Validation Study of the TGI-SR+ to Measure Prolonged Grief Disorder According to the DSM-5-TR and ICD-11 Among Ukrainian Refugees

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Abstract

The recent invasion by Russia in the Ukraine led to numerous people fleeing their homes. They deal with many stressors, including losing a close person. People might grieve unhealthily through these deaths and develop Prolonged Grief Disorder (PGD). Two subsets of the Traumatic Grief Inventory Self-Report Plus (TGI-SR+) measure PGD according to the DSM-5-TR and the ICD-11. The current study firstly examines whether the scale is reliable for measuring PGD in Ukrainian refugees and test for confounding effects on PGD.

The sample consisted of 78 Ukrainian refugees (97.44% female). The participants were recruited through an online questionnaire. To test the psychometric property of the TGI-SR+ in the sample, the i) factorial structure, ii) the reliability, and iii) the external validity was examined. To test the effect of gender and support, an ANOVA test was executed. To test the relationship between depression and grief, a correlation analysis was performed.

The psychometric properties of the TGI-SR+ could be replicated with significant external validity and satisfactory reliability scores for the ICD-11 and DSM-5-TR subscales, and the unidimensional structure was confirmed. There was neither an effect of gender nor of support on the PGD scores. Also, a significant correlation between grief and depression could be detected.

The TGI-SR+ is a valid and reliable tool to measure PGD among Ukrainian refugees. Effects of gender and support should be investigated in future research to gather information about reasons for the non-significant effect. Additionally, the differences between depression and grief should be inspected to detect appropriate treatments.

Keywords: Grief, Prolonged Grief, Prolonged Grief Disorder, PGD, TGI-SR+, Ukraine War, Refugees, Bereavement

Introduction

On the 24th of February 2022, Russia invaded Ukraine. The war started due to discrepancies within the Ukrainian population since part felt a political belonging to Russia, which was shared by the government ruling then, while another proportion felt the same towards the European Union (EU) (BBC, 2022). Similarly, Russia claims Ukraine is part of their country due to its belonging to the Soviet Union until 1991, which they claim since then. However, the invasion started due to statements by Vladimir Putin, the Russian president, that Ukraine is planning a military offensive around Donetsk (Nagourney et al., 2023).

This war affects many people in various aspects, including a newly emerging refugee problem (Bajaj & Stanford, 2022) since many people left their homes to escape the war. Refugees are people who leave their homes due to unpleasant conditions to find a safe place (UNHCR, 2023). These conditions could be war, violence, or conflicts (UNHCR, 2023). Up to February 2023, more than 18 million Ukrainians fled their homes (Statista, 2023). The majority leave the country to go to Russia (Karasapan, 2022), their direct neighbours. Nevertheless, it is believed (Karasapan, 2022) that many are not going to Russia voluntarily. The reason for this is supposed to be that many will be checked for potential crimes as considered by the Russian government. This could be followed by torture or even execution, as told by credible sources (Karasapan, 2022). Further, many Ukrainians leave for EU countries such as Poland or Germany (Statista, 2023). Moreover, when they leave their countries, they are also experiencing challenges. They lack access to proper healthcare as well as high-quality food or housing (Bajaj & Stanford, 2022). In addition, many Ukrainian refugees suffer from racism (Bajaj & Stanford, 2022).

There are more issues on the individual level. Firstly, for the men that are fighting on the battlefield. Shortly after the invasion of Russia, all men between the ages of 18 and 60 were not allowed to leave the country to support the military (Amt, n.d.). Several negative impacts

can be detected in soldiers (Griffith, 2012), for example, physically, like brain damage (Kühn et al., 2021). Further, many soldiers return home with psychic effects such as increased symptoms of depression or anxiety resulting from the traumatic events they experienced on the battlefield (Kühn et al., 2021; Javanbakht, 2022). Nevertheless, there are more issues on the individual level, which are not concerning the soldiers but instead focus on their relatives. According to Nagourney et al. (2023), more than 200,000 people have died due to the Russian invasion of Ukraine (Cooper et al., 2023). This specific type of loss, meaning losing a loved one in a war, can result in symptoms of depression, Post Traumatic Stress Disorder (PTSD), or grief (Lenferink et al., 2019). The latter refers to the psychological and physiological reaction to losing a loved person (Holm et al., 2019). Grieving is a normal reaction to a loss but can differ at the individual level. Usually, people experience negative emotions such as anger, disbelief or shock (Zisook & Shear, 2009). Some experience this feeling for several weeks or months, while others seem to overcome the loss in a shorter period (Bonanno & Kaltman, 2001). Grief is usually dealt with within six months and can be tackled with internal and external resources (Zisook & Shear, 2009). After these six months, the feeling does not entirely disappear, but the person is capable of living an everyday life again (Zisook & Shear, 2009). For some people, the grieving process can deviate from the "normal" route. If there are problems in getting over the loss, it can result in complicated grief (CG), which refers to the state of being severely (negatively) impacted by the feeling even long after the event occurred (Arizmendi & O'Connor, 2015). Unhealthy grieving was not considered a striking mental issue a few years ago but got recently included in the ICD-11 and DSM-5-TR (2021) as prolonged grief disorder (PGD). Nowadays, there is more focus on the feeling through its relevance and possible consequences (Prigerson et al., 2021).

Need to assess PGD

Grief can negatively affect the individual if the feeling remains unresolved and interferes with the person's life for a long time (Bylund-Grenklo et al., 2016). These consequences can range from distress to severe psychological diseases such as PGD (Boelen, 2016). This disorder refers to long-lasting grief, which results in troubles living one's own life due to the painful loss of a loved person (Duffy & Wild, 2017). PGD is defined as lasting for at least 12 months and being accompanied by a series of symptoms (APA, 2022). Those are yearning for the lost person, anger, guilt, denial, or a feeling of emotional pain (APA, 2022). However, there are difficulties regarding the treatment of disease as such. The field dealing with such illnesses is not yet explored (Boelen, 2016). Furthermore, the current situation in Ukraine results in problems identifying mental health diseases in Ukrainian refugees. When they arrive in their new homes, they are usually not tested for mental health struggles (Javanbakht, 2022). If this would change, the consequences of unresolved grief could be tackled preventively.

If unresolved grief or respectively PGD is not detected, the consequences for the individual can vary but could have a (negative) influence (Bonanno & Kaltman, 2001). Those can be mental health illnesses such as depression, anxiety, or substance use disorder (Stroebe, 2016). Furthermore, unresolved feelings of grief can lead to symptoms of insomnia or fatigue (Bylund-Grenklo et al., 2016). Therefore, early detection can be advantageous to deal with the consequences preventively. This shows that detecting such a disorder is necessary for appropriate treatment.

Hence, an appropriate tool to measure the level of grief in mourning Ukrainians is necessary. One of these tools is the TGI-SR+. But to provide a reliable tool, this needs to be statistically evaluated in the respective sample, leading to the following research question.

RQ1: What are the psychometric properties of the TGIS-SR+ in mourning Ukrainian refugees?

Relation of Gender and PGD

Every tool used to assess disorders can be influenced by several factors (Marsh et al., 1984), such as age, social background, genetics, or other external factors like social life (Reichborn-Kjennerud et al., 2013). A variable that influences unresolved grieving and has already been investigated but shows discrepancies is gender. Some studies suggest that grief or, respectively, prolonged grief is the same in men and women but only differs in self-reported symptoms (Stelzer et al., 2019), while others suggest contextual differences, like the type of loss. For example, women experience stronger psychological and physiological reactions to grief regarding parental loss (Schwab, 1996). Additionally, the loss of a mother tends to result in higher levels of depression, helplessness, and increased suicidal thoughts compared to the loss of a father related to both genders (Lawrence et al., 2006).

Further, there are differences and commonalities in the reaction between males and females. Communalities show through the immediate response, which resembles a shocking state. This state is resembled by numbness and disbelief (Wing et al., 2001). On the other hand, the feeling of denial seems to be more prevalent in men (Bohannon, 1991). But in terms of depressive symptoms, women experience higher levels than men (Dyregrov & Matthiessen, 1991). Moreover, a study by Lawrence et al. (2006) examined a sample of students to investigate the difference between genders in their grieving behaviour. For the level of psychological stress, there was no difference found. Nevertheless, for females, a higher level of depression associated with the coping style was detected.

Due to the high discrepancies in research, there is a need to investigate further if there is a difference due to gender on grief levels. This leads to the following research question.

RQ2: Is there a difference in PGD scores between males and females?

As stated before, previous research suggests that an effect of gender can be detected, thus resulting in differences between the two respective groups. Which results in the following hypothesis.

H1: There is a difference in the PGD scores between males and females.

Relation of Support and PGD

As aforementioned, there are several predictors for the experienced prolonged grief in a person (Marsh et al., 1984). One of those predictors is received support (Kaunonen et al., 1999). The support people receive can significantly impact how they experience grieving symptoms (Kaunonen et al., 1999). Hence, support can have a positive influence on PGD symptoms. This is resembled by an improved mental health state and fewer feelings of denial or depression (Kaunonen et al., 1999). Moreover, people who lose a person but receive social support tend to grieve healthier since they allow themselves to experience the negative feelings that are accompanied by losing a loved person (Kaunonen et al., 1999).

There are many different forms of support, for example, social and professional support. For instance, professional help like a therapist or counsellor to treat mental disease or a general low mental state (Robinson & Pond, 2019). Furthermore, there is support from friends and family which helps with mental suffering and general low well-being (Robinson & Pond, 2019). Additionally, there are programmes like support groups (Robinson & Pond, 2019), which consist of people who share the same issue as addiction or share the same pain, such as grief. The group is supposed to help each other, and they can be led by a professional or consist of people who seek help themselves (Robinson & Pond, 2019). This is a combination of both professional and social support. Most commonly, people receive social support, usually provided by friends and family (Kaunonen et al., 1999).

There are different opinions on the effectiveness of any of these methods for the grieving individual (Aoun et al., 2019). Critics mention that non-professional support can be ineffective since friends and family often do not know how to deal with the new situation, especially when a lost one has passed away (Swartwood et al., 2011). Moreover, some studies suggest professional help's ineffectiveness since it only has a negligible effect on the bereaved person.

But these effects can increase if people actively engage in therapy or suffer from high levels of distress (Currier et al., 2008; Stroebe et al., 2005).

Many opinions exist on the effectiveness and whether support is needed in the grieving process. Professional and unprofessional help are criticised for being ineffective and not helping as much as expected. Therefore, it is necessary to investigate this and test for the effect of received support on experienced PGD symptoms. Therefore, the third research question is as follows.

RQ3: Is there a difference in PGD scores between participants that received any type of support and participants that received none?

Due to the prescinding literature, the following hypothesis was created.

H2: There is no significant difference between individuals who received support and participants who received none.

Relation of Depression and PGD

Some studies suggest prolonged grief can lead to other mental diseases like depression (Lenferink et al., 2019). A study by Zisook and De Vaul (1983) tested a sample of more than 200 subjects for a correlation between grief and depression. The results showed a significant difference between those who experienced unresolved grief compared to subjects who resolved their inner conflict. This suggests that the persistent feeling of grief influences the occurrence of depression symptoms. Even though studies suggest a high correlation between the two concepts, other studies show that the symptoms differ, and a low correlation can be detected (Boelen et al., 2010).

According to the DSM-4, professionals are supposed to evaluate mild depressive symptoms as grief reactions if they last for less than two months. These symptoms show themselves as insomnia, sadness, or tearfulness. However, even professionals struggle to

distinguish between depression and grief (Friedman, 2012). This indicates that there could be a correlation between the symptoms.

On the other hand, despite some commonalities between the two concepts, significant differences still occur in the severity of cognitive impairment (Robinson & Fleming, 1989). Additionally, there are differences in the treatment of depression and PGD. According to Schneider (1980), unhealthy grieving is best tackled with a warm and non-judgemental companion, while depression requires a professional. Additionally, a study that evaluated the symptoms of depression and PGD through a self-reported questionnaire could replicate findings that there are significant differences. Hence, grief symptoms represent distress related to bereavement unrelated to any other distress forms (Dillen et al., 2009).

Various research suggests different opinions on the relationship between depression and grief. Thus, it is important to investigate it. This results in the fourth research question.

RQ4: Is there a correlation between depression and PGD scores?

Through the literature and the statements above, the second hypothesis was formed.

H3: There is a positive correlation between depression symptoms and PGD scores.

Methods & Strategies

Study design

The study is designed as a cross-sectional quantitative research project. The study is embedded in a bigger project between the University of Twente and Utrecht University called "First Aid for Grief in Ukrainian Refugees". They aim to gather data and help Ukrainians by sending them books that aid in their grieving process if they are grieving unhealthily. The whole study used several different channels to recruit participants. For the current study, the primary sampling method was snowball sampling.

Participants

In total, 752 people completed the survey. Due to inclusion criteria, the current study is based on a sample of 78 participants. Of these, 97.44% (76) are female, and 2.56% are male (2). The ages of the participants range from 19 to 53 years, with an average age of 33.9 ($SD =$ 7.06). The inclusion criteria for the participants were as follows: Being Ukrainian, being above 18, having lost a loved one, and being a refugee, meaning fleeing their home to a different country. Before the study started, every participant stated their consent. Everyone had the chance to withdraw from the study at any given time without stating a reason.

In the current study, different channels to gather participants were used. The present study also used various channels. Firstly, there is mouth-to-mouth distribution to gather participants that live in the available communities (Enschede, Bielefeld). Moreover, participants were recruited via social media. Therefore, Instagram, LinkedIn, WhatsApp, and Facebook were used. Furthermore, through cooperation with German and Dutch authorities' participants engaged. The answers were gathered via Qualtrics. The experiment was approved by the BMS Ethics Committee (Referral nr, 221111). The gathering of participants began in March 2023 and lasted until May 2023.

Procedure

The participants were provided with a link to the Qualtrics questionnaire via the respective channel they were approached. Then they were asked to provide their demographics. They were asked whether they want to test whether they suffer from prolonged grief. This was executed with the Traumatic Grief Inventory-Self Report Plus (TGI-SR+). Then the participants had to agree that their data will be used, and if so, the other questionnaires were presented. Besides the TGI-SR+, another questionnaire relevant to the current study is the Patient Health Questionnaire (PHQ-9). Furthermore, the Posttraumatic Stress Disorder Checklist (PCL5), the Harvard Trauma Questionnaire (HTQ), the Post-Migration Living Difficulties Checklist

(PMLDC), the Moral Injury Appraisal Scale (MIAS-9), and the Insomnia Severity Index (ISI) were shown to the participants.

Materials

Before the start of the study, the participant's demographics were needed. This included gender and age. Further, they were asked to provide information about their living status, meaning if they left Ukraine and in which country they are living now, did not leave their country at all, or fled within Ukraine. Afterwards, the participants were asked about the cause and the type of loss, referring to their relationship to the dead person. This was followed by the date the loss occurred (Appendix A).

Traumatic Grief Inventory-Self Report Plus (TGI-SR+). The scale measures prolonged grief disorder on 22 items on a 5-point Likert scale, ranging from *"Never"* (1) to *"Always"* (5). The questionnaire was developed based on the ICD-11 and the DSM-5-TR and adjusted for the current study. To assess PGD scores according to the DSM-5-TR, items 1-3, 6, 8-11, 13, 18, 19, and 21 are relevant. Based on the ICD-11, items 1-3, 5, 8-10, 13, 16, 19-22 are applicable. The questionnaire asks the participants to report their experienced grief throughout the past months about the loss of a loved person. The questions are phrased to identify whether the participant experiences problems with living their life as they used to due to the loss. This can be seen through questions such as: *"I noticed a significant reduction in social, occupational, or other important areas of functioning (e.g., domestic responsibilities) as a result of his/her death."* or *"I felt that moving on (e.g., making new friends, pursuing new interests) was difficult for me."*

The scale shows significant reliability ($\alpha = .91$) (Lenferink et al., 2022). Further, for the measurement based on the ICD-11 and the DSM-5-TR, a one-factor structure was discovered by Lenferink et al. (2022). To define PGD, the total score is used and is then distributed into four categories. The items and an overview of the categories can be found in Appendix B.

Patient Health Questionnaire (PHQ-9). This scale is designed to measure the level of experienced depression symptoms in participants (Kroenke et al., 2001). The questionnaire consists of nine items which are answered on a 4-point Likert scale which ranges from *"Not at all"* (0) to 4 *"Nearly every day" (*3) (Kroenke et al., 2001). The questions resemble the nine criteria that classify depression according to the DSM-4. The scale serves as a screening tool, meaning to diagnose depression, additional questions need to be asked.

The questions aim to gather information regarding problems of the last two weeks (*"Over the last two weeks, how often have you been bothered by any of the following problems?")*. Featured problems are sleeping difficulties, motivation issues, insufficient food, or losing interest. If the subject scores between 0 and 4, there is no sign of depression. Mild depression symptoms range from 5 to 9, whereas moderately is between 10 and 14 points. A score between 15 and 10 is classified as moderately severe, and scores exceeding 20 are seen as severe depression. Regarding reliability, the scale scored significantly with a Cronbach's alpha above .85. Furthermore, the specificity of the scale was estimated to be 88% and the sensitivity to 88% (Kroenke et al., 2001). The questionnaire can be found in Appendix C.

Received Support Scale. To measure the support, the participants answered the scale from Lichtenthal et al. (2015). They were asked to answer six questions related to the type of support service they received. The services are "*Support groups, Online peer-support or online self-help, Psychotropic medication", "Visits with clergy or spiritual figures, Psychotherapy or Others".* There are five different answer possibilities, and multiple answers are possible. The first answer is whether the support service was used before the person's loss, and the second one refers to whether the support was used concerning the loss. Thirdly, the question is about the current use of the specific service. The last two answers are as follows: "*No, but I would like to"* and "*No, and I don't want to".*

Data Analysis

The gathered data was collected using Qualtrics (*Qualtrics XM // The Leading Experience Management Software*, 2022). The data was then converted to numeric values and exported into Microsoft Excel. Afterwards, unnecessary data were removed, and specific names were distributed to the items. Consequently, the data was imported into RStudio (version 2023.03.0+386, R Core Team, 2023) for further analysis.

Firstly, the data were tested for normality via a Shapiro-Wilk test with a significance level of .05, implying non-normality.

To test the factorial structure of the TGI-SR+, a Confirmatory factor analysis (CFA) was created. The indexes that were looked at are Chi-squared, Comparative fit index (CFI), Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMSR). To have a significant Chi-Squared, the p-value needs to be below .05. For the CFI, a value of .9 or less implies a moderate fit (Lai & Yoon, 2015). Furthermore, the RMSEA considers the model a good fit if the value exceeds .05 (Hancock & Freeman, 2011). Moreover, SRMSR values lower than .7 imply that the model fits (Pavlov et al., 2021). Finally, the factor loadings were inspected, which are satisfactory when higher than .6 (Peterson, 2000).

The reliability of the questionnaire was investigated through a Cronbach's Alpha test. Scores that are .7 and higher are considered satisfactory, values higher than .8 are good, and scores exceeding .9 are excellent (Gliem, 2003).

To test the external reliability of the scale, a correlation analysis with the PHQ-9 was conducted. The analysis was performed according to Pearson and resembles a parametric way of testing for a correlation between two variables.

To test whether there is a correlation between the TGI-SR+ and the PHQ-9, the same analysis as for the external validity was used.

Testing for the effect of gender on PGD was done through an ANOVA. Therefore, a linear model with gender as the independent variable and grief as the dependent variable. If the

p-value has a score of below .05, there is a significant difference between the two groups under the null hypothesis.

Finally, the effect of received support on PGD was tested through an ANOVA analysis after grouping the sample according to whether they received support.

Results

Descriptive statistics

In the sample, most deaths of loved persons happened due to physical illnesses (51.3%), followed by murder related to the Russian war (24.4%). Regarding relations to the person who lost their lives, most were the participant's parents (30.8%), and second most lost their partners (17.9%). In the data, it is striking that most deaths happened within the last three years. In 2022, nine participants lost a loved person; in 2022 and 2023, 25 subjects suffered a loss each year. In the current study sample, most people fled Ukraine to go to European countries (78.21%). Followed by America (11.54%) and Asia (2.56%). Six respondents (7.69%) gave no information about their country of destiny. In Europe, most people left for the Netherlands (20/25.64%), Germany (12/15.38%), and Poland (8/10.26%). An overview of all data can be seen in Table 1.

On average, the participants scored 71.41 (SD = 16.46) on the TGI-SR+. This would place the whole sample into the orange category of the scale, meaning they should consider seeking professional help for their grieving. In total, five participants (6.41%) scored below 47 points, meaning they are put into the green category. In the yellow category, there are 28 people (35.9%) to be found. Most people, 36 (46.15%), scored between 71 and 91 points which put them into the orange category. And nine people (11.54%) are in the red category. Furthermore, according to the subscale measuring PGD according to the ICD-11, 67.95% (53) scored above the cut-off score of 41 points in the sample. On average, the participants score 44.83 (SD = 9.49). Regarding the subscale concerning the DSM-5-TR items, 71% (56) had a score higher

than 33, which resembles the cut-off score of the scale. The average score was estimated to be 40.49 (SD = 9.63). In both cases, more than one-third of the participants report PGD symptomology.

Table 1

Demographics of the 78 participants.

Demographics	N (%)
Cause of death	
Physical Illness	40 (51.3%)
Accident	6 (7.7%)
Suicide	3 (3.8%)
Murder or Manslaughter not related to the Russian War	3 (3.8%)
Murder or Manslaughter related to the Russian War	19 (24.4%)
Disappearance	4 (5.1%)
Other	4 (5.1%)
Kinship	
Partner	14 (17.9%)
Child	5 (6.4%)
Parent	24 (30.8%)
Sibling	6 (7.7%)
Grandparent	13 (16.7%)
Friend	11 (14.1%)
Other	5 (6.4%)
Year of Death	
2023	25 (32.05%)
2022	25 (32.05%)
2021	9 (11.54%)
Before 2020	19 (24.36%)
Mean date of death	05.01.2021
Country Fled to	
Europe (Without Russia)	61 (78.21%)

America	9 (11.54%)
Asia	2 (2.56%)
No Response	6 (7.69%)

Hypothesis Testing

Further, the normality of the data was checked to determine an appropriate statistical method to work with. This was done through a Shapiro-Wilk normality test. All items from the TGI-SR+ and PHQ9 were tested independently and showed a significant p-value of $p < .001$. Moreover, normality was tested for the total scores of both scales.

For the TGI-SR+, the test showed to be not significant (W (All items TGI-SR+) = .97, $p = .062$), which implies that the data is normally distributed since the null-hypothesis of normality can be accepted.

Additionally, the total scores of the PHQ9 were shown to be normally distributed through a significant output of the Shapiro-Wilk normality test (W (All items) = .982, $p = .333$).

To get an overview of the data, a visual representation of the mean scores of the items that indicate PGD symptoms with a cut-off line was created. The plot can be seen in Appendix D. It is detectable that more people are located on the higher values on the scale, which indicates higher symptoms of PGD.

Confirmatory Factor Analysis

For an overview regarding the CFA, the mean scores, the standard deviation, Kurtosis and skewness scores, and the factor loadings were calculated and put into Table 2. It is detectable that the mean scores range from .55 to .838 when expressing them in percentages. This implies that the items show a variance of close to 30%. Further, the factor loadings are mostly satisfactory, except for the first item in the case of both unidimensional structures. Furthermore, in the ICD-11 subscale, items 8 and 20 had a factor loading below .5. Additionally, the kurtosis and skewness values were inspected, which refer to the normality and

symmetry of the distribution. In the study, there are six items (2,3,5,8,10,19) that exceed a value of 3 regarding kurtosis, which resembles a sharper peak and heavy tails in the sample. The skewness values indicate in which direction the values are skewed. In this sample, there is one item (5) that is strongly skewed to the right.

Table 2

Item mean, standard deviation, kurtosis, skewness, and factor loadings.

Item	Mean score (Percentage)	Standard deviation	Kurtosis	Skewness	ICD-Factor-Model	DSM-Factor-Model
PGD 1	2.76 (.55)	1.29	1.627	-.195	.21	.24
PGD 2	3.86 (.77)	.85	3.186	-.756	.69	.70
PGD 3	4.12 (.82)	.8	3.154	-.684	.68	.65
PGD 5	4.19 (.838)	1.03	4.118	-1.317	.50	-
PGD 6	2.9 (.58)	1.29	1.952	-.061	-	.53
PGD 8	3.65 (.73)	1.12	3.269	-.816	.48	-
PGD 9	3.18 (.636)	1.37	1.865	-.358	.74	.73
PGD 10	3.63 (.73)	1.17	3.035	-.892	.76	.75
PGD 11	3 (.6)	1.37	1.806	-.061	-	.80
PGD 13	3.26 (.65)	1.23	2.182	-.372	.74	.74
PGD 16	3.14 (.63)	1.28	2.058	-.304	.52	-
PGD 18	3 (.6)	1.23	2.064	-.339	-	.69
PGD 19	3.89 (.78)	1.21	3.238	-1.03	.58	.55
PGD 20	2.6 (.52)	1.32	1.875	.251	.33	-
PGD 21	3.26 (.65)	1.34	1.935	-.281	.75	.76
PGD 22	3.31 (.662)	.98	2.561	-.399	.78	-
PGD Total	44.83 (.69)	9.49	-	-	-	-

To test whether the proposed factorial structure of the TGI-SR+ fits in the sample of Ukrainian refugees, a confirmatory factor analysis (CFA) was performed. Priorly a unidimensional factorial structure was detected (Lenferink et al., 2022), which is why there was

no exploratory factor analysis performed. Two CFAs were performed since the scale consists of separate subscales measuring PGD according to the DSM-5-TR and the ICD-11, with the latter one consisting of thirteen items and the DSM-5-TR factor structure consisting of eleven items.

The fit of the model was assessed through four different indexes. Firstly, the factorial structure regarding the ICD-11 will be looked at. The first one is Chi-Squared, which has shown to be significant X^2 (1, N = 65) = 158.95, p < .001. This indicates that the model fits for the population. Further, the CFI was estimated to have a value of .8, implying that the model is fitting. In this case, the robust version of the index was chosen. The third index is the SRMR which has a value of .084. Since the values do not exceed .7, the index proposes the model to be fitting. Lastly, the RMSEA was inspected and showed a score of .129, indicating that the model is a fit. An overview of the scores can be seen in Table 2. The model concerning the DSM-5-TR parameters showed a significant Chi-Squared X^2 (1, N = 65) = 85.124, p < .001 value as well. The value of the CFI resulted in a significant value of .86 which implies a fitting model. In terms of the SRMR, it showed to be satisfactory as well, with a value of .07. The last index is the RMSEA which indicates a fitting factorial structure as well with a value of .125.

Table 2

Values of the different measures for the CFA.

Measure	Values (PGD ICD 11)	Values (PGD DSM V TR)
CFI	.8	.86
SRMR	.084	.07
Chi-squared	158.95 (p < .001)	.124 (p < .001)
RMSEA	.129	.125

Note. CFI = Comparative Fit Index, SRMR = Standardized Root Mean Square Residuals, RMSEA = Root-Mean-Square-Error of Approximation

Reliability and Validity Analysis

To evaluate the reliability of the TGI-SR+ a reliability analysis was executed resulting in a Cronbach's Alpha. Firstly, only the items that are testing for PGD according to the ICD-11 were analysed and showed a score of $\propto$ = .87 which is significant and therefore implies a reliable questionnaire. Then, the items according to the DSM-5-TR were tested for their reliability score, which resulted in a score of $\propto$ = .86. Furthermore, the same analysis was run with all items of the TGI-SR+ which resulted in a higher Cronbach's Alpha, equalling $\propto$ = .93. This implies good reliability. Since there is only one factor, there is no need to analyse different factors' reliability.

Furthermore, to test the external validity, a correlation analysis according to Pearson between the sum scores of the PGD scale according to the ICD-11 and the sum scores of the PHQ-9 was run. The output showed a significant result with a correlation coefficient of $r(76) = .586, p < .001$. This implies a scale with satisfactory external validity. The same analysis was run for the sum scores of PGD according to the DSM-5-TR and the sum scores of the PHQ-9. The output showed a significant positive correlation as well of $r(76) = .561, p < .001$. Additionally, the correlation of all items of the TGI-SR+ and the PHQ-9 was conducted which resulted in a significant correlation of $r(76) = .601, p < .001$. All correlation. A visual representation of the relationship in all three cases can be seen in Appendix E. An overview of all scores can be found in Table 3.

All in all, the analyses that were performed concluded that the TGI-SR+ is a reliable and valid measure to detect PGD in Ukrainian refugees. Further, the unidimensional structure of the scale could be confirmed.

Table 3

Reliability and validity scores of the TGI-SR+.

Measure	Cronbach's $\propto$	Correlation with PHQ-9
ICD 11 items	.86	.586 (*p<.001)*

|		
DSM 5 TR items	.86	.561 (*p<.001*)
Total TGI-SR+	.93	.601 (*p<.001*)

Influence of Gender on PGD

Before the results are provided, it is necessary to acknowledge that there are only two male participants in the sample, which significantly lowers the reliability of the results. Still, it was decided to conduct the analysis to gain insight into the relationship. To test the effect of Gender on PGD, a linear regression model was created. The dummy variable of Gender serves as the independent variable, whereas the PGD total scores serve as the dependent variable. Running the model resulted in a negative effect of gender on the total PGD score (x=-1.04). This means that males scored slightly lower on the total PGD scores. A one-way ANOVA was created to test whether the population's difference is significant. The ANOVA showed that the two groups do not differ significantly $F(1,76) = .02, p = .88$. This means that the null hypothesis, which states that there is no difference between the groups, cannot be rejected. To visualise the relationship, a boxplot was created, which can be seen in Figure 1. Hence, the first hypothesis of the study cannot be accepted.

Figure 1

Boxplot displaying the difference between males and females.
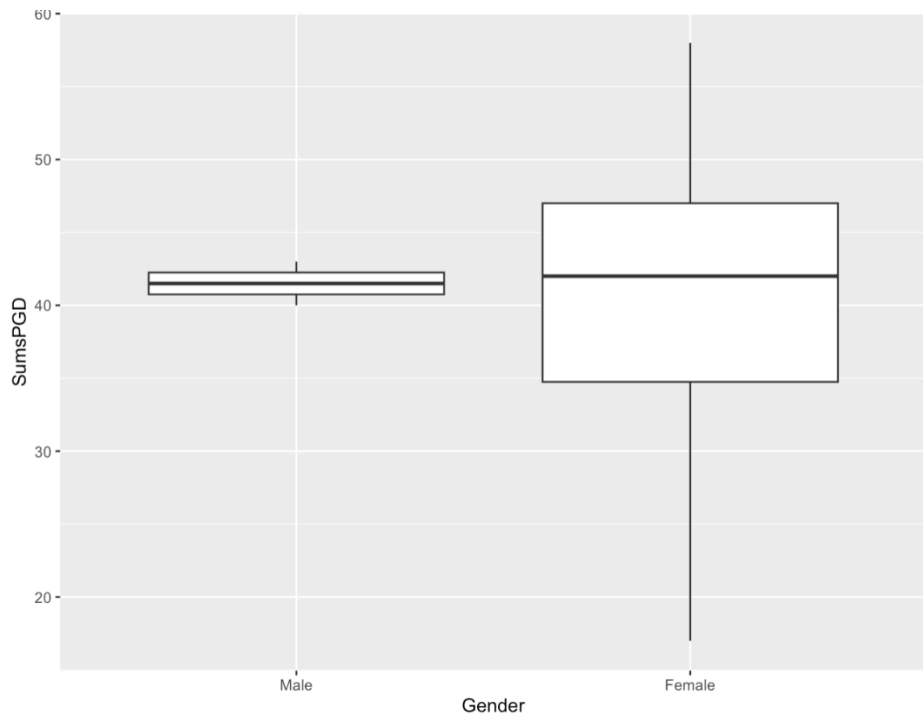
Influence of Received Support on PGD

To get an overview of the participants, the amount and percentages of the support the subjects received before the loss occurred and in relation to the loss. Further, they were asked whether they would like to receive any support in their current situation. It is noticeable that psychotropic medication is the least used and the one with the slightest willingness (15.2%). Furthermore, psychotherapy is the support kind that is used the most and has the highest willingness to engage amongst the participants (54.5%). The overview can be seen in Table 4.

Table 4

Overview of the responses to the received support questionnaire.

Service Type	Have you used this prior to loss?	Have you used this in relation with loss?	Current usage in relation with loss?	No, but I would like to	No, and I don't want to
Support groups	6 (9.1%)	8 (12.1%)	1 (1.5%)	28 (42.4%)	30 (45.5%)

Online peer support, self-help	9 (13.6%)	12 (18.2%)	7 (10.6%)	30 (45.5%)	21 (31.8%)
Psychotropic medication	8 (12.1%)	11 (16.7%)	8 (12.1%)	10 (15.2%)	39 (59.1%)
Clergy spiritual figures	12 (18.2%)	16 (24.2%)	5 (7.6%)	12 (18.2%)	40 (60.6%)
Psychotherapy	18 (27.3%)	15 (22.7%)	13 (19.7%)	36 (54.5%)	8 (12.1%)
Others	13 (19.7%)	11 (16.7%)	9 (13.6%)	12 (18.2%)	38 (57.6%)

To test the effect of the received support on PGD, a series of ANOVAs were performed. First, the participants were grouped according to whether they received support before the loss, in relation to the loss, and if they are currently receiving support. Then, six ANOVAS were run with each dummy variable and with the sum scores of PGD according to the ICD-11 and the DSM-5-TR. The results were non-significant in all six cases, with F-values ranging from <.001 to 2.146 and p-values ranging from .147 to .923 (Appendix G). This indicates that there is no evidence to reject the null hypothesis, meaning there are no significant differences between the two groups in the sample. Therefore, received support has no effect on the PGD symptoms in Ukrainian refugees and the second hypothesis can be accepted.

Relation of Depression and PGD

The correlation analysis between the two scales serves a second purpose, which is to identify whether there is a relationship between depression and PGD. A significant correlation was found in both cases, according to the ICD-11 and the DSM-5-TR ($r(76) = .586, p < .001, r(76) = .561, p < .001$). The results indicate a relation since low values in depression correspond to low values in PGD symptoms and high values in depression to high values in PGD symptoms. Furthermore, the correlations between the items are significant in most cases with a few exceptions. Additionally, every inter-item correlation except for three items. This implies

that there are commonalities in the symptoms of both concepts. An overview of the correlations between the items of the two scales can be seen in Appendix F. Therefore, the third hypothesis can be accepted since the analysis suggest a correlation between depression and PGD.

Discussion

The current study evaluated the TGI-SR+ in a sample of Ukrainian refugees to test its applicability to the population. Furthermore, the aim was to inspect the potential effects of gender and support on PGD since there is a discrepancy in current research about their effects. Additionally, the correlation between PGD and depression was investigated.

Descriptive Statistics

Overall, in the current study, most of the participants scored above the cut-off score. Hence, participants reported symptoms of PGD that may require the help of a professional, respectively, some kind of care. It is noticeable that in the previous validation study by Lenferink et al. (2022), 50% fewer people scored above the cut-off score (32% ICD-11, 34% DSM-5-TR). Hence, in the sample of Ukrainian refugees, more than twice as many participants self-reported symptoms of PGD or respectively, problematic grieving. In the previous study, the sample differed since it was based on Dutch adults compared to the Ukrainian refugees in the current study. Moreover, the study by Lenferink et al. (2022) solely investigated mourning adults that lost a loved one due to a car accident, investigating only one cause of death. The cause of death might explain the contrast in PGD scores between the two samples since that can impact the grieving process (Holland & Neimeyer, 2011). This might be due to the different causes of death featured in the current study, with one of them being manslaughter due to the Russian invasion. Since PGD symptoms are usually more prevalent when the person dies due to violent causes like homicide (Holland & Neimeyer, 2011). Further research should investigate the differences between Ukrainian refugees and other groups to determine the cause of the gap. This could be done with the current data as well.

Investigating the effect of the current war and the need to leave their homes are essential variables to consider. Moreover, it might be interesting to compare the current findings to other refugees and war victims to gather information that can help people suffering from PGD due to such circumstances.

Psychometric Properties

The first aim of the current study was to examine the psychometric properties of the TGI-SR+. The previously unidimensional structure identified by Lenferink et al. (2022) could be confirmed. When looking at the factor loadings, it becomes apparent that most of the loadings are satisfactory, but some items still do not have satisfying values. One item deals with subjects having images of the lost person. The next item deals with anger and bitterness because of the loss, and the last item asks the participant whether they blame the loss on other people. This could imply that these items are not reliable when it comes to measuring PGD in Ukrainian refugees. An explanation for the low reliability of the items could be that PGD symptoms can sometimes be absent (Pop-Jordanova, 2021). It might be that these symptoms were not present for some participants by the time the questionnaire was executed, leading to unreliable results. Furthermore, there are cultural differences in the way people grieve (Rosenblatt, 2001). Hence, the mentioned items might not be eligible for Ukrainian refugees but for other cultures. This does not mean that the entire scale is unreliable for the sample; only the mentioned items might not work. It would benefit future research to evaluate the sample difference and why these specific items did not perform well. There might be cultural explanations why Ukrainians do not imagine their lost person, do not experience anger or bitterness or do not blame the loss on others.

Additionally, the reliability of the scale was assessed. The reliability of all items, the ones according to the ICD-11 and according to the DSM-5-TR. As previously detected by Lenferink et al. (2022), the scale was reliable in all three cases. This indicates that the scale is

a reliable tool for measuring PGD in Ukrainian refugees. However, not every item performed well. The findings implicate that the TGI-SR+ can continuously be used to assess PGD in Ukrainian refugees, even though some items might need an adjustment for the specific sample. In terms of validity, the TGI-SR+ had significant external validity when compared with the PHQ-9, which is in accordance with previous findings by Lenferink et al. (2022). Hence, the cultural differences between the sample of Dutch adults and Ukrainian refugees are not substantial enough to result in an invalid or unreliable result.

To conclude, the TGI-SR-+ is a valid and reliable measurement to test for PGD in mourning Ukrainian refugees. However, some items did not perform well, which implies that further research should be conducted to examine the slight differences between the samples. This could be done by investigating the differences in the way people grieve between cultures by conducting qualitative research such as interviewing participants about their grieving behaviour.

Influence of Gender on PGD

Even though only two male participants were in the sample, it was still decided to run the analysis and interpret the results concludingly. The linear model showed a non-significant negative effect of gender on PGD scores, even though prior research claimed that there might be an effect of gender (Schwab, 1996; Bohannon, 1991; Dyregrov & Matthiessen, 1991), there were still implications for the hypothesis that there is no difference in grieving between the two groups (Lawrence et al., 2006; Wing et al., 2001; Stelzer et al., 2019). An explanation could be that most participants lost their loved ones shortly before the study. And the immediate grieving reaction is equal for both genders (Wing et al., 2001). Further investigations into the moderating factor of gender for grieving processes could provide additional insights into the matter. Such studies could demonstrate whether the grieving processes change over time or stay on a constant level. Moreover, it might be interesting to inspect the difference between non-binary, males,

and females but in the sample, no subject identified as non-binary. Since previous research found disparities in mental health issues between non-binary and binary people (Thorne et al., 2018) it would be interesting to further investigate this topic. Furthermore, the low proportion of men might influence the outcome of the analysis because two participants in one group are too few to conduct a reliable analysis (Osborne & Costello, 2019). Additionally, there are implications that the self-report of symptoms might differ between males and females (Stelzer et al., 2019). Since the scale builds upon self-reporting one's symptoms, this might have an influence on the results, which could be accounted for by evaluating PGD through qualitative research. Concluding, the findings are contradictory to the expectations.

Influence of Support on PGD

Six linear models were created to test whether received support influences PGD scores in the sample. No significant effect of received support was detected in any of the six cases. This is in accordance with the expectations priorly formulated. This could be accounted to the ineffectiveness of professional support if there is no actual motivation to get support, as priorly found (Currier et al., 2008). This would fit into the sample since the descriptive data showed that many participants did not want to receive any kind of support. Moreover, there is less professional help for mourning people in Ukraine and insufficient capacity to help Ukrainians in the countries they are fleeing to (Bajaj & Stanford, 2022), which might explain the ineffectiveness. On the other hand, the literature suggests that people that are experiencing high levels of stress tend to benefit more from the support (Stroebe et al., 2005). And people that flee their homes usually deal with much distress paired with the loss of a loved person (Kordel et al., 2022). This could imply that the Ukrainian refugees are not experiencing high levels of stress after fleeing. This is not in accordance with a study by Kordel et al. (2022) that evaluated stress among Ukrainian refugees. They found a high prevalence of stress which was amongst other stressors influenced by the death of a close person. Since the study was executed closer

to the start of the war, the refugee's stress levels might have decreased. Future research should focus on evaluating the stressors that might decrease the effectiveness of support for Ukrainian refugees. Moreover, peer support, which was not accounted for in this study, should be inspected to since it is the most common type of support (Kaunonen et al., 1999).

Relation of Depression and PGD

Finally, the relationship between PGD and depression was investigated through a correlation analysis between the TGI-SR+ and the PHQ-9, and a positive correlation was found. Prior research already indicated many similarities between PGD and depression (Friedman, 2012; Lenferink et al., 2019), which led to the expectation that there is a relation between the concepts. This does not indicate that they are the same but rather that there are commonalities that can help in the future for the treatment of both. The findings do not imply a certain way of treatment that differs (Schneider, 1980), but help to understand that there are commonalities that can be accounted for when treating patients. Since even professionals have problems distinguishing between the two concepts (Friedmann, 2012), it is necessary to investigate how they can be differentiated. In further research, there should be a focus on finding the commonalities and differences to help create fitting treatment plans and help people suffering from one of the issues.

Moreover, prior research suggests that unhealthy grieving can result in depression (Lenferink et al., 2019). Therefore, the current study provides support for this hypothesis even though it does not explain it. To gather deeper insights, follow-up studies must be conducted to evaluate the progression over time. This could be done via a repeated measure design in order to assess the development of depression symptoms over time.

Strengths and Limitations

The study's findings need to be evaluated in the scope of their strengths and limitations. One strength of the study was that it was not entirely focused on the data. This means that there

was a focus on helping people immediately by sending them books that can help them to overcome their problematic grieving if they show symptoms.

Furthermore, the amount of data gathered is a strong feature of the study. Since it is a recent topic, there is not much data existing. The whole study gathered more than 750 participants, which provides the researcher with valuable data. This was possible due to the various amounts of channels that were used to gather participants and complemented by the fact that the data was gathered online. Therefore, the subjects could fill in the survey from anywhere, which utilized the variety of the sample. Meaning that subjects within Ukraine or other countries that they fled to have the possibility to participate and provide valuable data.

Additionally, the current study investigates the TGI-SR+ in a sample that has not been inspected yet. Due to the recency of the war, there has not been much research concerning Ukrainian refugees related to grief which the study accounted for. Not only the recency of the war but also the novelty of the TGI-SR+ make this study an addition to the current research on PGD. The scale has only been validated in Dutch, French, and Pakistani samples (Lenferink et al., 2022; Ashouri & Yousefi, 2023, Koukou-Kpolou et al., 2022).

On the other hand, there were some limitations that will be evaluated in the following. Firstly, since the topic of the study is sensitive, it is difficult to approach participants appropriately. This results in a reduced sample size since research with sensitive topics tends to attract fewer participants (O'Brien et al., 2006). This issue is complicated to tackle since the sensitivity of the topic cannot be altered. Moreover, there are not many touchpoints with Ukrainian refugees in general. Therefore the sample size could be higher. Additionally, the distribution of genders was skewed since men were not allowed to leave the country during the process of the war. This biased especially the results for the effect of gender on grief and made the results unreliable since the sample size of men (N = 2) is too low to gather reliable results about the differences (Dickinson et al. 2012; Osborne & Costello, 2019). This problem could

be tackled by not only investigating people that left their homes but as well working with Ukrainians in general, meaning including the soldiers in Ukraine and people that fled within Ukraine, so-called internally displaced persons (IDP).

Also, in this study, only refugees that left their country were included. Meaning, IDPs were excluded from the research. It could have been advantageous to investigate this group as well since they are a relevant group to gather information about especially since a study by Lee (1996) suggests that IDPs often encounter greater difficulties than refugees. One reason is that refugees enjoy greater protection and assistance through international treaties. Hence, investigating differences between IDPs and refugees would benefit the Ukrainian population in the current situation.

Moreover, the survey setup led to problems with the final data as well. The long survey might explain why not all participants finished the whole study, leading to a smaller sample size. This is something that is difficult to fix since all data is necessary. Still, it could be distributed on more than one survey to have participants answer the questionnaires at different points in time. Due to the survey lengths, participants might as well decrease their level of concentration, which biases the answers. Since the concentration levels can be influenced by time and mental suffering, both apply to the current study (Harvard Health, 2020). If there were questionnaires at different points, they might be answered with more concentration, and participants can still withdraw at any moment.

Moreover, when testing if support influences grief, it would be beneficial to inspect more than only the professional support or support that aims specifically to help people. The questionnaire used in the study solely asked for latter support. Therefore, any peer support, which is the most common support in a situation like this (Kaunonen et al., 1999), was left out and could not be investigated. It would be beneficial to look at the effects that this type of support could have, especially compared to other types of support. In future research, this

should be accounted for in order to determine the kind of support that may have the greatest positive effect on grief.

Conclusion

To conclude and come back to the primary aim of this study, which was to investigate the psychometric properties of the TGI-SR+, it can be said that the scale is a valid and reliable scale as priorly assessed by Lenferink et al. (2022). Through confirmatory factor analysis, the priorly detected factorial structure could be confirmed even though some items did not perform as well as in the prescinding study. In future research, there should be a focus on improving the sample in terms of variety. Hence, more men and internally displaced persons should be included. Furthermore, there should be a focus on investigating which factors may explain PGD. This is especially important since it is a new concept that was included just recently in the DSM-5TR and the ICD-11. Moreover, research should focus on discovering all factors that distinguish depression and grief to find treatments that can help people suffering from one concept.

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Appendix A

Table 5

Demographics Questionnaire in English.

Question	Answer
Consent We might be interested in how people adapt to the loss of a loved one over time. Could we approach you again in the future to inform you about follow-up studies?	"No / Yes, my email is:"
Data Pool I have read and understood the information about this study. I agree to participate in this study.	Yes
Gender What is your gender?	"Man / Woman / Other"
Age What is your age (in years)?	
Did you flee your house because of the Russian war?	"No / Yes, I fled my house and live somewhere else in Ukraine / Yes, I fled my house and now live in another country. Name of country is: ……. "
CoD What is the cause of loss of your loved one?	"Physical illness (e.g. old age, cancer, cardiovascular disease, died at birth) / Accident (e.g., accident, traffic accident, drowning, poisoning) / Suicide / Murder or manslaughter not related to the Russian war / Murder or manslaughter related to the Russian war / Disappearance / Other:"
Text* The following questions are phrased in a way that it refers to the "death" of your loved one. Keep in mind that in your case, the questions are referring to the	

	disappearance of your loved one.**	
DoD	What is the date your loved one died? (dd/mm/yyyy)	
Kinship	What is your relationship with the deceased loved one? The loved one is my:	"Partner (Husband, wife, boyfriend, girlfriend) / Child / Parent / Sibling / Grandparent / Grandchild / Friend(s) / None of the above: "
Reminder*	Some of the questions are phrased in a way that it refers to the "death" of your loved one. Keep in mind that in your case, they are referring to the disappearance of your loved one.**	

Appendix B

TGI-SR+ items

1. I had intrusive thoughts or images related to the person who died.

2. I experienced intense emotional pain, sadness, or pangs of grief.

3. I found myself longing or yearning for the person who died.

4. I experienced confusion about my role in life or a diminished sense of self.

5. I had trouble accepting the loss.

6. I avoided places, objects, or thoughts that reminded me that the person I lost has died.

7. It was hard for me to trust others.

8. I felt bitterness or anger related to his/her death.

9. I felt that moving on (e.g., making new friends, pursuing new interests) was difficult for me.

10. I felt emotionally numb.

11. I felt that life is unfulfilling or meaningless without him/her."

12. I felt stunned, shocked, or dazed by his/her death.

13. I noticed significant reduction in social, occupational, or other important areas of functioning (e.g., domestic responsibilities) as a result of his/her death.

14. I had intrusive thoughts and images associated with the circumstances of his/her death.

15. I experienced difficulty with positive reminiscing about the lost person.

16. I had negative thoughts about myself in relation to the loss (e.g., thoughts about self-blame).

17. I had a desire to die in order to be with the deceased.

18. I felt alone or detached from other individuals.

19. It felt unreal that he/she is dead.

20. I put an intense blame on others because of his/her death.

21. It felt as if a part of me has died along with the deceased."

22. I had difficulties experiencing positive feelings.

Table 6

Overview of the categories from the TGI-SR+.

Grief Monitor	
Green category (22-47 points)	You currently score between 22-47 points. This puts you in the green category. Sometimes you experience emotional pain or other emotional reactions to the loss of your loved one. But this does not significantly interfere with your everyday life. Experiencing grief reactions occassionally is very common and healthy response to loss. You do not seem to need any professional help with the grieving process right now. Of course, you may check the general information on grief on this website. Do you notice that your psychological complaints increase over time? Please fill out the questionnaire again.
Yellow category (48-70 points)	You currently score between 48-70 points. This puts you in the yellow category. You sometimes experience several grief reactions. At this moment, it seems that there is no need to seek professional help for your grief. You may check the general information on grief on this website. If you

do feel that you need help (because you notice an increase in your grief reactions) you can contact your family doctor for advice. You may also consider having some (online) counseling sessions with a counselor or psychologist.

Did the loss occur less than 12 months ago? Please fill out the questionnaire again in a while.

Or do you notice that you have other complaints that were not addressed in the questionnaire? Please contact your family doctor for advice.

Orange category (71 - 91 points)	You currently score between 71 - 91 points. This puts you in the orange category. You often experience different types of grief reactions. These cause suffering and may interfere with your functioning. You may likely benefit from professional help from a psychologist. If you feel no need for professional psychological help, we advise you to consider having some (online) counseling sessions with a counselor or psychologist. It is also wise to consult your family doctor to share how you feel now and discuss whether help is needed Did the loss occur less than 12 months ago? Please fill out the questionnaire again in a while.
Red category (92-110 points)	You currently score between 92-110 points. This puts you in the red category. There are many grief reactions that you experience almost always. This likely cause significant

distress and likely interferes with your functioning. We strongly advise you to consider to search for options to obtain professional psychological help. It is also wise to consult your family doctor to share how you feel now and discuss whether help is needed. Did the loss occur less than 12 months ago? Please fill out the questionnaire again in a while

Appendix C

PHQ-9 Items

1. Little interest or pleasure in doing things

2. Feeling down, depressed, or hopeless

3. Trouble falling or staying asleep, or sleeping too much

4. Feeling tired or having little energy

5. Poor appetite or overeating

6. Feeling bad about yourself — or that you are a failure or have let yourself or your family

down

7. Trouble concentrating on things, such as reading the newspaper or watching television

8. Moving or speaking so slowly that other people could have noticed? Or the opposite —

being so fidgety or restless that you have been moving around a lot more than usual

9. Thoughts that you would be better off dead or of hurting yourself in some way

Appendix D

Figure 2

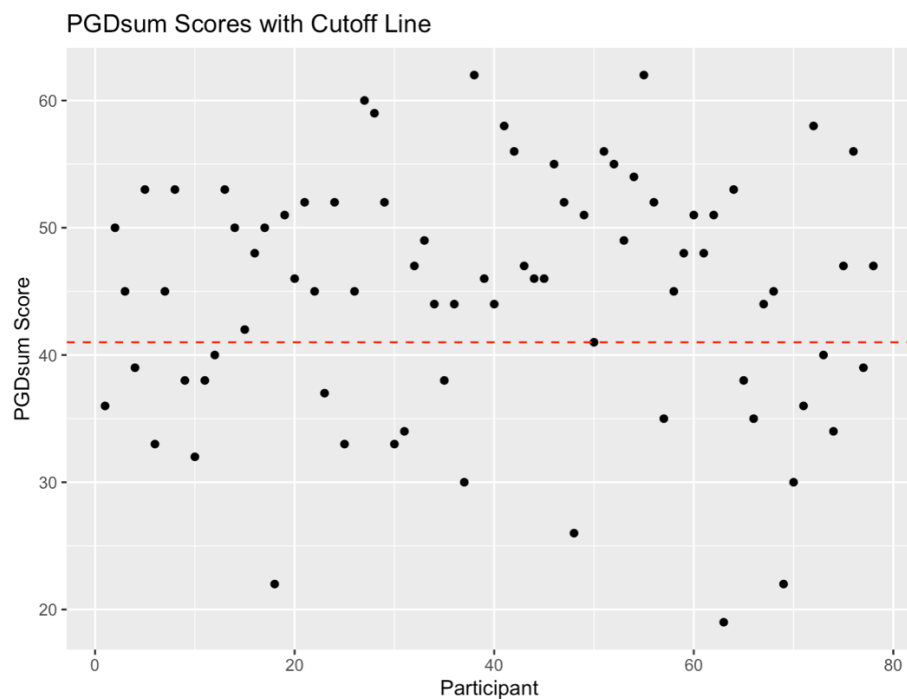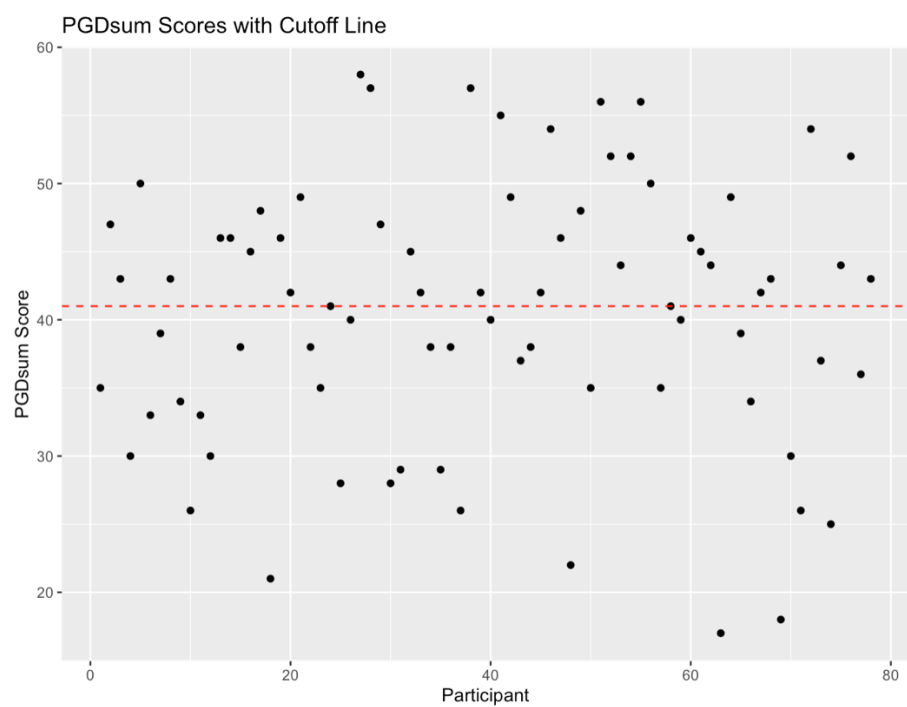*Mean scores of PGD according to the ICD-11 with the cut-off line.*

PGDsum Scores with Cutoff Line

Figure 3

Mean scores of PGD according to the DSM-5-TR with the cut-off line.

PGDsum Scores with Cutoff Line

Appendix E

Figure 4

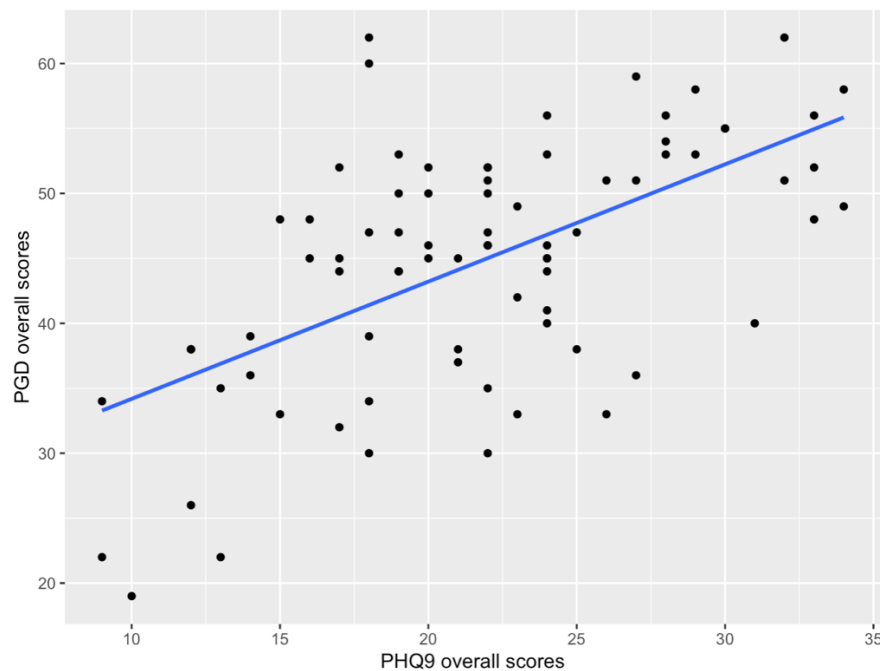*Correlation plot of the PHQ-9 and the PGD scaled based on the ICD-11.*

Figure 5

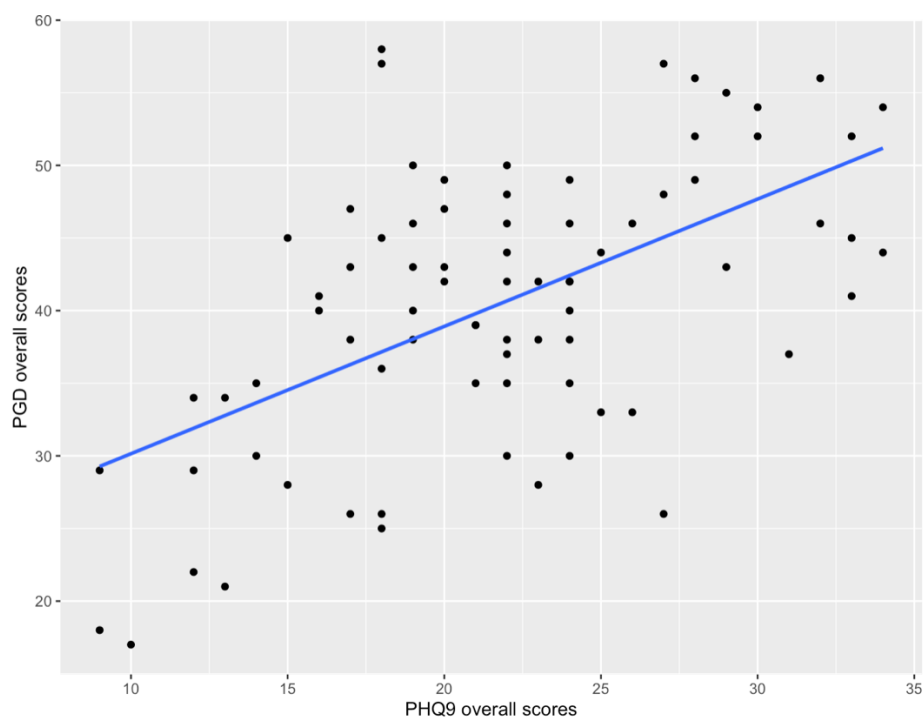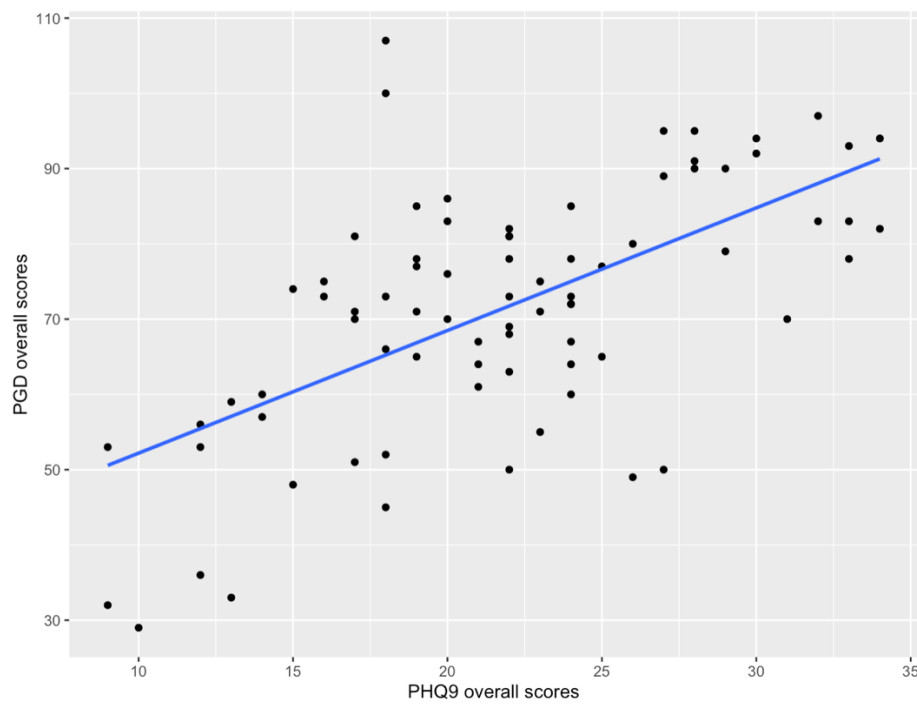*Correlation plot of the PHQ-9 and the PGD scaled based on the DSM-5-TR.*

Figure 6

Correlation plot of the PHQ-9 and the PGD scaled based on the total TGI-SR+.

Appendix F

Table 7

Correlation matrix of the PHQ-9 and the TGI-SR+.

Item	PHQ9 _1	PHQ9 _2	PHQ9 _3	PHQ9 _4	PHQ9 _5	PHQ9 _6	PHQ9 _7	PHQ9 _8	PHQ9 _9
TGISRplus _1	.030	.042	.036	.004	-.032	.098	.038	.307	.208
TGISRplus _2	.334	.329	.210	.220	.277	.231	.121	.161	.147
TGISRplus _3	.304	.257	.230	.218	.183	.118	.068	.142	.062
TGISRplus _5	.179	.182	.316	.254	.226	.071	.088	.163	-.077
TGISRplus _8	.243	.218	.164	.232	.146	.221	.155	.203	.138
TGISRplus _9	.364	.353	.230	.250	.358	.251	.201	.351	.307
TGISRplus _10	.369	.335	.304	.239	.0341	.338	.254	.378	.228
TGISRplus _13	.324	.328	.234	.303	.348	.175	.183	.333	.192
TGISRplus _16	.221	.206	.029	.171	.200	.292	.119	.284	.250
TGISRplus _19	.216	.217	.189	.235	.162	.055	.059	.139	.141
TGISRplus _20	.173	.200	.311	.280	.172	.154	-.029	.286	.186
TGISRplus _21	.257	.307	.205	.185	.215	.242	.048	.334	.309
TGISRplus _22	.352	.353	.294	.253	.316	.197	.278	.426	.236

Appendix G

Overview of the six ANOVA outputs

ANOVA output for current usage of support and the PGD scale according to the ICD-11 items

$F(1,76) = 1.032, p = .313$

ANOVA output for current usage of support and the PGD scale according to the DSM-5-TR items

$F(1,76) = 2.146, p = .147$

ANOVA output for usage of support and the PGD scale according to the ICD-11 items in relation to the loss

$F(1,76) = .774, p = .382$

ANOVA output for usage of support and the PGD scale according to the DSM-5-TR items in relation to the loss

$F(1,76) = 1.181, p = .281$

ANOVA output for prior usage of support and the PGD scale according to the ICD-11 items

$F(1,76) < .001, p = .923$

ANOVA output for prior usage of support and the PGD scale according to the DSM-5-TR items

$F(1,76) = .265, p = .609$