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**Validation of the Traumatic Grief Inventory – Self-Report (TGI-SR) in Balinese  
Population Who Lost Their Loved One in a Car Accident**

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## Abstract

This study determined the reliability, content and construct validity of the Traumatic Grief Inventory – Self-Report (TGI-SR) in a sample of participants who lost their loved one in a car accident (age 18-89 years,  $n = 301$ ). Between August and September 2017, assessment took place with QIDS, PCL-5 and the TGI-SR at participant's quarters. Cronbach's alpha showed that TGI-SR has good internal consistency (.86). An exploratory factor analysis (EFA) produced a four-factor solution. Pearson correlation showed that TGI-SR is positively correlated with the QIDS ( $r = .33, p < .01$ ) and the PCL-5 ( $r = .49, p < .01$ ). Post hoc comparisons (Bonferroni's) showed that the spouse's relationship type ( $p < .05$ ) had higher score compare to mother, father, child, sibling, and other relationship type. The results indicate that the TGI-SR somehow reliable instrument and has a good construct validity. However, it is lacking a big part of local wisdom and culture within its structure. Limitations and suggestions for further research are proposed in this study.

*Keywords:* Complicated grief, trauma, validation, factor analysis, Traumatic Grief Inventory

## Introduction

Losing someone we love is one of the devastating events that human has to endure, and the way human deal with is unique within their own reason (Mancini & Bonanno, 2011). Most modern grief specialists recognized the variation and fluidity of grief experiences, which differ considerably in intensity and length among cultural groups and from person to person (Silver & Wortman, 2007; Bonanno & Boerner, 2007). Researchers have suggested that the term grief should then be used to refer to the fact of the loss; and should describe the emotional, cognitive, functional and behavioural responses to death (Zisook & Shear, 2009).

Patterns for grieving across cultures show very different ways of reacting to loss and western concepts of *normal* reactions or healthy ways of coping emerge as ethnocentric constructions (Stroebe and Schut, 1998). In Bali, one of the islands of Indonesia, within the complex of emotion and performance of loss, there is a general desire by everyone to maintain hope. Spencer (2015) concluded, based on her research that Balinese people have a ritual called *ngaben*. The ritual includes, spiritual counsellor cremated the deceased with a precise manner. Balinese people believe in reincarnation; therefore, Balinese people believe that there is so much more after death and grief do not necessarily exist within the timeline of losing someone. However, that belief does not inhibit Balinese people from being exposed to the grieving process (Spencer, 2015).

To begin with, 'normal grief' is a normal reaction to loss and refers to the distress resulting from bereavement. It can be described as the state that occurs when people 'are deeply saddened by the death of an attachment figure during a period of weeks or months of acute grief' (Enez, 2017, p.442). 'Complicated grief (CG)' is a form of normal grief, in which the progress of adapting and accepting the finality of the loss is complicated and slowed (Celik & Sayil, 2003; Simon, 2013). The essential differences between the two are the slowed process of acceptance of the loss of the loved ones.

Risk factors for CG have been extensively studied. The literature proposes three types of risk factors associated with CG, namely situational factors, such as place of death, personal factors, such as gender, and interpersonal factors, such as the availability of emotional and social support from others (Kristjanson et al., 2006). Gender has received considerable attention in the literature. Women are more likely to develop maladaptive grief responses compared to men (Prosser-Dodds, 2013). Furthermore, the experience of losing someone is linked by the circumstance that binds them together, thus witnessing the loved one die as the last memories heavily interfere with their grieving process (de Leo et al., 2015). There is also a higher risk for CG after the loss of a very close relationship with the deceased, such as loss of a spouse or especially a child (Shear et al., 2013).

Currently, DSM-5 includes criteria for CG in the section on '*Disorder Requiring Further study*' with the name of 'persistent complex bereavement disorder (PCBD)'. PCBD has been defined as persistent yearning or preoccupation with the deceased for at least 12 months after the death (Bryant, 2013; Shear et al., 2013). The World Health Organization's International Classification of Disease-10<sup>th</sup> Revision (ICD-10) also does not officially recognize CG as a mental disorder. Maladaptive grief reactions are classified as a type of adjustment disorder (Jordan et al., 2014; Shear et al., 2016). However, the proposed ICD-11<sup>th</sup> revision includes a new diagnosis, termed prolonged grief disorder (PGD). The discussion for PCBD symptoms is under "condition for further study" in DSM-V because of the inevitable overlapping symptoms (APA, 2013).

PCBD/PGD focuses on distress and disbelief associated with the permanence of separation (Boelen et al., 2018), whereas bereavement-related PTSD mainly involves distressing thoughts, feelings, and memories associated with the circumstances of the death, and depression centres around dysphoria, anhedonia, and impaired hope. The role of individual differences plays a substantial role in the grieving process of oneself, making it

distinct and unique (Mancini & Bonanno, 2011). On top of that, manifestations of grief are unique to each person and shaped by the practices of a society and cultural group (Enez, 2018). However, Zachar (2015), argued in his study that, despite the considerable variation in the experience of grief, many individuals generally show similar patterns of intense yearning, sadness, preoccupation, distress, and intrusive thoughts.

PCBD is included in the DSM-5 as a disorder divided into two factors (APA, 2013). The following components are stated: *reactive distress to the death* and *social/identity disruption* (APA, 2013). Holland and Neimeyer (2011) found that pathological grief consists of separation and traumatic distress, which is in agreement with earlier proposed factors by Prigerson and colleagues (1999). However, Boelen and Prigerson (2012) argue that there is a lack of reliability and validity for the inclusion of the two separable factors for PCBD in the DSM-5. On top of that, more studies have frequently shown those symptoms of complicated grief cluster together as one factor (Boelen & Hoijsink, 2009; Prigerson et al., 2009), consequently, the discussion remains.

One way to study complicated grief reactions is the Traumatic Grief Inventory – Self-Report (TGI-SR), designed by Boelen and Smid (2014). It consists of 18 items to measure pathological grief, based on the new prescribe symptoms of PCBD and PGD. However, most recent study for psychometric properties of TGI-SR was based on the Dutch population. This study aimed to determine whether the TGI-SR is an adequate measurement that can be used by clinicians in their diagnostic evaluations and eventually therapy indication in a different cultural setting such as Balinese population. Earlier research showed that grief cognitions are culture related, namely, in a study among Chinese Shidu Parents, strong associations were found between cultural-related beliefs and grief intensity (Shi et al., 2019). This is relevant because Balinese people have such vigorous culture dealing and apprehending with death; that notions would benefit future research in regards to using TGI-SR as an instrument.

Gaining more knowledge about the factors or components of complicated grief is vital for advancing future diagnosis of complicated grief among different cultural setting. This will contribute to an improvement for a psychologist in identifying individuals who struggle with bereavement and generate the correct treatment indication. Specifically, this study was trying to achieve that by validating the TGI-SR using Balinese populations.

This study aims to validate TGI-SR questionnaire in the Balinese population, using data from 301 bereaved individuals, who lost their loved one in a car accident. Firstly, this study will examine the factor structure of TGI-SR. Secondly, to establish construct validity, the TGI-SR was compared with questionnaires, which measures PTSD and depression. It was expected that TGI-SR was correlated positively with other questionnaires, which measures PTSD and depression (Rosmolen, 2015). With respect to the discriminant validity, this study examined the differences in gender because female is more likely to develop maladaptive grief responses (Prosser-Dodds, 2013). Further, this study expected scores on the TGI-SR to be higher among people who lost their family member especially their child because CG occurs more prominent after the loss of a very close relationship with the deceased (Shear et al., 2013). Thirdly, internal consistency was examined. Lastly, the questionnaires were administered by interviewing, with that regards inter-rater reliability was examined as well, to see whether there is a significant difference on the interviewer who administers the questionnaire. In accordance with the authors of the questionnaire, it was expected that the TGI-SR would produce a one-factor structure.

## **Method**

### **Participant**

The data were derived from 301 participants who were over the age of 18 ( $M = 44.24$ ,  $SD = 15.17$ ) who had lost a relative, spouse, or relative-in-law due to a traffic accident. The TGI-SR scores revealed that 1,32% ( $n = 301$ ) of all the participants had an indication of

pathological grief. Based on the intake 0,99% ( $n = 301$ ) of the patients were met the threshold of a probable diagnosis of PTSD and 5,32% ( $n = 301$ ) with severe depression. More characteristics about the participants and information about their gender, religion, education, relationship with the deceased and involvement in the accident are presented in table 1.

## **Procedure**

The data for this cross-sectional survey project was obtained through the administration from the University of Udayana, as well as through insurance companies and Sanglah Hospital, which is the largest public hospital in Bali. Furthermore, participants were recruited through the snowball sampling method.

Participants who lost someone more than three years before the study conducted and participants who were not proficient in Bahasa Indonesia were excluded. The Balinese language consists of multiple sub-languages. To obtain a clear translation, this study was translated to only Bahasa Indonesia. Two bilingual public health medical doctors translated (TGI-SR) from English into Bahasa Indonesia. This study obtained the translation of the Quick Inventory of Depressive Symptomatology (QIDS) from a previous study administered in Jakarta (Arjadi, Nauta, Utoya & Bockting, 2017). Following, the translated questionnaires were critically reviewed, focusing on comprehensibility, relevance, and cultural appropriateness.

The data were collected by interviewing the participant at home. The interviewers were recruited based on competence, commitment to research, and their study major as well as progress. Medical, psychology, and public health students, who were in their last years of study, could join the project as a research assistant. There are four interviewers selected for this study. After being selected, they received a three-day training, including workshops on research skills and the administration of questionnaires. Additionally, participants have signed an informed consent.

## Materials

The participants were asked to fill out numerous questionnaires, of which only those are presented that are used in the analyses of the present study. Firstly, all participants were questioned about multiple demographic variables, details of their relationship to the deceased, their involvement in the accident, and information about mental illnesses the participant or his or her family might suffer from.

The TGI-SR (Boelen et al., 2014) is an 18-items self-report questionnaire of disturbed grief, including symptoms of PCBD and PGD. Participants rated the occurrence of symptoms in the preceding month on a 5-point Likert scale ranging from 0 (never) to 4 (always) on all items (e.g., 'it was hard for me to trust other'). Items are summed to form an overall severity score. A summed score of  $\geq 36$ , including scores of  $\geq 3$  on the items 3 and 13, is an indicator of a clinically significant level of PCBD/PGD. According to previous studies, Cronbach's alpha of the TGI-SR is .96 (Rosmolen, 2015), which is considered 'excellent' according to George and Mallery (2003).

The QIDS (Rush et al. 2003) is a 16-items quick inventory of symptomatology, designed to assess the severity of depressive symptoms. Respondents are asked to rate the level of symptoms in the preceding month on a 4-point scale. For example item 'sleep during the night' with ranging from 1-4 (1 = I do not wake up at night; 2 = I have a restless, light sleep; 3 = I wake up at least once a night; 4 = I awaken more than once a night ). The scoring system of the QIDS converts responses of the 16 separate items into the nine DSM-IV symptom criterion domains. The nine domains comprise 1) sad mood for item 5; 2) concentration for item 10; 3) self-criticism for item 11; 4) suicidal ideation for item 12; 5) interest for item 13; 6) energy/fatigue for item 14; 7) sleep disturbance (initial, middle, and late insomnia or hypersomnia) for items 1 through 4; 8) decrease or increase in appetite or weight for items 6 through 9, and 9) psychomotor agitation or retardation for items 15 and



16. For symptom domains that require more than one item, the highest score of the item relevant for each domain is taken. For example, if early insomnia is 0, middle insomnia is 1, late insomnia is 3, and hypersomnia is 0, the sleep disturbance domain is rated 3. The total score ranges from 0 to 27. A score of  $\geq 16$  or higher indicates a severe depression in the participants (Rush et al., 2003). Cronbach's alpha of the QIDS in this study was .70, which is 'acceptable' according to George and Mallery (2003).

The PTSD Checklist for DSM-5 (PCL-5) is a 20-items self-report measure that assesses the presence and severity of PTSD symptoms. Items on the PCL-5 correspond with DSM-V criteria of PTSD. Respondents are asked to rate how bothered they have been by each of 20 items in the past month on a 5-point Likert scale ranging from 0 (= not at all) to 4 (= extremely) on all items (e.g., 'avoiding memories, thoughts, or feelings related to the stressful experiences'). Items are summed to provide a total severity score. The total score ranges from 0 to 80. A score  $\geq$  of 38 or higher indicates probable PTSD in the participants. Cronbach's alpha of the PCL-5 in this study was .86, which is 'good' according to George and Mallery (2003).

### **Statistical Analysis**

To examine the factor structure, an exploratory factor analysis (EFA, varimax) was carried out, using the Statistical Package for the Social Sciences (SPSS, version 26.0). Kaiser's criterion provides a reliable standard for factor selection, with samples of more than 200 participants (Stevens, 2002). The rotated factor matrix was used to determine the number of components. Item loadings ( $\geq .4$ ) on the pattern matrix were interpreted (Graham et al., 2003). Pearson's correlation was used to explore the linear associations between the QIDS and PCL-5 compared to the TGI-SR. Intraclass Correlation Coefficient (ICC) was used to determine the linear relationship between the four interviewers. A one-way ANOVA was performed between the interviewers. A one-sample t-test was used to examine if female

participants scored higher on the TGI-SR compared to male participants; and if the participants who are involved in the car accident score higher on the TGI-SR compared to the participants who are not involved. Finally, one-way ANOVA was performed on the type of relationship, and post hoc comparisons (Bonferroni) examined which type of relationship (father, mother, child, sibling, spouse, others) scored the highest on the TGI-SR.

## Results

### Factor Analysis

Exploratory factor analysis (EFA) with a rotation (varimax) was carried out on the TGI-SR. Varimax rotation was chosen based on the weak relationship between the factors, as shown through a direct oblimin rotation. For the data set the Kaiser-Meyer-Olkin (KMO) value, .86 falls into the range of perfect, which means that the sample size is adequate for factor analysis (Field, 2009). Bartlett's test of sphericity  $X^2 [(153) = 2598.97, p < .001]$ , verified that the correlation between items were sufficiently large for EFA. The analysis resulted in the emergence of a four-factor structure. Four components had eigenvalues over Kaiser's criterion of 1 and accounted for 51,29% of the total variance (TV) of the TGI-SR. Looking at the rotation sums of squared loadings the occurrence of the third (9,61% of the variance) and the fourth (9,21% of the variance) factors was questionable, compared to the first (21,02% of the variance) and the second (11,45% of the variance) factors. Most of the values, in the rotated correlation matrix, were above .5, which indicate that every item on each factor is strongly correlated. There are four items below .5, and one item that does not load in any factor. Given these overall indicators, factor analysis was deemed to be suitable with all 18 items (Table 2).

By observing the items connected to each factor, it seems that the first factor reflects the painful experiences after the loss of oneself. Prominent items were '*I felt emotionally*

*numb*' and *'I felt that life is unfulfilling...'*. The second factor consists of a set of symptoms that conveyed a notion of a negative relation to the self and towards others. Prominent items were *'I felt that moving on was difficult for me'* and *'I experienced confusion about my role in life...'*. The third factor consists of the acceptance of the loss. Prominent item was *'I had intrusive thoughts and images associated with the circumstances of his/her death'*. The last factor consists of maladaptive symptoms and avoidances behaviour after the loss. Prominent item was *'I had trouble accepting the loss'*.

Within the factors structure the items moderately inter-correlated, except for the item: *'It was hard for me to trust others'*. That item was loading equally into the second and third factor and demonstrated the inability to discriminate between the two factors. Item *'I had a desire to die in order to be with the deceased'* is not loaded on any factors. An additional EFA was run to test if that item would load on a one-factor structure. Items *'I had negative thoughts about myself in relation to the loss'*, *'I experienced difficulty with positive reminiscing...'*, *'I felt alone or detached from other individuals'*, *'I had a desire to die in order to be with the deceased'* were not loaded in the one-factor model

### **Reliability**

Cronbach's alpha and interrater reliability were carried out to test the reliability of TGI-SR. For the data set the Cronbach's alpha value .86, and falls into the perfect category, above .7 to be acceptable and below .9, which might indicate redundancy (Hair et al., 2017).

For interrater reliability, the intraclass correlation coefficient value .04, it was shown that the linear correlation of the four interviewers was non-existent. There is, however, a significant difference between the four interviewers. Interviewer A and interviewer D have a higher total mean score, compare to interviewer B, and interviewer C,  $F(3,297) = 66.19, p < .001$  (see Table 3).

## **Construct Validity**

Comparing total item scores of TGI-SR with QIDS and PCL-5 using Pearson correlation (see table 4), revealed that the total item scores on the QIDS positively related to the total item score on the TGI-SR ( $r = .33, p < .01$ ). A higher score on the QIDS was associated with a higher score on the TGI-SR. The total item scores on the PCL-5 positively correlated with the total item score on the TGI-SR ( $r = .49, p < .01$ ). A higher total item score on the PCL-5 was associated with a higher total item score on the TGI-SR. These results indicate that the TGI-SR is significantly related to depression and PTSD symptoms, thereby providing evidence for its construct validity.

## **Discriminant Validity**

As mentioned before, the risk factors of traumatic grief are (among others) gender, relationship with the deceased, and whether the participants are involved in the accident. First, a one-sample t-test, comparing total mean score of the TGI-SR and gender, revealed that female scores ( $M = 15.56, SD = 8.53$ ) are significantly higher compared to male ( $M = 12.02, SD = 7.04$ ),  $t(299) = -3.93, p < .001$ . Second, a one-way ANOVA was used to compare the total mean score of the TGI-SR and the relationship the participants have towards the deceased. The relation with the victim was divided into six categories, namely; mother, father, child, spouse, sibling and others. A one-way ANOVA revealed there was a significant effect of the mean TGI-SR total score for the different groups,  $F(5, 295) = 3.55, p = .004, \omega^2 = .057$ . Post hoc comparison to evaluate pairwise differences among the group means were conducted with a Bonferroni's test, which revealed that the spouse's relationship ( $M = 16.41, SD = 8.59$ ) scored the highest, compared to other groups. Mother's relationship ( $M = 11.82, SD = 6.80$ ) and sibling's relationship ( $M = 11.01, SD = 6.69$ ) are significantly lower compare to spouse's relationship. There is no statistically significant difference between others ( $M = 13.45, SD = 7.95$ ), father ( $M = 12.25, SD = 7.12$ ), and child relationship

( $M = 14.41$ ,  $SD = 8.37$ ) compare to the spouse's relationship. Third, we compared the total mean score of the TGI-SR of the participants that are involved in the accident with those who are not involved using an independent t-test. The results revealed that there is a significant difference between the two groups, participants who are involved in the accident ( $M = 22.00$ ,  $SD = 11.25$ ) score higher than the participants who are not involved in the accident ( $M = 13.27$ ,  $SD = 7.65$ ),  $t(299) = 3.32$ ,  $p = .001$ . The significant difference in that result might be influenced by the sample size. The participants who involved in the accident are only nine people out of 300 participants.

### **Discussions**

This study aimed to determine whether the TGI-SR is a reliable and valid diagnostic instrument that can be used for measuring complicated grief in Balinese populations. Inconsistent with the prediction, EFA resulted in the emergence of four factors, which correlated moderately. The internal consistency of the TGI-SR was found to be high, proving its reliability. Consistent with what expected, the TGI-SR was moderately positively related to depression (QIDS) and PTSD symptoms (PCL-5), which adds to its construct validity. Following the last expectations, females were at higher risk for elevated grief reactions compared to males on the TGI-SR; also, spouses' relationship shown the most elevated grief reactions on the TGI-SR compared to other groups, and lastly, direct involvement indicated more elevated grief reactions than non-direct involvement on the accident on the TGI-SR.

In regards to the previous finding, neither the two-factor model nor the-one factor models were applicable for the Balinese population; thus, the four-factor model is instead a new finding. Together, these findings provide a new perspective on constructing a new factor structure. Moreover, complicated grief is in a preliminary stage of research, with PCBD for DSM-5 and PGD for ICD-11 as labels, it is inevitable that the construct is malleable. This

study concludes that the Balinese population have a different factor structure compared to the Western population in terms of grieving.

Observing the item loadings on the four factors more closely, the most substantial factor reflects on the painful experiences of oneself after the loss. Other items that conveyed a notion of a negative relation to oneself and towards others, and the acceptance of the loss itself were scattered around the second, and the third factor. Lastly, the fourth factor consists of the symptoms of anger and avoidance towards the deceased.

Another finding that emerges from the factor analysis was that symptom '*it was hard for me to trust others*' was loaded on two factors equally and demonstrated the inability to discriminate between the two factors. 'Disturbance in areas of functioning' is one of the main symptoms to diagnose someone with a general disorder in the DSM-5, which indicates dysfunction in social occupational or other relevant life domains (APA, 2013). Emotional expression in collectivism culture is more restrictive, which they are forced to repress their feeling and joined the society with that repressed feeling (Khoury, 2018). Therefore, measuring Balinese disturbance in area functioning based on their ability to trust others seems not suitable in this situation. The symptom 'I had a desire to die in order to be with the deceased' was not loading in any factors. Spencer (2015) describe that Balinese culture allowed them to '*contact*' the deceased via spiritual counsellor; therefore, that symptom does not seem applicable for Balinese population.

The average score of TGI-SR in Balinese people populations was surprisingly low. They showed a different pattern of complicated grief. That finding suggests that culture plays a substantial role in grieving. Religion could also play an essential role in the grieving process. The Balinese rituals, both based on the Hindu religion and the local culture, with ways to communicate with the deceased, seem to help Balinese people in the grieving process.

These questionnaires were administered by four different interviewers, and there is a high indication of individual differences between the interviewer. There is a substantial difference between interviewer A and D compare to interviewer B and C, but this might be influenced by the non-randomized interviewing process. For example, certain interviewers interviewed only the participant from the hospital, where participants experienced more severe losses. The time when the interview held could also influence the difference between interviewers because the manifestation of grief is unique to each person, and people process grief differently (Zachar, 2015).

The moderate relations between the TGI-SR and QIDS, confirm with previous research, which stated that complicated grief, depression, and anxiety are related but separable syndromes (Chen et al., 1999; Prigerson et al., 1996). Although in the grieving process, it is common to have depressive symptoms for the first two months after the loss (APA, 2013). The moderate relations with PCL-5, confirm with previous research, which indicates a substantial overlap and interplay of symptoms between complicated grief and PTSD (Raphael, 1997; Stroebe et al., 2001). The distress of complicated grief is related to the loss of the attachment from the deceased, whereas the distress of PTSD symptoms is correlated with the impact of the actual threatening event. The connection between TGI-SR and PCL-5 is higher than TGI-SR and QIDS; this is because circumstances of the loss is an essential factor (Smid et al., 2018). The participants of this study lost their loved one in a car accident, a sudden and violent death, which makes the participant more prone to PTSD than depression. In line with previous research (Djelantik et al., 2016) a class combined symptomatology emerge, indicating that in bereaved individuals, the death of a loved one precipitates a combination of symptoms of grief, traumatic stress, and depression.

In addition to the previous finding of the risk factor of CG (Kristjanson et al. 2006), it is proven that female is more prone to complicated grief compared to male. The kinship

between the victim and the participant varies between spouse, child, mother, father, siblings, and others. The highest score in TGI-SR is for losing a spouse, which contradicts with the prior research saying that losing a child is the most devastating loss (Shear et al., 2013), although the difference is not significant. According to this study, it is proven that losing a spouse is as much devastating as losing a child for Balinese population. It is proven that the participants who are directly involved in the accident also score higher compared to who are not directly involved.

### **Strengths and limitations**

With regard to strengths, this research consists of large sample size ( $n = 301$ ). The subject-to-item ratio of the TGI-SR in the EFA was 16:1, which is far above the recommendation that there should be at least ten observations for each independent variable (Osbourne, 2004). The current sample consists of participants with a wide range of age and different educational background.

The following limitations should be taken into account with the interpretation of the results. First, grief is still a developing construct, which relies heavily on individual differences even within the same population (Stroebe & Schut, 1998), therefore using a culturally different population might influence the result of the test. Second, the questionnaire is assessed by an interviewer, which could tamper the answer for the test. The way each interviewer carried themselves around the participant might influence the outcome of the test. Finally, the TGI-SR scores revealed that 1,32% of all the participants had an indication for complicated grief. In regards to that result, the generalizability to a general population should occur cautiously.

### **Future research and clinical implications**

The finding of the four-factor structure in this study should be seen as evidence that further discussion on which model factor should be used within the TGI-SR is needed. A



recommendation would be to use confirmatory factor analysis (CFA), to examine the factor structure with a data-driven and a model-driven approach. To determine if which factor structure is stable, it is necessary that future research will explore the content validity of the TGI-SR across time with a repeated measure design.

The finding of four underlying mechanisms may be useful for application in grief treatment. Clinicians can focus on their diagnostic evaluations and eventually therapy indication by adjusting by its local culture and wisdom. With a few adjustments of TGI-SR, it could help to scan through a population of people who are experiencing pathological grief and give them the treatment which is suitable for them within different cultural settings.

### **Conclusion**

This study gave a conceptualization of the construct pathological grief. The results showed that TGI-SR is a reliable instrument for measuring pathological grief. However, considering the low intensity of grief, there should be an adapted version of TGI-SR to the local culture or wisdom, since it was made based on the western populations. The TGI-SR showed moderate correlation with the QIDS and PCL-5, thereby providing evidence for its construct validity. Regarding the factor analysis, this study revealed that pathological grief in the Balinese population consists of four factors. The result of the validity of this instrument somehow valid, but also that is lacking a big part of local wisdom and culture. Furthermore, the items were not loading on the factors as predicted, and further research is required to test the factor analysis with a data-driven approach.

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Table 1

*Demographic characteristic of the participants*

<b>Characteristic</b>	<b>Number</b>	<b>Percentage</b>
<i>Sex</i>		
Male	172	57.1
Female	127	42.9
<i>Religion</i>		
Hindu	286	95.0
Islam	10	3.3
Buddhism	3	1.0
Christian	2	0.7
<i>Education</i>		
Not finished school/ not at school	11	3.7
Elementary school	46	15.3
Middle school	59	19.6
High school	126	41.6
College (D3, Bachelor, S1/S2/S3)	59	19.6
<i>Relationship</i>		
Father	52	17.3
Mother	45	15.0
Child	89	29.6
Spouse (Wife/Husband)	59	19.6
Sibling	45	15.0
Others	11	3.7
<i>Involvement in the accident</i>		
Yes	9	3.0
No	292	97.0

Table 2

*Factor loadings on the rotated factor matrix (EFA, varimax rotation)*

TGI-SR Items	Factors			
	1	2	3	4
I felt emotionally numb	.86			
I felt that life is unfulfilling or meaningless without him/her	.83			
I felt stunned, shocked, or dazed by his/her death	.77			
I experience intense emotional pain, sadness, or pangs of grief	.75			
I feel very afraid that something will happen or ...	.69			
I found myself longing or yearning for the person who died	.62			
I felt that moving on was difficult for me		.67		
I experience confusion about my role in life...		.63		
I noticed significant reduction in social occupational, or other important areas of functioning...		.46		
I had negative thoughts about myself in relation to the loss		.41		
I had intrusive thoughts and images associated with the circumstances of his/her death			.60	
I felt alone or detached from other individual			.59	

it was for me to trust others	<b>.52</b>	<b>.55</b>
I experienced difficulty with positive reminiscing about the lost person		.41
<b>I had a desire to die in order to be with the deceased</b>		
I had trouble accepting the loss		.77
I felt bitterness or anger related to his/her death		.66
I avoided places, objects, or thoughts that reminded me that the person I lost has died		.46

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*Note. Factor loadings > .4 are presented. Factor loading of items belonging to more than one component are shown in boldface. Item that are not loading in any factors also shown in boldface*



Table 3

*Interrater Reliability Table (One-way ANOVA)*

Interviewer	N	Mean	SD
A	75	17.83	5.96
B	74	8.97	6.00
C	75	8.07	4.70
D	78	19.04	7.50
Total	301	13.54	7.90

Table 4

*Questionnaires Descriptive Table*

Questionnaire	M	SD	Min	Max
TGI-SR	13.35	7.90	1.00	41.00
QIDS	17.09	2.79	14.00	28.00
PCL-5	7.02	6.55	.00	45.00