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Adaptation, Validity, and Reliability Study of the Generalized Anxiety Disorder Stigma Scale into Turkish

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ABSTRACT

Objectives: The aim of the study is to adapt the Generalized Anxiety Disorder Stigma Scale to Turkish and to determine its psychometric properties. This scale, which can be used for anyone showing generalized anxiety symptoms, has two sub-scale consisting of 9 statements (personal stigma and perceived stigma).

Method: After the translation, 659 participants were included in the study via convenience sampling. The demographic information form, the Generalized Anxiety Disorder Stigma Scale, the Internalized Stigma of Mental Illness Scale, and the Depression Anxiety Stress Scale-21 were presented to the participants as a questionnaire set.

Results: Cronbach's alpha coefficient, test-retest and item total correlation findings were obtained for reliability. Cronbach's alpha values of the scale were 0.78 for the personal stigma sub-scale and 0.87 for the perceived stigma sub-scale. In the analyses conducted for test-retest reliability, the findings showed that the Spearman correlation coefficients were 0.70 for the personal stigma sub-scale and 0.79 for the perceived stigma sub-scale. The results indicated that the scale possesses reliability. Confirmatory factor analysis was applied for validity. Similar to the original scale, it was observed that the factor loadings were clustered in two sub-dimensions, but it was decided to remove 2 items from the scale, making it a form consisting of 18 items in total.

Conclusion: As a result, the findings obtained show that the scale has reliable and valid psychometric properties. The scale can be used in both research and clinical applications to measure stigma specifically for generalized anxiety symptoms.

Keywords: Anxiety, Generalized Anxiety Disorder, Scale, Stigma

INTRODUCTION

Stigma is defined as the characterization of a person as flawed or worthless by the members of society because they fall outside the norms considered normal by the society they live in (Borinstein 1992). Stigma means that the label placed on the stigmatized person makes them less valued and less desirable. As a result, stigmatization can lead to individuals being separated from the norm, categorized as "other," and subjected to degrading and different treatment by those around them (Link & Phelan 2001). Stigmatization emphasizes the difference between individuals or groups and attributes negative characteristics to them (Borinstein 1992).

Stigma is understood to be categorized into different types and associated with different situations. For example, it has been stated that individuals may experience stigma due to certain innate characteristics (gender, skin color, etc.), sociocultural status (ethnicity, ideology, beliefs, attire, etc.), or physical and psychiatric health (being an amputee,

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schizophrenia, depression, eating disorders, etc.) problems (Özmen & Erdem 2018). It is noteworthy that individuals with psychiatric symptoms are among those most exposed to stigma (Lai et al. 2001).

It is believed that stigmatizing people who have psychiatric symptoms affects them in a number of ways. Additionally, stigmatization affects their capacity to get the right assistance, stick with their treatment, and fit in with society. According to research, stigmatization has a detrimental effect on patients' housing, work, and education (Ünal et al. 2010). Examining the studies, it is clear that individuals who exhibit anxiety symptoms must deal with stigmatization and issues in their social connections in addition to these symptoms (Curcio & Corboy 2020). In addition, Kuş-Saillard's (2010) study indicated that healthcare professionals may also stigmatize patients and demonstrated that psychiatrists hold differing views regarding the manner in which stigmatization is carried out. Moreover, it has been noted that stigmatizing is more prevalent among physicians who do not practice psychiatry.

The Diagnostic and Statistical Manual of Mental Disorders – Fifth Edition (DSM-5) defines Generalized Anxiety Disorder (GAD) as difficulty controlling groundless fear and excessive worry about many aspects of daily life. The persistence of these symptoms for at least 6 months is a key threshold for diagnosis (American Psychiatric Association [APA] 2013). This disorder is accompanied by symptoms such as being on edge for most of the day, easy fatigue, muscle tension, sleep disturbances, and an inability to focus (APA 2013). In addition to GAD, many individuals are also seen in the so-called sub-threshold group. The GAD pattern in these individuals is sometimes attributed to a personality trait. Furthermore, major depressive disorder, social phobia, and specific phobia were shown to be the most prevalent disorders in addition to GAD in a prevalence investigation on a nationwide sample (Özcan et al. 2006). Comorbidities and patient stigma can influence the course and treatment of the disease. Therefore, individuals with both GAD and generalized anxiety symptoms may be at risk of starting and continuing treatment due to their stigma levels.

The literature contains numerous studies on the stigma associated with psychiatric diseases (Mak, et al. 2007; Corrigan, et al. 2012; Eylem, et al. 2020). Additionally, it is recognized that there is a wide range of scales utilized for the stigma variable (Fox, et al. 2018). Although there are stigma scales specific to many issues such as schizophrenia, bipolar disorder, and weight gain/loss in the national and international literature (Ersoy & Varan 2007; Kamış, et al. 2019; Esin 2021), scales that show the stigma characteristics based on generalized anxiety are rarely encountered, even though generalized anxiety is a frequently seen psychiatric disorder. To our knowledge, no instrument has been identified in the Turkish language to evaluate the stigma related to generalized anxiety. Consequently, it was considered essential to translate the original English Generalized Anxiety Stigma Scale (GASS) into Turkish and do a study on its validity and reliability.

The GASS is a scale developed by Griffiths et al. (2011) that assesses stigma related to generalized anxiety in two dimensions. Both personal stigma and perceived stigma levels related to generalized anxiety symptoms were identified as dimensions of this scale (Griffiths et al. 2011). The scale begins with a short informational paragraph (vignette) that presents generalized anxiety symptoms as if they were a story about a person named Deniz (Nicole was used in the original version of the scale). Following this short narrative, the first section includes 10 statements measuring personal stigma, and the second section includes 10 statements measuring perceived stigma. Given that existing stigma scales provide information only at thestigma level, this scale's capacity to capture information across two dimensions offers researchers both substantial convenience and more comprehensive insights. Furthermore, this scale is applicable to any individual who is experiencing symptoms of generalized anxiety. In other words, it is applicable to individuals who exhibit these symptoms despite not meeting the diagnostic criteria for GAD. The information gathered from the scale regarding the stigmatizing characteristics of these individuals can be used to enhance treatment plans. The content of therapeutic interventions can be enhanced by stigma, particularly when resistance to psychotherapeutic interventions arises. Additionally, it is anticipated that a measure that exclusively evaluates stigma in relation to generalized anxiety will produce more accurate outcomes in this research area.

In the literature review, it was found that GASS was used in various articles and theses in English (Batterham et al. 2013; Calear et al. 2017; Nabors 2022; Landreville et al. 2023; Nabors et al. 2024). The aim of the current study was to adapt the "Generalized Anxiety Stigma Scale", designed to measure the level of stigma based on generalized anxiety, into Turkish and to determine its psychometric properties. In this regard, the absence of a scale that specifically measures the widespread anxiety-based stigma in the national literature underscores the necessity of such a tool. Adapting the GASS to Turkish and determining its psychometric properties to more accurately measure stigma for generalized anxiety will make a significant contribution to the literature.

METHOD

Participants

The convenient sampling method was used for the study. The total number of participants reached was 666, and data were excluded from the study for 7 participants. The number of participants used for the current study's analyses was 659. Inclusion criteria were being over 18 years of age and being able to read and write in Turkish. When the participants' characteristics were examined, 70% were female and 29% were male. The average age was calculated as 24.41. 57.8% of the participants were single and 13.8% were married. Other demographic characteristics of the participants are summarized in Table 1. Another data collection process was initiated for test-retest. A sample of 45 participants was reached for this group. Participants' ages ranged from 19 to 49 (M=26.42, SD=6.30). When the gender distribution of participants was examined, there were 29 (64.4%) female and 16 (35.6%) male participants in the test-retest study.

Measurements

Socio-demographic Information Form

This form is a form prepared by the researcher to obtain information about the participants such as their age, gender, marital status, education level, employment status, income status, nationality, region of residence, whether they have a chronic/psychiatric disorder, etc.

Table 1. Socio-demographic characteristics of participants

	n	%	Mean	SD	Min.	Maks.
Gender						
Female	461	70				
Male	191	29				
Prefer not to say	7	1.1				
Age			24.41	6.66	18	56
Marital status						
Single	381	57.8				
Married	91	13.8				
Divorced	8	1.2				
Widowed	3	0.5				
In a relationship	176	26.7				
Education level						
Primary school	6	0.9				
Secondary school	15	2.3				
High school	382	58				
Bachelor's degree	231	35.1				
Master's/doctorate	25	3.8				
Employment status						
Employed	220	33.4				
Unemployed	439	66.6				
Income level (₺)			9063.27	12409.12	0	15000.00
Chronic disease status						
No chronic disease	603	91.5				
Has chronic disease	56	8.5				
Medication use for chronic disease						
Not using	569	86.3				
Using	90	13.7				
History of psychiatric treatment						
No	541	82.1				
Yes	118	17.9				

n: number of participants; Mean: arithmetic mean; SD: standard deviation; Min.: minimum value; Max.; maximum value.

Generalised Anxiety Stigma Scale (GASS)

It was developed by Griffiths et al. (2011) to measure stigma related to generalized anxiety symptoms. The 20-item scale has two subscales: personal stigma and perceived stigma. Responses to each item are measured on a 5-point Likert-type scale (ranging from 0 (strongly disagree) to 5 (strongly agree). Higher scores indicate higher levels of stigma associated with generalized anxiety (Griffiths et al. 2011). There are no reverse items in the scale. The "Personal Stigma" subscale consists of 10 items and provides information about participants' level of self-stigma related to generalized anxiety symptoms. The "Perceived Stigma" subscale provides information on the degree to which others stigmatize individuals exhibiting generalized anxiety symptoms. In the original version of the scale, factor loadings for the personal stigma subscale ranged from 0.65 to 0.80, and for the perceived stigma subscale, factor loadings ranged from 0.57 to 0.77. Cronbach's alpha coefficients for the 10-item personal and 10-item perceived stigma subscales were found to be 0.86 and 0.91, respectively. After a second measurement, conducted after a 4-month period for test-retest reliability, the Pearson correlation coefficients for the subscales were found to be 0.58 and 0.55, respectively ($p<0.01$). These results have shown that the Personal and Perceived stigma subscales of the GASS have sufficient internal consistency and reliability (Griffiths et al. 2011).

Internalized Stigma of Mental Illness Scale (ISMI)

The Internalized Stigma of Mental Illness Scale was adapted into Turkish by Ersoy and Varan (2007) to assess the perceived stigma of mental illness among psychiatric patients. The Internalized Stigma of Mental Illness Scale, developed by Ritsher et al. (2003), consists of 29 items. The scale assesses individuals' subjective experiences of stigma within the framework of five subscales: "Alienation", "Stereotype Confirmation", "Perceived Discrimination", "Social Withdrawal", and "Resistance to Stigma" (Ersoy & Varan 2007). The items for the stigma resistance subscale are reverse coded. Cronbach's alpha coefficients for the ISMI subscales range from 0.63 to 0.87, while the Cronbach's alpha coefficient for the total score is 0.93. In light of the findings obtained from the study, it was stated that the Turkish form of the ISMI can be used as a reliable and valid measurement tool in assessing internalized stigma related to mental illness in Türkiye (Ersoy & Varan 2007). The Cronbach's alpha value for the total score calculated for the current study was 0.94.

Depression Anxiety Stress Scale – 21(DASS-21)

The Turkish validity and reliability study of the short form of the DASS-21 was conducted by Yılmaz et al. (2017). The scale has a 4-point Likert-type rating: 0 "not suitable for me at all," 1 "somewhat suitable for me," 2 "generally suitable for me," and 3 "completely suitable for me" (Yılmaz et al. 2017). The DASS-21 contains seven questions each to measure the dimensions of depression, stress, and anxiety. The Cronbach's alpha coefficient for the scale is 0.89, and item-total correlations range from 0.51 to 0.75. Test-retest and split-half reliability scores for the scale were determined as 0.99 and 0.96. The analyses concluded that the DASS-21 is valid and reliable (Yılmaz et al. 2017). For the current study, only the anxiety subscale score of this scale was used. The Cronbach's alpha for this subscale was 0.90.

Procedure

Permission was obtained from the research team that developed the scale (Griffiths et al. 2017) to translate the scale and determine its psychometric properties. Permission was also obtained from the authors of the ISMI and DASS-21 scales, which were subsequently included in the analyses to assess psychometric properties. The necessary ethical permission to conduct the research was obtained from the Science, Engineering, and Social Sciences Research Ethics Committee of Bursa Technical University (Document date-number: 02.01.2023-E.90258).

Data for the study were collected online. The informed consent form and survey set were transferred to the "google. forms" interface and sent to participants via a web link. Data were collected from a separate sample for the test-retest procedure. These participants were also asked for a nickname and email address, and the GASS (Turkish version) was sent again four weeks after the initial measurement. The test-retest interval was set at 4 months in the original study, while the current study determined it to be 4 weeks. The test-retest interval varies across studies. Streiner et al. (2015) noted that the interval is controversial and that a 15-day period is generally sufficient. Additionally, the ability to learn the items can lead to significant test-retest bias. Gökdemir and Yılmaz (2023) stated that a 15-day period may be sufficient to prevent this bias. Therefore, to avoid data loss due to this source, the interval period for the current study was set at 4 weeks (30 days).

Translation

The adapted scale was translated into Turkish by two academics with doctoral degrees in Clinical Psychology. The author of this article reviewed the translations independently to determine the most appropriate form for the scale. A linguist fluent in both English and Turkish provided support for the retranslation process. The final translated forms were then compiled and evaluated for suitability for both Turkish

and English. Following this evaluation, the final form of the scale was created.

During the translation, the literal translation of the scale title was "Generalized Anxiety Stigma Scale." In the current adaptation study, the title was changed to "Generalized Anxiety Disorder Stigma Scale." The translators suggested adding the word "disorder" to the title for clarity.

The clarity of the items was assessed with a small group, and the form was prepared for data collection. The data obtained from this small group study was not included in the larger data set.

Statistical Analysis

Statistical Package for the Social Sciences (IBM –SPSS) program version 21.0 and Analysis of Moment Structures (AMOS) 21.0 programs were used. Missing data were found for only one participant. As this participant did not complete half of the scale form, the participant's data were excluded. To examine the distribution of the data and identify outliers, mean, standard deviation, minimum and maximum values, Z scores, box plots, and Mahalanobis distance were considered. When examining the Z scores, values outside the range of +3 to -3, values not included in the box in the box plot, and values below 0.001 in the Mahalanobis distance were defined as extreme values (Çokluk, Şekercioğlu, & Büyüköztürk, 2016), and the data of 6 participants who were considered extreme values were removed from the data set. As a result of this process, the distribution was found to be normal, and other analyses were performed. Because the data collected for the test-retest were limited and did not meet the assumptions of normality, a correlation analysis suitable for nonparametric data was used.

First, frequencies and percentages were calculated for categorical variables. Cronbach's alpha coefficient was then calculated to assess the reliability of the adapted scale. Correlation coefficients were also calculated for test-retest reliability and item-total correlation. The test-retest interval was set at 4 months in the original study, while it was set at 4 weeks in the current study. The test-retest interval varies across studies. Streiner et al. (2015) noted that the test-retest interval is controversial and that a 15-day interval is generally sufficient. Because the amount of data obtained from the test-retest sample was small and did not meet the normality assumption, Spearman correlation analysis was preferred here. This correlation coefficient was graded as r ≥0.81–1.0 as excellent, 0.61–0.80 as very good, 0.41–0.60 as good, 0.21–0.40 as moderate, and 0–0.21 as poor (Norman & Streiner, 2003). In addition, the intraclass correlation coefficient was calculated (because it takes into account the inter- and intra-group variation in repeated applications of the measurement tool) and test-retest reliability was evaluated with the Bland-Altman graphical approach.

Confirmatory factor analysis (CFA) was conducted using AMOS to assess construct validity. The overall model fit was examined using the chi-square statistic (χ^2), comparative fit index (CFI), root mean square error of approximation (RMSEA), goodness of fit index (GFI), and adjusted goodness of fit index (AGFI) (Schermelleh-Engel et al. 2003). For convergent validity, Pearson correlation analysis was conducted with the ISMI and DASS-21. The table by Cohen (1988) was used to determine the power value ranges for correlation coefficients. Here, the range of -0.29 +0.29 indicates low power; the range of -0.49 +0.49 indicates moderate power; and the ranges of -0.5 -1 and +0.5 +1 indicate high power. Statistical significance was accepted as $p<0.05$ in this study.

RESULTS

Reliability and validity analyses were conducted to determine the psychometric properties of the Turkish adaptation of the Generalized Anxiety Disorder Stigma Scale. The Cronbach's alpha coefficients for the subscales of personal stigma and perceived stigma were 0.768 and 0.850, respectively. An examination of the corrected item-total correlation values revealed that Item 3 in the personal stigma subscale and Item 13 in the perceived stigma subscale had correlation coefficients below 0.30 (see Table 2). When these items were removed, the Cronbach's alpha coefficient for the personal stigma subscale increased to 0.78, while that of the perceived stigma subscale rose to 0.87.

For the test-retest reliability analyses, the Generalized Anxiety Disorder Stigma Scale was administered twice, with a four-week interval, to a group of 45 participants (distinct from the main sample). Spearman's correlation analysis was conducted on the collected data. The test-retest reliability coefficient was calculated as 0.702 ($p <0.05$) for the personal stigma subscale and 0.793 ($p <0.05$) for the perceived stigma subscale. Additionally, the intra-class correlation coefficient (ICC) was computed as an alternative assessment of test-retest reliability. According to this analysis, the ICC for personal stigma was 0.895 (95% CI: 0.845–0.934) [$F (22,1416)=9.488$, $p <0.001$], and for perceived stigma, it was 0.885 (95% CI: 0.823–0.912) [$F (22,1412)=9.436$, $p <0.001$].

Additionally, test-retest reliability was further evaluated using Bland-Altman plots for the personal stigma (Factor 1) and perceived stigma (Factor 2) subscales (see Fig. 1). As illustrated in these plots, the adapted scale demonstrates acceptable

Table 2. Descriptive statistic of Generalized Anxiety Disorder Stigma Scale

Items and subscales	Mean (SD)	Corrected item-total correlation	Cronbach's alpha (if item deleted)
Personal stigma subscale			
M1. Anxiety disorder is not a real medical illness.	3.53 (1.08)	0.334	0.825
M2. Anxiety disorder is a sign of personal weakness.	3.69 (1.17)	0.448	0.832
M3. People with anxiety disorder can recover if they want to.	2.49 (1.09)	0.196	0.726
M4. People with anxiety disorder should be ashamed of themselves.	4.70 (0.57)	0.444	0.830
M5. People with anxiety disorder are not suitable employees.	3.89 (0.94)	0.460	0.839
M6. People with anxiety disorder are unstable.	3.63 (1.02)	0.483	0.844
M7. People with anxiety disorder are to blame for their problems.	4.58 (0.69)	0.481	0.843
M8. People with anxiety disorder are just lazy.	4.40 (0.76)	0.570	0.855
M9. People with anxiety disorder are a danger to others.	4.08 (0.90)	0.546	0.852
M10. People with anxiety disorder are self-centred.	3.89 (0.98)	0.549	0.851
Perceived Stigma Subscale			
M11. Most people think anxiety disorder is not a real medical illness.	2.41 (0.93)	0.365	0.821
M12. Most people think anxiety disorder is a sign of personal weakness.	2.47 (0.99)	0.590	0.867
M13. Most people think people with anxiety disorder can recover if they want to.	2.33 (0.96)	0.089	0.657
M14. Most people think people with anxiety disorder should be ashamed of themselves.	3.26 (1.07)	0.620	0.863
M15. Most people think people with anxiety disorder are not suitable employees.	2.64 (1.08)	0.626	0.869
M16. Most people think people with anxiety disorder are unstable.	2.58 (1.05)	0.676	0.873
M17. Most people think people with anxiety disorder are to blame for their problems.	3.24 (1.14)	0.691	0.881
M18. Most people think people with anxiety disorder are just lazy.	3.03 (1.12)	0.632	0.869
M19. Most people think people with anxiety disorder are a danger to others.	3.08 (1.09)	0.569	0.832
M20. Most people think people with anxiety disorder are self-centred.	2.95 (1.08)	0.627	0.844

Mean: arithmetic mean; SD: standard deviation.

test-retest reliability. In other words, the stability of the measurements over time is supported by the non-significant differences between the means of the repeated measurements, which are visually represented in the plot.

To assess the validity of the scale, three separate Confirmatory Factor Analyses (CFA) were conducted to construct validity, and Pearson correlation analyses were performed between the adapted scale and the ISMI and DASS-21 (only anxiety subscale) to assess convergent validity. To construct validity, a two-factor structure (personal stigma and perceived stigma), consistent with the original version of the scale, was tested using AMOS 21.0. In the initial model, all items were included in alignment with the original structure. However, the fit indices obtained from this analysis indicated that Model-1 did not reach acceptable levels of fit. Furthermore, in this model, the factor loading of Item 3 in the personal stigma subscale (F1) was 0.17, and the factor loading of Item 13 in the perceived stigma subscale (F2) was 0.07, suggesting that these items did not contribute meaningfully to the overall model.

In the second attempt, Items 3 and 13 were removed, and CFA was re-conducted. The analysis of fit indices indicated that the two-factor correlated model (Model 2 in Fig. 2) reached acceptable levels of fit. To further improve model fit, as recommended by Byrne (2010), modification indices were examined and error covariances were added between items within the same subscale based on theoretical justification. These added error covariances are presented in Fig. 2. In the final model (Model 3), the fit indices were found to be within weak to acceptable ranges. Table 3 presents the fit indices for the models tested.

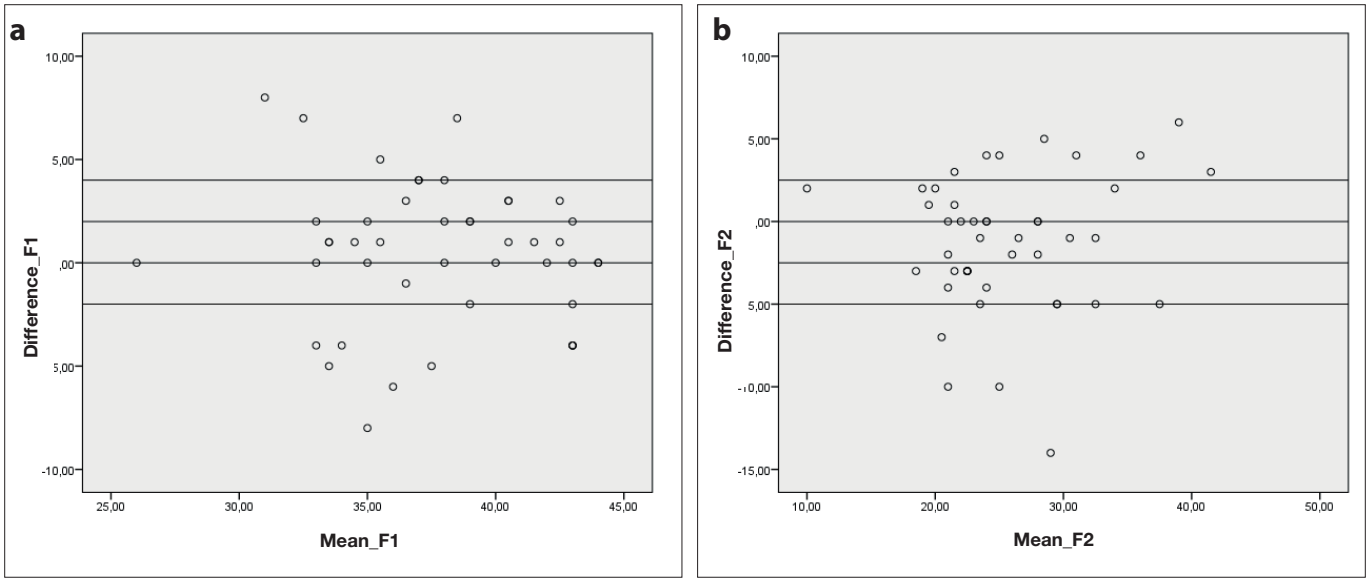


Figure 1. Test-retest results of the subscales (Bland-Altman plots) (a) personal stigma (F1) test-retest results Bland-Altman plot. (b) perceived stigma (F2) test-retest results Bland-Altman plot.

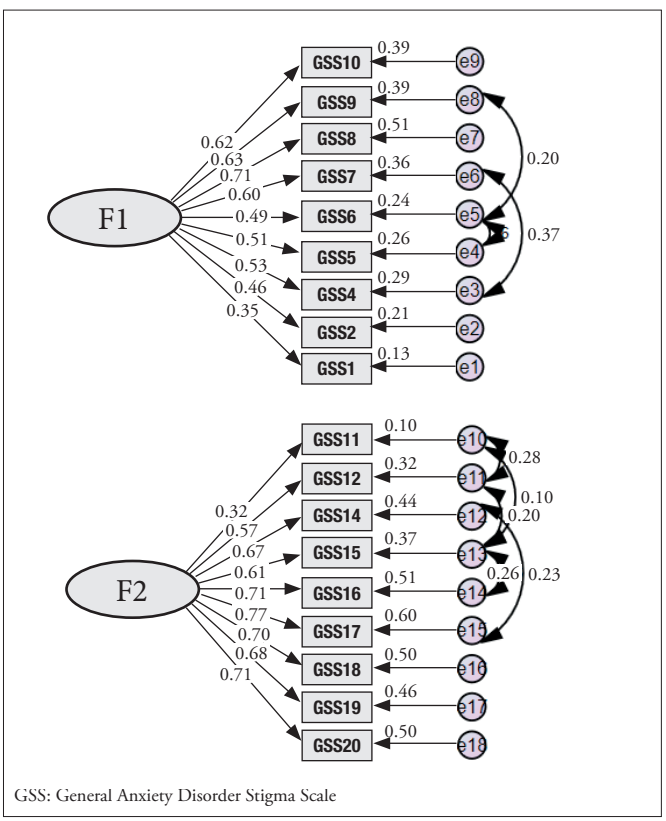
Table 3. Confirmatory factor analysis trials

Models	χ^2	df	χ^2/df	CFI	GFI	AGFI	RMSEA
Model 1: 20-item two-factor uncorrelated structure	1043.340	170	6.173	0.788	0.840	0.801	0.090
Model 2: 18-item two-factor structure	905.686	135	6.709	0.807	0.949	0.808	0.095
Model 3: Modified two-factor structure	635.982	127	5.008	0.901	0.899	0.864	0.079

χ^2: chi-square goodness of fit test; df: degrees of freedom, GFI: goodness of fit index, AGFI: adjusted goodness of fit index; CFI: comparative fit index; RMSEA: root mean square error of approximation.

As shown in Table 3, Model 3 yielded an χ^2/df value of 5.008, indicating a weak level of overall model fit (Byrne, 2010); a Comparative Fit Index (CFI) of 0.901, which is also considered weak (Hu & Bentler, 1999); a Root Mean Square Error of Approximation (RMSEA) of 0.079, which is within an acceptable range (Schermelleh-Engel et al., 2003); a Goodness-of-Fit Index (GFI) of 0.899, considered acceptable (Marsh et al., 1988); and an Adjusted Goodness-of-Fit Index (AGFI) of 0.864, which is also within an acceptable range (Doll et al., 1994).

For convergent validity, correlation analyses were conducted between the personal stigma and perceived stigma subscales of the adapted scale and the total score of the ISMI as well as the anxiety subscale of the DASS-21. The results of these analyses are summarized in Table 4. According to the findings, the personal stigma score was positively and significantly correlated with the ISMI total score at a low level (r=0.26, p <0.01), while its correlation with the total anxiety score was non-significant (r=0.01, p >0.05). The perceived stigma total score was also found to be positively and significantly correlated with the ISMI total score at a low level (r=0.08, p <0.05), and similarly, it showed a low but significant positive correlation with the total anxiety score (r=0.16, p <0.05).



GSS: General Anxiety Disorder Stigma Scale

Figure 2. Path diagram of confirmatory factor analysis (model 3)

Table 4. Convergent validity analysis results of the GADSS

	Personal stigma	Perceived stigma	ISMI-total
Personal stigma	1		
Perceived stigma	-0.05	1	
ISMI-total	0.29**	0.08*	1
DASS-21 (anxiety subscale)	0.06	0.16*	0.26**

*p < 0.05; **p < 0.01; ISMI: internalized stigma of mental illness scale; DASS-21: Depression, Anxiety, Stres Scale - 21

DISCUSSION

The present study aimed to adapt the GASS into Turkish (GADSS) and to examine its psychometric properties. Although there are numerous scales addressing stigma, measurement tools specifically assessing stigma related to anxiety are relatively scarce. In this context, the Turkish adaptation of the GADSS is expected to contribute to the national literature and field studies.

The translation of the scale was conducted in accordance with scientific translation standards. Subsequently, validity and reliability analyses were carried out using data collected for testing the scale's psychometric characteristics (Ercan & Kan, 2004).

To assess the reliability of the scale, Cronbach's alpha coefficients, Spearman's correlation analysis for test-retest reliability, intraclass correlation coefficients (ICC), and Bland-Altman plots were examined. The results obtained provide evidence that the GADSS is a reliable scale.

To assess the validity properties of the scale, both construct and concurrent validity were examined. For construct validity, Confirmatory Factor Analysis (CFA) was conducted, and the findings indicated acceptable fit indices. The analysis supported a two-factor structure consistent with the original version of the scale (Griffiths et al., 2011). In other words, the scores obtained from the scale provide information related to both personal stigma and perceived stigma regarding generalized anxiety.

For concurrent validity, convergent validity was examined (Cheung et al., 2024) through Pearson correlation analyses between the adapted scale and the ISMI and DASS-21. The selection of these scales was based on their conceptual similarity to the original study (Griffiths et al., 2011). The findings revealed that the adapted scale was positively associated with internalized stigma related to mental illness and with anxiety levels. Taken together, these results demonstrate that the Turkish version of the scale possesses a valid structure.

The CFA results also provided individual factor loadings for each item. According to Tabachnick and Fidell (2001), items with factor loadings below 0.30 may be considered for removal. Based on this criterion, two items were found to be statistically inconsistent with the overall model. These items were: 'People with anxiety disorders can recover if they want to' and 'Most people believe that individuals with anxiety disorders can recover if they really want to'. These two items are located in two different subscale and may suggest that the solution to this disease may lie with the individual himself. When the items above and below these items were examined, it was interpreted that it was possible for anxiety disorder to be perceived as a physical disorder. Therefore, it was thought that it might have created semantic confusion for the participants. Furthermore, in the original study, these items also demonstrated the lowest correlation values compared to others (Griffiths et al., 2011). Consequently, it was concluded that the removal of these two items would be more appropriate both semantically and statistically. The analyses were repeated after excluding these items, and the new findings showed improved support for the statistical model.

The Turkish adaptation of the present scale provides information regarding two dimensions of stigma related to generalized anxiety: personal stigma and perceived stigma. An examination of the definitions of personal and perceived stigma indicates the necessity of assessing these two constructs separately. When classified by their domain of impact, these constructs –often referred to as primary and secondary stigma– reflect both direct and indirect meanings (Bos et al., 2013). While personal stigma is a concept that can be evaluated on an individual level, perceived (or felt) stigma may refer to internalized stigma (Brohan et al., 2010). The fact that the scale measures both constructs within a single form is expected to provide practical benefits and facilitate ease of use for researchers. Using this form, researchers can simultaneously obtain data on both levels of stigma, which is considered one of the strengths of the scale. Similar to its original version, the scale includes a short vignette at the beginning. This format facilitates participants' understanding of the items and enables more accurate responses (Kaya & Kaya, 2013). The inclusion of this vignette can also be regarded as another strength of the scale.

Finally, it can be stated that this scale represents the first tool adapted into Turkish that specifically measures stigma associated with generalized anxiety, thereby contributing uniquely to the national literature.

In addition to the strengths of the present study, there are several limitations that should be acknowledged. First, the characteristics of the selected sample may be considered a limitation. In line with the original validity and reliability study, a community sample was used; however, the unequal distribution of demographic variables (e.g., gender, educational background) and the inability to control participants' levels of knowledge regarding anxiety disorders limit the generalizability of the findings. The self-report nature of the data also presents challenges in minimizing the risk of biased responses. Although a vignette was provided to enhance the accuracy of responses, particularly concerning stigma, this approach may have introduced its own form of bias.

Another limitation pertains to the duration between test and retest, as well as the number of participants in the test-retest analysis. There is ongoing debate in the literature regarding the optimal length of time between repeated measurements. As explained in the Methods section, the interval used in this study was shorter than that of the original study. Nonetheless, the shortened interval is supported by previous literature (Streiner et al., 2001). Additionally, the number of participants in the test-retest sample may be considered relatively limited. Although 120 individuals were invited to participate in the retest phase, only 45 participants completed both time points of the survey appropriately. Due to time constraints and the expiration of ethical approval for data collection, test-retest analyses were conducted with this final sample. Finally, the cross-sectional design of the study may also be considered a limitation, as it restricts the ability to make causal inferences.

Although the adapted scale is primarily intended for use in scientific research, it may also prove beneficial in clinical settings. Its brevity and ease of administration, as well as its ability to assess both personal and perceived stigma, may support its use in therapy sessions to enhance awareness and facilitate discussion. This may help broaden the scope of sessions with clients by offering a multidimensional understanding of their experiences. Therefore, the scale has the potential to serve as a valuable tool in clinical practice as well.

In conclusion, based on the findings of the current study, the Generalized Anxiety Disorder Stigma Scale has been successfully adapted into Turkish and demonstrates psychometric properties suitable for use in scientific research. The results suggest that the Turkish version of the scale is a valid and reliable instrument for future studies conducted in the Turkish language.

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