

Trends

in Psychiatry and Psychotherapy

JOURNAL ARTICLE PRE-PROOF **(as accepted)**

Original Article

Translation, cultural adaptation, and validation of the Prolonged Grief 13 Revised (PG-13-R) for Brazilian Portuguese

Laura Teixeira Bolaséll, Alice Martins Abadi, Natália Saldanha Silva, Clara Machado Pinto, Alice Einloft Brunnet, Giulia da Silva Maciel, Holly G. Prigerson, Christian Haag Kristensen

<http://doi.org/10.47626/2237-6089-2025-1067>

Original submitted Date: 09-Mar-2025

Accepted Date: 07-May-2026

This is a preliminary, unedited version of a manuscript that has been accepted for publication in Trends in Psychiatry and Psychotherapy. As a service to our readers, we are providing this early version of the manuscript. The manuscript will still undergo copyediting, typesetting, and review of the resulting proof before it is published in final form on the SciELO database (www.scielo.br/trends). The final version may present slight differences in relation to the present version.

Translation, cultural adaptation, and validation of the Prolonged Grief 13 Revised (PG-13-R) for Brazilian Portuguese

Running title: Adaptation and validation of the PG-13-R for Brazil

Laura Teixeira Bolaséll¹, Alice Martins Abadi¹, Natália Saldanha Silva¹, Clara Machado Pinto¹, Alice Einloft Brunnet², Giulia da Silva Maciel¹, Holly G. Prigerson³, Christian Haag Kristensen¹

1 Center for Studies and Research in Traumatic Stress (NEPTE); Pontifical Catholic University of Rio Grande do Sul, Brazil.

2 Université Paris-Nanterre, France.

3 Departments of Radiology and Medicine, Weill Cornell Medicine; Cornell Center for Research on End-of-Life Care; Cornell University, United States of America.

*Correspondence concerning this paper should be directed to Christian Haag Kristensen, Center for Studies and Research in Traumatic Stress, Pontifical Catholic University of Rio Grande do Sul, Av. Ipiranga 6681 – Building 11 – Room 910. Zip Code 90460-110 – Porto Alegre, Rio Grande do Sul, Brazil, e-mail: christian.kristensen@pucrs.br.

Abstract

Objective: Prolonged Grief Disorder (PGD), characterized by persistent yearning, loss of meaning, and identity disruption, was recently recognized as a mental disorder in the DSM-5-TR. Despite its significant impact on functioning, no validated instruments exist to measure PGD in Brazilian Portuguese. This study aimed to translate, culturally adapt, and validate the Brazilian version of the Prolonged Grief 13 Revised (PG-13-R), an instrument aligned with DSM-5-TR criteria for assessing PGD symptoms.

Methods: The study sample comprised 286 bereaved individuals with a mean age of 30.75 years (SD = 12.65), predominantly females (80%). Exploratory Factor Analysis

and correlation analysis with depressive and prolonged grief symptoms were performed.

Results: The results demonstrated an adequate content validation index for all items. EFA indicated a unidimensional construct, and the scale showed an excellent internal consistency (Cronbach's alpha = 0.90, McDonald's omega = 0.90) and concurrent validity.

Conclusions: These findings indicate the reliability and validity of the Brazilian PG-13-R for assessing PGD symptoms.

Keywords: grief; prolonged grief disorder; assessment; DSM-5-TR.

Grief is a universal reaction to the death of a loved one, and most bereaved individuals follow a path of resilience, in which they adjust to their loss and overcome challenges without major disruptions to their functioning¹⁻². However, earlier research suggests that 3–10% of bereaved individuals may experience substantial functional impairment due to distress induced by symptoms of grief³⁻⁶. In efforts to identify characteristics of this impairment, several diagnostic proposals have been developed over the years, including Prolonged Grief Disorder (PGD)⁷, Complicated Grief⁸, and Persistent Complex Bereavement Disorder, included in the “conditions for further study” of DSM-5⁹. Recently, both ICD-11 and DSM-5-TR have officially recognized PGD as a diagnostic category¹⁰⁻¹¹.

While some similarities can be found in both manuals, PGD is characterized in the DSM-5-TR for at least one symptom in Cluster B, which corresponds to longing and yearning for the deceased or preoccupation of the deceased, and at least three symptoms in Cluster C, which include identity disruption, marked sense of disbelief about the death, avoidance of reminders that the person is dead, intense emotional pain, difficulty with reintegration into life, emotional numbness, feeling that life is meaningless, and intense loneliness. All symptoms are a consequence of death and can cause clinically significant distress or impairment. The time criterion is 12 months after death to consider the symptoms as signs of prolonged grief¹¹.

Recent studies have demonstrated that PGD is distinct from other psychopathologies, such as posttraumatic stress disorder (PTSD) or depression¹²⁻¹⁵. Studies have also indicated a high prevalence of PGD, PTSD, and depression among bereaved individuals, who often experience these as comorbidities¹⁶⁻²¹.

Furthermore, there is evidence that prolonged grief symptoms are associated with diminished quality of life, as well as physical and emotional impairments^{14,22-24}. Given the recent advancements regarding the inclusion of PGD in the DSM-5-TR, an updated assessment measure capable of identifying individuals with prolonged grief responses is necessary. While there are reliable instruments adapted to the Brazilian context (see²⁵⁻²⁷), none of them assesses PGD based on the DSM-5-TR criteria. Having a reliable instrument to evaluate the most recent criteria is crucial for clinical discernment and future research. Therefore, this study had three specific objectives: (1) to translate the Prolonged Grief-13 Revised (PG-13-R) into Brazilian Portuguese; (2) to adapt the instrument for the Brazilian context culturally; and (3) to examine its psychometric properties and explore its potential use as a complementary tool in the assessment of PGD according to the DSM-5-TR criteria. For this purpose, the Prolonged Grief-13 Revised (PG-13-R)¹⁴ was chosen because of its reliability and validity in identifying bereaved individuals with maladaptive grief responses. PG-13-R consists of an updated version of the Inventory of Complicated Grief²⁸ and the PG-13⁷ that maps onto the new DSM-5-TR criteria tested and validated by Prigerson and colleagues¹⁴. By conducting this validation process of the PG-13-R, we hope to provide an instrument capable of correctly distinguishing individuals with normal grief responses from those with clinically relevant prolonged grief symptoms who need specialized assistance.

Method

Ethical and data collection procedures

This study was approved by the Ethics Committee of the Pontifical Catholic University of Rio Grande do Sul (Protocol number 9397522.9.0000.5336). Consent for validation of the PG-13-R in Brazilian Portuguese was obtained from the author of the original version of the instrument (HGP). The translation and adaptation of the instrument were conducted according to the *International Test Commission (ITC) Guidelines*²⁹. First, two independent forward translators, native Brazilian Portuguese speakers and psychologists fluent in English, with deep familiarity with Brazilian culture, translated the English version of the PG-13-R into Brazilian Portuguese. The two translated versions were synthesized by the authors of this study. Next, two judges (psychologists with PhD degrees and experience in grief studies) were asked

to evaluate each of the instrument's items using the Content Validation Index (CVI)³⁰. The judges evaluated language clarity, practical pertinence, and theoretical relevance using a 5-point Likert scale (1 = none to 5 = completely). A cut-off score above 0.7 was used to consider an item as appropriate. All items were back-translated by a bilingual certified translator blinded to the original English version. The results were compared with the original version and sent for the author's approval.

Data collection for the item's comprehension was conducted online via e-mail invitations. Participants who took part in a previous study and who signed an interest in contributing to future studies were invited via e-mail to answer an understanding questionnaire on each item of the PG-13-R, using a 5-point Likert scale (1=not understandable to 5=completely understandable). Finally, the validation phase was conducted through an online platform (Qualtrics) for two months, from September to November 2023. Participants were recruited using a convenience sampling strategy via advertisements on Instagram. The inclusion criteria were as follows: (a) having experienced the death of someone close in a period of over a year and (b) being at least 18 years old. All participants provided informed consent before the start of the survey.

Participants

For the item comprehension phase, 113 bereaved individuals, participants in a previous study (see³¹ for additional information), were invited via e-mail to participate, but only 44 answered the understanding questionnaire. The mean age of this sample was 37.63 years ($SD = 10.79$; range 19 - 65), and most were women (89%) with complete higher education (80%). The most frequent cause of death was COVID-19 (67%) and the majority had lost a parent (51%), followed by a grandparent (13%).

Subsequently, for the validation phase, 450 bereaved adults participated in the online *survey*, but 164 were excluded because they did not complete at least 80% of the questionnaire. The final sample consisted of 286 participants with a mean age of 30.75 years ($SD = 12.65$; range 18-72). The majority were female (80%) and had lost a grandparent (36%); the most frequent cause of death was health-related problems

(71%). Table 1 presents participants' sociodemographic and loss-related characteristics.

Table 1. *Sociodemographic and Loss-related Characteristics of the Sample*

	Number of participants (n)	Valid percentage (%)	Mean (M)	Standardized Deviation (SD)	Range
Age in years	286		30.75	12.65	18 - 72
Gender					
Female	229	80			
Marital status					
Single	186	65			
Married	71	25			
Divorced	9	3			
Widower	5	2			
Highest education level					
Lower education	160	56			
University or higher	126	44			
Religious status					
Yes	187	65			
Who died was my					
Partner	8	3			
Parent	90	31			
Sibling	12	4			
Child	4	1			
Grandparent	102	36			
Friend	20	7			
Other	40	14			
Cause of death					
Health problems	203	71			
COVID-19	18	6			
Suicide	16	5			
Accident	13	4			
Homicide	6	2			

Other	20	7
-------	----	---

Instruments

Sociodemographic and loss questionnaire

We used a self-constructed questionnaire to gather information on participants' sociodemographic factors, such as age, gender, highest level of education, and religious status. Additionally, loss-related characteristics were assessed, including the relationship between the deceased and cause of death.

*Prolonged Grief Disorder Revised (PG-13-)*¹⁴

The PG-13-R is a revised version of the PG-13, a self-report measure that incorporates DSM-5-TR symptoms of prolonged grief. The scale consists of 13 items that serve the dual purpose of continuously assessing grief intensity on a dimensional scale and supporting the clinical assessment of PGD according to the proposed criteria. The scale items are gender neutral, regarding the relationship with the deceased and time since the loss. The PG-13-R comprises 10 items (Q3 to Q12) rated on a 5-point Likert scale. The symptom items were paired with three control items that investigated whether the respondent lost a significant other (Q1), the time elapsed since the death occurred (Q2), and the level of impairment associated with the symptoms (Q13). The total score for the symptom items ranged from 10 to 50. The original version of the PG-13-R was tested by Prigerson and colleagues¹⁴ using three different samples, demonstrating coherent psychometric properties. A unidimensional structure was found to best represent the construct, and the instrument presented good-to-excellent internal consistency in the three samples ($\alpha = 0.83, 0.90, \text{ and } 0.93$).

*Traumatic Grief Inventory Self Report (TGI-SR)*³² (Brazilian version by Bolaséll et al.)²⁶

The Traumatic Grief Inventory Self Report (TGI-SR) assesses prolonged grief symptoms, according to the criteria of Prigerson and colleagues⁷, and persistent complex grief disorder (PCBD) symptoms, according to DSM-5 criteria⁹. Participants were instructed to rate 18 items on a 5-point Likert scale, ranging from 1 (never) to 5

(always), to the extent to which they experienced the symptoms over the past month. The Brazilian version of the TGI-SR ²⁶ has demonstrated excellent predictive accuracy using a cut-off score of ≥ 55 . The instrument exhibited excellent internal consistency ($\alpha = .94$).

Patient Health Questionnaire-9 (PHQ-9) ³³ (Brazilian version by Lima et al.) ³⁴

The Patient Health Questionnaire-9 (PHQ-9) is a self-report measure used to assess depressive symptoms based on the DSM-IV-TR criteria. Participants were required to answer nine items regarding their symptom severity in the past two weeks using a 4-point Likert scale, ranging from 0 (not at all) to 3 (nearly every day). The instrument showed excellent internal consistency ($\alpha = .90$) in the current sample.

Data analysis

To assess item-level content validity, we first determined the mean score (M) for each item by summing the ratings and dividing by the number of judges. The intermediate content validity coefficient (CVCi) was then computed by dividing the mean score by the maximum possible score on the scale (i.e., $CVCi = \text{mean score} \div 5$). To account for potential measurement error due to the small number of raters, we calculated an error term (Pe) as the inverse of the number of judges (i.e., $Pe = 1 \div 2$). The final content validity coefficient (CVC) for each item was obtained by subtracting the error term from the intermediate coefficient ($CVC = CVCi - Pe$). This approach offers a more conservative and reliable estimate of content validity by adjusting for possible inflation in scores when few evaluators are involved³⁰. We conducted a descriptive analysis to assess the comprehension of the items of the initial 44 participants.

Exploratory factor analysis (EFA) was conducted to explore the dimensionality of the grief symptoms construct (Q3-Q12) using SPSS (version 28.0). EFA was performed using maximum likelihood extraction with varimax rotation and listwise deletion of missing data. The number of factors to be retained was determined based on inspection of the scree plot and eigenvalues greater than one. The suitability of the data for factor analysis was evaluated using Bartlett's test of sphericity and the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy. Internal consistency

was examined using Cronbach's alpha (α) and McDonald's omega (ω), with values > 0.70 indicating acceptable internal consistency ³⁵.

The external validity of PG-13-R (Q3-Q12) was assessed by examining its associations with neighboring conditions (for a review on co-occurrence, see ¹⁹). The scores of the PHQ-9 and TGI-SR were used as concurrent measures. Although the Kolmogorov–Smirnov and Shapiro–Wilk tests indicated significant deviations from normality ($p < .001$), the skewness and kurtosis values for all variables (PHQ-9, TGI-SR, and PG-13-R) were within acceptable ranges (-1 to $+1$), suggesting only mild departures from normality ³⁶. Therefore, a Pearson's correlation analysis was performed. A significance level of $p < 0.05$ was employed for all analyses.

Results

Translation and cultural adaptation

Only item Q3 presented a significant difference between the two translated versions and required multiple discussions among the authors and later with the judges. The expression '*Longing and Yearning*' has no equivalent in Portuguese, and an effort was made to adapt this item for the Brazilian bereaved population. The judges' evaluations revealed that items with clear language were pertinent and theoretically relevant to the analysis. Only Q3 had to be discussed further. The final scores using the Content Validation Index (CVI) for language clarity, theoretical relevance, and practical pertinence were all appropriate ³⁰. The judge's evaluation and the back-translated version are shown in Supplementary Table 1 (see online supplementary material).

The mean score for the item's understanding was 3.93 ($SD = 0.18$), indicating good comprehension. Only one participant expressed difficulty understanding item Q3. This generated new discussions among the authors; however, no further changes were made. It is noteworthy that although we did not receive suggestions about the items, many participants commented about their loss stories and used this space to express their feelings about their loss. The final version of the Brazilian PG-13-R is provided in the Supplementary Material.

Symptomatology and item-level endorsement

The mean score for prolonged grief symptoms on the PG-13-R was 23.17 ($SD = 8.95$). Concerning the other measures, the mean score for prolonged grief on the TGI-SR was 43.88 ($SD = 16.86$), while the mean for depression symptoms on the PHQ-9 was 7.68 ($SD = 6.99$). Table 3 presents the mean scores for each symptom item of the PG-13-R, ranging from 1.81 to 3.38. It is noteworthy that the majority of item means were centered around the midpoint of the range, indicating desirable variability. The item-level endorsements are presented in Table 3.

Exploratory Factor Analysis

The KMO measure (.922) and Bartlett's test of sphericity ($p < .001$) indicated that the sample was suitable for the factor analysis. The initial analysis revealed one factor with an eigenvalue greater than 1 ($\lambda = 5.56$), explaining 55.67% of the total variance in item responses. None of the additional factors exceeded the eigenvalue threshold. Therefore, the unidimensional solution was retained. Communalities ranged from .19 to .72, indicating that most items shared a moderate amount of variance with the extracted factor. All items loaded substantially on the single factor, with loadings ranging from .43 to .85 (Table 2). Although the goodness-of-fit test for the one-factor model was statistically significant [$\chi^2(44) = 137.85, p < .001$], we chose to retain the unidimensional solution, considering that the χ^2 statistic is highly sensitive to sample size and often reaches statistical significance even for well-fitting models³⁷.

Table 2. Brazilian PG-13-R item performance and scale internal consistency

	PG-13-R symptom item	Factor loading	Rate	Score (mean±SD)	Deleted alpha	Corrected item-total correlation
Q3	Yearning	.69	49.8%	3.38±1.15	0.89	0.67
Q4	Preoccupation	.80	7.7%	1.84±1.0	0.89	0.75
Q5	Identity disruption	.85	21.1%	2.27±1.34	0.88	0.78
Q6	Disbelief	.50	25.9%	2.53±1.36	0.9	0.48
Q7	Avoidance	.43	17.8%	2.22±1.28	0.9	0.44
Q8	Intense emotional pain	.73	38.1%	2.96±1.33	0.89	0.71
Q9	Difficulty with reintegration	.77	12.1%	1.81±1.15	0.89	0.7
Q10	Emotional numbness	.73	13.8%	2.06±1.18	0.89	0.7
Q11	Life is meaningless	.82	9.3%	1.86±1.1	0.89	0.77
Q12	Intense loneliness	.69	25.5%	2.36±1.35	0.89	0.67

Note: *SD* = state deviation.

Table 3 -***Reliability and concurrent validity***

The PG-13-R presented excellent internal consistency, with McDonald's omega = 0.90 (and Cronbach's alpha = .90). Concerning concurrent validity, a strong and significant positive correlation emerged between the PG-13-R and TGI-SR total scores ($r = .87, p < .001$), and a moderate and significant positive correlation emerged between the PG-13-R and PHQ-9 total scores ($r = .64, p < .001$).

Discussion

The findings of this study indicate that the Brazilian version of the PG-13-R demonstrates reliability in assessing PGD symptoms according to the DSM-5-TR criteria. By following the recommended procedures described in the ITC Guidelines²⁹, we tailored the instrument for Brazilian Portuguese, considering its cultural nuances, while preserving the original meaning of each item. The mean score for prolonged grief symptoms in our sample was notably high ($M = 23.17; SD = 8.95$), which is expected for a convenience sample. Individuals experiencing heightened levels of distress may have been more inclined to participate in the survey. While the main goal of the instrument is to accurately evaluate PGD symptoms among bereaved individuals, it is also important that further research be conducted to strengthen the item's comprehension and the reliability of the measure by including a broader sample.

The item with the weakest performance was Q7, which corresponded to the avoidance of memories that the deceased truly had gone. Its item-total correlation was the lowest among all the examined items. However, deleting this item did not lead to any improvement in Cronbach's alpha (Table 3). This finding was similar to that reported by Prigerson and colleagues¹⁴. The authors debated whether the avoidance item should be more detailed, providing examples of what aspects of the loss are being avoided. This may be important for distinguishing it from post-traumatic stress avoidance symptoms, which are more connected to the event of death and/or the deceased's suffering³⁸.

Regarding factorial structure, the results showed that the Brazilian version of the PG-13-R is unidimensional. This result is consistent with the findings on the structure of

the original version of the PG-13-R¹⁴, as well as the original PG-13²⁸ and its Brazilian version²⁷. A one-factor model has also been identified across different grief measures, such as the TGI-SR^{32,39}, Brazilian version of the TGI-SR²⁶, and TGI-SR+ in the DSM-5-TR model⁴⁰.

The instrument exhibited excellent internal consistency ($\omega = 0.90$) and, as expected, positive correlations were found between the PG-13-R total score, TGI-SR, and PHQ-9, confirming the convergent validity of the Brazilian version. This result is aligned with previous evidence about the correlates of prolonged grief with depression and other neighboring conditions in national and international contexts^{1,16,18,19}. However, it should be noted that concurrent validity was tested only against depression; future studies should extend this evaluation to include other related disorders, such as anxiety and PTSD. Additionally, studies aiming to establish clinically meaningful cut-off scores using structured clinical interviews as the reference standard are warranted to define reliable thresholds for PG-13-R. Finally, it is essential to conduct validity studies before applying a measure in contexts that differ from its original development setting⁴¹.

Despite the results, some limitations should be addressed. Our sample was mostly composed of women and did not achieve gender heterogeneity. The non-probability sampling technique also restricts external validity, and the online data collection procedure may bias the obtained sample, since it is likely that people who are experiencing more intense grief were more inclined to participate in the survey. Furthermore, despite thorough efforts to translate and culturally adapt the scale to Brazilian Portuguese, the relatively high educational level of the sample may limit the generalizability of the findings, as comprehension of the items might differ among populations with lower educational attainment. This limitation should be explored in future studies with more diverse samples. Therefore, additional research is needed to establish the reliability of the PG-13-R using different samples and sampling techniques.

To the best of our knowledge, this is the first study to validate a diagnostic measure of PGD as per the DSM-5-TR in Brazil. Our study showed that the Brazilian version of the instrument can be considered a reliable tool for assessing prolonged grief symptoms. Despite these limitations, we hope to provide health professionals with an accessible screening tool for identifying individuals with significant PGD symptoms

without neglecting the fact that this measure cannot replace clinical evaluation. We also expect to contribute a valid tool to further explore the prolonged grief construct in the research setting, thereby supporting the scientific field in the Brazilian context.

Acknowledgments

We gratefully acknowledge the support of the following institutions: Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), and Pontifícia Universidade Católica do Rio Grande do Sul (Edital PUCRS-PrInt).

Disclosure

The authors attest that there are no conflicts of interest concerning the publication of the article.

Author contributions (CRediT Taxonomy)

LTB was responsible for conceptualization, formal analysis, investigation, methodology, visualization, writing – original draft, and writing – review and editing; AMA was responsible for data curation, formal analysis, investigation, and writing – original draft; NSS was responsible for data curation, visualization, investigation, and writing – original draft; CMP was responsible for data curation, visualization, investigation, and writing – original draft; AEB was responsible for conceptualization, formal analysis, investigation, methodology, visualization, writing – original draft, and writing – review and editing; GSM was responsible for data curation, visualization, investigation, and writing – original draft; HGP was responsible for methodology, validation, and writing – review and editing; CHK was responsible for conceptualization, funding acquisition, project administration, supervision, and writing – review and editing.

Handling Editor: Adriane Rosa

References

- 1 Heeke C, Franzen M, Hofmann H, Knaevelsrud C, Lenferink LIM. A latent class analysis on symptoms of prolonged grief, post-traumatic stress, and depression following the loss of a loved one. *Front Psychiatry*. 2022;13.
<https://doi.org/10.3389/fpsy.2022.878773/full>
- 2 Nielsen MK, Carlsen AH, Neergaard MA, Bidstrup PE, Guldin MB. Looking beyond the mean in grief trajectories: A prospective, population-based cohort study. *Soc Sci Med*. 2019;232:460-469. <https://doi.org/10.1016/j.socscimed.2019.05.038>
- 3 Lundorff M, Bonanno G, Johannsen M, O'Connor M. Are there gender differences in prolonged grief trajectories? A registry-sampled cohort study. *J Psychiatr Res*. 2020;129:168-175. <https://doi.org/10.1016/j.jpsychires.2020.06.030>
- 4 Lundorff M, Holmgren H, Zachariae R, Farver-Vestergaard I, O'Connor M. Prevalence of prolonged grief disorder in adult bereavement: A systematic review and meta-analysis. *J Affect Disord*. 2017;212:138-149.
<https://doi.org/10.1016/j.jad.2017.01.030>
- 5 Rosner R, Comtesse H, Vogel A, Doering BK. Prevalence of prolonged grief disorder. *J Affect Disord*. 2021;287:301-307.
<https://doi.org/10.1016/j.jad.2021.03.058>.
- 6 Trembl J, Brähler E, Kersting A. Prevalence, factor structure and correlates of DSM-5-TR criteria for prolonged grief disorder. *Front Psychiatry*. 2022;13:880380.
<https://doi.org/10.3389/fpsy.2022.880380>
- 7 Prigerson H, Horowitz M, Jacobs S, Parkes C, Aslan M, Goodkin K, et al. Prolonged grief disorder: psychometric validation of criteria proposed for DSM-5 and ICD-11. *PLoS Med*. 2009;6(8):e1000121 .
<https://doi.org/10.1371/journal.pmed.1000121>
- 8 Shear MK, Simon N, Wall M, Zisook S, Neimeyer R, Duan N, Reynolds C, Lebowitz B, Sung S, Ghesquiere A, Gorscak B, Clayton P, Ito M, Nakajima S, Konishi T, Melhem N, Meert K, Schiff M, O'Connor MF, First M, Sareen J, Bolton J, Skritskaya N, Mancini AD, Keshaviah A. Complicated grief and related bereavement issues for DSM-5. *Depress Anxiety*. 2011 Feb;28(2):103-17.
<https://doi.org/10.1002/da.20780>.

9 American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 5th ed. Arlington: American Psychiatric Publishing; 2013.

<https://doi.org/10.1176/appi.books.9780890425596>

10 World Health Organization. International Statistical Classification of Diseases and Related Health Problems. 11th ed. 2022. <https://icd.who.int/>

11 American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 5th ed., Text Revision. Arlington: American Psychiatric Publishing; 2022.

12 Boelen PA. Symptoms of prolonged grief disorder as per DSM-5-TR, posttraumatic stress, and depression: Latent classes and correlations with anxious and depressive avoidance. *Psychiatry Res.* 2021;302:114033.

<https://doi.org/10.1016/j.psychres.2021.114033>

13 Lenferink LIM, van den Munckhof MJA, de Keijser J, Boelen PA. DSM-5-TR prolonged grief disorder and DSM-5 posttraumatic stress disorder are related, yet distinct: Confirmatory factor analyses in traumatically bereaved people. *Eur J Psychotraumatol.* 2021;12(1):2000131.

<https://doi.org/10.1080/20008198.2021.2000131>

14 Prigerson HG, Boelen PA, Xu J, Smith K, Maciejewski P. Validation of the new DSM-5-TR criteria for prolonged grief disorder and the PG-13-Revised (PG-13-R) scale. *World Psychiatry.* 2021;20(1):96-106. <https://doi.org/10.1002/wps.20823>

15 Smith KV, Ehlers A. Prolonged grief and posttraumatic stress disorder following the loss of a significant other: An investigation of cognitive and behavioural differences. *PLoS One.* 2021;16(4):e0248852 .

<https://doi.org/10.1371/journal.pone.0248852>

16 Bolaséll LT, Oliveira VCC, Kristensen CH. The effects of exposure to factors related to death in mental health. *J Loss Trauma.* 2021;27(4):318-334.

<https://doi.org/10.1080/15325024.2021.1959854>

17 Djelantik AAA, Robinaugh DJ, Boelen PA. The course of symptoms in the first 27 months following bereavement: A latent trajectory analysis of prolonged grief, posttraumatic stress, and depression. *Psychiatry Res.* 2022;311:114472.

<https://doi.org/10.1016/j.psychres.2022.114472>

18 Komischke-Konnerup K, Vang ML, Lundorff M, Elklit A, O'Connor M. Do early symptoms of prolonged grief disorder lead to symptoms of posttraumatic stress disorder and depression? A longitudinal register-based study of the two first years of

bereavement. *J Psychopathol Clin Sci*. 2023;132(8):996-1006.

<https://doi.org/10.1037/abn0000859>

19 Komischke-Konnerup KB, Zachariae R, Johannsen M, Nielsen LD, O'Connor M. Co-occurrence of prolonged grief symptoms and symptoms of depression, anxiety, and posttraumatic stress in bereaved adults: A systematic review and meta-analysis. *J Affect Disord Rep*. 2021;4:100140. <https://doi.org/10.1016/j.jadr.2021.100140>

20 Lenferink L, Nickerson A, De Keijser J, Smid G, Boelen P. Trajectories of grief, depression and posttraumatic stress in disaster-bereaved people. *Depress Anxiety*. 2018;37(1):35-44. <https://doi.org/10.1002/da.22850>

21 Lenferink L, Nickerson A, De Keijser J, Smid G, Boelen P. Reciprocal associations among symptom levels of disturbed grief, posttraumatic stress, and depression following traumatic loss: A four-wave cross-lagged study. *Clin Psychol Sci*. 2019;7(6):1330-1339. <https://doi.org/10.1177/2167702619858288>

22 Knowles LM, Ruiz JM, O'Connor M. A systematic review of the association between bereavement and biomarkers of immune function. *Psychosom Med*. 2019;81(5):415-433. <https://doi.org/10.1097/PSY.0000000000000693>

23 Prior A, Fenger-Grøn M, Davydow DS, Olsen J, Li J, Guldin MB, et al. Bereavement, multimorbidity and mortality: A population-based study using bereavement as an indicator of mental stress. *Psychol Med*. 2018;48(9):1437-1443. <https://doi.org/10.1017/S0033291717002380>

24 Wright AA, Keating NL, Balboni TA, Matulonis UA, Block SD, Prigerson HG. Place of death: Correlations with quality of life of patients with cancer and predictors of bereaved caregivers' mental health. *J Clin Oncol*. 2010;28(29):4457-4464. <https://doi.org/10.1200/JCO.2009.26.3863>

25 Alves TM, Oliveira MC, Lotufo-Neto F. Diagnosis of complicated grief using the Texas Revised Inventory of Grief, Brazilian Portuguese version. *J Psychol Clin Psychiatry*. 2016;6(1):1-11. <https://doi.org/10.15406/jpcpy.2016.06.00316>

26 Bolaséll LT, Pizón J, Boelen PA, Kristensen CH. The Traumatic Grief Inventory Self-Report (TGI-SR) as a clinical measure to identify Brazilians with Prolonged Grief Disorder and Persistent Complex Bereavement Disorder. *Trends Psychol*. 2023. <https://doi.org/10.1007/s43076-023-00316-5>

- 27 Delalibera M, Delalibera TA, Franco MHP, Barbosa A, Leal I. Adaptação e validação brasileira do instrumento de avaliação do luto prolongado--PG-13. *Psicol Teor Prat.* 2017;19(1):94-106. <http://dx.doi.org/10.5935/1980-6906/psicologia>
- 28 Prigerson H, Maciejewski PK, Reynolds CF 3rd, Bierhals AJ, Newsom JT, Fasiczka A, et al. Inventory of Complicated Grief: A scale to measure maladaptive symptoms of loss. *Psychiatry Res.* 1995;59(1-2):65-79. [https://doi.org/10.1016/0165-1781\(95\)02757-2](https://doi.org/10.1016/0165-1781(95)02757-2)
- 29 International Test Commission. The ITC guidelines for translating and adapting tests. 2nd ed. 2017.
https://www.intestcom.org/files/guideline_test_adaptation_2ed.pdf
- 30 Hernández-Nieto R. Contribuciones al análisis estadístico. Mérida: IESINFO; 2002.
- 31 Abadi AM, Brunnet AE, Bolasell LT, Silva NS, Pinto CM, Maciel GS, et al. Prolonged grief, posttraumatic stress and depression symptoms before and after COVID-19 in Brazil. *Omega (Westport).* 2024;0(0):1-19.
<https://doi.org/10.1177/00302228241280312>
- 32 Boelen P, Smid G. The Traumatic Grief Inventory Self-Report Version (TGI-SR): introduction and preliminary psychometric evaluation. *J Loss Trauma.* 2017;22(3):196-212. <https://doi.org/10.1080/15325024.2017.1284488>
- 33 Kroenke K, Spitzer RL, Williams JB. The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med.* 2001;16(9):606-613.
<https://doi.org/10.1046/j.1525-1497.2001.016009606.x>
- 34 Lima OF, Mendes A, Crippa JA, Loureiro SR. Study of the discriminative validity of the PHQ-9 and PHQ-2 in a sample of Brazilian women in the context of primary health care. *Perspect Psychiatr Care.* 2009;45(3):216-227.
<https://doi.org/10.1111/j.1744-6163.2009.00224.x>
- 35 Hayes AF, Coutts JJ. Use Omega rather than Cronbach's alpha for estimating reliability. But... *Commun Methods Meas.* 2020;14(1):1-24.
<https://doi.org/10.1080/19312458.2020.1718629>
- 36 Ghasemi A, Zahediasl S. Normality tests for statistical analysis: a guide for non-statisticians. *Int J Endocrinol Metab.* 2012;10(2):486-9.
<https://doi.org/10.5812/ijem.3505>

37 Kline, RB. Principles and practice of structural equation modeling (4th ed.). New York: Guilford; 2016.

38 Kristensen P, Weisæth L, Heir T. Bereavement and mental health after sudden and violent losses: A review. *Psychiatry*. 2012;75(1):76-97.

<https://doi.org/10.1521/psyc.2012.75.1.76>

39 Boelen P, Djelantik A, de Keijser J, Lenferink L, Smid G. Further validation of the Traumatic Grief Inventory-Self Report (TGI-SR): A measure of persistent complex bereavement disorder and prolonged grief disorder. *Death Stud*. 2018;42(6):351-354. <https://doi.org/10.1080/07481187.2018.1480546>

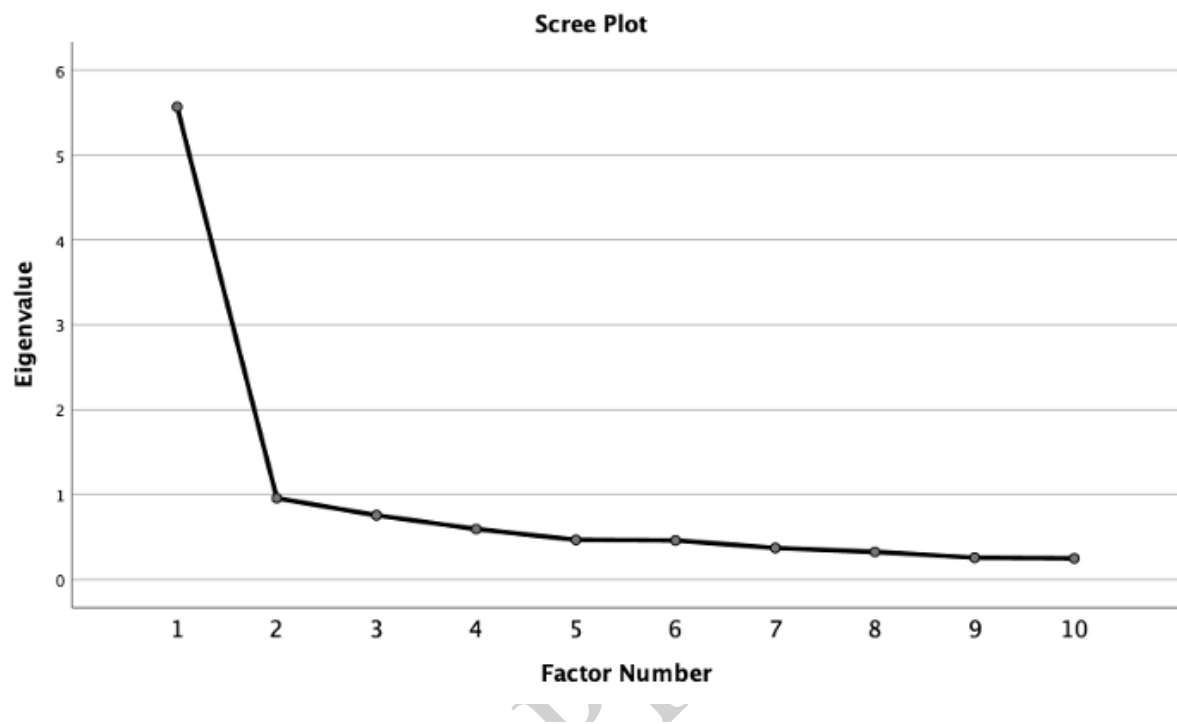
40 Lenferink LIM, Eisma MC, Smid GE, de Keijser J, Boelen PA. Valid measurement of DSM-5 persistent complex bereavement disorder and DSM-5-TR and ICD-11 prolonged grief disorder: The Traumatic Grief Inventory-Self Report Plus (TGI-SR+). *Compr Psychiatry*. 2022;112:152281.

<https://doi.org/10.1016/j.comppsy.2021.152281>

41 Borsa JC, Damásio BF, Bandeira DR. Adaptação e validação de instrumentos psicológicos entre culturas: Algumas considerações. *Paidéia*. 2012;22(53):423-432.

<http://dx.doi.org/10.1590/1982-43272253201314>

Figure 1. Eigenvalues from exploratory factor analysis for Brazilian PG-13-R symptom items



JOURNAL

Supplementary Table 1. CVI results, Brazilian final version of the PG-13-R and back-translation

Item	Original version	First version	LC	PP	TR	Final version	Back-translation
1	Have you lost someone significant to you? Yes/No	Você perdeu alguém importante para você? Sim/Não	0.75	0.75	0.75	Você perdeu alguém importante para você? Sim/Não	Have you lost someone important to you? Yes/No
2	How many months has it been since your significant other died? __ months	Quantos meses se passaram desde que essa pessoa faleceu?__ meses	0.75	0.75	0.75	Quantos meses se passaram desde que essa pessoa faleceu?__ meses	How many months have passed since this person passed away?__ months.
3	Do you feel yourself longing or yearning for the person who died?	Você percebe que sente saudade ou uma falta intensa da pessoa que faleceu?	0.45	0.75	0.75	Você percebe que sente uma falta muito intensa/anseio pela pessoa que faleceu?	Do you realize that you feel a very intense longing/yearning for the person who passed away?
4	Do you have trouble doing the things you normally do because you are thinking so much about the person who died?	Você tem dificuldade de fazer coisas que costuma fazer porque está pensando muito sobre a pessoa que faleceu?	0.75	0.75	0.75	Você tem dificuldade de fazer as coisas que costuma fazer porque está pensando muito sobre a pessoa que faleceu?	Do you have difficulty doing the things you normally do because you are thinking too much about the person who passed away?
5	Do you feel confused about your role in life or feel like you don't know who you are any more (i.e., feeling like that a part of you has died)?	Você se sente confuso sobre o seu papel na vida ou sente que você não sabe mais quem você é (por exemplo, como se uma parte sua tivesse morrido?)	0.65	0.75	0.75	Você se sente confuso sobre o seu papel na vida ou sente que você não sabe mais quem você é (por exemplo, como se uma parte sua tivesse morrido?)	Do you feel confused about your role in life or feel like you no longer know who you are (for example, as if a part of you has died)?

6	Do you have trouble believing that the person who died is really gone?	Você tem dificuldade em acreditar que a pessoa que faleceu realmente se foi?	0.75	0.75	0.75	Você tem dificuldade em acreditar que a pessoa que faleceu realmente se foi?	Do you have difficulty believing that the person who passed away is really gone?
7	Do you avoid reminders that the person who died is really gone?	Você evita lembranças de que a pessoa que faleceu realmente se foi?	0.75	0.75	0.75	Você evita lembranças de que a pessoa que faleceu realmente se foi?	Do you avoid memories that the person who passed away is really one?
8	Do you feel emotional pain (e.g., anger, bitterness, sorrow) related to the death?	Você sente dor emocional (por exemplo, raiva, amargura, tristeza) relacionadas à morte?	0.75	0.75	0.75	Você sente dor emocional (por exemplo, raiva, amargura, tristeza) relacionadas à morte?	Do you feel emotional pain (for example, anger, bitterness, sadness) related to the death?
9	Do you feel that you have trouble re-engaging in life (e.g., problems engaging with friends, pursuing interests, planning for the future)?	Você sente que tem dificuldade em retomar a sua vida? (por exemplo, interagir com amigos, buscar novos interesses, planejar o futuro)?	0.45	0.75	0.75	Você sente que tem dificuldade em voltar a se dedicar a sua vida? (por exemplo, interagir com amigos, buscar novos interesses, planejar o futuro)?	Do you feel that you have difficulty getting back to dedicating yourself to your life? (for example, interacting with friends, pursuing new interests, planning for the future)?
10	Do you feel emotionally numb or detached from others?	Você se sente emocionalmente anestesiado(a) ou afastado(a) dos outros?	0.75	0.75	0.75	Você se sente emocionalmente anestesiado(a) ou afastado(a) dos outros?	Do you feel emotionally numb or disconnected from others?
11	Do you feel that life is meaningless without the person who died?	Você sente que a vida não tem sentido sem a pessoa que faleceu?	0.75	0.75	0.75	Você sente que a vida não tem sentido sem a pessoa que faleceu?	Do you feel that life has no meaning without the person who passed away?

12	Do you feel alone or lonely without the deceased?	Você se sente sozinho ou solitário sem a pessoa que faleceu?	0.75	0.75	0.75	Você se sente sozinho ou solitário sem a pessoa que faleceu?	Do you feel alone or lonely without the person who passed away?
13	Have the symptoms above caused significant impairment in social, occupational, or other important areas of functioning? Yes/No	Os sintomas acima causaram um prejuízo significativo nas suas atividades sociais, profissionais ou em outras áreas importantes da sua vida? Sim/Não	0.75	0.75	0.75	Os sintomas acima causaram um prejuízo significativo nas suas atividades sociais, profissionais ou em outras áreas importantes da sua vida? Sim/Não	Have the above symptoms caused significant impairment in your social, professional, or other important areas of your life? Yes/No
	CVI final		0.94	1.0	1.0		

Note: CVI= content validity index; LC = language clarity; PP = pertinence in practice; TR = theoretical relevance.

Supplementary material – PG-13-R Brazilian version**Transtorno de Luto Prolongado (PG-13-Revisado)**

Q1. Você perdeu alguém importante para você? Sim Não

Q2. Quantos meses se passaram desde que essa pessoa faleceu? Meses

Para cada item abaixo, indique como você está se sentindo atualmente

Desde a morte, ou como um resultado dessa morte...	Absolutamente não	Um pouco	Moderadamente	Muito	Extremamente
Q3. Você percebe que sente uma falta muito intensa/anseio pela pessoa que faleceu?					
Q4. Você tem dificuldade de fazer as coisas que costuma fazer porque está pensando muito sobre a pessoa que faleceu?					
Q5. Você se sente confuso sobre o seu papel na vida ou sente que você não sabe mais quem você é (por exemplo, como se uma parte sua tivesse morrido?)					
Q6. Você tem dificuldade em acreditar que a pessoa que faleceu realmente se foi?					
Q7. Você evita lembranças de que a pessoa que faleceu realmente se foi?					
Q8. Você sente dor emocional (por exemplo, raiva, amargura, tristeza) relacionadas à morte?					
Q9. Você sente que tem dificuldade em voltar a se dedicar a sua vida? (por exemplo, interagir com amigos, buscar novos interesses, planejar o futuro?)					
Q10. Você se sente emocionalmente anestesiado(a) ou afastado(a) dos outros?					
Q11. Você sente que a vida não tem sentido sem a pessoa que faleceu?					
Q12. Você se sente sozinho ou solitário sem a pessoa que faleceu?					

Q13. Os sintomas acima causaram um prejuízo significativo nas suas atividades sociais, profissionais ou em outras áreas importantes da sua vida? Sim Não