

# Turkish Version of Grief Impairment Scale: Adaptation, and Psychometric Properties

## *Yas Bozukluğu Ölçeği Türkçe Versiyonu: Uyarlanması ve Psikometrik Özellikleri*

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### ABSTRACT

**Objective:** Grief Impairment Scale was developed as a rapid and flexible tool for assessing the biopsychosocial impairment associated with grief. This study aimed to evaluate the psychometric properties of the Turkish version of the scale.

**Method:** This methodological study was conducted with 197 adults in Türkiye. The World Health Organization's translation-back-translation protocol was followed. The Content Validity Index (CVI), Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Cronbach's alpha coefficient were examined.

**Results:** The CVI value was 0.94. EFA revealed a single-factor structure consisting of five items, accounting for 63.54% of the total variance. CFA supported this structure with acceptable model fit indices ( $\chi^2/df = 7.79$ , RMSEA = 0.19, CFI = 0.94, GFI = 0.93, NFI = 0.94, SRMR = 0.05). Although the RMSEA and  $\chi^2/df$  values were higher than expected, error covariance was added between items 1 and 2 based on the modification indices. After this adjustment, the model showed excellent fit ( $\chi^2 = 1.00$ ,  $df = 4$ ,  $\chi^2/df = 0.25$ , RMSEA = 0.00, CFI = 1.00, GFI = 1.00, NFI = 1.00, SRMR = 0.007). The scale demonstrated strong internal consistency (Cronbach's  $\alpha = 0.85$ ). Significant positive correlations were found between the Grief Impairment Scale and the Mourning Scale ( $r = 0.56$ ,  $p < 0.001$ ).

**Conclusion:** Turkish version of Grief Impairment Scale is a flexible, valid, and reliable instrument for assessing biopsychosocial impairment due to grief, and it can be effectively used by health professionals and researchers in both clinical practice and scientific studies.

**Keywords:** Grief, impairment, validity, reliability, Turkish culture

### ÖZ

**Amaç:** Yas Bozukluğu Ölçeği, yasa bağlı biyopsikososyal işlevsellikte bozulmanın hızlı ve esnek tanısı için geliştirilmiştir. Bu çalışmanın amacı, Yas Bozukluğu Ölçeği'nin Türkçe versiyonunun psikometrik özelliklerini değerlendirmektir.

**Yöntem:** Bu metodolojik çalışma Türkiye'de 197 yetişkinle yürütülmüştür. Çalışma sürecinde Dünya Sağlık Örgütü'nün çevirileri çeviri protokolü takip edilmiş olup, İçerik Geçerlilik İndeksi (CVI), Keşfedici Faktör Analizi (EFA), Doğrulamalı Faktör Analizi (CFA) yapılmış ve Cronbach alfa değeri değerlendirilmiştir.

**Bulgular:** Ölçeğin CVI değeri 0.94 olarak bulunmuştur. EFA, toplam varyansın %63.54'ünü açıklayan beş maddeden oluşan tek faktörlü bir yapı ortaya koymuştur. CFA, bu yapıyı kabul edilebilir model uyum indeksleriyle desteklemiştir ( $\chi^2/sd = 7.79$ , RMSEA = 0.19, CFI = 0.94, GFI = 0.93, NFI=0.94, SRMR = 0.05). RMSEA ve  $\chi^2/sd$  değerleri beklenen değerlerden yüksek bulunmuştur. Bu nedenle modifikasyon önerileri doğrultusunda madde 2 ile madde 1 arasında hata kovaryansı eklenmiştir. Bu işlem sonucunda modelin uyum indeksi değerlerinin kabul edilebilir olduğu görülmüştür ( $\chi^2=1.00$ ,  $sd=4$ ,  $\chi^2/sd= 0.25$  RMSEA=0.00, CFI =1.00, GFI=1.00, NFI 1.00=, SRMR =0.007). Ölçeğin güçlü iç tutarlılığa sahip olduğu belirlenmiştir (Cronbach's  $\alpha=0.85$ ). Yas Bozukluğu Ölçeği ile Yas Ölçeği arasında anlamlı pozitif korelasyon bulunmuştur ( $r=0.56$ ,  $p<0.001$ ).

**Sonuç:** Ölçek, yas süreci nedeniyle ortaya çıkan biyopsikososyal işlevsellikte bozulmayı değerlendirebilecek, sağlık profesyonelleri ve araştırmacılar tarafından klinik uygulamalarda ve bilimsel çalışmalarda kullanılacak esnek, geçerli ve güvenilir bir araçtır. Anahtar sözcükler: Yas, bozukluk, geçerlik, güvenilirlik, Türk kültürü

## Introduction

Grief is a natural response to the loss of a loved one. While many bereaved individuals return to their usual routines and regain their former level of functionality within a few weeks or months, this process does not always unfold as expected. Grief reactions may vary considerably, particularly in cases of sudden or traumatic losses, and some individuals may become stuck in one of the stages of grief. This, in turn, leads to impairments in daily functioning (Çelik and Sayıl 2003, Galatzer-Levy and Bonanno 2012, Bildik 2013, Maraş 2014, Neilsen et al. 2020).

When the normal course of grief reactions is disrupted, prolonged grief may occur. Prolonged grief is classified as a disorder by both the World Health Organization and the American Psychiatric Association. A common feature across these classifications is that prolonged grief disorder—distinct from normal grief—causes functional impairment in key domains such as personal, family, social, professional, and educational life (APA

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**Received:** 29.07.2025 | **Accepted:** 01.10.2025

2022, WHO 2022). Prolonged grief disorder interferes with adaptation to loss and delays the healing process (Çelik and Sayıl 2003, Bildik 2013, Maraş 2014). Furthermore, it may increase the risk of developing mental illnesses (Komischke-Konnerup et al. 2021, APA 2022). For these reasons, early diagnosis and timely intervention are essential.

Individuals experiencing prolonged grief may benefit from a variety of interventions. However, prior to intervention, it is necessary to identify maladaptive processes related to grief (Lee and Neimeyer 2023). Several measurement tools have been developed in Turkish or adapted to the Turkish context for the assessment of grief (Balıcı Çelik 2006, Selvi et al. 2011, Ayaz et al. 2014, Gökler Danişman et al. 2017, Işıklı et al. 2022). A limitation of these instruments is that they primarily focus on the emotional symptoms of grief and fail to address impairments in the biological, psychological, and social domains. For instance, the WHODAS 2.0 scale measures functional impairments but is designed for individuals with psychiatric disorders and is not specific to grief (Aslan Kunt and Dereboy 2018). Similarly, the PG-13 scale, adapted into Turkish by Işıklı et al. (2022), evaluates the emotional impact of grief but does not address its cognitive, social, or functional dimensions. Another drawback of existing tools is their length; a large number of items may hinder rapid diagnosis in clinical settings and reduce response rates in community-based studies.

Grief Impairment Scale (GIS), developed by Lee and Neimeyer (2023), was designed for the rapid and flexible assessment of impairments caused by grief. It measures the frequency of impairments across five functional areas—cognition, health, coping behaviours, responsibilities, and social engagement—within the past 30 days. This time frame allows for a more objective assessment by both users and clinicians. Each impairment item includes examples, enhancing clarity and comprehensibility. The aim of the present study is to evaluate the psychometric properties of the Turkish version of the Grief Impairment Scale (GIS-T).

The study aims to contribute to the literature by providing a multidimensional tool that assesses grief-related functional impairments within the Turkish cultural context. The GIS offers a rapid, practical, and comprehensive assessment. The GIS-T, with its brief structure, clarity, and multidimensional scope, provides a practical tool for both clinical and research use. Furthermore, by adding evidence from the Turkish context, this study contributes to the growing body of cross-cultural validation studies on the GIS. This study hypothesizes that the Turkish version of the GIS will demonstrate a valid factor structure consistent with the original scale. It is further expected that the Turkish version will show high internal consistency and reliability, and that it will exhibit convergent validity through significant associations with existing measures of grief.

## Method

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### Sample

The study was a methodological type of research conducted with a cross-sectional data collection method. The study was conducted online between June and August 2023. The inclusion criteria were: (a) being 18 years of age or older, (b) having experienced the loss of a loved one, (c) having access to the internet and social media, and (d) volunteering to participate in the study. The exclusion criteria were: (a) participants who did not provide informed consent, (b) participants who withdrew from the study at any stage, and (c) incomplete or invalid responses in the online survey. A total of 214 individuals were initially reached through online recruitment and social media networks. Of these, 17 individuals were excluded: 8 did not meet the inclusion criteria (under 18 years old or had not experienced a significant loss), and 9 provided incomplete responses in the online survey. Finally, 197 participants were included in the data analysis.

The sample size for this methodological study was determined based on recommendations for validity and reliability studies of psychometric instruments. It is generally suggested that the number of participants should be 5–20 times the number of items in the scale (International Test Commission 2017). Since the GIS consists of five items, the minimum required sample size was calculated as 100. In the present study, data were collected from 197 participants, which exceeded the minimum requirement. A post-hoc power analysis was conducted using G\*Power 3.1 to confirm the adequacy of the sample size. With an effect size of 0.30 (medium), an alpha level of 0.05, and the actual sample size of 197, the achieved statistical power was 0.95. This indicates that the study had sufficient power to detect significant relationships and confirm the psychometric properties of the scale.

### Procedure

Ethics committee approval was obtained from the Non-Interventional Clinical Research Ethics Committee of

Burdur Mehmet Akif Ersoy University, Türkiye (Approval No: GO2023/287, Date: 03.05.2023). Permission was granted by the original authors for the adaptation of the Grief Impairment Scale, and additional permission was obtained for the use of the Mourning Scale. Informed consent was presented at the beginning of the data collection form, and participants proceeded to complete the survey only after reading and approving the consent statement.

The scale was first translated between English and Turkish in draft form. Following ethics committee approval, two bilingual experts translated the original English version into Turkish. The Turkish version was then back-translated into English by two independent linguists who were not involved in the study. To ensure linguistic and cultural appropriateness, ten experts (six psychiatric nurses, two internal medicine nurses, and two clinical psychologists) evaluated the items on a 4-point scale ranging from 1 (“not at all appropriate”) to 4 (“very appropriate”). After the content validity assessment, a pilot study was conducted with 30 participants who met the inclusion criteria. This pilot phase identified any unclear expressions, and necessary revisions were made accordingly.

Data collection was conducted online. Following the content validity study, the data collection forms were transferred to Google Forms. Informed consent was presented at the beginning of the form, and participants proceeded to answer the questions only after reading and approving the consent statement. The survey link was distributed by the researchers through various social media platforms to reach a wide pool of potential participants. Individuals who met the inclusion criteria were invited to participate, and participants were also encouraged to share the survey link within their networks. This snowball sampling strategy facilitated access to a broader and more diverse group of participants, enabling the target sample size to be achieved. The data collection form remained open until the required number of participants was reached.

## Data Collection Tools

To collect data, a personal information form was used to gather the demographic characteristics of participants, the Grief Impairment Scale (GIS) was applied to evaluate its validity and reliability in Turkish, and the Mourning Scale was employed to determine the criterion validity of the GIS.

### *The Personal Information Form*

This form included eight questions regarding socio-demographic characteristics such as age, gender, income level, and education level, as well as information about the deceased person.

### *Grief Impairment Scale (GIS)*

The GIS, developed by Lee and Neimeyer (2023), evaluates grief-related functional impairment across five domains: cognitive difficulties (Item 1), health problems (Item 2), unhealthy coping behaviors (Item 3), unfulfilled responsibilities (Item 4), and difficulties in positive engagement with others (Item 5). Participants rate the frequency of each impairment experienced during the past 30 days on a 5-point Likert scale ranging from 0 (never) to 4 (always). In the original study, the GIS demonstrated strong internal consistency, with Cronbach’s alpha reported as  $\alpha = 0.88$ .

### *Mourning Scale*

The Mourning Scale, developed by Balcı Çelik (2006), measures grief reactions across four subdimensions: physiological (e.g., changes in appetite, sleep), cognitive (e.g., concentration difficulties), emotional (e.g., sadness, anger), and behavioral (e.g., social withdrawal, changes in routines). It consists of 35 items rated on a 5-point Likert scale, with responses ranging from 1 (never) to 5 (always). Higher scores indicate more severe grief reactions. The physiological subdimension contains 5 items, while each of the other subdimensions includes 10 items. The total possible score ranges from 35 to 175. The original study reported a Cronbach’s alpha of 0.96 (Balcı Çelik 2006), and in the present study, Cronbach’s alpha was 0.93.

## Statistical Analysis

Data were analyzed using SPSS 21.0 and LISREL 8.0 software. Descriptive statistics (mean, standard deviation, frequency, and percentage) were used to summarize sociodemographic characteristics. For reliability analysis, Cronbach’s alpha, McDonald’s omega coefficient, and item-total correlations were calculated. For construct validity, Exploratory Factor Analysis (EFA) with Kaiser–Meyer–Olkin (KMO) and Bartlett’s test of sphericity was conducted to determine factorability, followed by Confirmatory Factor Analysis (CFA) using maximum likelihood estimation to test the model fit. Model fit was evaluated with  $\chi^2/df$ , RMSEA, SRMR, CFI, GFI, and NFI

indices. For convergent validity, Pearson correlation analysis was conducted between the GIS-T scores and the Mourning Scale scores. Pearson correlation coefficient ( $r$ ) was used to evaluate the relationship between the scales. In addition, item-level correlations were performed between GIS-T items and the corresponding sub-dimensions of the Mourning Scale. To examine differences in GIS-T scores across demographic variables Mann-Whitney U test was used. Kruskal-Wallis test was used for categorical variables with more than two groups, such as education level, closeness of the deceased, and cause of death. The statistical significance level was set at  $p < 0.05$ .

## Results

The mean age of the participants was  $29.97 \pm 9.93$  years (range: 19–62). Of the total sample, 74.6% were women, 66% reported a medium income level, 91.9% were university graduates, and 55.8% were employed. Regarding bereavement characteristics, 53.3% of participants had lost an extended family member, while 27.3% had lost a close family member. In terms of the cause of death, 66% of the losses were sudden. Additionally, more than one year had passed since the loss for 68.5% of participants (Table 1).

**Table 1. Sociodemographic characteristics**

| Variables                                                |              |
|----------------------------------------------------------|--------------|
| Age, mean (sd)                                           | 29.97 (9.93) |
| Gender                                                   | n (%)        |
| Female                                                   | 147 (%74.6)  |
| Male                                                     | 50 (%25.4)   |
| Income level                                             |              |
| Low-level income                                         | 27 (%13.7)   |
| Medium-level income                                      | 130(%66)     |
| High-level income                                        | 40(%20.3)    |
| Education                                                |              |
| High school                                              | 16 (%8.1)    |
| University                                               | 181 (%91.9)  |
| Closeness of deceased                                    |              |
| Close family members (mother, father, sister/brother)    | 55 (%27.3)   |
| Extended family members (grandfather, grandmother, etc.) | 105 (%53.3)  |
| Close friends                                            | 37 (%18.8)   |
| Expectedness of death                                    |              |
| Expected death                                           | 67 (%34)     |
| Sudden death                                             | 130 (%66)    |
| Cause of death                                           |              |
| Chronic diseases                                         | 86 (%43.7)   |
| Sudden illnesses                                         | 48 (%24.4)   |
| Accidents or natural disasters                           | 38 (%19.3)   |
| COVID 19 disease                                         | 12 (%6.1)    |
| Murder or suicide                                        | 13 (%6.6)    |
| Time passed after death                                  |              |
| Less than a year                                         | 62 (%31.5)   |
| More than a year                                         | 135 (%68.5)  |

sd: standard deviation

## Content Validity Index

The content validity of the scale was evaluated by ten experts using individual assessment forms. Each item was rated on a 4-point scale for relevance and clarity. The overall Content Validity Index (CVI) was 94.25%, with an average item score of 3.77 (range: 3–4). Among the experts, six held doctoral degrees in psychiatric nursing, two held doctoral degrees in internal medicine nursing, and two held master's degrees in clinical psychology. In addition, eight of the experts had conducted scientific research on death, grief, and end-of-life care, and had professional experience providing consultation in these areas.

## Construct Validity

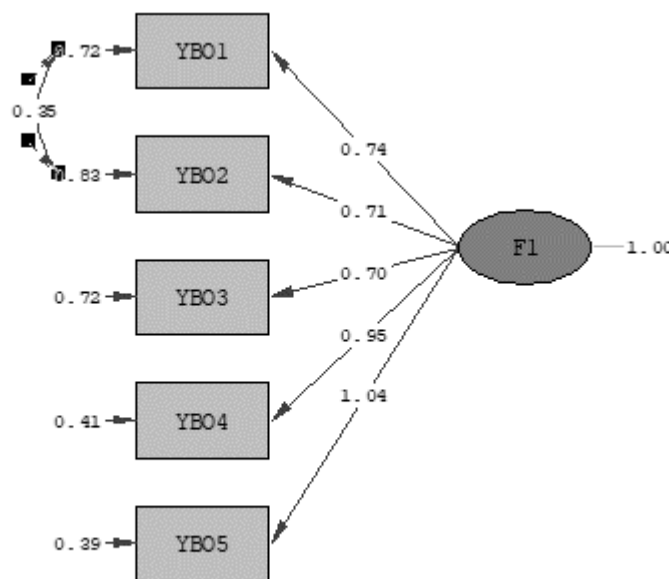
### *Explanatory Factor Analysis*

The Kaiser-Meyer-Olkin (KMO) coefficient was 0.81, indicating that the sample size of the Grief Impairment

Scale-Turkish version (GIS-T;  $n = 197$ ) was adequate. Bartlett's test of sphericity confirmed that the data were suitable for factor analysis ( $\chi^2 = 437.64$ ,  $p < .01$ ). The scale demonstrated a single-factor structure consisting of five items, with an eigenvalue of 3.17, accounting for 63.54% of the total variance.

### Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) was conducted to evaluate the compatibility of the factor structure of the GIS-T with the data obtained from the Turkish sample. The t-values obtained from the CFA were significant, and all factor loadings exceeded 0.30. Initial model fit indices were  $\chi^2/df = 7.79$ , CFI = 0.94, GFI = 0.93, NFI = 0.94, SRMR = 0.05, and RMSEA = 0.19. While most indices indicated acceptable model fit, the RMSEA and  $\chi^2/df$  values were higher than recommended thresholds. Therefore, based on modification indices, an error covariance was added between Items 1 and 2. Following this adjustment, the model demonstrated excellent fit ( $\chi^2 = 1.00$ ,  $df = 4$ ,  $\chi^2/df = 0.25$ , RMSEA = 0.00, CFI = 1.00, GFI = 1.00, NFI = 1.00, SRMR = 0.007) (Figure 1).



Chi-Square=1.00, df=4, P-value=0.91019, RMSEA=0.000

**Figure 1. Model based on Bootstrap Maximum Likelihood (ML)**

The figure illustrates the confirmatory factor analysis (CFA) model with one latent construct (F1) and five observed variables (YB01–YB05). Standardized factor loadings are shown on the paths from F1 to the observed variables, indicating the strength of each relationship. Error variances for the observed variables are displayed next to the boxes. Correlated measurement errors are also shown between YB01 and YB02. The model fit indices ( $\chi^2 = 1.00$ ,  $df = 4$ ,  $p = 0.910$ , RMSEA = 0.000) indicate an excellent model fit. Bootstrap maximum likelihood estimation was applied to assess the robustness of the factor loadings.

As a result of the CFA, the standardized factor loadings were as follows: Item 1 = 0.78, Item 2 = 0.82, Item 3 = 0.74, Item 4 = 0.71, and Item 5 = 0.76. All loadings exceeded the 0.30 threshold and were statistically significant ( $p < .05$ ).

### Convergent Validity

A positive, significant, and moderate correlation was found between GIS-T and Mourning Scale scores ( $r = 0.56$ ,  $p < .001$ ).

### Reliability

Cronbach's alpha reliability coefficient for the single-factor, five-item scale was 0.85, and McDonald's omega coefficient was also 0.85. The item-total score correlations ranged from 0.57 to 0.73, all of which were positive and statistically significant ( $p < .05$ ).

### Comparison of Independent Variables and GIS-T Scale Score

No statistically significant difference was found between participants' gender and GIS-T scores ( $p > .05$ ). However, there was a significant difference across education levels ( $Z = -2.47$ ,  $p = .01$ ). The mean GIS-T score of university graduates ( $5.82 \pm 4.49$ ) was higher than that of high school graduates ( $3.56 \pm 5.17$ ).

A statistically significant difference was also observed between GIS-T scores and the expectedness of death ( $Z = 1.97, p = .04$ ). Participants who experienced sudden deaths ( $M = 6.15 \pm 3.87$ ) had higher scores than those who experienced expected deaths ( $M = 4.64 \pm 3.87$ ). Furthermore, there was a significant difference between GIS-T scores and the closeness of the deceased ( $\chi^2 = 9.05, p = .01$ ). Participants who lost a close family member ( $M = 6.87 \pm 4.22$ ) or a friend ( $M = 6.45 \pm 6.14$ ) had higher mean scores than those who lost an extended family member ( $M = 4.70 \pm 3.90$ ).

### ***Item-level Correlations between GIS-T and the sub-dimensions of the Mourning Scale***

Item-level correlation analyses showed that each domain of the GIS-T was associated with conceptually similar subdimensions of the Mourning Scale. Specifically, cognitive difficulties due to grief (GIS-T Item 1) were correlated with the Cognitive subdimension ( $r = 0.45, p < .001$ ); health problems related to grief (GIS-T Item 2) were strongly correlated with the Physiological subdimension ( $r = 0.60, p < .001$ ); unhealthy coping behaviors (GIS-T Item 3) were correlated with the Behavioral subdimension ( $r = 0.44, p < .001$ ); and difficulties in positive social engagement (GIS-T Item 5) were correlated with the Emotional subdimension ( $r = 0.33, p < .001$ ). These findings provide additional evidence for the convergent validity of the GIS-T at the item level, confirming that the scale captures biopsychosocial domains that overlap with specific grief reactions measured by the Mourning Scale.

## **Discussion**

This study aimed to evaluate the validity and reliability of the Turkish version of the Grief Impairment Scale (GIS-T), a rapid and practical tool for assessing functional impairments associated with grief. The results of confirmatory factor analysis (CFA), together with reliability findings, support the cultural suitability of the GIS-T. The initial assessment of model fit was based on the chi-square statistic derived from the ML estimation, divided by degrees of freedom, with values below 5 considered acceptable (Roos and Bauldry 2022). In this study, the  $\chi^2/df$  value was within an acceptable range. However, because chi-square is sensitive to sample size, additional fit indices were examined, including SRMR, RMSEA, CFI, and GFI. Thresholds reported in the literature suggest adequate model fit with SRMR  $< 0.08$ , RMSEA between 0.06 and 0.10, CFI  $\geq 0.95$ , and GFI  $\geq 0.90$  (Roos and Bauldry 2022, Feng and Hancock 2023, West et al. 2023).

In the initial CFA, the  $\chi^2/df$  (7.79) and RMSEA (0.19) values were higher than expected. This may be explained by sample characteristics (e.g., online volunteer recruitment, sample size, data distribution) and the brevity of the scale (five items). To improve model fit, modification indices suggested adding an error covariance between Item 1 (cognitive difficulties) and Item 2 (health problems). This adjustment significantly improved fit indices. Importantly, the modification is also conceptually justified, as cognitive difficulties (e.g., attention and concentration problems) and physical symptoms (e.g., sleep disturbances, somatic complaints) frequently co-occur during grief, a relationship widely supported in the literature (Srikanth et al. 2020). Similar findings were reported in validations of the Spanish and Persian versions of the scale, where error covariance between the same items was also required (Caycho-Rodríguez et al. 2023, Yousefi and Jafari 2024). To further confirm the unidimensional structure, future research should replicate CFA with larger and clinical samples and employ multi-group CFA to assess measurement invariance.

The significant positive correlation between GIS-T and the Mourning Scale demonstrated convergent validity. This finding is consistent with prior studies indicating that functional impairment is closely related to the severity of grief symptoms (Cozza 2019, Caycho-Rodríguez et al. 2023, Lee and Neimeyer 2023). Reliability analyses also confirmed the robustness of the GIS-T, with Cronbach's alpha (0.85) and McDonald's omega (0.85) mirroring values reported for the Spanish and Persian versions (Caycho-Rodríguez et al. 2023, Yousefi and Jafari 2024). Item-total correlations (0.57–0.73) further supported internal consistency.

Item-level analyses highlighted the biopsychosocial domains captured by the GIS-T:

**Item 1 – Cognitive difficulties:** Many participants reported problems with attention and memory. This aligns with previous findings that grief impairs cognitive performance and decision-making (Fernández-Alcántara et al. 2016, Atalay and Staneva 2020, Breen et al. 2023, Palm et al. 2023).

**Item 2 – Health problems:** Participants frequently experienced sleep disturbances and physical complaints, consistent with studies linking grief to poorer physical health outcomes (Miller et al. 2020, Carlsson et al. 2023, Palitsky et al. 2023).

**Item 3 – Unhealthy coping behaviors:** Fewer participants reported maladaptive coping (e.g., substance use, harmful eating). This may reflect cultural and religious norms in Türkiye that discourage such behaviors, as well

as demographic characteristics of the sample (predominantly young, female, university-educated), who are less likely to misuse substances (Das et al. 2021, Sekowski and Prigerson 2022, Ummuhan et al. 2022). These contextual factors should be considered when interpreting results and planning interventions.

Item 4 – Unfulfilled responsibilities: Participants reported difficulties fulfilling daily responsibilities, consistent with studies showing bereavement disrupts occupational, social, and family roles (Nielsen et al. 2020, Caycho-Rodríguez et al. 2023).

Item 5 – Difficulties engaging with others: Many participants reported problems in maintaining positive social interactions, aligning with evidence that grief negatively affects interpersonal relationships (Eisma and Lenferink 2023).

Overall, the GIS-T allows for the early identification of grief-related functional impairments. By clarifying which domains are most affected, the scale provides clinicians and researchers with valuable guidance for planning targeted interventions. The inclusion of practical examples for each item enhances clarity, facilitating accurate responses. Moreover, its brevity enables rapid administration in both clinical and research contexts, increasing its applicability.

This study has several limitations. First, data were collected online, which may have introduced sampling bias, as younger, more educated, and internet-connected individuals were more likely to participate. This limitation should be considered when generalizing the results. In addition, the study was conducted over a limited period. Future research could employ face-to-face interviews and longitudinal designs to provide more comprehensive evidence. Second, because the majority of participants were young, female, and university-educated, the generalizability of the findings may be restricted. Future studies should examine the psychometric properties of the GIS-T in more heterogeneous and representative samples to confirm its broader applicability. Finally, in this study, model fit was improved by adding error covariance between Items 1 and 2. However, this post-hoc modification was not tested in an independent sample, raising the risk of overfitting to the current dataset. Cross-validation analyses with larger and clinically diverse samples are therefore recommended.

## Conclusion

In conclusion, the single-factor, five-item structure of the GIS-T was confirmed through CFA, and the scale demonstrated strong psychometric properties. While the GIS-T shows promise for use in mental health research and practice, future studies should establish a clinical cut-off value to support its application as a formal screening tool. Findings from this study also suggest that lower rates of reported unhealthy coping behaviors may be partially influenced by cultural and religious norms; however, this remains a hypothesis based on the current data. Future research should directly measure cultural factors to provide stronger evidence for this relationship. Finally, as this study was conducted with a community-based sample and did not include participants with clinical diagnoses (e.g., Prolonged Grief Disorder), conclusions regarding the use of the GIS-T in clinical contexts should be made cautiously. Further studies with clinical samples are needed to evaluate the clinical validity and practical applicability of the scale.

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**Authors Contributions:** The author(s) have declared that they have made a significant scientific contribution to the study and have assisted in the preparation or revision of the manuscript

**Peer-review:** Externally peer-reviewed.

**Conflict of Interest:** No conflict of interest was declared.

**Financial Disclosure:** No financial support was declared for this study.

### Addendum 1. Turkish Version of Grief Impairment Scale

| <b>Yönerge:</b> Son bir ay içinde yaşadığınız yas nedeniyle günlük işlevlerinizi yerine getirmekte ne sıklıkta güçlük çektiğinizi aşağıdaki ölçeği (0-4) kullanarak belirtiniz. "Yas" önemli bir kayba verdiğiniz tepkilerdir.                                                                                                                                                                                                                                                               |                      |                     |                         |                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------|
| 0 Gün<br>(Hiçbir zaman)                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1-3 Gün<br>(Nadiren) | 4-15 gün<br>(Bazen) | 16-29 gün<br>(Sıklıkla) | 30 gün<br>(Her zaman) |
| 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1                    | 2                   | 3                       | 4                     |
| 1. Yas nedeniyle düşünmeyle ilgili sorunlar yaşıyorum<br>Örneğin: <ul style="list-style-type: none"> <li>Dikkati toparlayamama (önemli bir işe konsantre olamama/odaklanamama)</li> <li>Hafıza problemleri (önemli bir şeyi unutma, kaybetme veya hatırlayamama)</li> <li>Karar vermede zorlanma (yanlış karar verme, kararsızlık)</li> </ul>                                                                                                                                                |                      |                     |                         | Puan:                 |
| 2. Yas nedeniyle sağlık sorunları yaşıyorum.<br>Örneğin: <ul style="list-style-type: none"> <li>Hastalık, ağrı veya rahatsızlık (Soğuk algınlığı/grip belirtileri, karın ağrısı, kötü hissetme)</li> <li>Uyku bozuklukları (uykuya dalamama veya uykuyu sürdürmememe)</li> <li>Enerji düşüklüğü (yorgun hissetme)</li> </ul>                                                                                                                                                                 |                      |                     |                         | Puan:                 |
| 3. Yas ile başa çıkmak için sağlığıma zararlı davranışlarda bulunuyorum.<br>Örneğin: <ul style="list-style-type: none"> <li>Alkol veya Madde kullanımı (ağrı olmadan ağrı kesici kullanımı; kokain, eroin, metamfetamin gibi maddelerin kullanımı)</li> <li>Sağlıksız Yeme (aşırı yemek yeme veya öğün atlama)</li> <li>Kendine Zarar Verici Davranışlarda bulunma (kendine veya eşyalara zarar verme; dikkatsiz araç kullanma)</li> </ul>                                                   |                      |                     |                         | Puan:                 |
| 4. Yas nedeniyle yaşamdaki önemli sorumluluklarımdan birini yerine getiremiyorum.<br>Örneğin: <ul style="list-style-type: none"> <li>İş veya okul ile ilgili (Devamsızlık/geç kalma, ödev/sınavda başarısız olma, verimsiz çalışma)</li> <li>Ev işleri ilgili (Dağınık odalar, tozlu/kirli yüzeyler, yıkanmamış bulaşıklar/giysiler)</li> <li>Başkalarına bakma ile ilgili (Yiyecek/barınak sağlayamama, yeterli gözetim sağlayamama veya sağlık gereksinimleri ile ilgilenememe)</li> </ul> |                      |                     |                         | Puan:                 |
| 5. Yas nedeniyle başkalarıyla tam olarak ilgilenemiyorum.<br>Örneğin: <ul style="list-style-type: none"> <li>Önemli bir kişi, yer veya olaydan kaçınma</li> <li>Başkaları ile tartışma veya kavga etme</li> <li>Başkalarının sizden kaçınması veya size kırıcı davranması</li> </ul>                                                                                                                                                                                                         |                      |                     |                         | Puan:                 |
| Toplam Puan*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |                     |                         |                       |

### Scoring Guidelines

\*A minimum of 0 and a maximum of 20 points can be obtained on the scale. An increase in the score obtained on the scale indicates an increase in impairment of grief-related functioning.