarak hesaplanmıştır. Ölçekten alınacak puan arttıkça COVID 19 damgalanma algısı artmaktadır. Ölçeğin faktör yapısı Açıklayıcı ve Doğrulayıcı faktör analizi ile incelenmiş ve toplam varyansın 47.76'sını açıklayan 3 boyutlu bir yapı elde edilmiş ve bu yapının model uyumunun iyi düzeyde olduğu bulunmuştur. COVID 19 Damgalanma Algısı Ölçeğinin model uyumunun belirlenmesinden sonra elde edilen 3 faktörlü yapı ile ilgili litaratür ve kuramsal görüşler doğrultusunda Damgalanmaktan Kaçınma Davranışları Gösterme Boyutu, Suçlanma Davranışları Boyutu, Kendini Dışlama Boyutu şeklinde isimlendirilmiştir. Ölçeğin uyum indeks değerleri X^2/sd =2.17, RMSEA= .060, SRMR=.05, NFI =.80, CFI = .90, GFI =.85, AGFI= .80 ve TLI = .90 olarak bulunmuştur. Ölçeğin güvenirliğini belirlemek için iç tutarlılık, iki yarı güvenirlik analizleri ve madde analizleri yapılmış ve ölçeğin güvenirliğine karar vermek için yeterli değere ulaşılmıştır. COVID 19 Damgalanma Algısı Ölçeğinin iç tutarlığının ve homojenliğinin bir göstergesi olarak Cronbach Alfa katsayısına bakılmış ve .929 olarak bulunmuştur. Araştırma sonucunda, COVID-19 damgalanma algısını değerlendirmek amacıyla geliştirilen Türkçe ve 37 maddelik bu ölçeğin hem geçerli hem de güvenilir bir ölçme aracı olduğu tespit edilmiştir. Bu ölçeğin farklı dil ve kültürler için test edilmesi ve kullanılması önerilmektedir.