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RESEARCH ARTICLE

Validity and Reliability Study of the Turkish Version of the Grief Impairment Scale

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ABSTRACT

Background: The Grief Impairment Scale (GIS) was developed to assess grief-related biopsychosocial impairment and has shown robust psychometric validity across cultures. This study aimed to adapt the GIS into Turkish and examine its psychometric properties in a Turkish adult bereaved sample.

Method: A cross-sectional methodological design was employed with 391 Turkish adults aged 18–65 who had lost a close relative within the past 6 months to 2 years. The adaptation process followed World Health Organizations five-step translation protocol, including forward-back translation, expert review, pilot testing, and finalization. Measures included the Sociodemographic Data Form, the Prolonged Grief Scale-Revised (PG-13-R) and the Turkish version of GIS.

Results: The Turkish GIS demonstrated high internal consistency (Cronbach α = 0.854), with strong and significant item–total correlations. Factor analyses confirmed a unidimensional structure consistent with prior studies. Convergent validity was supported by significant positive correlations between GIS and PG-13-R scores, indicating that higher grief-related impairment was associated with greater severity of prolonged grief symptoms.

Conclusion: Results support the Turkish GIS as a reliable and valid measure of grief-related functional impairment. The scale's biopsychosocial model provides a multidimensional framework for assessing the broad impact of grief, extending beyond emotional symptoms to daily functioning. The Turkish GIS offers a brief, practical tool for research and clinical use in assessing grief-related functional impairment.

Keywords: Grief, Loss, Bereavement Prolonged Grief, Complicated Grief, Prolonged Grief Disorder

Introduction

Grief, although it carries distressing emotions, is a common experience that most people encounter at some point in life when they lose a cherished friend or a family member.[1] Following a loss, grief is manifested through visible changes in one's social life and through prominent signs in emotional, cognitive, physical, or behavioral dimensions.[2] In cases where a significant amount of time has elapsed since the loss, yet the individual continues to face challenges in managing daily responsibilities, fails to re-establish previous social relationships, and remains strongly influenced by the emotional effects of the

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the bereavement in decision-making, the condition may be identified clinically as "prolonged grief".[3]

While many people can cope with the consequences of losing a loved one, some individuals may experience a negative grieving process that disrupts their daily lives.[4] Grief is an event that profoundly transforms individuals' lives, and during this process, both the emotional and functional aspects of a person can be seriously affected. Research has consistently shown that the grieving process has negative consequences in many areas, ranging from physical health to social relationships.[5] Prolonged grief is defined as the grieving process experienced by an individual after a loss lasting much longer than expected and reaching a level that affects the person's normal functioning. Assessing and understanding the consequences of grief is crucial for developing intervention methods tailored to individuals' needs. Prolonged Grief Disorder (PGD), characterized by a severe, persistent grieving process that negatively affects functioning, has been recognized as an official diagnostic category in the 11th revision of the International Classification of Diseases (ICD-11). Similarly, in the most recent version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR), "Prolonged Grief Disorder" has been included as a distinct diagnostic category under the chapter "Trauma- and Stressor-Related Disorders".[6,7]

The World Health Organization (WHO) defines functional impairment as a disruption of functioning in personal, family, social, occupational, educational, and other important areas of life.[6] Although most people in the grieving process experience only mild functional difficulties, some individuals encounter significant functional impairment.[8] Therefore, loss of functionality is accepted as a clinical criterion in the diagnosis of mental illnesses associated with grief, such as PGD. Moreover, the assessment of grief-related functional impairment plays a crucial role in treatment planning and in addressing the specific needs of individuals.[9,10]

In response to this, the Grief Impairment Scale (GIS) was designed to assess the functional difficulties caused by grief, based on the biopsychosocial model of illness.[11] This approach emphasizes different dimensions of human functionality.[12] Engel's biopsychosocial model has been proposed as an improvement over the traditional biomedical model, which focuses solely on measurable biological changes. This model takes into account the individual's experiences and attitudes toward illness, while also considering the impact of living conditions and healthcare systems on the onset, course, and progression of diseases.[13] In this context, each item of the GIS assesses impairments caused by grief across various dimensions of biological, psychological, and social functioning. This includes the effects of grief on health and cognitive functioning; maladaptive coping strategies (e.g., alcohol consumption or poor nutrition); inability to work; failure to fulfill academic or household responsibilities; and disruptions in social relationships.[14,15] The first psychometric study of the GIS was conducted on American adults who had experienced the loss of a close one, reporting that the scale has a unidimensional structure, with evidence for convergent and discriminant validity, high reliability, diagnostic precision, and measurement invariance across age, gender, and ethnic groups.[11] Caycho-Rodríguez and colleagues reported that, based on psychometric network analysis of samples from Peru and El Salvador, the GIS demonstrated sufficient psychometric validity in terms of internal structure, reliability, and invariance.[16]

In Turkey, some adaptation studies have been conducted on grief-related measures, such as the PG-13-R, to evaluate grief symptoms and associated functional impairment.[17] However, there is still a lack of a culturally validated instrument that specifically assesses grief-related functional difficulties across multiple biopsychosocial domains. Therefore, adapting and validating the GIS for the Turkish population addresses this gap, providing a comprehensive tool for both research and clinical practice. The primary aim of the present study is to adapt the GIS into Turkish and examine its psychometric validity and reliability in a Turkish adult sample.

Materials and Methods

This cross-sectional methodological study was conducted at the Psychiatry Clinic of Ankara Etlik City Hospital. The primary aim was to adapt the GIS into Turkish and to examine its psychometric properties in a Turkish adult sample.

Participants

This study was conducted with individuals living in Turkey who participated voluntarily through online announcements. Data were collected using a convenience sampling method through an online questionnaire created on Google Forms and shared via various social media platforms, including WhatsApp and Instagram. Participants were aged 18–65 and had experienced the loss of a close person within the past 6 months to 2 years. Inclusion criteria required at least a primary school education, sufficient cognitive ability to complete the online forms, and provision of informed consent. Individuals without internet access, those who had experienced non-bereavement losses (e.g., divorce, loss of a pet), or those with psychotic disorders, bipolar disorder, autism spectrum disorder, intellectual disability, or severe physical conditions that would prevent the completion of the scales were excluded. A total of 391 participants were included in the study.

Procedure

Ethical approval for the study was obtained from the Ethics Committee of Ankara Etlik City Hospital (AEŞH-BADEK1-2025-451, 27.08.2025). Data collection was conducted online between September 1 and September 15, 2025. After obtaining electronic informed consent from the participants, the Sociodemographic Data Form, the Prolonged Grief Scale-Revised, and the Grief Impairment Scale were administered in sequence. The average completion time was approximately 20 minutes. During the Turkish adaptation of the GIS, the five-step translation and adaptation procedure recommended by the WHO was followed.[18] In the first stage, the scale was independently translated from English into Turkish by two experts. In the second stage, the translations were consolidated, and discrepancies were discussed by a panel of experts with experience in psychiatry to create a single, unified Turkish version. In the third stage, the resulting Turkish form was back-translated into English by two independent translators, and these back-translations were compared with the original scale to assess conceptual equivalence and semantic integrity. In the fourth stage, the draft Turkish form was pilot-tested on a small sample of 20 volunteers, and linguistic and phrasing adjustments were made based on participant feedback to enhance clarity. In the fifth and final stage, the finalized Turkish version was reviewed once more by expert researchers and rendered ready for use. Additionally, official permission for use was obtained from the scale's developer, Sherman A. Lee, and the adaptation process adhered to scientific and ethical standards throughout.[11]

Instruments

Sociodemographic Data Form: Information was collected regarding participants' sociodemographic characteristics, including age, gender, marital status, education level, employment status, occupation, monthly income, place of residence and household composition, smoking habits, alcohol and substance use, history of chronic illness, history of psychiatric treatment, history of hospitalization due to physical or mental illness, current treatment status, and family history of psychiatric disorders. In addition, bereavement-related variables were assessed, such as the degree of kinship with the deceased, time elapsed since the loss, the age and cause of death of the deceased, the nature of the relationship with the deceased prior to the loss, and the reactions displayed following bereavement.

Prolonged Grief Scale–Revised (PG-13-R): PG-13-R developed by Prigerson et al. (2021), was designed to establish the diagnosis of PGD and to assess the severity of its symptoms.[19] The self-report instrument consists of 13 items: the first and last items are dichotomous (Yes/No), the second item assesses the time elapsed since the loss, and items 3 through 12 are rated on a five-point Likert scale. The PG-13-R demonstrated high internal consistency, with both Cronbach's alpha and McDonald's omega coefficients reported at 0.92. The Turkish validity and reliability study of the scale was conducted by Emrah Keser and colleagues, and is currently in the process of publication.[17]

Grief Impairment Scale (GIS): GIS was developed to assess the frequency of functional impairment due to grief and consists of five items reflecting biopsychosocial domains.[11] Participants rate each item on a scale ranging from 0 (0 days/never) to 4 (30 days/always), indicating how often they experienced each aspect during the past 30 days. Overall scale scores range from 0 to 20, with greater scores signifying a higher degree of functional impairment associated with grief. Validation studies conducted in English, Spanish, and Persian have demonstrated strong internal consistency reliability for the GIS.[20,21]

Data Analysis:

The sociodemographic and clinical characteristics of the study sample were recorded and summarized through descriptive statistical procedures. Continuous variables were expressed as mean values accompanied by standard deviations, whereas categorical variables were presented as frequencies and percentages.

Before conducting intergroup comparisons, the prerequisites for applying parametric statistical analyses were evaluated. The distributional normality of continuous variables was tested using the Kolmogorov–Smirnov procedure. For those variables conforming to parametric assumptions, group differences among PGD and non-PGD, were examined using Student t test. Comparisons of categorical variables across groups were carried out with the Chi-square test.

Furthermore, Pearson's correlation analysis was utilized to investigate associations between continuous variables fulfilling parametric assumptions. The psychometric validity of the GIS was assessed confirmatory factor analyses. A two-tailed significance threshold of $p<0.05$ was established for all statistical evaluations. Data analyses were performed using IBM SPSS Statistics software (version 21) in conjunction with AMOS (version 24).

Results

The study sample comprised 391 participants divided into two groups: PGD (n=49), and non-

Table 1. Demographic characteristics of participants and group comparisons between individuals with and without Prolonged Grief Disorder.

Variable	Total (n=391)	PGD (n=49)	Non-PGD (n=342)	*Statistics*
Age (years; Mean±SD)	35.47±10.59	34.91±11.15	35.55±10.52	t=0.395 p=0.693
Gender; n (%)				
Male	163 (41.7)	30 (18.4)	133 (81.6)	**χ^2=8.796 p=0.003**
Female	228 (58.3)	19 (8.3)	209 (91.7)	
Marital Status; n (%)				
Single	140 (35.8)	19 (13.6)	121 (86.4)	**χ^2=10.557 p=0.014**
Married	227 (58.1)	23 (10.1)	204 (89.9)	
Divorced	18 (4.6)	4 (22.2)	14 (77.8)	
Widow	6 (1.5)	3 (50.0)	3 (50.0)	
Employment Status; n (%)				
Unemployed	100 (25.6)	22 (22.0)	78 (78.0)	**χ^2=10.988 p<0.001**
Employed	291 (74.4)	27 (9.3)	264 (90.7)	
Education Level; n (%)				
Primary Education	15 (3.8)	5 (33.3)	10 (66.7)	**χ^2=25.424 p<0.001**
Secondary Education	81 (20.7)	21 (25.9)	60 (74.1)	
University	295 (75.4)	23 (7.8)	272 (92.2)	
Relationship with deceased; n (%)				
Close family ***(parent, spouse, child or sibling)***	152 (38.9)	37 (24.3)	115 (75.7)	**χ^2=35.379 p<0,001**
Grandparent	112 (28.6)	4 (3.6)	108 (96.4)	
Extended family ***(aunt/uncle, in-laws, cousin, other relatives)***	99 (25.3)	4 (4.0)	95 (96.0)	
Partner/Fiancé /Close friend	13 (3.3)	2 (15.4)	11 (84.6)	
Friend, acquaintance, colleague, teacher	10 (2.6)	2 (20.0)	8 (80.0)	
Other	5 (1.3)	0	5 (100)	
Time since the loss (months; Mean±SD)	14.71±6.58	14.73±6.64	14.71±6.58	t=-0.021 p=0.983
Age of the deceased (years; Mean±SD)	64.70±19.58	53.36±21.11	66.33±18.83	**t=4.437 p<0.001**
Cause of death; n (%)				
Sudden illness ***(e.g., stroke, myocardial infarction, COVID)***	141 (36.1)	17 (12.1)	124 (87.9)	χ^2=7.293 p=0.121
Chronic illnes ***(e.g., canser, COPD, organ failure)***	213 (54.5)	23 (10.8)	190 (89.2)	
Accident/Natural disaster ***(e.g., earthquake, accident, fire)***	29 (7.4)	8 (27.6)	21 (72.4)	
Suicide	5 (1.3)	1 (20.0)	4 (80.0)	
Other	3 (0.8)	0		

PGD: Prolonged Grief Disorder, t: Student's t test, χ^2: Chi-square test, bold: p≤0,05, SD: Standard Deviation

PGD (n=342). Significant differences were found between the two groups in the variables of gender (p=0.003), marital status (p=0.014), employment status (p<0.001), educational status (p<0.001), relationship status (p<0.001) and age of the deceased (p<0.001). A comprehensive summary of statistical analyses and additional psychometric findings is detailed in Table 1. There was also a statistically significant difference in the comparison of PG 13-R, GIS total and items between the two groups (p<0.001) (Table 2).

AIC=4701.286). These results substantiate the unidimensional construct validity of the GIS within the current sample (Table 4).

Correlations between the GIS and other scales are presented in Table 5. GIS scores exhibited significant positive correlations with depression severity as measured by the PG 13-R (r = 0.675, p<0.001). A significant positive correlation was also found between PG 13-R item 11 and the GIS total (r = 0.532, p<0.001). There was a statistically significant positive correlation between all GIS items and the GIS total and PG 13-R total scores (p<0.001).

Table 2. Distribution of psychometric measures among participants and group comparisons between individuals with and without prolonged grief disorder.

Variable	Total (n=391)	PGD (n=49)	Non-PGD (n=342)	*Statistics*
PG-13-R (Mean±SD)	21.79±8.48	36.49±5.82	19.69±6.48	**t=17.177 p<0.001**
GIS1	1.17±1.13	2.53±1.10	0.98±1.00	**t=10.001 p<0.001**
GIS2	1.10±1.22	2.57±1.15	0.89±1.08	**t=10.057 p<0.001**
GIS3	0.34±0.75	1.06±1.16	0.23±0.61	**t=7.669 p<0.001**
GIS4	0.68±0.91	1.59±1.20	0.55±0.78	**t=7.943 p<0.001**
GIS5	0.70±0.97	1.83±1.14	0.54±0.83	**t=9.658 p<0.001**
GIS Total	4.01±4.03	9.59±4.14	3.21±3.32	**t=12.149 p<0.001**

PGD: Prolonged Grief Disorder, GIS: Grief Impairment Scale, PG-13-R: Prolonged Grief Scale-Revised, t: Student's t test, bold: p≤0,05, SD: Standard Deviation

The item analysis of the GIS showed a Cronbach's alpha of 0.854 for the overall scale. Item-total correlation coefficients ranged from 0.589 to 0.729. The Cronbach's alpha values if each item was deleted ranged from 0.808 to 0.846. Detailed item analysis statistics are presented in Table 3.

Confirmatory factor analysis was performed to investigate the underlying factor structure of the GIS. The suitability of the data for factor analysis was confirmed by Model fit (χ^2 = 85.778, df = 5, p<0.001) and fit measures (CFI=0.910, TLI=0.920, RMSEA=0.083,

Table 3. Item Analysis and Internal Consistency of the Turkish Version of the Grief Impairment Scale

Item	Item–total correlation	Cronbach's α if item deleted
GIS1	0.685	0.820
GIS2	0.704	0.818
GIS3	0.589	0.846
GIS4	0.682	0.821
GIS5	0.729	0.808

GIS = Grief Impairment Scale. Item–total correlation coefficients ranged from 0.589 to 0.729. Cronbach's α for the overall scale was 0.854.

Table 4. Confirmatory Factor Analysis of the Grief Impairment Scale

Item	Estimate	SE	95% CI Lower	95% CI Upper	Z	p	Stand. Estimate
GIS1	0.821	0.054	0.715	0.926	15.185	**<.001**	0.723
GIS2	0.914	0.057	0.801	1.027	15.897	**<.001**	0.747
GIS3	0.494	0.036	0.423	0.565	13.666	**<.001**	0.656
GIS4	0.706	0.042	0.623	0.788	16.811	**<.001**	0.771
GIS5	0.796	0.043	0.711	0.880	18.463	**<.001**	0.819

GIS: Grief Impairment Scale, SE: Standard Error, [bold]: $p < 0.001$

Discussion

This study was conducted to evaluate the psychometric properties of the Turkish version of the GIS and to provide a valid and reliable instrument for assessing grief-related functional impairment within the Turkish cultural context. The findings indicate that the Turkish adaptation of the scale demonstrates high internal consistency, a unidimensional structure consistent with the original, and strong convergent validity. These results suggest that the Turkish version of the GIS provides a solid foundation for evaluating the multidimensional impact of grief on individuals' lives in both clinical practice and scientific research (Cronbach α= 0.854). The main findings of the study confirm the psychometric strength of the GIS-Turkish in several key aspects. Firstly, the scale demonstrated a very high internal consistency coefficient. This value indicates that all scale items consistently measure the same underlying construct, namely grief-related functional impairment. In addition, item–total correlations ranged from moderate to strong, suggesting good homogeneity among items and further supporting the reliability of the scale. Secondly, confirmatory factor analysis (CFA) confirmed that the scale retained a unidimensional structure, consistent with the original development study and previous cross-cultural adaptations.[20,21] This provides strong evidence that the underlying theoretical framework of the scale remains valid across different cultural contexts. Lastly, a statistically significant and strong positive correlation was observed between the total scores of the GIS and the PG-13-R ($r = 0.675$, $p<0.001$), supporting the convergent validity of the scale. As expected, this relationship indicates that higher levels of grief-related functional impairment are associated with greater severity of prolonged grief symptoms.

In cross-cultural adaptation of a measurement tool, a key concern is verifying whether the underlying construct retains its meaning in the target culture. The present study not only translated the scale into Turkish but also confirmed that the construct it assesses is valid within the Turkish cultural setting. The findings of our study demonstrate that the instrument exhibits a high level of similarity with the original scale and other international adaptations regarding fundamental psychometric characteristics, including internal consistency and factor structure, suggesting that cross-cultural equivalence has been established.[20,21] These findings imply that grief-induced functional impairment can be conceptualized and measured as a cohesive

Table 5. Correlations Among GIS Items, GIS Total, and PG-13-R (Including Functioning Item)

Variable		GIS1	GIS2	GIS3	GIS4	GIS5	GIS_TOTAL	PG11-FUNCT.
GIS1	r	—						
	p	—						
GIS2	r	0.697	—					
	p	**<.001**	—					
GIS3	r	0.430	0.439	—				
	p	**<.001**	**<.001**	—				
GIS4	r	0.490	0.510	0.584	—			
	p	**<.001**	**<.001**	**<.001**	—			
GIS5	r	0.556	0.589	0.538	0.680	—		
	p	**<.001**	**<.001**	**<.001**	**<.001**	—		
GIS_TOTAL	r	0.820	0.841	0.705	0.794	0.832	—	
	p	**<.001**	**<.001**	**<.001**	**<.001**	**<.001**	—	
PG11-FUNCT.	r	0.434	0.431	0.425	0.400	0.447	0.532	—
	p	**<.001**	**<.001**	**<.001**	**<.001**	**<.001**	**<.001**	—
PG-13-R_TOTAL	r	0.592	0.609	0.418	0.477	0.568	0.675	0.549
	p	**<.001**	**<.001**	**<.001**	**<.001**	**<.001**	**<.001**	**<.001**

GIS: Grief Impairment Scale, PG-13-R: Prolonged Grief Disorder-Revised, PG11-Funct.: PG-13-R Item 11 (Functioning Item), [bold]: $p < 0.001$

construct. Consequently, the study verifies that the GIS-assessed concept of 'biopsychosocial

functional impairment' is both valid and relevant for grief experiences in the Turkish cultural context, offering robust evidence in support of hypotheses about the universal aspects of grief-related functioning.

Findings regarding convergent validity suggest that the GIS functions as anticipated. Total scores on the GIS were strongly and significantly correlated with PG-13-R scores, indicating that the GIS effectively captures the functional impairment associated with the intensity of grief. Indeed, the PG-13-R not only assesses the severity of PGD symptoms but also incorporates the criterion of functional impairment required for clinical diagnosis.[22] Therefore, as grief symptoms become more severe, individuals exhibit a marked decline in their daily functioning. This finding indicates that those with higher levels of prolonged grief symptoms experience difficulties across multiple domains, including work, social life, self-care, and health. Previous studies in the literature have documented that individuals with complicated or prolonged grief demonstrate marked impairments in multiple areas of functioning.[23,24] In our study, the close association observed between the GIS and the PG-13-R supports the notion that the criterion of 'clinically significant impairment,' which is central to the diagnosis of prolonged grief, can be quantitatively and comprehensively captured through the GIS. In addition, unlike the PG-13-R, which assesses functional impairment solely through a binary yes/no item, the GIS offers a more nuanced clinical evaluation by quantifying functional loss across five symptom domains on a frequency scale.

This study has several limitations. Participants were recruited on a voluntary basis through online announcements, which may restrict the representativeness of the sample. All data were collected via self-report measures, raising the possibility of social desirability or recall bias. Furthermore, test–retest reliability and predictive validity were not evaluated in the present study. Future research addressing these aspects would enhance the applicability and scope of the scale.

Moreover, the implications for clinical practice should be considered in a more concrete manner. The GIS may be applied as a screening tool for PGD in clinical settings, to assess functional impairment prior to initiating psychotherapy, or to monitor changes in daily functioning during the course of treatment. Such applications are particularly relevant for populations including bereaved relatives of oncology patients and individuals affected by natural disasters, enhancing the practical utility and applicability of the scale in clinical contexts.

In conclusion, the Turkish adaptation of the GIS was found to be a reliable and valid instrument, offering a brief yet comprehensive measure of grief-related functional impairment grounded in the biopsychosocial model. Its practical format makes it suitable for both clinical practice and empirical research, where accurate assessment of functional outcomes is essential for diagnosis and intervention. While the current findings provide strong initial evidence, future studies involving diverse age groups, clinical populations, and cross-cultural contexts are warranted to further establish the robustness and generalizability of the GIS.

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