Received: 25 August 2023 | Revised: 7 October 2023 | Accepted: 9 October 2023

DOI: 10.1002/cpp.2922

RESEARCH ARTICLE

WILEY

Psychometric evaluation of the Swedish Traumatic Grief Inventory Self-Report Plus (TGI-SR+) in bereaved parents

Lonneke I. M. Lenferink[1,2,3] | Iris van Dijk[2] | Maarten C. Eisma[3] | Rakel Eklund[4] | Paul A. Boelen[2,5] | Josefin Sveen[4,6]

[1]Department of Psychology, Health & Technology, Faculty of Behavioural Management and Social Sciences, University of Twente, Enschede, The Netherlands

[2]Department of Clinical Psychology, Faculty of Social Sciences, Utrecht University, Utrecht, The Netherlands

[3]Department of Clinical Psychology and Experimental Psychopathology, Faculty of Behavioral and Social Sciences, University of Groningen, Groningen, The Netherlands

[4]Department of Women's and Children's Health, Uppsala University, Uppsala University Hospital, Uppsala, Sweden

[5]ARQ National Psychotrauma Centre, Diemen, The Netherlands

[6]Centre for Crisis Psychology, Faculty of Psychology, University of Bergen, Bergen, Norway

Correspondence
Josefin Sveen, Department of Women's and Children's Health, Uppsala University, Uppsala University Hospital, 751 85 Uppsala, Sweden.
Email: josefin.sveen@uu.se

Funding information
Swedish Childhood Cancer Foundation, Grant/Award Numbers: PR2018-0047, TJ2018-0002; Swedish Infant Death Foundation

Abstract

The International Classification of Diseases Eleventh Edition (ICD-11), and the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR), now include prolonged grief disorder (PGD). Since criteria for PGD in both classification systems differ from prior proposed grief disorders and each other, the validation of a single instrument to screen for prolonged grief (PG) symptoms of both new diagnoses is critical for bereavement research and care. Therefore, we evaluated the psychometric properties of the Swedish version of the Traumatic Grief Inventory Self-Report Plus (TGI-SR+). Two-hundred and forty-eight bereaved parents completed questions about sociodemographic and loss-related variables, the TGI-SR+, and symptom measures of post-traumatic stress (PTS), depression and an older measure of PG symptoms, the Prolonged Grief Disorder-13 (PG-13). Confirmatory factor analyses showed that a one-factor model best fit DSM-5-TR and ICD-11 PG symptoms and the analyses of the internal consistency and inter-item correlations showed that these symptoms could be reliably assessed. In support of convergent validity, DSM-5-TR and ICD-11 PG symptoms correlated with symptoms of PTS, depression and PG assessed with the PG-13. In support of known-groups validity, DSM-5-TR and ICD-11 PG symptoms were higher among lower educated (vs. higher educated) participants and related negatively to time since loss. ROC analyses showed optimal cut-off score of ≥71 and ≥72 to determine probable caseness for DSM-5-TR and ICD-11 PGD, respectively. Results support the reliability and validity of the Swedish TGI-SR+ as a screening instrument for PG in research and bereavement care.

KEYWORDS
assessment, DSM-5-TR, ICD-11, prolonged grief disorder, screening, validation

Lonneke I. M. Lenferink and Iris van Dijk, Shared first authorship.

1 | INTRODUCTION

For close to three decades, researchers have attempted to define a disorder characterized by severe, persistent and disabling grief. In 2018, this resulted in the inclusion of prolonged grief disorder (PGD) in the International Classification of Diseases, Eleventh Edition (ICD-11; World Health Organization, 2018). Four years later, PGD was also added to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR; American Psychiatric Association, 2022). Despite their shared name, these versions of PGD differ in symptom count, symptom content, diagnostic algorithm and their timing criterion (Boelen & Lenferink, 2020; Eisma, 2023; Eisma et al., 2022; Lenferink et al., 2019). Additionally, the disorders differ in terms of these characteristics from prior proposed grief disorders, such as persistent complex bereavement disorder (DSM-5; American Psychiatric Association, 2013) and earlier versions of PGD (e.g. Maercker et al., 2013; Prigerson et al., 2009). In part as a consequence, frequently used measures of pathological grief, such as (versions of) the Inventory of Complicated Grief (ICG; Prigerson et al., 1995) and the Prolonged Grief Disorder-13 (PG-13; Prigerson et al., 2009) do not comprehensively assess the symptomatology of these new disorders (Eisma et al., 2022; O'Connor et al., 2020; Treml et al., 2020). Therefore, the development of instruments that can validly screen for these new versions of PGD is critical for bereavement research and care. It is particularly important that such an instrument can assess both criteria sets, as the differences between these versions of PGD could shed light on similarities and differences in the phenomenological characteristics of these new disorders.

To date, one screening instrument has been developed to screen for PGD per ICD-11, the International Prolonged Grief Disorder Scale (IPGDS; Killikelly et al., 2020) and another to screen for PGD DSM-5-TR, the Prolonged Grief Disorder-13-Revised (PG-13-R; Prigerson et al., 2021). Yet, only one scale specifically screens for both versions of PGD, thus allowing easy comparisons of both constructs: the Traumatic Grief Inventory Self-Report Plus (TGI-SR+; Lenferink et al., 2022), a 22-item expanded version of the 18-item TGI-SR (Boelen, Djelantik, et al., 2019; Boelen & Smid, 2017). In addition to being the only scale that allows to assess both symptom sets simultaneously, the TGI-SR+ has the added advantage of being available completely open access at the open science framework and in multiple languages (see https://osf.io/rqn5k/). Moreover, an interview format of this measure is available in multiple languages (Lenferink et al., 2023) as well as a version developmentally adapted to children and adolescents (van Dijk et al., 2023).

Currently, the TGI-SR+ is available in 14 languages, including most major world languages (e.g. English, French, Norwegian, Mandarin, Portuguese, Ukrainian, Spanish), and more translations are forthcoming. This will enable empirical research and to some extent phenomenological comparisons of both versions of PGD across languages and cultures. This is imperative, as research on pathological grief to date has been conducted in comparatively few countries and it is still an outstanding question if PGD is clinically applicable across languages and cultures (Eisma, 2023; Stelzer et al., 2020).

Key Practitioner Message

- The Traumatic Grief Inventory Self-Report Plus (TGI-SR+) is a new self-report instrument for ICD-11 and DSM-5-TR prolonged grief symptoms.
- Our research in a sample of bereaved parents supported the reliability and validity of the Swedish TGI-SR+.
- The Swedish TGI-SR+ can be used as a screening instrument for prolonged grief in research and clinical practice.

Prior research has examined the psychometric properties of the original Dutch TGI-SR+ (Lenferink et al., 2022) and the translated French TGI-SR+ (Kokou-Kpolou et al., 2022). Main findings are summarized here. Factor analyses demonstrated that a one-factor model best fit TGI-SR+ items representing ICD-11 and DSM-5-TR PG symptoms both in the Dutch and French versions. The TGI-SR+ demonstrated good internal consistency and temporal stability in both languages for the total scores for ICD-11 and DSM-5-TR PG symptoms. In support of convergent validity of the TGI-SR+, positive correlations were reported between total scores on the TGI-SR+ and depression and PTS symptoms in both validation studies. Furthermore, in the Dutch validation study, known-groups validity was supported by showing that people who were relatively lower educated, more recently bereaved, lost a spouse or child (vs. other relative or close person), due to unnatural causes (vs. natural causes) reported significantly higher summed scores on items measuring DSM-5-TR and ICD-11 PG symptoms. However, gender did not relate consistently to differences in DSM-5-TR and ICD-11 PG symptom levels. Similarly, French bereaved adults who had lost a first degree relative (vs. second degree relative) and had experienced an unnatural loss (vs. natural loss) reported higher symptom levels on the TGI-SR+. Taken together, findings provide support for the validity of the TGI-SR+ to screen for PG symptoms per DSM-5-TR and ICD-11, suggesting that this instrument can be a useful tool for Dutch and French research and practice. However, research on the psychometric properties of the TGI-SR+ needs to expand to other language areas and cultures, to enable research efforts to better understand severe and persistent grief reactions globally.

2 | THE CURRENT STUDY

The aim of this study was to evaluate the psychometric properties of the Swedish TGI-SR+ in bereaved parents. To do so, we evaluated the factor structure, reliability, convergent validity, known-groups validity and an optimal cut-off for probable PGD cases for items representing the DSM-5-TR and ICD-11 PGD symptom sets separately. Based on prior validation studies of the Dutch and French TGI-SR+ (Kokou-Kpolou et al., 2022; Lenferink et al., 2022), we expected to find an acceptable fit for the unidimensional model for items representing DSM-5-TR and ICD-11 PG symptoms. We did not expect a

relevant improvement of fit for the two-factor model over the one-factor model for both criteria sets. Moreover, we expected a good reliability for the one-factor models for DSM-5-TR and ICD-11 PG symptoms. To demonstrate convergent validity, we expected that summed scores of DSM-5-TR and ICD-11 items would be positively associated with symptoms of PTS, depression and PG measured with the PG-13, a now outdated instrument to assess PG symptoms (Heeke et al., 2019; Komischke-Konnerup et al., 2021). For examination of known-groups validity, we expected higher DSM-5-TR and ICD-11 PG symptoms for females (vs. males), for people with no university or college degree (vs. university or college degree) and for people who were more recently (vs. more remotely) bereaved (Doering et al., 2022; Heeke et al., 2019). We planned to determine cut-off scores for probable cases of DSM-5-TR and ICD-11 PGD. For the Dutch TGI-SR+, a cut-off score for the total TGI-SR+ score was found to lie between 71 and 75 for detecting probable DSM-5-TR and ICD-11 PGD (Lenferink et al., 2022). Similar cut-off scores were expected for the Swedish TGI-SR+.

3 | METHODS

3.1 | Participants and procedures

The participants in this study are individuals taking part in a randomized controlled trial evaluating the efficacy of a self-help app aiming to facilitate the grieving process, My Grief (Swedish: Min Sorg), for bereaved parents (Eklund et al., 2021, 2022). The sample for this study comprised bereaved parents living in Sweden. The inclusion criteria were as follows: lost a child between 1 and 10 years ago; have elevated symptom levels of PG (Prolonged Grief Disorder-13, PG-13; Pohlkamp et al., 2018; Prigerson et al., 2009, cut-off >16); ability to understand and respond in Swedish; and access to a smartphone. Exclusion criteria were self-reported ongoing suicidal thoughts or psychosis, assessed with single items in the screening questionnaire.

Potential participants were recruited by identifying children diagnosed with a malignancy who died between 2010 and 2020 from the Swedish Childhood Cancer registry and the Cause of Death Registry and subsequently identifying the children's parents from the Swedish Population Register at the Swedish Tax Agency. The potential participants were sent an invitation letter by post (September–November 2021). Additional participants were recruited though social media and newsletter advertisement at two non-profit organizations for bereaved parents in Sweden, during January 2022. Individuals who were interested to participate were directed to the project website www.minsorg.com to get information about the study and to complete a screening questionnaire assessing the inclusion and exclusion criteria. Eligible participants were automatically directed to an informed consent form and the baseline questionnaire, before being randomized. Data from baseline questionnaire were used in this study.

Of 363 parents who signed up for the study, only 248 parents met the inclusion criteria and completed the baseline questionnaire. All participants signed informed consent forms. The study was approved by the Swedish Ethical Review Authority (project no. 2021-00770 and 2021-05333-02).

3.2 | Measures

3.2.1 | Demographic and loss-related variables

The following demographic and loss-related variables were assessed: parent's and the deceased child's age and gender (male, female or non-binary), the participant's education level, country of birth, cause of death and time since loss.

3.2.2 | TGI-SR+

The TGI-SR+ is an extension of the 18-item TGI-SR (Boelen, Djelantik, et al., 2019; Boelen & Smid, 2017, but see Baş et al., 2022; Cherblanc et al., 2023). Four items were added to the TGI-SR in order to assess the most recent DSM-5-TR and ICD-11 PG symptoms; this 22-item self-report measure is called the TGI-SR+ (Lenferink et al., 2022). As noted, the TGI-SR+ is available in multiple languages and can be freely downloaded from https://osf.io/rqn5k/. For details about how items were mapped on PG symptoms, see https://osf.io/7w562. Participants are instructed to rate to what extent they have experienced each grief reaction in the past month in response to the death of their child on 5-point Likert scales with 1 = *never* and 5 = *always*. An example item is 'I felt alone or detached from others'.

Probable DSM-5-TR PGD cases can be detected by following the diagnostic scoring rule of the DSM-5-TR (American Psychiatric Association, 2022), which includes the endorsement (i.e. item score of ≥4) of at least one of the two criterion B (i.e. separation distress) items (items 1 and 3), at least three out of the eight criterion C (i.e. cognitive, emotional and behavioural) items (items 6, 9, 10, 11, 19, 21, and highest score on items 2 and 8) and the criterion D (i.e. functional impairment) item (item 13). In keeping with prior work (Boelen & Smid, 2017; Lenferink et al., 2022), endorsement was defined as a score of at least 4 on the 1–5 Likert scale.

Probable ICD-11 PGD cases can be identified by following the liberal diagnostic rule used in prior research (Mauro et al., 2019), which states that at least one out of the two criterion B (separation distress) symptoms (items 1 and 3) should be present, at least one out of 10 criterion C symptoms (items 2, 5, 8, 9, 10, 16, 19, 20, 21 and 22), and the criterion D symptom (item 13). A more conservative diagnostic scoring rule for probable caseness of ICD-11 PGD can be applied, in which at least five out of 10 criterion C symptoms should be present (Boelen, Djelantik, et al., 2019; Boelen & Lenferink, 2020; Eisma et al., 2020).

The Swedish TGI-SR+ was translated from English using forward–backward translation method following the European Organization for Research and Treatment of Cancer (EORTC) guidelines (Kuli et al., 2017), conducted by two Swedish speaking researchers

and one professional translator. One adaptation was that the items were changed from imperfect tense to past tense (e.g. 'I had …' to 'I have had'), as it was judged to be more understandable in Swedish. No other notable adaptions or differences were made.

3.2.3 | Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5)

PTS symptoms were assessed with the Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5) (Blevins et al., 2015). The self-rating instrument consists of 20 items, mapping the DSM-5 symptoms of PTSD, rated on a 5-point scale from 0 = *not at all* to 4 = *extremely*, with a total sum of 0–80. In the instruction 'the stressful event' was replaced with 'your loss'. A cut-off score of ≥31–33 may indicate probable PTSD in both the original (Blevins et al., 2015) and Swedish versions (Bondjers, 2020). The Swedish version has shown satisfactory psychometric properties (Sveen et al., 2016).

3.2.4 | Patient Health Questionnaire (PHQ-9)

Depressive symptoms were assessed with the Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001). PHQ-9 is a widely used nine-item self-report measure of DSM-5 criteria for depression, rated on a 4-point scale ranging from 0 = *not at all* to 3 = *nearly every day*, yielding a total score of 0–27. It includes an additional functional impairment item (yes/no). The cutoff score of ≥10 may indicate probable depression (Gilbody et al., 2007; Kroenke et al., 2001). The Swedish version has shown satisfactory psychometric properties (Hansson et al., 2009).

3.2.5 | PG-13

The PG-13 was used to assess PG symptoms according to the provisional PGD criteria proposed by Prigerson et al. (2009). The PG-13 is a 13-item self-report measure, including 11 items assessing cognitive, behavioural and emotional symptoms, rated on a 5-point scale ranging from 1 = *not at all* to 5 = *several times a day/overwhelmingly*, with a total score of 11–55. In addition, the PG-13 includes one duration item (yes/no) and one impairment (yes/no). The Swedish version has shown satisfactory psychometric properties (Pohlkamp et al., 2018; Sveen et al., 2020). A preliminary cutoff score of ≥35 indicating probable PGD has been suggested based on research in a sample of bereaved parents (Pohlkamp et al., 2018).

3.3 | Statistical analyses

All statistical analyses were performed in SPSS (IBM Corp, 2017), except for the confirmatory factor analyses (CFAs), which were performed in Mplus 7.4 (Muthén & Muthén, 1998).

3.3.1 | Factor structure

CFAs were conducted for the DSM-5-TR and ICD-11 PG symptom items of the TGI-SR+ separately to determine the best fitting factor model. First, kurtosis and skewness values were checked for the items; kurtosis values <10 and skewness values <3 are indicative of univariate normal distribution of item scores (Kline, 2011). All kurtosis and skewness values were below 2. Therefore, the default maximum likelihood estimator was used. Two people had missing data on all TGI-SR+ items and were therefore excluded from the analyses.

We first estimated a one-factor model, followed by a two-factor model (with the two separation distress items representing one factor and the additional items representing a second factor). The following fit statistics were used for model selection (Kline, 2011): a comparative fit index (CFI) and Tucker–Lewis index (TLI) (both excellent fit when >.95; acceptable fit when >.90), the root mean square error of approximation (RMSEA) and the standardized root-mean-square residual (SRMR) (both excellent fit when <.08; acceptable fit when <.10) and the Akaike information criterion (AIC) and the Bayesian information criterion (BIC) (lower values indicate better fit). The two models were statistically compared using chi-square tests, whereby $p < .05$ indicates a significantly better fit of the two-factor model compared with the one-factor model. Moreover, parsimony was taken into account during model selection, meaning that models with fewer parameters were preferred over more complex models. Modification indices were examined, if needed, to improve the fit of the (most parsimonious) model.

3.3.2 | Reliability

McDonald's omega values were computed to examine reliability of both the DSM-5-TR and ICD-11 PG symptom items. Values $\omega > 0.70$ indicate an acceptable internal consistency (Hayes & Coutts, 2020). Furthermore, inter-item correlations were computed. Values >.80 are used as indication for item redundancy (Diamantopoulos et al., 2012).

3.3.3 | Convergent validity

Correlational analyses were conducted to examine associations between DSM-5-TR and ICD-11 PG symptom total scores and symptoms of PTSD, depression and disturbed grief (measured with PG-13) according to Prigerson et al. (2009). First, we checked whether these data were normally distributed. As this was not the case, Spearman's rho correlations were computed, where values ≤0.29 were considered weak, ≥0.30 ≤ 0.49 moderate and ≥0.50 strong.

3.3.4 | Known-groups validity

To examine whether DSM-5-TR and ICD-11 PG symptom total scores differed for gender (male vs. female; the 'non-binary' category was

excluded from the analyses as no participants identified themselves as 'non-binary'; see Table 1) and educational level (university vs. other), Mann–Whitney *U* tests were conducted. Using Spearman's rho correlational analyses, the associations between time since loss (in months) and DSM-5-TR and ICD-11 PG symptom total scores were examined.

TABLE 1 Demographic characteristics, loss-related characteristics, and symptom levels of psychological outcomes of the sample ($N = 248$).

Background characteristics	
Gender [*n* (%)]	
Female	199 (80.2)
Male	49 (19.8)
Non-binary	0 (0)
Age (in years) [*M* (*SD*); range]	46.89 (10.19); 24–73
Education level	
<University [*n* (%)]	110 (44.4)
≥University [*n* (%)]	138 (55.6)
Country of birth [*n* (%)]	
Sweden	227 (91.5)
Other	21 (8.5)
Loss-related characteristics	
Child is [*n* (%)]	
Daughter	98 (39.5)
Son	145 (58.5)
Non-binary	1 (0.4)
No reply	4 (1.6)
Cause of death [*n* (%)]	
Cancer	125 (50.4)
Born dead	28 (11.3)
Infant death (under 1 year)	27 (10.9)
Accident	27 (10.9)
Mental health problem	19 (7.7)
Other disorders	18 (7.3)
Other causes	3 (1.2)
Unknown	1 (0.4)
Age of the child (in years) [*M* (*SD*); range]	11.15 (10.00); 0–38
Time since loss (in months) [*M* (*SD*); range]	57.93 (31.94); 9–189
Psychological outcomes	
DSM-5-TR PG symptoms (TGI-SR+) (*M* (*SD*); range)[a]	32.43 (8.55); 11–50
ICD-11 PG symptoms (TGI-SR+) [*M* (*SD*); range][a]	37.29 (10.12); 13–60
PTSD symptoms (PCL-5) [*M* (*SD*); range][b]	25.49 (14.89); 0–73
Depression symptoms (PHQ-9) [*M* (*SD*); range]	8.65 (5.87); 0–26

Abbreviations: DSM-5-TR, 5th text revised edition of the Diagnostic and Statistical Manual of Mental Disorders; ICD-11, 11th edition of the International Classification of Diseases; PCL-5, Posttraumatic Stress Disorder Checklist for DSM-5; PHQ-9, Patient Health Questionnaire 9; PTSD, post-traumatic stress disorder; TGI-SR+, Traumatic Grief Inventory Self-Report Plus.

[a]$N = 246$.

[b]$N = 247$.

3.3.5 | Rates of probable DSM-5-TR and ICD-11 PGD caseness

Using the diagnostic scoring rules (described in Section 3), we calculated percentages of people meeting versus not meeting probable DSM-5-TR and ICD-11 PGD caseness.

3.3.6 | Optimal cut-off

Using receiver operating characteristic (ROC) analyses, we determined the optimal cut-off score on (1) the summed score of all 22 TGI-SR+ items (range 22–110), (2) the summed score of DSM-5-TR PGD items (range 10–50; excluding the functional impairment item) and (3) the summed score of ICD-11 PGD items (range 12–60; excluding the functional impairment item) to distinguish between individuals that met versus did not meet probable DSM-5-TR or ICD-11 PGD caseness. Both a liberal and conservative diagnostic rule was used for the ICD-11 PGD (described in Section 3). Youden's index was determined (i.e. sensitivity rates − (1 − specificity rates), with sensitivity and specificity rates being the percentages of true positives and negatives, respectively). A value below 0.70 represents a poor accuracy for the distinction between (probable) caseness and non-caseness. Values between 0.70 and 0.80 are considered fair, between 0.80 and 0.90 are considered good and between 0.90 and 1 are considered excellent (Ferraris, 2019).

4 | RESULTS

4.1 | Sample characteristics

Sample characteristics are shown in Table 1. Four out of five participants identified as female. The mean age of the participants was 47 years. The child of about half of the participants died from cancer. Children were on average 11 years old when they died. On average, the loss occurred approximately 5 years previously.

4.2 | Factor structure of DSM-5-TR prolonged grief symptoms

The one-factor model showed an acceptable fit for DSM-5-TR PG symptom items as evidenced by acceptable CFI, TLI and RMSEA values and good SRMR value. The two-factor model had a better fit as indicated by higher CFI and TLI values and lower RMSEA, SRMR, AIC and BIC values. While the fit of the two-factor model was also significantly better than the one-factor model ($\Delta \chi^2$ (Δ df) = 6.21 (1),

TABLE 2 Fit indices confirmatory factor analysis ($N = 246$).

	χ^2 (df)	*p*-value	CFI	TLI	RMSEA (90% CI)	SRMR	AIC	BIC
DSM-5-TR PG symptoms								
1-factor model	115.69 (35)	<.001	0.93	0.91	0.097 (0.078–0.117)	0.046	6654.96	6760.12
2-factor model	109.48 (34)	<.001	0.94	0.92	0.095 (0.075–0.115)	0.045	6650.75	6759.41
ICD-11 PG symptoms								
1-factor model	270.79 (54)	<.001	0.85	0.82	0.128 (0.113–0.143)	0.062	8154.41	8280.60
2-factor model	267.73 (53)	<.001	0.85	0.82	0.128 (0.113–0.144)	0.061	8153.35	8283.04
1-factor model with correlated error terms[a]	170.59 (51)	<.001	0.92	0.90	0.098 (0.082–0.114)	0.052	8060.21	8196.91

Abbreviations: AIC, Akaike information criterion; BIC, Bayesian information criterion; CFI, comparative fit index; CI, confidence interval; DSM-5-TR, 5th text revised edition of the Diagnostic and Statistical Manual of Mental Disorders; ICD-11, 11th edition of the International Classification of Diseases; PGD, prolonged grief disorder; RMSEA, root mean square error of approximation; SRMR, standardized root mean square residual; SS-BIC, sample-size adjusted Bayesian information criterion; TLI, Tucker–Lewis index.

[a]Error terms of Item pairs C8–C9, C3–C6 and C8–C10 were correlated.

TABLE 3 Standardized factor loadings of the 1-factor models of DSM-5-TR and ICD-11 PG symptoms ($N = 246$).

	Factor loading	SE
DSM-5-TR PG symptoms		
B1	.599	.044
B2	.628	.042
C1	.729	.033
C2	.612	.043
C3	.506	.050
C4	.758	.031
C5	.777	.029
C6	.756	.031
C7	.823	.024
C8	.739	.033
ICD-11 PG symptoms[a]		
B1	.635	.042
B2	.690	.038
C1	.796	.028
C2	.618	.043
C3	.624	.043
C4	.643	.041
C5	.524	.050
C6	.749	.032
C7	.693	.037
C8	.679	.038
C9	.666	.040
C10	.730	.034

Abbreviations: DSM-5-TR, 5th text revised edition of the Diagnostic and Statistical Manual of Mental Disorders; ICD-11, 11th edition of the International Classification of Diseases; PGD, prolonged grief disorder; SE, standard error.

[a]Error terms of Item pairs C8–C9, C3–C6, and C8–C10 were correlated.

$p < 0.05$), the association between the two factors was high ($r = .88$, $p < .001$). The high correlation between the two factors indicates that the two factors may not differ meaningfully. We therefore selected the most parsimonious one-factor model as the optimal model. See Table 2 for the model fit statistics of the two-factor models. Table 3 shows the factor loadings of the unidimensional model.

4.3 | Factor structure of ICD-11 prolonged grief symptoms

The one-factor and two-factor model did not consistently show an acceptable fit of ICD-11 PG symptom items on all fit indices, except for the SRMR, which indicated a good fit for both the one-factor and two-factor model. The two-factor model did not show a significant improvement in fit over the one-factor model ($\Delta\ \chi^2$ (Δ df) = 3.06 (1), $p > 0.05$). Therefore, the modification indices (MIs) of the one-factor model (i.e. the most parsimonious model) were examined to identify indicators of model improvement. The MIs indicated strong associations between some item pairs. Following prior research (Lenferink et al., 2022), we compared the statistical fit of the model without correlated error terms with models including correlated error terms. We started with allowing error-terms to correlate between the item pair with the highest MI [i.e. item pair C8 ('I had difficulties experiencing positive feelings') and C9 (i.e. 'I felt emotionally numb')]. Because this did not lead to substantial improvement in model fit, we included the correlation between error terms of the item pair, which had the second highest MI [i.e. C3 ('I felt bitterness or anger related to his/her death') and C6 ('I had trouble accepting the loss')], and subsequently of C8 and C10 (i.e. 'I had difficulties experiencing positive feelings' and 'I felt that moving on (e.g. making new friends, pursuing new interests) was difficult for me'). After correlating the error terms for these three item pairs, the model had an acceptable fit. See Table 2

for the model fit indices. Table 3 represents the factor loadings of the one-factor model with correlated error terms.

4.4 | Reliability

McDonald's omega was .90 for DSM-5-TR PG symptom items and .91 for ICD-11 PG symptom items. This reflects excellent internal consistency. Table S1 shows the inter-item correlations for all items. Inter-item correlations ranged from .231 to .669 for the items representing DSM-5-TR PG symptoms and .251 to .696 for the items representing ICD-11 PG symptoms. This does not point to item redundancy.

4.5 | Convergent validity

As expected, strong positive associations were found between DSM-5-TR PG symptoms and symptoms of PTS ($\rho = .81$, $p < .001$), depression ($\rho = .68$, $p < .001$) and PG measured with PG-13 ($\rho = .81$, $p < .001$). Strong positive correlations were also found between ICD-11 PG symptoms and symptoms of PTS ($\rho = .81$, $p < .001$), depression ($\rho = .67$, $p < .001$) and PG measured with PG-13 ($\rho = .82$, $p < .001$).

4.6 | Known-groups validity

Contrary to the hypotheses, DSM-5-TR and ICD-11 PG symptoms were not significantly different across gender (male vs. female; see Table 1; $U = 4094.5$, $p = .100$ for DSM-5-TR PG symptoms; $U = 4127.5$, $p = .132$ for ICD-11 PG symptoms). Individuals with an educational level other than college or university had higher DSM-5-TR and ICD-11 PG symptoms, which is in line with our hypotheses ($U = 6203.0$, $p < .05$ for DSM-5-TR PG symptoms; $U = 6307.5$, $p < .05$ for ICD-11 PG symptoms). As expected, time since loss was significantly and negatively associated with DSM-5-TR ($\rho = -.22$, $p < .001$) and ICD-11 PG symptoms ($\rho = -.21$, $p < .001$).

4.7 | Rates of probable DSM-5-TR and ICD-11 PGD Caseness

Seventy-three people (29%) met criteria for probable DSM-5-TR PGD. When using the liberal scoring rule for ICD-11 PGD, 80 people (32%) met probable ICD-11 PGD caseness, while 64 people (26%) met probable ICD-11 PGD caseness using the conservative scoring rule.

4.8 | Optimal cut-off

The optimal cut-off using the total score of the TGI-SR+ (22 items; possible range is 22–110) for probable caseness of DSM-5-TR PGD was ≥71 (AUC = 0.929, 95% CI: 0.899–0.959). With this score, 89% of probable cases were correctly identified, and 15% was incorrectly identified as probable DSM-5-TR PGD case. Youden's index was fair ($J = 0.74$).

When using the liberal scoring rule for probable ICD-11 PGD caseness (i.e. ≥1 criterion C symptoms endorsed), the optimal cut-off score was ≥71 (AUC = 0.869, 95% CI: 0.824–0.914). This cut-off-score resulted in 81% of probable cases being correctly identified as an ICD-11 PGD case and 16% being incorrectly identified. Youden's index was poor ($J = 0.66$). A total score of ≥72 on the TGI-SR+ was the optimal cut-off for probable ICD-11 PGD caseness using the conservative rule, ≥5 criterion C symptoms endorsed (AUC = 0.934, 95% CI: 0.905–0.963). With this score, 97% of cases were correctly identified as probable ICD-11 PGD case, while 14% were incorrectly identified. Youden's index was good ($J = 0.83$).

When determining the optimal cut-off when including only the 10 DSM-5-TR PGD symptoms (possible range is 10–50), it appeared that a score of ≥33 was optimal score for determining probable caseness (AUC = 0.915, 95% CI: 0.882–0.948). Using this cut-off score, 99% of probable cases were correctly identified, and 29% was incorrectly identified ($J = 0.70$; this is fair). Furthermore, the optimal cut-off, including only the 12 ICD-11 PGD symptoms (possible range is 12–60) and using the liberal scoring rule, was ≥42 (AUC = 0.869, 95% CI: 0.824–0.914). With this score, 79% of cases were correctly identified and 15% were incorrectly identified as probable ICD-11 PGD case. The Youden's index was poor ($J = 0.63$). When using the conservative scoring rule for probable ICD-11 PGD caseness, the optimal cut-off score was ≥42 (AUC = 0.934, 95% CI: 0.905–0.963). With this score, 97% were correctly identified as a probable ICD-11 PGD cases, and 15% were incorrectly identified as probable case ($J = 0.82$; this is good).

5 | DISCUSSION

The aim of the present study was to evaluate psychometric properties of the Swedish version of the TGI-SR+ in a sample of parents seeking treatment after the death of their child. First, CFAs showed that a one-factor model (vs. a two-factor model) best fit the items representing PG symptoms per DSM-5-TR and ICD-11. This offers evidence for the construct validity of the TGI-SR+ in assessing these symptom sets. However, it should be noted that error terms of three item pairs representing the ICD-11 PG symptoms needed to be correlated in order to achieve an acceptable fit for the one-factor model. These findings mirror findings of the original Dutch TGI-SR+ where similar measures were taken to achieve an acceptable model fit (Lenferink et al., 2022). This suggests that there is some systematic error variance that is unexplained by the one-factor model of this criteria-set that needs further examination. McDonald's omega values and inter-item correlations showed that internal consistency of the items assessing DSM-5-TR and ICD-11 PG symptoms was high.

Evidence for convergent validity was provided by showing strong positive correlations between DSM-5-TR and ICD-11 PG symptom

levels as assessed with the TGI-SR+ and symptoms of PTS and depression. This aligns with the well-documented strong associations of PG symptoms with symptoms of these neighbouring disorders (Kokou-Kpolou et al., 2022; Lenferink et al., 2022; for reviews see Heeke et al., 2019; Komischke-Konnerup et al., 2021). Furthermore, strong positive associations were found between DSM-5-TR and ICD-11 PG symptoms and PG symptoms per Prigerson et al. (2009). However, the strength of the associations between DSM-5-TR/ICD-11 PG symptoms and PTS symptoms and of the associations between DSM-5-TR/ICD-11 PG symptoms and PG symptoms measured with PG-13 were highly similar ($r = .81/.82$), while the associations between the DSM-5-TR/ICD-11 PG symptoms and depression symptoms were comparatively lower ($r = .67/.68$). One may expect that the associations between the different PG symptoms would be stronger than the associations between DSM-5-TR/ICD-11 PG symptoms and PTS symptoms. This study is, to the best of our knowledge, one of the first showing that PGD-as measured with PG-13 is highly related, yet slightly different from the newer PGD criteria sets. This aligns with concerns voiced by researchers that differences in symptom count and content between past and current criteria sets, and the lack of correspondence between past questionnaires and current criteria sets, threaten the generalizability of past findings on pathological grief to the newest versions of PGD (e.g. Eisma, 2023; Eisma et al., 2022; Lenferink et al., 2019).

Evidence was provided for the known-groups validity of the TGI-SR+, as PG symptom levels per DSM-5-TR and ICD-11 were higher among lower educated participants and such symptom levels were negatively related to time since loss, which is consistent with results on the Dutch TGI-SR+ (Lenferink et al., 2022) as well as the broader literature (e.g. Doering et al., 2022; Heeke et al., 2019). However, gender was not significantly related to PG symptoms. It should be noted that a gender difference was also not consistently shown in the validation study of the Dutch TGI-SR+ (Lenferink et al., 2022) and that our power to detect such differences may have been limited due to the relatively small size of the group of men in the current study.

Estimated prevalence of probable PGD ranged from 26% to 32%, dependent on the diagnostic system and chosen diagnostic algorithm. This aligns with reviews showing that child loss is a potential risk factor for severe and persistent grief (e.g. Burke & Neimeyer, 2013) as well as with prior research in a national Swedish sample showing that about a third of bereaved parents develops such grief responses following the death of a child (Pohlkamp et al., 2019). However, it should be noted that the present sample was pre-selected on experiencing elevated grief levels for participation in a trial on a grief app and, as such, these comparisons should be made with caution.

Optimal cut-off points for probable PGD for the TGI-SR+ total score were determined at ≥71 for DSM-5-TR criteria and ≥72 for ICD-11 criteria, using a conservative scoring rule, and ≥71 for ICD-11 criteria, using a liberal scoring rule. These values are comparable with those of the Dutch TGI-SR+. For more efficient administration of the TGI-SR+ to identify possible cases, we also determined cut-offs for items corresponding with PGD per DSM-5-TR and ICD-11, which were ≥33 and ≥43 (regardless of the chosen scoring rule), respectively. An interesting observation is that Youden's index indicated that the liberal scoring rule yielded a suboptimal balance between sensitivity and specificity for the ICD-11 PGD criteria, suggesting that this should not be used in research and practice. Evidence has shown that correspondence in estimated prevalence of pathological grief for ICD-11 PGD compared to prior proposed criteria sets is optimal when using a conservative scoring rule of four or five additional symptoms (Boelen & Lenferink, 2020; Boelen, Lenferink, & Smid, 2019; Comtesse et al., 2020). Accordingly, it is advisable to abandon using the liberal scoring rule in favour of the conservative scoring rule for research purposes.

In summary, the present study provides the first evidence of the reliability and construct, convergent and known-groups validity of the Swedish version of the TGI-SR+. Despite the encouraging results from this investigation, some limitations should be kept in mind when interpreting the findings from this study. First, this constituted a unique, non-representative bereaved sample. For example, about four in five participants identified themselves as female, all participants had experienced the loss of a child, and the time since loss was 5 years on average. Moreover, people were selected for this study if they experienced elevated levels of PG symptoms and were interested in receiving grief support via an app. These study characteristics may limit the generalizability of our findings to other groups of bereaved adults. However, it should be noted that the results found in the present study were comparable to the results of past validation studies using different samples (Kokou-Kpolou et al., 2022; Lenferink et al., 2022), which appears to suggest that the TGI-SR+ has similar psychometric properties across different groups of bereaved adults. Nevertheless, further examinations of the Swedish TGI-SR+ in diverse bereaved samples are warranted. Second, the cross-sectional design of this study precluded the examination of test–retest reliability and predictive validity. This remains an important goal for future research. Third, to determine the optimal cut-off of the TGI-SR+, we relied on the probable caseness of PGD using the TGI-SR+ items, instead of diagnostic interviews, which is understandable because diagnostic interviews for DSM-5-TR and ICD-11 PGD have not been available until recently (Lenferink et al., 2023). However, it should be considered that the use of cut-offs from questionnaires commonly lead to overestimation of true cases of disorders (e.g. Thombs et al., 2018) and that the TGI-SR+ can only be used to derive a preliminary indication if people potentially suffer from PGD. Future studies should validate the TGI-SR+ against clinical interviews.

6 | CONCLUSIONS

Notwithstanding these limitations, the findings from this study offer support for the reliability and validity of the Swedish version of the TGI-SR+ as an assessment tool for symptoms of PG per DSM-5-TR and ICD-11 in research and clinical practice. The TGI-SR+ provides an easy-to-use screening tool for clinical practice to identify people

showing severe and persistent grief and will enable further empirical examination of the phenomenological characteristics of the symptomatology of these new grief disorders in Sweden.

ACKNOWLEDGMENTS

A special thanks to all parents that participated in this study.

CONFLICT OF INTEREST STATEMENT

We have no conflict of interest to disclose.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author (JS) upon reasonable request.

ORCID

Maarten C. Eisma https://orcid.org/0000-0002-6109-2274
Paul A. Boelen https://orcid.org/0000-0003-4125-4739
Josefin Sveen https://orcid.org/0000-0002-5523-8126

REFERENCES

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Publishing. https://doi.org/10.1176/appi.books.9780890425596

American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders, text revision DSM-5-TR*. American Psychiatric Pub Inc. https://doi.org/10.1176/appi.books.9780890425787

Baş, S., Yüksel, Ö., Ülbe, S., & Güngör, D. (2022). Turkish version of the traumatic grief inventory-self report (TGI-SR): Validity and reliability. *Death Studies*, *46*, 1481–1489. https://doi.org/10.1080/07481187.2020.1850551

Blevins, C. A., Weathers, F. W., Davis, M. T., Witte, T. K., & Domino, J. L. (2015). The posttraumatic stress disorder checklist for DSM-5 (PCL-5): Development and initial psychometric evaluation. *Journal of Traumatic Stress*, *28*, 489–498. https://doi.org/10.1002/jts.22059

Boelen, P. A., Djelantik, A. A. A. M. J., de Keijser, J., Lenferink, L. I. M., & Smid, G. E. (2019). Further validation of the traumatic grief inventory-self report (TGI-SR): A measure of persistent complex bereavement disorder and prolonged grief disorder. *Death Studies*, *43*, 351–364. https://doi.org/10.1080/07481187.2018.1480546

Boelen, P. A., & Lenferink, L. I. M. (2020). Comparison of six proposed diagnostic criteria sets for disturbed grief. *Psychiatry Research*, *285*, 112786. https://doi.org/10.1016/j.psychres.2020.112786

Boelen, P. A., Lenferink, L. I. M., & Smid, G. E. (2019). Further evaluation of the factor structure, prevalence, and concurrent validity of DSM-5 criteria for persistent complex bereavement disorder and ICD-11 criteria for prolonged grief disorder. *Psychiatry Research*, *273*, 206–210. https://doi.org/10.1016/j.psychres.2019.01.006

Boelen, P. A., & Smid, G. E. (2017). The traumatic grief inventory self-report version (TGI-SR): Introduction and preliminary psychometric evaluation. *Journal of Loss and Trauma*, *22*, 196–212. https://doi.org/10.1080/15325024.2017.1284488

Bondjers, K. (2020). Post-traumatic stress sisorder – Assessment of current diagnostic definitions [Uppsala University]. https://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-403118

Burke, L. A., & Neimeyer, R. A. (2013). Prospective risk factors for complicated grief: A review of the empirical literature. In *Complicated grief: Scientific foundations for health care professionals* (pp. 145–161). Routledge/Taylor & Francis Group.

Cherblanc, J., Gagnon, C., Côté, I., Bergeron-Leclerc, C., Cadell, S., Gauthier, G., & Boelen, P. A. (2023). French-Canadian validation of the traumatic grief inventory-self report (TGI-SR). *Death Studies*, *47*, 430–439. https://doi.org/10.1080/07481187.2022.2085347

Comtesse, H., Vogel, A., Kersting, A., Rief, W., Steil, R., & Rosner, R. (2020). When does grief become pathological? Evaluation of the ICD-11 diagnostic proposal for prolonged grief in a treatment-seeking sample. *European Journal of Psychotraumatology*, *11*, 1694348. https://doi.org/10.1080/20008198.2019.1694348

Diamantopoulos, A., Sarstedt, M., Fuchs, C., Wilczynski, P., & Kaiser, S. (2012). Guidelines for choosing between multi-item and single-item scales for construct measurement: A predictive validity perspective. *Journal of the Academy of Marketing Science*, *40*, 434–449. https://doi.org/10.1007/s11747-011-0300-3

Doering, B. K., Barke, A., Vogel, A., Comtesse, H., & Rosner, R. (2022). Predictors of prolonged grief disorder in a German representative population sample: Unexpectedness of bereavement contributes to grief severity and prolonged grief disorder. *Frontiers in Psychiatry*, *13*, 853698. https://doi.org/10.3389/fpsyt.2022.853698

Eisma, M. C. (2023). Prolonged grief disorder in ICD-11 and DSM-5-TR: Challenges and controversies. *The Australian and New Zealand Journal of Psychiatry*, *57*, 944–951. https://doi.org/10.1177/00048674231154206

Eisma, M. C., Janshen, A., & Lenferink, L. I. M. (2022). Content overlap analyses of ICD-11 and DSM-5 prolonged grief disorder and prior criteria-sets. *European Journal of Psychotraumatology*, *13*, 2011691. https://doi.org/10.1080/20008198.2021.2011691

Eisma, M. C., Rosner, R., & Comtesse, H. (2020). ICD-11 prolonged grief disorder criteria: Turning challenges into opportunities with multiverse analyses. *Frontiers in Psychiatry*, *11*, 752. https://doi.org/10.3389/fpsyt.2020.00752

Eklund, R., Eisma, M. C., Boelen, P. A., Arnberg, F. K., & Sveen, J. (2021). Mobile app for prolonged grief among bereaved parents: Study protocol for a randomised controlled trial. *BMJ Open*, *11*, e052763. https://doi.org/10.1136/bmjopen-2021-052763

Eklund, R., Eisma, M. C., Boelen, P. A., Arnberg, F. K., & Sveen, J. (2022). My grief app for prolonged grief in bereaved parents: A pilot study. *Frontiers in Psychiatry*, *13*, 872314. https://doi.org/10.3389/fpsyt.2022.872314

Ferraris, V. A. (2019). Commentary: Should we rely on receiver operating characteristic curves? From submarines to medical tests, the answer is a definite maybe! *The Journal of Thoracic and Cardiovascular Surgery*, *157*, 2354–2355. https://doi.org/10.1016/j.jtcvs.2018.10.100

Gilbody, S., Richards, D., Brealey, S., & Hewitt, C. (2007). Screening for depression in medical settings with the patient health questionnaire (PHQ): A diagnostic meta-analysis. *Journal of General Internal Medicine*, *22*, 1596–1602. https://doi.org/10.1007/s11606-007-0333-y

Hansson, M., Chotai, J., Nordstöm, A., & Bodlund, O. (2009). Comparison of two self-rating scales to detect depression: HADS and PHQ-9. *The British Journal of General Practice*, *59*, e283–e288. https://doi.org/10.3399/bjgp09X454070

Hayes, A. F., & Coutts, J. J. (2020). Use omega rather than Cronbach's alpha for estimating reliability. But …. *Communication Methods and Measures*, *14*, 1–24. https://doi.org/10.1080/19312458.2020.1718629

Heeke, C., Kampisiou, C., Niemeyer, H., & Knaevelsrud, C. (2019). A systematic review and meta-analysis of correlates of prolonged grief disorder in adults exposed to violent loss. *European Journal of Psychotraumatology*, *10*, 1583524. https://doi.org/10.1080/20008198.2019.1583524

IBM Corp. (2017). IBM SPSS statistics for windows, version 28.0 [computer software]. IBM Corp.

Killikelly, C., Zhou, N., Merzhvynska, M., Stelzer, E.-M., Dotschung, T., Rohner, S., Sun, L. H., & Maercker, A. (2020). Development of the international prolonged grief disorder scale for the ICD-11:

Measurement of core symptoms and culture items adapted for Chinese and German-speaking samples. *Journal of Affective Disorders*, *277*, 568–576. https://doi.org/10.1016/j.jad.2020.08.057

Kline, R. B. (2011). *Principles and practice of structural equation modeling*. Guilford Publications.

Kokou-Kpolou, C. K., Lenferink, L. I. M., Brunnet, A. E., Park, S., Megalakaki, O., Boelen, P., & Cénat, J. M. (2022). The ICD-11 and DSM-5-TR prolonged grief criteria: Validation of the traumatic grief inventory-self report plus using exploratory factor analysis and item response theory. *Clinical Psychology & Psychotherapy*, *29*, 1950–1962. https://doi.org/10.1002/cpp.2765

Komischke-Konnerup, K. B., Zachariae, R., Johannsen, M., Nielsen, L. D., & O'Connor, M. (2021). Co-occurrence of prolonged grief symptoms and symptoms of depression, anxiety, and posttraumatic stress in bereaved adults: A systematic review and meta-analysis. *Journal of Affective Disorders Reports*, *4*, 100140. https://doi.org/10.1016/j.jadr.2021.100140

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*, *16*, 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Kuli, D., Velikova, G., Greimel, E., & Koller, M. (2017). EORTC quality of life group translation procedure. European Organization for Research and Treatment of Cancer. https://www.eortc.org/app/uploads/sites/2/2018/02/translation_manual_2017.pdf

Lenferink, L. I. M., Boelen, P. A., Smid, G. E., & Paap, M. C. S. (2019). The importance of harmonising diagnostic criteria sets for pathological grief. *The British Journal of Psychiatry*, *219*, 473–476. https://doi.org/10.1192/bjp.2019.240

Lenferink, L. I. M., Eisma, M. C., Smid, G. E., de Keijser, J., & Boelen, P. A. (2022). 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+). *Comprehensive Psychiatry*, *112*, 152281. https://doi.org/10.1016/j.comppsych.2021.152281

Lenferink, L. I. M., Franzen, M., ten Klooster, P. M., Knaevelsrud, C., Boelen, P. A., & Heeke, C. (2023). The traumatic grief inventory-clinician administered: A psychometric evaluation of a new interview for ICD-11 and DSM-5-TR prolonged grief disorder severity and probable caseness. *Journal of Affective Disorders*, *330*, 188–197. https://doi.org/10.1016/j.jad.2023.03.006

Maercker, A., Brewin, C. R., Bryant, R. A., Cloitre, M., van Ommeren, M., Jones, L. M., Humayan, A., Kagee, A., Llosa, A. E., Rousseau, C., Somasundaram, D. J., Souza, R., Suzuki, Y., Weissbecker, I., Wessely, S. C., First, M. B., & Reed, G. M. (2013). Diagnosis and classification of disorders specifically associated with stress: Proposals for ICD-11. *World Psychiatry*, *12*, 198–206. https://doi.org/10.1002/wps.20057

Mauro, C., Reynolds, C. F., Maercker, A., Skritskaya, N., Simon, N., Zisook, S., Lebowitz, B., Cozza, S. J., & Shear, M. K. (2019). Prolonged grief disorder: Clinical utility of ICD-11 diagnostic guidelines. *Psychological Medicine*, *49*, 861–867. https://doi.org/10.1017/S0033291718001563

Muthén, L. K., & Muthén, B. O. (1998). Mplus user's guide. https://www.statmodel.com/html_ug.shtml

O'Connor, M., Larsen, L., Joensen, B. V., Boelen, P. A., Maccallum, F., Komischke-Konnerup, K., & Bryant, R. A. (2020). Valid ICD-11 PGD scales and structured clinical interviews needed. *Frontiers in Psychology*, *11*, 01120. https://doi.org/10.3389/fpsyg.2020.01120

Pohlkamp, L., Kreicbergs, U., Prigerson, H. G., & Sveen, J. (2018). Psychometric properties of the prolonged grief disorder-13 (PG-13) in bereaved Swedish parents. *Psychiatry Research*, *267*, 560–565. https://doi.org/10.1016/j.psychres.2018.06.004

Pohlkamp, L., Kreicbergs, U., & Sveen, J. (2019). Bereaved mothers' and fathers' prolonged grief and psychological health 1 to 5 years after loss—A nationwide study. *Psycho-Oncology*, *28*, 1530–1536. https://doi.org/10.1002/pon.5112

Prigerson, H. G., Boelen, P. A., Xu, J., Smith, K. V., & Maciejewski, P. K. (2021). Validation of the new DSM-5-TR criteria for prolonged grief disorder and the PG-13-revised (PG-13-R) scale. *World Psychiatry*, *20*, 96–106. https://doi.org/10.1002/wps.20823

Prigerson, H. G., Horowitz, M. J., Jacobs, S. C., Parkes, C. M., Aslan, M., Goodkin, K., Raphael, B., Marwit, S. J., Wortman, C., Neimeyer, R. A., Bonanno, G., Block, S. D., Kissane, D., Boelen, P., Maercker, A., Litz, B. T., Johnson, J. G., First, M. B., & Maciejewski, P. K. (2009). Prolonged grief disorder: Psychometric validation of criteria proposed for DSM-V and ICD-11. *PLoS Medicine*, *6*(8), 1–12. https://doi.org/10.1371/journal.pmed.1000121

Prigerson, H. G., Maciejewski, P. K., Reynolds, C. F., Bierhals, A. J., Newsom, J. T., Fasiczka, A., Frank, E., Doman, J., & Miller, M. (1995). Inventory of complicated grief: A scale to measure maladaptive symptoms of loss. *Psychiatry Research*, *59*(1), 65–79. https://doi.org/10.1016/0165-1781(95)02757-2

Stelzer, E.-M., Zhou, N., Maercker, A., O'Connor, M.-F., & Killikelly, C. (2020). Prolonged grief disorder and the cultural crisis. *Frontiers in Psychology*, *10*, 02982. https://doi.org/10.3389/fpsyg.2019.02982

Sveen, J., Bondjers, K., Heinsoo, J., & Arnberg, F. K. (2020). Psychometric evaluation of the Swedish version of the prolonged grief disorder-13 (PG-13) in a bereaved mixed trauma sample. *Frontiers in Psychiatry*, *11*, 541789. https://doi.org/10.3389/fpsyt.2020.541789

Sveen, J., Bondjers, K., & Willebrand, M. (2016). Psychometric properties of the PTSD checklist for DSM-5: A pilot study. *European Journal of Psychotraumatology*. https://doi.org/10.3402/ejpt.v7.30165

Thombs, B. D., Kwakkenbos, L., Levis, A. W., & Benedetti, A. (2018). Addressing overestimation of the prevalence of depression based on self-report screening questionnaires. *Canadian Medical Association Journal*, *190*(2), E44–E49. https://doi.org/10.1503/cmaj.170691

Treml, J., Kaiser, J., Plexnies, A., & Kersting, A. (2020). Assessing prolonged grief disorder: A systematic review of assessment instruments. *Journal of Affective Disorders*, *274*, 420–434. https://doi.org/10.1016/j.jad.2020.05.049

Van Dijk, I., Boelen, P. A., de Keijser, J., & Lenferink, L. I. M. (2023). Assessing DSM-5-TR and ICD-11 prolonged grief disorder in children and adolescents: Development of the traumatic grief inventory – kids – clinician-administered. *European Journal of Psychotraumatology*, *14*, 2197697. https://doi.org/10.1080/20008066.2023.2197697

World Health Organization. (2018). ICD-11. Prolonged grief disorder criteria. https://icd.who.int/browse11/l-m/en#/http://id.who.int/icd/entity/1183832314

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Lenferink, L. I. M., van Dijk, I., Eisma, M. C., Eklund, R., Boelen, P. A., & Sveen, J. (2024). Psychometric evaluation of the Swedish Traumatic Grief Inventory Self-Report Plus (TGI-SR+) in bereaved parents. *Clinical Psychology & Psychotherapy*, *31*(1), e2922. https://doi.org/10.1002/cpp.2922