CONTRIBUTION TO THE PORTUGUESE VALIDATION OF THE GRIEF PATTERN INVENTORY

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Dissertação submetida como requisito parcial para a obtenção do grau de:

MESTRE EM PSICOLOGIA

Especialidade em Psicologia Clínica.

2025

Dissertação de Mestrado realizada sob a orientação de Prof.ª Dr.ª Manuela Alexandra de Moura Coelho, apresentada no ISPA – Instituto Universitário para obtenção de grau de Mestre na especialidade de Psicologia Clínica.

Agradecimentos

Dou graças a Deus por ter-me sustentado e guiado em cada passo deste percurso.

Sou profundamente grata aos meus pais pelo amor, apoio e confiança constantes que sempre me acompanharam.

Expresso também a minha gratidão pelo apoio e cuidado constantes da minha madrinha Bê, e das minhas tias Marla e Jô. É sempre uma alegria falar convosco desta área apaixonante.

Quero agradecer à minha orientadora, prof. Dra. Alexandra pelo acompanhamento ao longo deste ano. Agradeço por ter despertado em mim um profundo interesse pela psicologia clínica e pela área do luto, e por me permitir participar num projeto de investigação onde pude explorar a psicometria, área que tanto me entusiasma.

Os meus sinceros agradecimentos aos meus colegas, Inês, Nuno, e às colegas do seminário de dissertação, que fizeram este percurso ao meu lado e o tornaram mais leve.

Por fim, não poderia deixar de agradecer a todos que responderam ao questionário e auxiliaram na sua partilha.

Resumo

Ter uma melhor compreensão da experiência do enlutado permite a realização de uma intervenção que melhor satisfaça as suas necessidades. O modelo teórico de Martin e Doka (2000) delimita três padrões principais de resposta à perda: intuitivo, instrumental e misto. O presente estudo tem como objetivo a tradução e adaptação do Grief Pattern Inventory (GPI) para a língua portuguesa e a avaliação das suas propriedades psicométricas (estrutura fatorial, validade, sensibilidade e fidelidade). De forma complementar, procura-se explorar diferenças em diversos construtos psicológicos (*e.g.* luto prolongado, evitamento do luto, flexibilidade psicológica), em função do padrão de luto.

Este estudo, de natureza correlacional e transversal, incluiu duas amostras independentes de adultos enlutados, fluentes em português, com um total de 331 participantes. A primeira amostra (*n*=181) foi utilizada para a Análise Fatorial Exploratória (AFE) e a segunda (*n*=150) para a Análise Fatorial Confirmatória (AFC). Os resultados das análises fatoriais (AFE e AFC) suportam um modelo de dois fatores, com 12 itens, com ajustamento adequado. Este instrumento apresentou validade discriminante boa bem como valores de consistência interna aceitável para o fator instrumental (ω =.733) e boa para o fator intuitivo (ω=.803).

No entanto, os itens do instrumento revelam maioritariamente cargas moderadas a elevadas de unicidade. Adicionalmente, análises ao conteúdo dos itens com cargas fatoriais mais elevadas, em junção com as análises de validade convergente, sugerem que o fator instrumental reflete, maioritariamente, a presença de supressão emocional. Esta interpretação é reforçada pelo padrão de correlações positivas moderadas observadas entre o luto instrumental com: evitamento do luto, somatização, depressão, ansiedade, disfuncionalidade do luto, e sintomas de trauma e luto prolongado. Por sua vez, a dimensão do luto intuitivo mostrou correlações significativas fracas, com maior ruminação e menor evitamento do luto. Paralelamente, os valores do AVE, sugerem validade convergente limitada, para os dois fatores.

Para testar a validade de grupos conhecidos, os dados das duas amostras foram combinados para permitir a formação de quadrantes dos padrões de luto. Procedeu-se à estandardização das pontuações dos dois fatores do GPI e classificação dos enlutados em dois eixos: acima ou abaixo da média para cada um dos fatores. Os quadrantes identificados são: Intuitivo (*n*=98), Instrumental (*n*=101), Expressão de luto Elevada (*n*=77) e Misto (*n*=55). Os resultados das análises de quadrantes indicam que indivíduos do quadrante Instrumental e de Expressão de Luto Elevada apresentam sintomas mais intensos de trauma, luto prolongado e

evitamento comparativamente ao grupo Intuitivo e Misto. Os níveis de flexibilidade psicológica não divergiram de forma significativa de acordo com o padrão de luto.

O GPI, na sua versão atual, possui um modelo estatisticamente adequado, no entanto é possível identificar várias limitações à sua validade. A sua utilidade reside sobretudo como ferramenta de investigação para a identificação de perfis de luto, sendo que a dimensão instrumental parece capturar um padrão de supressão emocional moldado pela cultura, associado a indicadores de psicopatologia. Para permitir uma melhor representação do modelo teórico, recomenda-se o desenvolvimento de outros itens, nomeadamente para o padrão instrumental.

Este estudo contribui para a evidência crescente sobre os padrões de luto, salientando desafios fundamentais no desenvolvimento de uma medida conceptualmente congruente com o modelo original.

Palavras-chave: luto instrumental, luto intuitivo, validação psicométrica, análise fatorial exploratória, analise fatorial confirmatória

Abstract

Having a better understanding of the experience of the bereaved allows for the provision of intervention that better meets their needs. The theoretical model by Martin and Doka (2000) outlines three main patterns of response to loss: intuitive, instrumental, and blended. The present study aims to translate and adapt the Grief Pattern Inventory (GPI) to the Portuguese language and to assess its psychometric properties (factor structure, validity, sensitivity and reliability). Additionally, this study also aims to explore differences in several psychological constructs (*e.g.* prolonged grief, grief avoidance, psychological flexibility) according to the bereaved's grief pattern.

This cross-sectional and transversal study included two independent samples of bereaved Portuguese-speaking adults, with a total of 331 participants. The first sample (n=181) was used to conduct an Exploratory Factor Analysis (EFA) and the second (n=150) was used for Confirmatory Factor Analysis (CFA). The results of the factor analyses (EFA and CFA) support a 12-item, two-factor model, with adequate fit. This instrument showed good discriminant validity as well as acceptable internal consistency values for the instrumental factor (ω = .733) and good for the intuitive factor (ω = .803).

However, the instrument's items predominantly show moderate to high levels of uniqueness. Additionally, analyses of the content of the items with greater factor loadings, and convergent validity analyses, suggest that the instrumental factor primarily reflects the presence of emotional suppression. This interpretation is reinforced by the observed pattern of moderate positive correlations of the instrumental factor with: grief avoidance, somatization, depression, anxiety, grief impairment, trauma and prolonged grief symptoms. In turn, the intuitive pattern showed weak significant correlations with greater rumination and less grief avoidance. In parallel, the AVE values suggest limited convergent validity for both factors.

To test known-groups validity, the data of the two samples was combined to allow the formation of grief pattern quadrants. The scores of the two GPI factors were standardized, and the bereaved individuals were classified along two axes: above and below the mean for each factor. The identified quadrants are: Intuitive (n=98), Instrumental (n=101), High-Grief Expression (n=77), and Blended (n=55). The results of the quadrant analyses indicate that individuals in the High-Grief Expression and Instrumental groups present more severe symptoms of trauma, prolonged grief and grief avoidance compared to the Intuitive and

Blended quadrants. The levels of psychological flexibility did not differ according to the grief pattern.

The GPI, in its current form, has a statistically adequate model, yet several validity strains can be identified. Its utility lies primarily as a research tool for identifying grief patterns, with the instrumental dimension seeming to capture a profile of emotional suppression, shaped by cultural factors, associated with psychopathology. However, to allow better representation of the original theory, the development of additional items, particularly for the instrumental pattern, is recommended.

This study contributes to the growing evidence of the grief pattern conceptualization, highlighting fundamental challenges in developing a measure that is conceptually congruent with the original model.

Keywords: Instrumental grief, intuitive grief, psychometric validation, exploratory factor analysis, confirmatory factor analysis

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Introduction

Grief is an inevitable experience that every individual will face at some point in their lives. Current literature points to the wide range of ways people cope with grief and integrate the loss (Guldin & Leget, 2024), which has led to the development of several theoretical models which aim to increase comprehension of the varying grief manifestations (Geisler et al., 2023; Payás-Puigarnau et al., 2024). Classical works on grief and bereavement often portrayed a progression through grief, but this is no longer considered an accurate representation. Grief is now recognised as a diverse, individualised process that is influenced by several intra and inter-personal factors, namely culture, gender norms, religion, social networks and personality characteristics such as emotion regulation strategies (Gaur, 2025; Smith et al., 2024).

Martin and Doka (2000) developed the concept of grief patterns to better illustrate and normalize different ways of grieving (see appendix A for a comprehensive review of the model). Although this concept has been the subject of criticism in the literature (Martin & Doka, 2000; Miller, 2015), it nonetheless remains effective in helping individuals adapt to and process their loss. These authors described two main patterns adopted by grievers: instrumental grievers focus on maintaining external functioning and adapting to changes secondary to loss. Additionally, they experience and reconstruct meaning primarily through cognitive means, with subdued emotional responses. The instrumental grief pattern is situated at the endpoint of the grief pattern continuum, opposed by the intuitive pattern, which is characterised by greater emotional intensity and open emotional displays. An intuitive griever is more likely to process their loss in a social setting.

In Portugal, instruments for assessing adaptive grief reactions are scarce, and existing measures often lack the flexibility to capture the full spectrum of grief expression, limiting their utility as screening tools to guide intervention. In this sense, it is pertinent to explore other conceptualisations of grief and to adapt new measures to be used as a complement to clinical practice. Research focused on adaptive grief reactions can inform the development of more effective systems for allocating intervention resources (*e.g.* Departamento da Qualidade na Saúde, Direção-Geral da Saúde, 2019).

The use of the Grief Pattern conceptualisation as a guiding line to intervention can improve the understanding of the grief experience of patients (Doughty, 2009). In a study, Beckett and Dykeman (2015) observed that psychologists consistently considered patients in videotapes that they identified with instrumental patterns as better functioning than individuals

with intuitive patterns. In addition, psychologists predicted that therapeutic relationships would be easier to establish with intuitive rather than instrumental grievers, and so, identification of the bereaved's grief pattern would benefit clinical intervention in loss-related issues.

Present study

Grief is a sensitive topic. The act of filling out a questionnaire can serve as a starting point for the identification of issues to be addressed in the unravelling of the grief experience and its processing in therapy. The conceptual distinction of grief patterns facilitates a better understanding of the variety of grief expressions across individuals and cultures. This, in turn, aids in identifying the individual's preferred coping mechanisms, optimal ways of receiving support, and key priorities for adaptation to life after the loss (Risal, 2024; Zhou et al., 2023).

The use of psychometric instruments is a valuable complement to clinical practice. Instrumental grievers, who typically withhold or have difficulty accessing, sharing, and elaborating on their experiences of loss, may find a non-invasive, written questionnaire to be a particularly beneficial tool.

The GPI (Martin & Doka, 2000; Martin & Wang, 2006) was designed as a self-report measure, that can be administered and scored by the bereaved individual if needed. This provides a possibility to identify the bereaved's needs if receiving counselling appears frightful or is unavailable for various reasons. This instrument is useful for other types of loss (*e.g.*, loss of relationships), which shows its wide range of application to other populations.

The adaptation and validation of this version of the instrument seeks to support the use of an assessment tool that is concise and adaptable for several contexts of loss while maintaining psychometric robustness and the theoretical richness of the original model. To date, no studies have explored the underlying structure of this instrument version though an EFA or evaluated the adequacy and robustness of the model fit through CFA, especially in Portuguese-speaking populations. In addition, the adaptation of this inventory will simultaneously contribute to supply more empirical support for the grief pattern conceptualisation.

The main objective of this thesis is to test the psychometric properties of the GPI by conducting an Exploratory and Confirmatory Factor Analysis in two independent samples. Following the establishment of a factor structure, a complementary objective is to verify the convergent, discriminant, and known-groups validity of the inventory. These analyses will examine the relationship of the GPI with socio-demographic, loss-related and psychological

variables (such as psychological flexibility, grief avoidance, prolonged grief and trauma symptoms).

According to the literature, we hypothesise that: a) the GPI is a valid, sensible and reliable measure; b) the intuitive pattern is associated with higher levels of depression, anxiety, rumination and grief avoidance; c) the intuitive pattern is more prevalent in women; d) the instrumental grief pattern is associated with higher levels of grief rumination, somatisation, anxiety and lower levels of grief impairment; e) the instrumental pattern is more prevalent in men; f) there are significant differences in the levels of psychological flexibility according to the pattern of grief, with the blended group presenting the highest levels; g) there are significant differences in the severity of prolonged grief and trauma symptoms between the grief patterns, with greater levels of those symptoms for intuitive grievers.

Methods

Study design

This study used a cross-sectional design. To examine the factorial structure of the GPI, two samples were retrieved. The first sample was used to conduct an Exploratory Factor Analysis (EFA), in order to identify the underlying factor structure, and the second sample was employed for a Confirmatory Factor Analysis (CFA) to test the factor structure identified in the EFA. Additionally, the sub-samples were united to test the instrument's ability to differentiate between groups via a quadrant analysis, whereby participants were categorized to different groups according to their grief pattern to examine differences across several psychological indicators.

Participants

The participation criteria were identical for the two samples: adults (>18 years old), fluent in Portuguese, who have lost someone significant throughout their lives. The sampling method utilised was the snowball method. According to Boateng et al. (2018), psychometric studies should include at least 10 participants per item ($n \geq 140$).

Instruments

A socio-demographic questionnaire was applied, including the following aspects: participants' age, gender, nationality, marital status, education, occupation, prior psychiatric diagnosis, type of care received after the loss and loss during childhood. In addition to that,

some questions about the deceased were also included: degree of kinship, perceived proximity, age, gender, and cause of death.

The Grief Pattern Inventory (GPI) was developed by Martin and Doka (2000) to assess two grieving patterns, intuitive and instrumental grief. The version that was used in this thesis (Martin & Wang, 2006) is composed of 14 items. Originally, the items 1, 2, 3, 6, 8 and 9 are allocated to the intuitive grief pattern (*e.g.* "It seems natural for me to cry and show my feelings to others"); while items 4, 5, 7, 10, 11 and 12 are allocated to the instrumental grief pattern (*e.g.* "I would rather talk about «issues» related to my loss than feelings about my loss"). The items are scored in a five-point Likert scale from *Completely Disagree* (1) to *Fully Agree* (5). All of the items previously mentioned were already included in the former version of the GPI (Martin & Doka, 2000) while items 13 and 14 were created in Martin and Wang's study (2006). Those items were not included in any analysis in the initial psychometric assessment of the scale (Martin & Wang, 2006) and no explanation is given about their interpretation and inclusion in a dimension. It is worth mentioning that items 13 and 14 are exclusive to the 2006's version of the GPI and are no longer present in later versions (*e.g.* Doka and Martin, 2010). The score of each dimension was calculated as the mean of its corresponding items.

Overview of validation measures

To assess the convergent, discriminant and known-groups validity of the GPI, several psychological instruments were administered. To comprehensively assess validity without overburdening participants, three additional measures were administered exclusively to sub-sample 2. The specific measures used in each sub-sample can be seen in Table 1. These measures were only considered for analysis within their respective subsamples. Hence, hypothesis using depression, anxiety, somatization, grief impairment and rumination were tested using sub-sample 2 while the other variables were tested using the total sample.

Table 1.

Instruments administered in each sub-sample.

Instrument	Construct	Sub-sample 1	Sub-sample 2
GPI	Grief patterns	✓	✓
PG-13-R	Prolonged grief	✓	✓
IES-6-R	Trauma symptoms	✓	✓
GAQ	Grief avoidance	✓	✓
Psy-flex	Psychological flexibility	✓	✓
BSI-18	Depression, anxiety, somatization		✓
GIS	Grief impairment		✓
UGRS	Grief rumination		✓

The Psy-Flex assesses psychological flexibility and its six facets. This instrument was developed by Gloster et al. (2021) and translated to Portuguese (Cunha et al., 2023). In its Portuguese validation, the instrument showed excellent internal reliability (α=.91). In the total sample, internal consistency was equal to .861. This scale is composed of six items that are scored from (1) *Infrequent* to (5) *Very Frequent*, relating to the individuals' experience in the last seven days (*e.g.* "If need be, I can let unpleasant thoughts and experiences happen without having to get rid of them immediately"). The total Psy-Flex score was obtained by summing all item scores.

The PG-13-R (Prigerson et al., 2021) is a measure of prolonged grief symptoms. This questionnaire is composed of 3 parts: firstly, a dichotomous item ("have you lost someone significant to you?"), followed by a question regarding the numbers of months passed since the loss; secondly, 10 likert items that are scored from (1) *Not at all* to (5) *Overwhelmingly* and refer to several symptom criteria of prolonged grief (*e.g.* "do you feel longing or yearning for the person who died?"); and thirdly, a dichotomous item referring to the areas in which impairment is perceived. The PG-13-R was validated for the Portuguese population (Delalibera et al,. 2011) and presented excellent internal consistency (α=.932).

The Grief Impairment Scale (GIS; Lee & Neimeyer, 2023) assesses different areas of functioning that can be affected by grief and bereavement in the past 30 days. The main areas of functioning assessed are cognition, physical health, engagement in risk behaviours, contextual integration and fulfilling of duty and responsibilities. This instrument is currently being adapted for the Portuguese population by the research team. This scale is composed of 5

items that enumerate several symptoms of grief impairment in the specific domain (*e.g.* "engaged in unhealthy activity to cope with your grief: sickness, pain or discomfort; sleep disturbances; low energy"). The items are quoted from (0) *Never* to (4) *Always*. In the English version, internal consistency was stated as α=.88 and in sub-sample 2 great internal consistency was also found (α=.858).

The Grief Avoidance Questionnaire (GAQ), currently in development by the research team, evaluates the different ways in which the bereaved utilises avoidance during their grief process. This questionnaire is composed of eleven items (*e.g.* I avoid situations or persons that may trigger feelings associated with the loss") that are scored from (1) *Fully Disagree* to (5) *Fully Agree*. The total score is obtained by the sum of the eleven items. For the total sample, Cronbach´s Alpha was .878.

The UGRS-R (Eisma et al., 2012; adapted by Araújo, 2024) assesses rumination in thoughts and feelings related to loss in the last three weeks. This revised, shorter version of the scale possesses five Likert-scale items (*e.g.* "Did you try to analyse your feelings about this loss precisely?") that are scored from (1) *Never* to (5) *Many Times*. In sub-sample 2, internal consistency was acceptable (α=.745).

The Impact of the Event Scale (IES-6-R) assesses posttraumatic stress reactions in six questions. This instrument (Thoresen et al., 2010) is an abbreviated version of the IES-R (Weiss & Marmar, 1997). The Portuguese validation of this scale was conducted by Lopes (2013) with good internal consistency coefficients (α=.800), while in the total sample Cronbach's Alpha was equal to .900. The items can be scored with the comparison of a cutpoint of 12.5 points in the Portuguese version (Lopes, 2013).The participants rated each statement regarding their difficulties about the death of their loved one in the last seven days (*e.g.* "I felt defensive or alert") in a five-point scale that ranges from (0) *Never* to (4) *Extremely*.

The Brief Symptom Inventory 18 (BSI-18; Canavarro, 2017; Nazaré et al.,2017) is a tool for symptomatic screening in psychological practice. This instrument is composed of 18 items divided into three dimensions: somatisation, depression and anxiety. The items are scored from (0) *Never* to (4) *Extremely* and refer to specific symptoms (*e.g.* "nervousness or shakiness inside"). The score of each dimension is calculated with the mean of its items. Internal consistency levels were good to excellent in all three dimensions, ranging from .8 to .92 for non-clinical samples (Canavarro et al., 2017).

Procedures

The translation of the GPI (see Appendix B) was made according to the procedures stipulated by Beaton et al. (2000): (i) forward translation made independently by two clinical psychologists; (ii) synthesis of the two translations into one version; (iii) backwards translation into English; (iv) review of the translation by a committee of specialists; and (v) application of a pre-test to 5 people.

The questionnaire was made in Qualtrics and shared online on several social media (Whatsapp, Instagram, Facebook) and by email. To participate in the study, it was necessary to complete an informed consent form. This consent form outlined the objectives of the study, the anonymous, confidential, and voluntary nature of participation and the procedures regarding data storage – deletion after the end of the study. Bearing in mind that grief is a delicate subject, the possibility that some items may trigger negative emotions or memories related to the loss was referenced in the consent form and the possibility of withdrawing participation at any time was reinforced. Furthermore, several support lines contacts were provided at the beginning and end of the protocol.

Data collection took place between December of 2024 and May of 2025. This thesis' project was submitted and accepted by the Ethics Committee of Universidade Lusófona as a part of a collaborative investigation project with ISPA – Instituto Superior de Psicologia Aplicada.

Data analysis

Data preparation and cleaning were performed in IBM SPSS Statistics (Version 30.0.0) in two steps. The first step involved the removal of participants who did not meet the minimum threshold of completion of the research protocol and secondly, the verification of inclusion criteria case by case. These steps caused the elimination of 92 participants in sub-sample 1 and 94 in sub-sample 2. All composite variables (except the GPI factor scores) were also created. The three final data sets were then exported, and all analyses were conducted using JASP software (version 0.19.3). For these analyses, the default procedure of listwise deletion of missing data was applied.

Frequency of response and associated percentages, inter-item correlations, skewness ($|skewness| \leq 1$), kurtosis ($|kurtosis| \leq 1$) and Mardia's coefficient were used to assess distributional characteristics of the items, item' sensibility and to ensure assumptions for the

analysis were met (Choudhury & Saluja, 2011; Watkins, 2018). Other descriptive statistics were conducted for sample characterization: frequencies, percentages, means and standard deviation (*SD*). The Kaiser-Meyer-Olkins' test was used to ensure the sampling adequacy of the data for factor analysis (values ≥.50 are admissible, and values>.70 are desired; Watkins, 2018) while Bartlett's test of sphericity was used to assess the presence of correlations between variables that justify conducting an EFA (p<0.05; Watkins, 2018).

For the EFA, an oblique rotation (Promax) was applied, given the theoretical assumption that factors are correlated. Base analysis was made with polychoric/tetrachoric correlation matrices given that the GPI is composed of Likert type items (ordinal data) with five categories and the distribution of the items is asymmetrical (Watkins, 2018). Parallel analysis based on principal components was used to determine the number of factors to retain, with only factors whose eigenvalues exceeded those from the randomly generated data being kept (Lim & Jahng, 2019; Grieder & Steiner, 2022). The criterion for considering an item as a part of a factor was ≥ 0.40 (Boateng et al., 2018; Nunnally, 1978).

For the CFA, the estimator used was Weighted Least Squares Mean and Variance adjusted (WLSMV), which is designed for categorical/ordinal data (Brown, 2015). Model identification was achieved by fixing the variances of the latent factors to 1. In addition, all reported parameters are from the completely standardized solution to facilitate the interpretation of the results. In this sense, factor loadings represent the correlations between the items and their latent factors, which in turn aids interpretation of subsequent discriminant validity tests (Rönkkö & Cho, 2022). Model fit was evaluated using several fit indices. The Comparative Fit Index (CFI) compares the proposed model to a baseline model where there is no correlation between the variables and is deemed appropriate when superior to .95 (Brown, 2015). The Tucker-Lewis Index (TLI) also compares the fit of the proposed model to a baseline model while considering model complexity, with values >.95 indicating good fit (Hooper et al., 2008). The Root Mean Square Error of Approximation (RMSEA) assesses the average of residual variances and covariances in the model and is found to be adequate when inferior to 0.06 (Brown, 2015, p.74). The Standardized Root Mean Square Residual (SRMR) measures the deviation of the observed correlations to the correlations predicted by the model and is considered appropriate when inferior to 0.08 (Brown, 2015, p.74).

Internal consistency was assessed with McDonald's omega (ω) which estimates the degree to which items on the same factor measure the same latent construct. This metric is

favored over Cronbach's alpha because it incorporates the different weights of the factor loadings for each item. This coefficient is also preferred when normality assumptions are not met and the data is ordinal. Minimum acceptability for use of the scale is situated at ω =.65 whereas values superior to ω =.8 are desired (Kalkbrenner, 2023).

Convergent validity was evaluated using correlations with other psychological measures and the Average Variance Extracted (AVE) which identifies how much a latent factor explains its items in comparison to error (Boateng et al., 2018). AVE values greater than .50 are deemed acceptable, indicating that the latent construct explains at least 50% of the variance in its items.

Discriminant validity was assessed using two methods. The first was the Heterotrait-Monotrait ratio (HTMT). HTMT values inferior to 0.85 indicate the presence of distinct latent constructs and support discriminant validity (Henseler et al., 2015). The second method was the Confidence Interval (CI) test for discriminant validity, specifically the systematic (or sys) CI CFA approach. This method tests discriminant validity by verifying if the 95% confidence interval for the correlation between the factors contains 1.0. If the correlation between the factors is negative, the upper limit of this test is defined as the absolute value of the lower bound of the CI. Discriminant validity is deemed present when this value in inferior to 0.8 (Rönkkö & Cho, 2022).

Quadrant analysis was used to test known-groups validity, testing the instrument's capacity to differentiate between the theoretical grief patterns (Boateng et al., 2018). To allow attribution of participants to a quadrant the following steps were used: (i) standardization of the mean results of both grief patterns; (ii) creation of two dichotomous variables for each grief pattern with either above or below the mean to serve as axis for the quadrants; and (iii) definition of the four groups according to the dichotomies of high or low instrumental and high or low intuitive in a composite variable. The resulting groups were coined Intuitive (high intuitive-low instrumental), Instrumental (low intuitive-high instrumental), Blended (low intuitive-low instrumental), and High-Grief Expression (high intuitive-high instrumental). Several ANOVAs were performed to inspect differences in the four grief patterns across psychological variables, time since loss, and age of the bereaved. When the assumption of homogeneity of variance was violated, robust Welch ANOVAs were used, followed by Games-Howell post-hoc tests for pairwise comparisons (Goss-Sampson, 2024, p.96-99). Effect size was measured with Eta squared (η^2) with small ($\eta^2 \geq .01$), medium ($\eta^2 \geq .06$) and large effects ($\eta^2 \geq .14$) based on established benchmarks (Lakens, 2013).

Participants were assigned to the Prolonged Grief Disorder (PGD) group when the total score of the PG-13-R was superior to 30, they reported significant suffering in more than one area of functioning, the loss occurred at least six months prior and there was an intense longing for the deceased (a score ≥4 in item 3; Prigerson et al., 2021).

Results

Descriptive analysis

Sample characteristics

The first sub-sample is composed of 181 participants of mostly Portuguese nationality (96.7%) and women (75.7%). The mean age is of 33.38 years (*SD*=14.67). The time since loss in months has a mean of 73.82 (*n*=179, *SD*=78.42, *Min*=0, *Max*=591) which indicates a large dispersion in the sample. The degree of proximity to the deceased was considered elevated (*M*=4.387, *Min*=1, *Max*=5). The most common cause of death was cancer (30.9%) and organ failure (27.6%). The second sub-sample (*n*=150) had a similar age mean (*M*=35.01, *SD*=15.43), time since loss (*n*=147, *M*=76.88, *SD*=83.88, *Min*=0, *Max*=420) which indicates large variability in this variable in the sample. The degree of proximity to the deceased was also considered elevated (*M*=4.407, *Min*=1, *Max*=5). The predominant cause of death in sub-sample 2 was also cancer (31.3%) and organ failure (28.7%). Sociodemographic characteristics of both sub-samples are presented separately in Table 2. The mean and standard deviation for each instrument used per sub-sample is shown in Table 3.

Table 2

Socio-demographic and loss-related characteristics of participants in Sub-sample 1 and 2.

	Sub-sample 1		Sub-sample 2	
Variables	*n*	%	*n*	%
Gender				
Female	137	75.691	124	82.667
Male	44	24.309	26	17.333
Nationality				
Portuguese	175	96.685	123	82
Brazilian	6	3.315	27	18
Marital status				
Single	118	65.193	93	62
Married	50	27.624	46	30.667
Divorced	10	5.525	9	6
Widowed	3	1.657	2	1.333
Education level				
9º grade	7	3.866	4	2.667
High school	28	15.470	35	23.333
Technical degree	6	3.315	8	5.333
Bachelor's degree	2	1.105	10	6.667
Major	109	60.221	63	42
Master's degree	28	15.470	26	17.333
PhD	1	0.552	4	2.667
Professional situation				
Student	59	32.597	43	28.667
Working-student	24	13.260	30	20
Employed	82	45.304	52	34.667
Unemployed	7	3.867	8	5.333
Retired	5	2.762	9	6
Medical leave	1	0.552	2	1.333
Other	3	1.657	6	4
Religion				
None	59	32.597	60	40
Catholic	109	60.221	81	54
Protestant	3	1.657	3	2
Other	10	5.524	6	4
Ways of professional support after loss				
None	146	80.663	88	58.667
Psychological	22	12.155	33	22.000
Pharmacological	3	1.657	4	2.667
Psychological and pharmacological	10	5.525	25	16.667
Prior psychiatric diagnosis				
No	151	83.425	110	73.333
Yes	26	14.364	36	24.0
Prefer not to answer	4	2.209	4	2.667
Gender of the deceased				
Female	80	44.198	63	42.0
Male	98	54.143	85	56.667
Other	3	1.657	2	1.333
Kinship to deceased				
Spouse/partner	8	4.419	2	1.333
Parent	37	20.441	60	40.0
Child	6	3.315	12	8.0
Sibling	8	4.419	5	3.333
Grandparent	79	43.646	50	33.333
Aunt/ Uncle	19	10.497	2	1.333
Parent-in-law	0	0	1	0.667
Friend	16	8.840	10	6.667
Other	8	4.419	8	5.333
Loss in childhood [a]	96	53.039	70	46.667

[a] Reflects the number and percentage of participants that answered "yes" to this question.

Table 3

Mean and Standard Deviation of each measure for participants in Subsample 1 and 2.

	Sub-sample 1			Sub-sample 2		
Variables	*n* [a]	*M*	*SD*	*n*	*M*	*SD*
Intuitive grief [b]	181	3.416	0.880	150	3.337	0.927
Instrumental grief [b]	181	2.506	0.873	150	2.780	0.901
Psychological flexibility	168	20.92	5.144	150	20.95	5.472
Trauma symptoms	169	6.278	5.845	150	7.213	6.177
Grief avoidance	177	23.34	9.898	150	25.43	9.229
Prolonged grief	181	21.32	7.991	150	23.28	7.874
Rumination				150	14.05	4.966
Somatisation				150	0.587	0.684
Depression				150	1.242	0.942
Anxiety				150	1.026	0.828
Grief impairment				150	4.473	4.586

Note. Rumination, somatisation, depression, anxiety and grief impairment were only assessed in sub-sample 2.

[a] Number of participants is different according to the variable due to questionnaire abandonment.

[b] Results obtained from the mean of the items in each factor according to the final CFA model.

Descriptive statistics

Table 4 shows descriptive statistics for the items in the GPI. Item 7 “I have been told that I am avoiding my grief even though I don’t think I am” has the lowest rating average (*M*=1.796, *SD*=1.163) while item 5 “I don’t seem to feel things as deeply as most other people I know.” has the highest (*M*=3.890, *SD*=1.291). The full spectrum of responses was used by participants in all items. Item 4 had the largest standard deviation (*SD*=1.477). In sub-sample 2, item 14 had the highest rating while item 8 had the lowest (consult table 4).

Item 7 presents a significant positive skew in both sub-samples (|skewness|>1; Choudhury & Saluja, 2011) with frequent answers in the lower range of the response scores. Most items in both sub-samples present violations to kurtosis (|kurtosis| > 1; Choudhury & Saluja, 2011), endorsing a platykurtic distribution (*e.g.* item 1 and 2) with less clustering of data around the mean.

The inter-item correlations (see Appendix C1) reveal that the items of the instrument possess significant moderate correlations, and there is no evidence of their redundancy as no correlations exceeded *r*<.8 (Zygmont & Smith, 2014).

Table 4

Distribution and sensitivity characteristics of the items in the GPI in Sub-sample 1 and 2.

	Sub-sample 1 (N_1)				Sub-sample 2 (N_2)			
Items	*M (Range)*	*SD*	*Skewness*	*Kurtosis*	*M (Range)*	*SD*	*Skewness*	*Kurtosis*
GPI 1	3.116 (1-5)	1.392	-0.235	-1.263	3.193 (1-5)	1.314	-0.202	-1.139
GPI 2	3.227 (1-5)	1.433	-0.337	-1.264	3.007 (1-5)	1.477	-0.113	-1.454
GPI 3	3.514 (1-5)	1.328	-0.750	-0.587	3.460 (1-5)	1.384	-0.594	-0.931
GPI 4 [a]	3.387 (1-5)	1.477	-0.314	-1.365				
GPI 5	3.890 (1-5)	1.291	-0.796	-0.712	2.360 (1-5)	1.392	0.513	-1.176
GPI 6	3.254 (1-5)	1.230	-0.461	-0.710	3.320 (1-5)	1.348	-0.435	-0.963
GPI 7	1.796 (1-5)	1.163	1.092	-0.238	1.800 (1-5)	1.215	1.165	-0.104
GPI 8	2.061 (1-5)	1.230	0.807	-0.647	2.527 (1-5)	1.389	0.302	-1.355
GPI 9	2.110 (1-5)	1.278	0.793	-0.514	2.600 (1-5)	1.356	0.252	-1.229
GPI 10	2.409 (1-5)	1.370	0.370	-1.251	2.727 (1-5)	1.447	0.125	-1.314
GPI 11	2.657 (1-5)	1.288	-0.031	-1.209	2.933 (1-5)	1.374	-0.083	-1.246
GPI 12	3.497 (1-5)	1.241	-0.311	-1.041	2.600 (1-5)	1.237	0.306	-0.956
GPI 13	2.834 (1-5)	1.372	-0.023	-1.294	3.047 (1-5)	1.402	-0.010	-1.341
GPI 14	3.276 (1-5)	1.338	-0.532	-0.996	3.647 (1-5)	1.317	-0.753	-0.633

Note. N_1=181. N_2=150. Items 4, 5 and 12 are inverted.

[a] Item GPI 4 was excluded from analyses of sub-sample 2.

Exploratory Factor Analysis

Exploratory factor analysis (EFA) was conducted using the principal axis factoring method, selected for its robustness in the presence of non-normality (Grieder & Steiner, 2022) as assessed via Mardia's test of multivariate normality: skewness coefficient=25.869, $\chi^2(560) = 780.393$, $p < .001$ and kurtosis coefficient=231.826, $\chi^2(560) = 2.487$, $p = .013$, which indicate a right-skewed and leptokurtic distribution.

The suitability of conducting an EFA was ascertained with the use of Bartlett's sphericity test ($p<.001$) and Kaiser-Meyer-Olkins (KMO=0.763; see appendix D1), which indicate the adequacy of conducting the analysis. Parallel analysis based on principal components showed a two-factor solution (consult appendix D2) that explains 44.9% of the variance (Factor 1=24.4% and Factor 2=20.5%) and is mostly consistent with theoretical expectations. Factor loadings superior to .4 were used as criteria for factor placement (see Table 5). Factors were shown to have a weak negative correlation r^2=-.18.

The factors were named according to the grief pattern conceptualisation: instrumental (factor 1) and intuitive (factor 2). Item 4 was eliminated given its high cross-loadings. Two

items (5 and 12) that originally belonged to the instrumental factor presented negative factor loadings onto the intuitive factor. To permit their integration to this factor, they were reversed and considered to reflect the absence of instrumental characteristics. Additionally, item 9, theoretically aligned with intuitive grief, was allocated to the instrumental factor due to a factor loading >.4 and was retained for subsequent CFA testing.

Table 5

Factor loadings of the GPI (N=181).

Item No.	Items	Factor 1	Factor 2	*Uniqueness*
GPI 1	I am more emotional than most people I know.	0.324	**0.695**	0.493
GPI 2	It seems natural for me to cry and show my feelings to others.	-0.003	**0.771**	0.404
GPI 3	It helps me to express my grief through my fears.	0.085	**0.820**	0.346
GPI 4	Although I know that I am grieving in my own way, other may think that I am cold and unfeeling.	**0.453**	**-0.429**	0.540
GPI 5	I don't seem to feel things as deeply as most other people I know.	0.362	**-0.468**	0.588
GPI 6	I appreciate it when others encourage me to share my innermost feelings about my loss with them.	0.016	**0.519**	0.733
GPI 7	I have been told that I am avoiding my grief even though I don't think that I am.	**0.527**	-0.216	0.635
GPI 8	Even though I have returned to my normal routine, I continue to be overwhelmed by strong and painful feelings.	**0.545**	0.270	0.683
GPI 9	I believe that a bereavement support group is (would be) very helpful for me.	**0.492**	0.325	0.710
GPI 10	I resent efforts to get me to show feelings that I really don't have.	**0.651**	0.040	0.584
GPI 11	I would rather talk about "issues" related to my loss than feelings about my loss.	**0.647**	0.085	0.593
GPI 12	I would describe myself as more intellectual than emotional.	0.398	**-0.422**	0.603
GPI 13	I don't like others knowing how upset I am by my loss.	**0.750**	-0.125	0.387
GPI 14	I often disguise how I'm really feeling inside.	**0.750**	-0.062	0.417

Note. Factor loadings are shown in bold. Applied rotation method is promax. Uniqueness is the variance that is not shared with other items in the same factor and is calculated by subtracting the communality of each factor by one. Low uniqueness values, inferior to .3 indicate that a variable is well explained by the model while higher uniqueness values (superior to .7) signal that an item's variance is largely independent of the extracted factor.

Confirmatory Factor Analysis

A confirmatory factor analysis (CFA) was conducted to test the structure obtained in the previous EFA. Three models of CFA were specified and compared (Table 6). The first model was derived directly from the EFA results, with no residual correlations. This model exhibited inadequate model fit and item 9 exhibited a weak negative factor loading (β=-.126) to the instrumental dimension in addition to very large residual variance of .984 (see Appendix E1-E3), indicating that firstly, higher levels of instrumental grief were inversely associated to endorsement of this item and secondly, that more than 98% of this item's variance did not have explicative power to the instrumental factor. This item's performance contradicted the EFA findings and therefore was excluded from the model.

The second model (see more in appendix F1 to F4), with only 12 items, had an improved model fit in all parameters. In the third model, correlated residuals among items 8 and 1 were allowed based on the modification indices (>10) and conceptual proximity (perception of high emotional intensity) in the content of those items.

The third model showed better indices of fit across all measures and was thus selected as the final model (Figure 1). Although the chi square test rejects the model $\chi^2(52)=77.834$, $p=.012$, this test is sensible to sample size and was analysed in conjunction with other fit indices (Brown, 2015). These robust indices supported the model, showing adequate fit, CFI=.967, TLI=.958, RMSEA=0.058, 90%CI[0.028, 0.083], SRMR=.084 (see more in appendix G1-G5).

Table 6

Results of the Confirmatory Factor Analysis for the Grief Pattern Inventory.

Model	χ^2	*df*	CFI	TLI	RMSEA	SRMR
Model 1[a]	148.424***	64	.898	.876	0.094	.105
Model 2[b]	88.533**	53	.954	.943	0.067	.089
Model 3[c]	77.834*	52	.967	.958	0.058	.084

[a] Model 1 has 13 items, and all measurement errors were assumed to be uncorrelated.

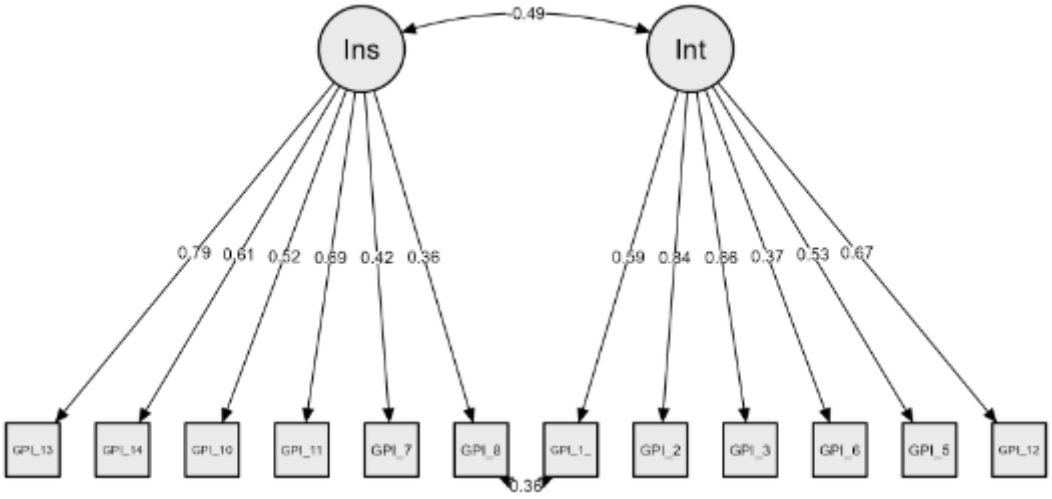
[b] Model 2 has 12 items, and all measurement errors were assumed to be uncorrelated

[c] Model 3 has 12 items, and one pair of items was allowed to have correlated residuals.

* $p<.05$, ** $p<.01$, *** $p<.001$

Figure 1

Path diagram of the final 12-item model of the GPI according to the CFA.



Note. This solution is completely standardized. "Ins" refers to the instrumental factor and "Int" refers to the intuitive factor.

Reliability

The final model showed adequate internal consistency in the instrumental factor (ω=.733) and good internal consistency in the intuitive factor (ω=.803).

Convergent validity

Correlations between the total GPI, its subscales and other variables were made. The intuitive grief dimension had a weak positive correlation to rumination (*r*=.169) and a negative weak correlation to grief avoidance (*r*=-.163). On the other hand, the instrumental grief dimension had moderate positive correlations to several psychological indicators: somatisation, depression, anxiety, grief impairment, trauma symptoms, prolonged grief and grief avoidance. Instrumental grief was also weakly correlated to rumination (see Table 7).

AVE values amounted to .348 for the instrumental pattern while AVE=.399 for the intuitive pattern. These values indicate that the items may not reflect the underlying factor and that caution should be taken in interpreting the results.

Table 7

Convergent Validity of Intuitive and Instrumental Grief Assessed Through Pearson Correlations.

Variable	GPI Total	Intuitive grief	Instrumental grief
1. GPI total	—		
2. Intuitive grief	.602***	—	
3. Instrumental grief	.595***	-.283***	—
4. Psychological flexibility	.024	.110	-.083
5. Trauma symptoms	.426***	.008	.508***
6. Grief avoidance	.348***	-.163**	.584***
7. Prolonged Grief	.422***	.029	.477***
8. Somatisation	.303***	.003	.344***
9. Depression	.315***	-.118	.481***
10. Anxiety	.282***	-.071	.396***
11. Grief impairment	.261**	-.077	.378***
12. Rumination	.301***	.169*	.171*

Note. Somatisation, depression, anxiety, grief impairment and rumination data are from sub-sample 2, while the other correlations were made with data from the total sample.

*p<.05, **p<.01, ***p<.001

Discriminant validity

Discriminant validity was assessed with the Heterotrait-Monotrait ratio and with the CFA confidence interval test. The HTMT ratio between the two factors was equal to .448, which is inferior to the threshold of .85 (Henseler et al., 2015). The second method used to evaluate discriminant validity is the CFA confidence internal test **(**Rönkkö & Cho, 2022). The population correlation between the factors was of ρCFA = -.492, 95% CI [-0.680, -0.304]. As the upper limit of the interval is below the 0.8 threshold, this provides evidence for discriminant validity.

Known-groups validity

A quadrant analysis was conducted to evaluate the differences in grief patterns of the GPI according to psychological variables. The four patterns were named according to their scores on the instrumental and intuitive subscales as can be seen in Figure 2.

The distribution of bereaved per pattern was contrary to expectations with pure instrumental and intuitive patterns being more prevalent than the blended pattern (Table 8). However, distribution by gender was as expected. The majority of women presented and intuitive pattern (33.333%) while most men presented an instrumental pattern (50%). There were 45 individuals above the established threshold for suggested PGD. These participants fall

mostly into the Instrumental (*n*=22) and High-grief Expression groups (*n*=15; consult appendix H1).

Figure 2

Designation of each quadrant regarding their grief, assessed in the total sample.

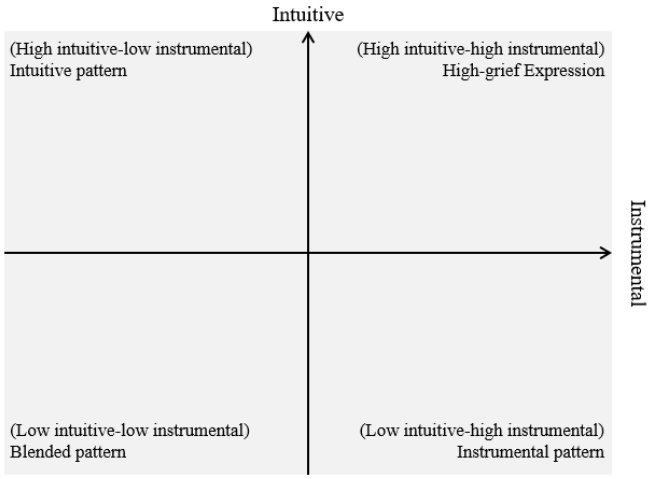


Table 8

Frequency and percentage of participants per grief pattern according to gender.

Gender		Grief Patterns				Total
		Intuitive	Instrumental	Blended	High-grief expression	
Female	*n*	87	66	41	67	261
	% within row	33.333 %	25.287 %	15.709 %	25.670 %	100.00 %
Male	*n*	11	35	14	10	70
	% within row	15.714 %	50 %	20 %	14.286 %	100.00 %
Total	*n*	98	101	55	77	331
	% within row	29.607 %	30.514 %	16.616 %	23.263 %	100.00 %

Grief pattern and age

A Welch ANOVA was conducted to examine whether age differed across grief patterns, as the condition of homogeneity of variance was violated $F(3, 327)=6.114$, $p<.001$. The test revealed a significant difference $F(3, 158.760)=3.064$, $p=.030$, with a small effect size

(η^2=0.035). The results of the Games-Howell post-hoc test showed that individuals of the High-grief Expression group were significantly younger than individuals of the Blended pattern (Mean difference=-7.699, p<.043). In addition, individuals of the Instrumental pattern were significantly younger than the members of the Blended quadrant (Mean Difference=-7.951, p=.022).

Grief pattern and time since loss

A one-way ANOVA was conducted to examine whether time since death differed across grief patterns. The assumption of homogeneity of variances was met F(3, 322)=1.495, p=.216. The results showed no statistically significant differences among the groups, F(3, 322)=0.638, p=.591.

Grief pattern and psychological flexibility

A Welch ANOVA was conducted to examine whether psychological flexibility differed across grief patterns. The results of the Levene's test for homogeneity of variance showed a significant indicating that group variances were not equal F(3, 314)=11.858, p<.001. The results of the Welch ANOVA showed no statistically significant differences among the groups, F(3, 148.561)=2.123, p=.100.

Grief pattern and trauma symptoms

The assumption of homogeneity of variances was violated, as assessed with Levene's test F(3, 315)=2.675, p=.047. Therefore, a Welch ANOVA was conducted. The results indicate statistically significant differences in the trauma symptoms across the grief patterns, F(3, 161.797)=17.894, p<.001, and a medium effect size (η^2=0.136). Post-hoc Games-Howell tests revealed that the High-Grief Expression group had significantly more trauma symptoms than the Blended (Mean Difference=5.782, p<.001) and Intuitive groups (Mean Difference=4.413, p<.001). Participants of the Instrumental pattern showed more trauma symptoms compared to the Blended (Mean Difference=4.688, p<.001) and Intuitive quadrants (Mean Difference=3.319, p<.001).

Grief pattern and prolonged grief

The assumption of homogeneity of variances was not met F(3, 327)=5.817, p<.001, thus, a Welch ANOVA was used. The results showed statistically significant differences in the prolonged grief symptoms according to the grief pattern displayed by the participants F(3,

163.022)=15.858, p<.001, and a medium effect size of η^2=0.126. Post-hoc Games-Howell tests showed that the High-Grief Expression group had more prolonged grief symptoms than both the Blended (Mean Difference=7.566, p<.001) and Intuitive patterns (Mean Difference=5.128, p<.001). The Instrumental pattern showed more severe prolonged grief symptoms in comparison to the Blended (Mean Difference=6.492, p<.001) and Intuitive patterns (Mean difference=4.054, p<.001).

Grief pattern and grief avoidance

The homogeneity of variance pre-requisite was met $F(3, 323)=1.998$, p=.114. The one-way ANOVA revealed statistically significant differences between grief avoidance levels across the four grief patterns $F(3, 323)=34.858$, p<.001 and a large effect size (η^2=0.245). Post-hoc Tukey tests showed that the High-Grief Expression quadrants had greater levels of grief avoidance when compared to both the Blended (Mean difference=9.173, p<.001) and the Intuitive quadrants (Mean Difference=9.804, p<.001). Furthermore, the Instrumental pattern has greater levels of grief avoidance in relation to the Blended (Mean difference=9.100, p<.001) and Intuitive patterns (Mean difference=9.731, p<.001).

In summary, quadrant analyses were against expectations. The results reveal consistent superior levels of trauma, prolonged grief and grief avoidance symptoms in the Instrumental and High-Grief Expression quadrants. Additionally, Instrumental and High-Grief Expression's bereaved were significantly younger than other bereaved while levels of psychological flexibility and time since loss did not differ per quadrant.

Discussion

This thesis' main objective was to identify and confirm the underlying structure of the GPI and assess its psychometric properties in a Portuguese-speaking sample. The factor analyses revealed a two-factor, 12-item model with good fit, strong discriminant validity and adequate reliability. However, further analyses raised concerns about construct validity, based on AVE values and content analysis for each item. This suggests that the items may not be adequate measures for their intended underlying constructs. This interpretation is reinforced by the correlations between the dimensions of the GPI and other variables, which revealed that while intuitive grief had weak associations with rumination (positive) and avoidance (negative), instrumental grief displayed moderate positive correlations to several indicators of distress: trauma, prolonged grief, somatisation, anxiety, depression and grief avoidance. Additionally,

known-groups validity analyses showed that the Instrumental and High-Grief Expression quadrants presented considerably greater levels of trauma, prolonged grief and avoidance compared to the Intuitive and Blended quadrants.

Validation of the GPI

The EFA analysis conducted in this study provided the first empirical test of the latent structure of this version of the GPI. The results indicated the adequacy of conducting factor analysis based on good KMO and Bartlett's sphericity tests. More importantly, the EFA identified a two-factor rotated solution that accounted for 44.9% of the total variance. This percentage of variance is proximal to the minimum threshold of 40% of explained variance deemed acceptable in the psychological sciences (Watkins, 2018).

In CFA, adjustment indices were considered adequate. While the chi-square test was significant, indicating discrepancies between the model and the data, this is a common occurrence in small samples and should be balanced with more robust fit indices (Brown, 2015). Notably, comparative indices like the CFI and TLI reveal that the model obtained in the analysis present a substantial improvement over a null model. Furthermore, the RMSEA value for error approximation and its confidence interval were deemed appropriate. Nonetheless, the SRMR was slightly above the established threshold for adequate fit.

At an item level analysis, the factor loadings obtained in the EFA and CFA indicate that the majority of the items have high uniqueness. This also provides a warning of possible contamination of the item's content, in which external influences contribute to the variance of the items of the measure (Loken & Gelman, 2017). Item contamination can weaken construct validity of the scale, undermining both its reliability and its relationship with other variables (Rose & Fischer, 2011). Furthermore, the model fit of the instrument was improved with the use of modification indices, to allow the correlation of residuals between items 1 ("I am more emotional than most people I know") and 8 ("Even though I have returned to my normal routine, I continue to be overwhelmed by strong and painful feelings") to improve model fit. Critically, these items were allocated to separate factors, yet they share a significative amount of variance that is not explained by their assigned factors. This was permitted due to similarity in the content of said items: perception of high emotional intensity. Nonetheless, it supplies further evidence for item contamination and strengthens the need for identification of local strains to validity (Brown, 2015).

Regarding the deletion of two items, this can provide some relevant information about the instrument's construct validity. Item 4 ("Although I know that I am grieving in my own way, others may think that I am cold and unfeeling") had significant cross-loadings, which suggests that its content is a characteristic common to both grief patterns (*i.e.* concern of being misunderstood). Furthermore, item 9 ("I believe that a bereavement support group is [would be] very helpful to me") was first allocated to the instrumental pattern and removed during the CFA due to high residual variances accompanied by negative factor loadings. This shows that the item does not function as intended and that its content, the opinion of the bereaved regarding the utility of a support group, may not be specific to a single grief pattern, but perhaps a general coping mechanism. This is also supported by the item's low mean in both samples, indicating general disagreement which may reflect a cultural characteristic, as Portuguese often value a contained emotional expression due to their collectivist culture (Silva, 2022) that could potentially lead to a low agreeableness for support groups regardless of the grief pattern.

Moreover, the behaviour of items 5 and 12 in the EFA points to a potential issue with the scale's construct validity. Item 5 ("I don't seem to feel things as deeply as most other people I know") and 12 ("I would describe myself as more intellectual than emotional"), failed to load positively in the instrumental factor. Instead, they loaded negatively on the intuitive factor. While this is statistically coherent with the core assumption of a bipolar continuum (Doka & Martin, 2010), it signifies the removal of an important characteristic from the instrumental factor: the perception that their grief experience is uncommon or misunderstood by others.

The structure of the instrumental factor appears to reveal a core of emotional suppression and concealment, based on its highest-loading items: "I don't like others knowing how upset I am by my loss" (item 13) and "I often disguise how I'm really feeling inside" (item 14). These defining items, which were not apart of any factor in the original study (Martin & Wang, 2006), were included in the instrumental factor as recommended by Gamino et al. (2020). This inclusion was justified by the profile of bereaved individuals with dissonant responses often including attempts at affect mitigation and the suppression of natural needs due to internal or external pressure. Such individuals typically favour intuitive grieving but consciously or unconsciously employ instrumental strategies, to their own detriment (*e.g.* by inhibiting emotional expression; Doka, 2016, pp.86-95; Doka & Martin, 2010). This interpretation is congruent with the intuitive griever's dissonant response visible in items 13 and 14.

Additionally, item 8 ("Even though I have returned back to my normal routine, I continue to be overwhelmed by strong and painful feelings") was also attributed to the instrumental factor. This item denotes the persistence of suffering and the ongoing effects of the loss in the current moment. While its removal was recommended originally (Martin & Wang, 2006) due to low inter-item correlations with the intuitive factor, the item was included to permit more robust analyses of the factor structure. Considering the characteristics of our sample, particularly the elevated time since loss (mean of approximately 6.5 years), the persistence of such intense grief would be congruent with a pathological expression. Clinical and social expectations suggest that intense grief reactions typically subside within 12 months of the loss (Miller, 2015; WHO, 2019), and robust evidence confirms that its persistence beyond 6 to 12 months is a predictor of PGD and comorbid conditions such as depression or suicidal ideation (Boelen & Kolchinska, 2022; Boelen et al., 2016; Lundorff et al., 2020; Maccallum et al., 2025; Smith et al., 2024). This interpretation is also supported by the moderate positive correlations found between item 8, prolonged grief and trauma symptoms (see appendix H2).

This consideration of the content of the items in the instrumental factor, and consequently its definition according to the measure allows a better comprehension of the instrumental factor's correlation pattern. Furthermore, the convergent validity was also deemed weak considering the low AVE values for both factors. This provides strong psychometric evidence that the items of the GPI are not robust indicators of any latent construct. This constrains interpretations of the factors, including the probable pathological nature of the instrumental dimension.

The instrumental grief dimension was positively associated with several pathological markers: trauma, prolonged grief, depression, anxiety, somatisation, avoidance, grief impairment and rumination (the latter being the only weak correlation). The association with anxiety, somatisation and rumination were according to our hypothesis, while the strength of the correlation was stronger than previous evidence suggested (Doka & Martin, 2010; Gamino et al., 2020; Martin & Wang, 2006). Crucially, these results, specially the correlations with grief impairment and prolonged grief, are strongly different from what would be expected for an adaptive, restoration-oriented/forward-focused pattern, which many recent studies have shown to be associated with a lesser likelihood of PGD, traumatic grief, and associated pathological markers (Cherblanc et al., 2025; Fiore, 2021; Huang et al., 2023; Zhou et al., 2020). In parallel, the positive moderate correlation with depression could be explained by the common association of emotional-control, self-reliance and cognitive focus on the return to base

functioning to internalizing symptoms such as alexithymia, difficulties in emotional regulation and, depressive symptoms (Mancini et al., 2025).

Taken together, these correlations substantiate the notion that instrumental grief, as captured by these items, tends to be characterised by less authentic grief expression, involving emotional suppression and concealment, and is associated to psychological suffering across multiple domains. This supports current grief counselling perspectives (Gaur, 2025; Schut et al., 1997; Stroebe et al., 2017b; Thimm et al., 2024), which posit that emotion suppression is maladaptive and exacerbates psychological suffering (*e.g.* in prolonged grief; Eisma & Stroebe, 2021). The correlation with rumination and avoidance is also in accordance with the Rumination as Avoidance Hypothesis where a focus in determined aspects of the loss potentiates avoidance of others (Eisma & Lenferink, 2023; Eisma et al., 2013; Eisma & Stroebe, 2017). This suggests that the rumination associated with the instrumental pattern, is not a mere cognitive focus on thoughts of the loss, but rumination in one aspect that leads to avoidance of processing others. However, a more parsimonious explanation for these findings is that the measure's definition of the instrumental construct may be flawed, invertedly conflating adaptive use of cognitive-focused coping with pathological emotional suppression and concealment.

In contrast, the intuitive factor, composed of 6 items, presented good internal consistency, items with lower uniqueness, greater factor-loadings and smaller residual variances, which suggest a more cohesive measure. Items 2 ("It seems natural for me to cry and show my feelings to others") and inverted item 12 ("I would describe myself as more intellectual than emotional") have the largest factor loadings and characterize the intuitive griever's functioning by emotionality and the need to share their emotional experience. This factor appears to measure an adaptive pattern of grieving, and its content is mostly according to theoretical expectations. However, tests of convergent validity showed AVE values inferior to the defined threshold, which indicate that more than 50% of the variance of the factor is explained by external variables.

Additionally, correlational analyses confirmed the expected positive weak correlation of intuitive grief to rumination. This finding is consistent with the theoretical background in which intuitive grievers maintain closer contact with feelings of the loss and more easily fall into ruminative patterns of thought (Eisma et al., 2024; Smith et al., 2024). In parallel, the intuitive factor presented a negative weak correlation to grief avoidance, which contradicts our

hypothesis. This suggests that the rumination of this pattern is not a form of avoidance, but the attempt to connect with the experience of the loss and would signal proximity-seeking behaviours or possibly, a sign of active processing of the loss (Eisma & Nguyen, 2023).

Regarding the non-significant correlation of intuitive grief to clinical symptoms of depression, this result is not aligned with the theoretical model (Doka & Martin, 2010) and results from the following version of the GPI (Gamino et al., 2020). However, it is consistent with the results of the original study and may signify a specificity of the items of the intuitive factor in this version of the GPI (Martin & Wang, 2006). This suggests that the sadness and yearning captured in the intuitive factor are distinct from the persistent sadness, anhedonia and low perception of self-worth present in the depression scale. Taken together, the corelations of the intuitive factor to grief-related processes such as rumination and avoidance, and lack of significant correlations to other pathological syndromes strengthens its construct validity as a measure of an adaptive grief pattern.

The reliability of the instrument was deemed acceptable for the instrumental factor and good for the intuitive factor, which reveals that the items in each factor, considering their contributions to the latent construct, measure a cohesive construct. In addition, discriminant validity was assessed with the HTMT, which was substantially inferior to the proposed threshold and the CI CFA test which both provide strong evidence to the presence of two distinct constructs in the GPI (Henseler et al., 2015).

Regarding sensibility, the GPI appears to have limitations. The items of the GPI, considered individually, presented responses in all levels, with responses clustering around the extremes and underutilisation of the middle range of the scale. When regarding multivariate normality, Mardia's test identified a significant leptokurtic multivariate distribution in which participants overall responses across the items seem to be similar. This combination suggests the possibility of a response bias since most participants showed agreement to the same set of items (emotional expression) while consistently disagreeing with others (*e.g.* emotional suppression). Therefore, the instrument can discriminate between the respondent's grief pattern while having low sensitivity to variations in its intensity (Choudhury & Saluja, 2011).

Within the grief pattern conceptualisation, the occasional employment of maladaptive strategies is possible in every grief pattern and does not necessarily constrain its adaptive nature (Doka, 2016; Doka & Martin, 2010). However, the convergence of item content and results of correlational analyses in this study suggests that this factor may not be a pure measure of the

intended instrumental construct, having limited construct validity (Pasquali, 2007). Instead, this factor appears to capture a maladaptive variant centered on emotional suppression.

Grief patterns

The use of both sub-samples simultaneously permitted conducting quadrant analysis. The Instrumental and Intuitive quadrants were named to reflect the pure patterns of the same name. The low intuitive-low instrumental was named Blended to reflect the central assumption of the theory that this pattern is in the middle point of the grief pattern continuum, with few characteristics of each pattern (Doka, 2016; Doka & Martin, 2010). The fourth quadrant (high intuitive-high instrumental) was named High-grief expression, as a neutral term to reflect the presence of elevated levels of instrumental and intuitive grief. The analysis of what this pattern may represent will be developed bellow.

The hypothesis regarding the distribution of bereaved by pattern was not confirmed due to the high prevalence of the Instrumental and Intuitive groups. Notably, these two quadrants had approximately the double of bereaved as the Blended pattern. Regarding gender distribution per pattern, it was according to the hypothesis established, with higher female percentages in Intuitive and Blended patterns and more male participants in Instrumental patterns. This can be seen even though the distribution of gender in the samples was unequal. These results, together, could be explained by cultural characteristics of the Portuguese population, that promotes adherence to gender norms and could contribute to the low frequency of Blended grievers (Wall et al., 2017; Wollast et al., 2025). In addition, the Portuguese culture also values discrete emotional displays which could explain the high Instrumental prevalence (Silva, 2022). Furthermore, the definition of the quadrants was based in the standardized mean of the participants in the factors of the GPI which leads to a sample-based categorization, instead of a variable-based method, which is more prone to sampling bias.

Age of the bereaved and time since the loss was compared across the quadrants to assess the theoretical assumption that the patterns represent stable response tendencies of the individual. In the absence of longitudinal data, these variables served as proxy measures of temporal stability. The results of the ANOVA indicate that individuals of Instrumental and High-Grief Expression quadrants were significantly younger than the members of the Blended quadrant. This suggests that individuals display fewer instrumental characteristics as they get older. This result is aligned with common critiques of the grief pattern theory that state that avoidant and task-focused coping is characteristic of an infant's processing of grief (Doka,

2016). Additionally, time since the loss did not display the same pattern as it did not present significant differences across the groups. These two results provide partial support for the theory's propositions of stability but simultaneously are insufficient to suggest that grief patterns are state or context-based (*e.g.* appraisal theory, psychological flexibility or the dual process model) as opposed to trait-based (Bristowe et al., 2024; Doka, 2016; Fiore, 2021; Huang et al., 2023). The finding of older participants in the Blended quadrant suggests that emotional maturity may facilitate the development of a less-polarized, more balanced grief pattern (Plys et al., 2023).

Significant differences were found in grief avoidance, prolonged grief and trauma symptoms according to the quadrant, with Instrumental and High-Grief Expression groups having consistent greater levels of grief avoidance, prolonged grief and trauma to the Intuitive and Blended quadrants. This pattern of results reinforces the maladaptive quality of the instrumental factor.

The co-occurrence of high intuitive and instrumental characteristics in the High-Grief Expression group suggests two interpretations. First, integrating the Martin and Doka conceptualisation (2000), and the Cognitive Appraisal Theory (Lazarus & Folkman, 1984), the greater the assessment of a threat, the greater or the more resources one must employ to confront it. This could suggest that members of the High-Grief Expression group appraised their losses as more demanding and so employ more coping mechanisms. In addition, the lack of need satisfaction is said to increase the suffering of the bereaved and moreover, it can increase the need itself (Maccallum et al., 2025). According to Doka and Martin (2010) this increase may lead an individual to search for other strategies, of any pattern, adaptive or not. In this sense, the High-Grief Expression may represent a group of young bereaved who have difficulty integrating their loss, displaying more prolonged grief, trauma, and grief avoidance symptoms while struggling with ameliorating the intensity of grief, developing a dissonant response characterized by ineffective grief management strategies (Larsen et al., 2024). This interpretation is supported with the suggestion by Gamino et al. (2020) that higher scores in both subscales of the GPI could signify greater overall grief intensity.

Second, this profile with simultaneous elevated levels of intuitive and instrumental grief, could be a sign of dissonant responses. Not only as assessed with the items of the instrumental factor, theorised to be dissonant, but by the employment of both patterns accompanied by difficulties in adjustment to loss. This is in line with the definition by Doka (2016) of dissonant

grief, where the bereaved, overwhelmed by their grief, employ the maximum of coping mechanisms they can in order to diminish their suffering. This also supports the presence of more severe trauma symptoms in the High Grief Expression an Instrumental quadrants, as traumatic grief is especially common in dissonant grievers (Brinkmann, 2020; Chan & Cheung, 2022; Bonanno & Kaltman, 2001; Doka, 2016; Larsen et al., 2024; Williams et al., 2019). It is important to note that the mean trauma scores for the Instrumental and High-Grief Expression quadrants were inferior to the clinical cut value for significant post-traumatic stress symptoms.

Regarding psychological flexibility, no significant differences were found according to the quadrant. This rejects the hypothesis that blended grievers, would present greater psychological flexibility due to the employment of more diverse response tendencies. The grief pattern conceptualisation rationale states that every grief pattern is adaptive. In addition, blended patterns are proposed to be more demanding due to employment of more diverse coping strategies. Nonetheless, the growing literature on psychological flexibility refers versatility and adaptation to the context as health indicators (Huang et al., 2023; Ong et al., 2024). The absence of significant differences of psychological flexibility among the groups, suggest the distinction between the use of several, diverse strategies, with the skill of flexible employment of said strategies according to external demands. This leads us to question if the blended pattern, in the conceptualisation, suggests better adaptation, resilient or low-expression grief trajectories, integrated losses, or just the lack of a marked preferred response tendency (Djelantik et al., 2022; Lundorff et al., 2020; Smith et al., 2024).

One interesting finding concerns the distribution of individuals who meet the threshold for PGD by pattern. These individuals were primarily situated in Instrumental (n=22 or 48.889% of PGD cases) and High-grief Expression (n=15 or 33.333% of PGD cases) quadrants. Bereavement research shows that emotion suppression and avoidance can compromise the bereavement process, and this can justify the prevalence of PGD in both groups with elevated instrumental grief (Boelen & Kolchinska, 2022; Eisma & Lenferink, 2023). Specifically, as the content of instrumental grief is in this study is proposed to be a measure of emotional suppression. In addition, the participants with PGD reported high endorsement of the items proposed to measure suppression and concealment (see H4 and H5).

Limitations

Although this study had methodological strengths with the use of two samples for conducting EFA and CFA and choice of parameters for psychometrical robustness its

weaknesses must be addressed. The sample size was considered small for most parameters for conducting EFA and CFA. Sampling was unevenly split between gender, nationality and age which is especially relevant for validation studies. Inclusion of individuals of other nationalities (Brazil) can also affect the interpretability of the items used in all questionnaires. Several instruments were in initial stages of development and adaptation to the Portuguese language, such as the GIS, GAQ and UGRS-R (which has not been validated in its revised form). Additionally, the analyses in this study did not control the effect of variables such as kinship to the deceased, cause of death or presence of previous psychopathology, which could affect the relationships of the grief patterns to other variables. Beyond that, no treatment for outlier identification or removal was made.

A major limitation of this study is the flexibility of the inclusion criteria of the samples. Loss recency was not deemed a criterion for inclusion in the study, and this brings two possible ramifications. Firstly, some participants had suffered a loss less that a month before the study, and this could lead to negative consequences. Secondly, distant losses (*e.g.* more than 15 years ago), should have been analysed with caution due to the aim of the instrument. The GPI can be used to assess current reactions and coping strategies to loss of several types, non-exclusive to grief. However, use of the GPI for distant losses leads to the expectation that the bereaved currently and commonly employ coping strategies with the goal of integrating their loss. In this sense, it is possible that some individuals with distant losses still express intense grief reactions and those cases would be indicative of prolonged grief disorder but the prevalence of this disorder in the population is small (around 13%; Comtesse et al., 2024) and this possibility should not be considered the norm for all the data in the sample. Consequently, this severely hinders the generalization of the results and could have contributed to the large prevalence of neutral responses in the GPI ("neither agree or disagree").

Furthermore, anecdotal feedback by participants indicated confusion regarding time-frames in instructions (*e.g.* "in the last 7 days"). Some reported basing their responses on their experience at the time of the loss (*e.g.* seven days after the loss) and not of their recent experience. Although this bias in unquantifiable, it presents a plausible explanation for the elevated scores on some measures of psychopathology which had time-frames and represents a significant limitation to the internal validity of those measures in this study.

As another limitation, the removal of item 9 in the CFA. Although this is a plausible practice in the literature, statistically, it concedes an exploratory nature to the CFA, since a new

model is now being tested for its fit. The re-specification of models also decreases the replicability of results and increases the chance of sample biases in the model.

Construct validity was not tested through test-retest which is a common limitation of transversal studies such as the current study. This becomes especially important when considering the proposed advantages of the grief pattern conceptualisation of improving the unfolding of the grief process through time using the individual griever's pattern as a basis for intervention. Transversal studies also exclude conclusions in regard to grief pattern stability through time.

Implications and future research directions

The findings of this study highlight significant concerns regarding the construct validity of the GPI and its underlying conceptualization. Future research should be guided not only by statistical criteria but also complemented by a revision to the central concepts of the model to enhance conceptual clarity and prevent the dangers of theoretical stagnation (Stroebe et al., 2017a).

The primary implication of this study is the need for theoretical refinement. This conceptualization has been rarely used, and the theory lacks robust empirical evidence. In particular, the notion of pattern stability, and their adaptive potential must be reassessed to align with current literature. A significant risk in the current model is the danger of over-normalizing the patterns, which blurs the line between individual differences and pathology. Therefore, new research must be developed to establish if all patterns are equally adaptive, and to better describe each pattern's caveats. Furthermore, research is necessary to characterize the instrumental and blended pattern more fully, beyond its current definition as the tendency for emotional concealment and the mere co-endorsement of instrumental and intuitive characteristics, respectively.

Regarding pattern stability, longitudinal research should be employed to investigate the influences on their development, such as the evolution during bereavement, childhood experiences, context-dependent variation and cultural norms.

After the revision of the theoretical model, a new measure must be developed, to account for the nuances of each pattern beyond emotional versus cognitive dichotomy. This revised measure could for example, assess core response tendencies of the bereaved (cognitive, affective, somatic, behavioural, spiritual), the different needs for social support, adaptive and

maladaptive coping strategies, and beliefs about grief authenticity. This would likely entail the development of a longer measure as more factors should prove necessary to maintain internal consistency and improve model fit. Additionally, the response scale should be changed to a measure of frequency, as to reduce neutral responses. This procedure of instrument expansion is also recommended by Child (2006) for measures with acceptable internal consistency but high uniqueness. In turn, this would provide a richer profiling system, which could prove highly valuable for clinical practice and more easily applicable to other types of loss.

Future validation studies should also employ person-centered analyses, such as Latent Profile Analysis. This bottom-up approach to the identification of subgroups of participants does not rely in a priori criteria (unlike the mean-split method used in this study). This would permit a better comprehension of the natural distribution of the bereaved per pattern, and their most characteristic features.

Despite its psychometric limitations, the current GPI provides a few clinical insights. The current instrumental factor could be used as a screening for maladaptive grief which should not be conflated with the original cognitive-focused pattern. A high score on current the instrumental scale should signal caution to the potential presence of avoidance, emotional suppression and dissonant responses, which are risk factors for PGD. And ultimately, this supports the current notion that emotion suppression must be addressed for grief to proceed adaptively (Eisma & Stroebe, 2021; Gaur, 2025).

Additionally, recent studies highlight the need to distinguish adaptive and pathological bereavement for clinical interventions, with interventions for the former being unnecessary and potentially harming, while interventions for the latter should be employed. Current literature points to the promotion of psychological flexibility as advantageous, as well as the development of more diverse methods of coping (Stroebe et al., 2017a; 2017b). Nonetheless, the grief pattern conceptualisation reaffirms the importance of timing in the therapeutic intervention. Even though the development of more diverse coping mechanisms is beneficial, it should not be done during periods of crisis, instead, these periods should be supported by strengthening the bereaved's existing tools. Accordingly, the natural disposition or pattern of the individual proves useful (Butaney et al., 2025; Doka, 2016; Stroebe et al., 2017a).

Moreover, the emphasis on timing and honouring the bereaved's natural grief pattern remains relevant today, as it addresses the growing concern of bereavement psychologists about the persistent promotion of old, unfounded theories of bereavement (Beckett & Dykeman, 2017;

Doughty, 2009; Stroebe et al., 2017a). These theories have remained influential in the general clinical psychology sphere and continue to promote among clinicians and clients, the idea that grief should be experienced in a single, predetermined way, and that deviations from that norm should be corrected.

Promisingly, Dominick et al. (2010) used a pilot online intervention for grief-related anxiety and found that the use of testimonies of bereaved from different grief contributed to lower state anxiety and improved self-efficacy and attitude towards their ongoing bereavement. Similarly, the vignettes designed by Martin and Doka in the books (2000; 2010) could also be used as a tool for clinical intervention.

However, initial assessments suggest the emergence of the opposite bias with the perception that instrumental grievers are more adaptive, but simultaneously more difficult to establish therapeutic relationships with, when compared to other patterns (Beckett & Dykeman, 2015). Therefore, beyond all grief conceptualisations, the promotion of integrated, client-centered conceptualisations and interventions, which are informed by theory but not constrained by its simplistic application will ultimately allow the employment of more effective interventions (*e.g.* Stroebe et al., 2017a), which simultaneously accomplish the grief pattern conceptualisation's fundamental principle: there is more than one valid way to grieve (Doka & Martin, 2016).

Conclusion

This thesis sought to fulfil two main objectives: the assessment of the psychometric properties of the GPI in a Portuguese-speaking sample and provide more empirical evidence to the model's foundational claims.

Regarding the first objective, this was the first attempt at validation and translation of the GPI (Martin & Wang, 2006) through a methodologically sequential approach, with use of independent samples for confirmatory analysis. Other iterations of the instrument have been studied, but the factor structure of the GPI was, so far, assumed and not empirically discovered.

The GPI, in its current form, has adequate model fit, however, several items indicate significant local validity strains. Furthermore, the results of the factor analysis and of the correlations of the factors to other variables reveal that the instrumental factor, is not a valid measure for the underlying construct of forward-focus or cognitive-focused coping but of emotional suppression. This was also corroborated by the results of the quadrant analysis, where

the Instrumental and High-Grief Expression groups displayed significantly greater levels of prolonged grief, trauma and grief avoidance when compared to the Intuitive and Blended quadrants. Consequently, while the current instrument although statistically acceptable for research, does not meet the function it was proposed to, of a measure of adaptive grief patterns. Instead, it appears to be an indicator of cultural-related factors that constrain the grief process, where the coping mechanisms employed by the bereaved are not in accordance with their needs, which is associated with an increased risk for the development of pathology, and specifically, PGD.

Therefore, although the results of the EFA and CFA point to an adequate model, revision of the items is strongly recommended to allow better a better representation of the theory in the measure itself. Specifically, with the goal to improve the construct validity of the instrument and precision to allow a better distinction of adaptive instrumental grief and dissonant suppression-centered responses.

This study provides a starting point for the adaptation of this instrument and highlights the challenges of developing a measure representative of the grief pattern conceptualisation.

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Appendix A

Literature review

Grief, bereavement and mourning – definition and commonly associated concepts

Grief can be defined as the suffering and anguish felt after a significant loss (APA, n.d.a). In this dissertation, the term will mainly be used to refer to the reaction after the loss of a loved one. In literature, the terms bereavement and mourning are also used. Bereavement is usually used to refer to the objective fact of the loss, while grief is used to refer to the individual reaction one has to loss (Doka & Martin, 2010). Mourning denotes the public expression of grief (*e.g.* practice of death rituals).

The suffering caused by loss is called a grief reaction, and it can manifest in multiple ways: emotionally, behaviourally, cognitively, spiritually and physically (Doka & Martin, 2010; Guldin & Leget, 2024). The most common emotional reactions are as follows: sadness, anxiety, guilt, loneliness and yearning for the deceased (Bonanno & Kaltman, 2001; Doka & Martin, 2010). Some individuals also experience anger and relief (Doka & Martin, 2010). In the behavioural domain, grief reactions can include social isolation and disruptions in occupational functioning (Bonanno & Kaltman, 2001; Doka & Martin, 2010). In the cognitive domain, examples of grief reactions are cognitive disorganisation, confusion, rumination and excessive preoccupation, disturbances of identity, and a sense of a disrupted future (Bonanno & Kaltman, 2001; Doka & Martin, 2010). Spiritually, grievers report the search for meaning in loss, hopelessness and changes in spiritual beliefs, whether by increase or decrease in spiritual involvement (Bonanno & Kaltman, 2001; Doka & Martin, 2010; Guldin & Leget, 2024). The experience of grief can also bring a plethora of physical or somatic reactions like headaches, fatigue, loss of appetite, insomnia, pain and exacerbation of previous medical conditions **(**Bonanno & Kaltman, 2001; Doka & Martin, 2010).

The universality of this experience has drawn the attention of many clinicians who seek to better understand and conceptualise grief and bereavement, in turn providing better support for their clients (Doering & Eisma, 2016). The main difficulties that the bereaved experience arise from the challenge of integrating the loss into their biography and worldview, along with all the consequences that the loss entails (Doka & Martin, 2010, pp. 27-35; Payàs-Puigarnau, 2010). In addition to this, unexpected circumstances can make adaptation to loss difficult, and loss itself is deemed to be processed in a non-uniform manner, which is evidenced by varying symptom intensity during the grief process (Doering & Eisma, 2016; Larsen et al., 2024).

Conceptual Frameworks for Understanding Grief

The first mention of grief as an object to be addressed in the therapeutic process is made by Freud (1917/1949) with the distinction of mourning from melancholia. To Freud (1917/1949), mourning corresponds to the normative reaction to loss that involves emotional pain, while melancholia is a concept akin to the contemporary diagnosis of depression and is characterised by a sense of emptiness of the self, with feelings of worthlessness and self-criticism.

Freud's notion of grief was succeeded by the Five Phases of Grief Model (Kübler-Ross, 1969). This model dictates that processing grief encompasses the progression through five phases or tasks in a linear fashion: denial, anger, negotiation, bargaining, and acceptance. This model was criticised for its linear nature, since grief experience varies greatly: individuals can return to previous phases and some phases can be skipped altogether (Doka & Martin, 2010; Stroebe & Schut, 2001/2002; Stroebe et al., 2017a).

The Dual Process Model (Stroebe & Schut, 1999) posits that adaptive processing of grief involves the oscillation between two orientations. Firstly, the orientation towards loss is the dimension typically considered for grief work, which involves making meaning of the loss, its circumstances, and the interruption of the relationship to the deceased. Secondly, the orientation to restoration encompasses more practical adaptations to change due to loss (*e.g.*, changes in role functions within the family system; changes in financial circumstances, revision of life goals and identity). According to this model, individuals who focus excessively on loss orientation experience more severe grief symptoms, both in the short and, tendentially, in the long term (Stroebe et al., 2010). On the other hand, bereaved individuals who focus rigidly on orientation to restoration can experience what can be described as inhibited grief, where their grief reactions are absent, and individuals experience emotional numbness (Stroebe et al., 2010).

The emergence of emotion-focused modalities of therapy, aided by the well-established conceptions of grief as a linear model, and akin to depression, prompted the generalisation of an expectation towards bereaved individuals of how they should behave, what they should feel and how transparent they should be about their bereavement. Beyond that, it disseminated those specific expectations of grief as a goal to be promoted in psychotherapy (Doka & Martin, 1998; Martin & Doka, 2000; Stroebe & Schut, 1999).

Following this growing notion, Martin and Doka (2000) sought to reaffirm the large assortment of normative grief reactions that do not coincide with societal expectations of grief

with the development of their conceptualization of a continuum of experience, with diverging methods of coping in each extreme: emotion and cognition-focused coping (Martin & Doka, 2000).

Martin and Doka's Conceptualisation of Grief

This theoretical model was developed by Martin and Doka (2000), based on their clinical experience and the observation of the state-of-the-art in grief interventions. Martin and Doka's conceptualisation arises from four main premises.

The first is the concern with the generalisation of the Grief Work Hypothesis which guided grief interventions. This hypothesis states that the processing of grief should necessarily involve significant distress, similar in nature and intensity to a depressive episode (Wortman & Silver, 1989). Additionally, the absence of distress would be indicative of pathology. In this sense, the clinician sought to promote the confrontation of the reality of the loss, as well as the conscious processing of emotions and detachment from the deceased (Doka & Martin, 2010; Stroebe & Schut, 1999; Wortman & Silver, 1989). In psychotherapy, this could correspond to the use of techniques such as catharsis and experiential techniques that promote emotional expression and prevent avoidance of the loss. Furthermore, the widespread acceptance of stage models of grief (*e.g.* Kübler-Ross; 1969) contributed to inclusion of all grief-related symptoms as a result of the progression or lack thereof through the phases (Wortman & Silver, 1989).

Although subsequent research has suggested that the use of these techniques may be insufficient for some individuals, the core principles of the Grief Work Hypothesis have proven enduring (Doka & Martin, 2010, pp. 5-6; Stroebe et al., 1999; 2001; 2017). This persistence has cultivated a bias in psychological literature, that led to the consideration of a specific way of grieving as healthy (Martin & Doka, 2000).

Secondly, Doka and Martin (2000) proposed that the discrepancy in gender prevalence across most empirical studies in grief-related topics leads to a conceptualisation of feminine grief as the usual standard. This discrepancy is caused by the fact that women are more prone to seek psychological help, to participate in studies and to share their suffering with loved ones (Stroebe, 2001, 2003). Their experience of grief is also usually accompanied by more overt reactions (*e.g.* crying). This contributed to the consideration of feminine grief as the preferable way of grieving and the one to be promoted in therapy.

Thirdly, Martin and Doka (2000; Doka and Martin, 2010) also propose that this bias towards emotional expression has cultural roots, notably in the expectation towards emotion

expression during grief (Zhou et al., 2023). This in turn, is related to perspective of different cultures to the function of emotion expression as promoting social contact or harming social harmony (Mesquita & Leu. 2007). Taken together, this disparity is further amplified by gendered social expectations, regarding the valence of the emotion being expressed, seen as negative emotions are particularly regarded as acceptable for women during a longer time frame than for men (Miller, 2015). These discrepancies, as rooted in culture, need to be considered for the development of representative research, of context and culture-specific grief. As such, Martin and Doka (2000) highlight that the high prevalence of studies in Europe and the United States also contributes to an absence of representation of mourning in Eastern societies in literature.

Fourthly, the authors based their grieving patterns on the Cognitive Appraisal Theory (Lazarus & Folkman, 1984, p.1-35) which states that the way an individual reacts to an event is dependent on their cognitive appraisal where there is a balance of the nature of the event (as benevolent or threatening) and a balance of the existing resources (as sufficient or insufficient to cope with the event). These appraisals lead to the activation of coping strategies or response tendencies and the triggering of emotions.

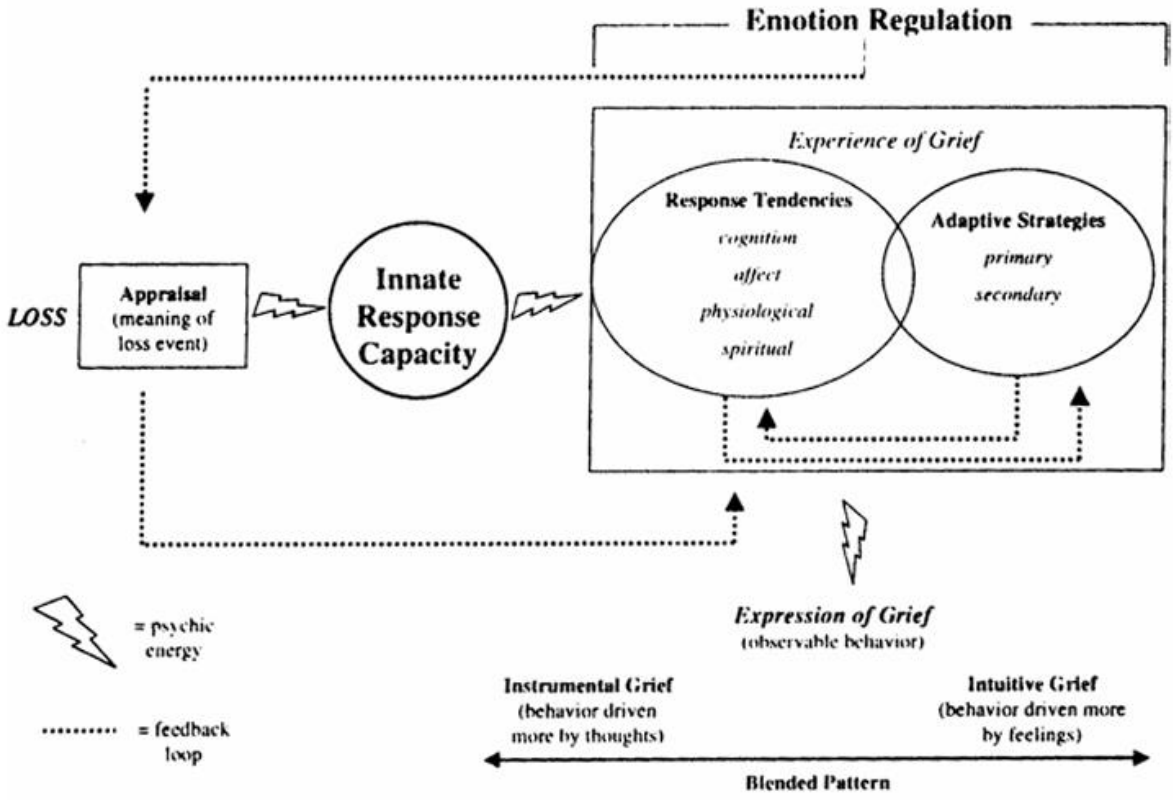
These premises were foundational to the development of the assumption that every individual has an innate response capacity (with a biological basis) and a preferred response tendency, which, subsequently, dictates how grief is experienced and what coping strategies are used – essentially defining what is known as a grief pattern. In this sense, grief is viewed as an emotional or psychic energy originating from the attempt to integrate the loss, which is then channelled into the individual's preferred response tendencies (emotional, cognitive, behavioural, physical, or spiritual), therefore triggering specific adaptive coping strategies. In other words, grief is seen as a psychic energy which is then dispersed into the preferred pools or domains of experience. In addition to that, there are activations of adaptive (coping) strategies (see Figure 1). The use of adaptive strategies may cause alterations to the external environment, leading to a new appraisal and adaptation of response tendencies and employment of other adaptive strategies. This process of assessment and adjustment of perception to the stressor event is considered by Doka and Martin to be emotion regulation, which is what promotes accommodation to the loss (Doka & Martin, 2010, p.40).

As stated previously, grieving patterns are influenced by several biopsychosocial factors, such as gender, socialisation, personality, and culture (Doka & Martin, 2010; Martin & Doka, 2000). Socialisation and culture are hypothesised to influence the development of adaptive

strategies through the phenomenon of modelling, primarily by the incentive of conforming to the gender norm through exertion of internal and external pressure to grieve in a certain manner (Brinkmann, 2020; Doka, 1998; Doughty, 2009; Mancini et al., 2025). Regarding temporal stability, initially, the authors highlight the stability of the grief patterns (Doka & Martin, 2010; Martin & Doka, 2000). Yet, in subsequent refinements of the theory, the authors account for greater flexibility, notably, among blended grievers who may employ varying strategies throughout their lives according to the circumstances of the loss (Doka, 2016, pp.76-95).

Figure A1.

Model of grief designed by Doka and Martin.



Note. Adapted from *Men Don't Cry… Women Do: Transcending Gender Stereotypes of Grief* (p. 39), by K. J. Doka & T. L. Martin, 2010, Routledge. Copyright 2010 by Routledge.

Grieving patterns

Martin and Doka (2000) delineated three main patterns of grieving according to the response tendencies and adaptive strategies the griever utilises. These grieving patterns are

arranged in a continuum, with the "pure" instrumental and intuitive patterns situated in the extremes and the blended grieving pattern in the centre. From this perspective, most individuals will have a blended grieving pattern with a tendency towards more intuitive or more instrumental patterns (Doka & Martin, 2010).

Intuitive grief.

Intuitive grievers' response tendency drives more energy towards the emotional domain (Doka & Martin, 2010). This way of grieving is traditionally associated with females. Lange et al. (2020) found that approximately 41% of their sample, composed of Cameroonian female widows, were intuitive grievers, while 47% were blended grievers, and only 12% were instrumental grievers. These individuals typically employ adaptive strategies that facilitate social contact, aiming to share their feelings, discuss the loss, and as a means of mitigating feelings of loneliness (Doka & Martin, 1998; 2010). When correlated to personality characteristics, intuitive grievers tend towards having a feeling-dominant functioning (Gamino et al., 2020).

Intuitive grievers typically express more overt grief reactions like crying, venting or fatigue (Doka & Martin, 1998; 2010; Martin & Wang, 2006). An intuitive griever's grief trajectory typically involves acute episodes of intense emotional pain accompanied by difficulties in returning to the usual functioning, lack of motivation, disorganisation and disorientation. The severity of these episodes diminishes significantly in bereaved women after twelve months of the loss in comparison to men (Lundorff et al., 2020).

An intuitive griever must express and explore their feelings to ensure an adaptive grief trajectory. Their way of processing grief is through responding to their feelings (Geisler & Dykeman, 2023). This is usually done through focus on their internal experiences (Doka & Martin, 2010). Additionally, in a sample of fathers who lost their child, intuitive grief was negatively predicted by lack of acknowledgement of their suffering from healthcare professionals which highlights the heightened need for recognition of their needs (Obst et al., 2021).

Geisler and Dykeman (2023) have studied the speech differences that grievers of different patterns use and found that intuitive grievers utilise more present-tense sentences, focusing on current emotional processing and sharing of emotions. A caveat of this pattern of grieving is that if employed maladaptively, intuitive grievers can become neglectful of their

daily-life activities. These grievers may encounter difficulties in practising self-care or returning to their occupational functioning (Doka & Martin, 2010, p.61).

Studies show that women who maintain emotional contact with the anguish of loss too severely have a higher probability of experiencing depressive symptoms in comparison to men (Chen et al., 2020; Eisma et al., 2024). The employment of proximity seeking behaviours that promote attachment to the deceased is also shown to be associated with more severe, prolonged grief symptoms, short and long term (Eisma et al., 2024; Smith et al., 2024).

Instrumental grief.

An individual with an instrumental grieving pattern puts more energy to the cognitive and physical domains and utilises adaptive strategies that involve the realisation of directed activity or problem-solving (Doka, 2016). This grieving pattern is typically associated with men (Martin & Doka, 2000). Their external grief reactions can be described as more discreet than their intuitive counterparts since these individuals experience their grief predominantly in a cognitive way. This leads the authors (Doka & Martin, 2010) to state that the easiest way to identify instrumental grievers is by the lack of external behaviours culturally associated with grief.

Instrumental grievers often possess a desire to master their feelings about the loss and exhibit some reluctance to share them (Doka & Martin, 2010; Martin & Wang, 2006). The predominance of a cognitive response tendency leads to the presence of ruminative thoughts surrounding the circumstances of the loss (Doka & Martin, 2010). Instrumental grievers do feel their loss emotionally, but prefer to favour their cognition and somatic sensations over their affective ones. Notably, the emotional experience of instrumental grievers typically include: anger, directed outwards, to the unjust circumstances of the death or unsatisfactory healthcare treatment given to the deceased; or self-directed guilt regarding the behaviour of the griever prior to the loss (*e.g.* care given to the deceased prior to their death; Doka & Martin, 2010; Geisler and Dykeman, 2023). These grievers also typically employ strategies that allow for the moderation of affect and diminishing of physical sensations (Doka & Martin, 2010, p.45).

Instrumental grief reactions typically include difficulties concentrating and physical sensations such as restlessness, insomnia and muscular tension (Doka & Martin, 2010; Martin & Wang, 2006). Furthermore, these individuals prefer not to share their emotional suffering about the loss but can be open to discussing the theme on a cognitive level (Doka and Martin, 2010).

An instrumental griever usually benefits from problem-solving tasks and practical coping methods. Specifically, the pursuance of directed activity can be seen as a way of remembering or honouring the deceased; and one of the most common examples is the realisation of death rituals (Pearson et al., 2025; Risal, 2024). Additionally, instrumental grief is also characterised by the need for control and the channelling of their focus into the realisation problem-solving activities provides a sense of controllability over the current circumstances (Doka, 2016; Obst et al., 2021; Zhou et al., 2023). This is also corroborated by instrumental grievers' favouring of thinking and sensing functions according to MBTI's (Myers-Briggs Typology Indicator) personality typology (Doka & Martin, 2010; Gamino et al., 2020).

Furthermore, Baddeley et al. (2008) found that individuals with grief narratives focused on autobiographical facts like the ones utilised by instrumental grievers had higher conscientiousness levels compared to grievers who focused on the negative emotional charge during their narrative, furthermore those narratives were mostly not self-focused and used more death related terms which are indicative of absence of grief avoidance strategies. Another study focused on linguistic expression for the grief pattern (Geisler & Dykeman, 2023) suggests that the language used by instrumental grievers seems less distinguishable than the one used by intuitive grievers. Nonetheless, the use of the past tense was found to be more common in instrumental grievers. Instrumental grievers also showed a bigger focus on cognition, on reflection of the relationship they had with the deceased, on the meaning of the loss and bereavement-related thoughts. These results are consistent with the original model, which highlights a tendency to intellectualisation (Doka, 2016; Doka & Martin, 2010).

Additionally, a qualitative study (Pearson et al., 2025) about the grief experiences of men after the loss of a child identified several characteristics congruent with instrumental grief such as: the importance of death rituals and religion as grounding and liberating; having a stoic presence, considered by the bereaved as the expected grief reaction characterized by inner, private suffering; grief as a pliable process, with fluctuations of its expression over time; and the mixed importance of attenuated affect that promotes maintenance of the well-being in the family system. Moreover, Martínez-Esquivel et al. (2024) theorise that men, who feel high expectations to maintain performance even while grieving, prefer to respond externally by engaging in activities that promote adaptation and personal growth while internally seeking to maintain emotional closeness to the deceased to find comfort in ways that suit their individual needs (Doka, 2016; Doka & Martin, 2010; Pearson et al., 2025).

The lack of recognition of the needs of instrumental grievers is detailed by Obst et al. (2020) as a type of disfranchised grief, where the needs of the bereaved are not recognized are shown to be predictors of an increase in instrumental grief measures (Pearson et al., 2025). This is congruent with the increased search for satisfaction of the need of recognition, and increased perception of a discrepancy between the bereaved' grief reaction and cultural norms, as measured in the grief pattern inventory (Obst et al., 2021; Pearson et al., 2025).

Regarding the linguistic patterns displayed by instrumental grievers, their language seems less distinguishable than the one used by intuitive grievers (Geisler & Dykeman, 2023). Nonetheless, the use of the past tense was found to be more common in this pattern. Instrumental grievers also showed a bigger focus on cognition, on reflection of the relationship they had with the deceased, on the meaning of the loss and bereavement-related thoughts.

The grief trajectory of men tends to involve less severe grief symptoms; however, these symptoms tend to persist longer compared to those of women (Lundorff et al., 2020). This same trajectory is suggested for griever's that use loss-orientation strategies (Fiore, 2021; Meij et al., 2008). Since these grievers have a tendency towards action, their accommodation of the loss may seem to be quicker, externally, in comparison to that of intuitive grievers, since there is a preoccupation towards maintenance of daily functioning, and the grief reactions of instrumental grievers are more subtle (Doka, 2016; Doka & Martin, 2010). On the other hand, loss-orientation strategies are reported to be more prevalent after acute grief (Fiore, 2021; Lundorff et al., 2020). Lundorff et al. (2020) suggest that the decrease in prolonged grief symptoms seen in men may be due to an initial difficulty in utilising problem-solving coping strategies, which aggravates stress levels and grief symptoms. Moreover, it is mentioned that overcoming those difficulties with the employment of solution-oriented coping brings relief to men's grief symptoms (Martínez-Esquivel et al., 2024). This is further supported by the negative association of employment of problem-solving skills to prolonged grief symptoms (Maccallum & Bryant, 2010).

One strategy of the instrumental griever that may be maladaptive is rumination. Rumination of the loss and the injustice of the loss are both predictive of prolonged grief symptoms in the long term (Eisma & Stroebe, 2013). Theoretically, this could be due to the impediment of focus in restoring normal functioning or due to the Rumination as Avoidance Hypothesis (Eisma & Lenferink, 2023; Eisma et al., 2013; Stroebe et al., 2007), which states that rumination in some thoughts can prevent contact with more painful cognitions and

emotions, thus preventing integration of the loss and exacerbating the prolonged grief symptoms.

Blended grief.

This pattern is conceptualised as the middle point of the continuum between instrumental and intuitive grief patterns. This would signify that this pattern is characterised by the moderate junction of some aspects from both intuitive and instrumental grief. Blended grievers' reactions include the activation of affects and cognitions as well as other domains of experience. This leads blended grievers to necessitate a larger plethora of adaptive strategies borrowed from both patterns. The choice of which strategy to apply is made according to the external circumstances of the loss (Doka, 2016; Doka & Martin, 2010, pp. 83-84). Studies (Doughty, 2009; Gamino et al., 2020; Martin & Wang, 2006) are in accordance with the theoretical framework developed by Martin and Doka (2000), which describes the blended pattern as the most common.

According to the GPI measure (Doka & Martin, 2010; Martin & Doka, 2000; Martin & Wang, 2006), grievers can also present simultaneous elevated levels of instrumental and intuitive grief, although no recommendation to their interpretation is given.

Dissonant responses.

Dissonant grief refers to the temporary or long-standing failure of the bereaved to utilise coping strategies which allow the release of grief energy, whether cognitively, behaviourally, or emotionally, that affect the processing of the loss (Martin & Doka, 2000). The term dissonant alludes to the discrepancy between preferred response tendencies actual employment of coping mechanisms. This discrepancy can arise from many factors: it can stem from cultural and social means that constrict the individual to act in opposition to their preferred grief pattern; it can be a way to reject the reality of the loss; or as a consolidation of a pre-existing pattern to maintain a social image that superimposes the natural tendency of the bereaved (Doka & Martin, 2010). Consequently, the lack of need satisfaction, coupled with the internal/external pressure for concealment, if persistent is what inhibits and possibly actively prevents the unfolding of the grief process (Doka, 2016; Doka & Martin, 2010; Mancini et al., 2025).

It is crucial to distinguish dissonant responses from grief pattern. Grief patterns are seen as adaptive. A dissonant response refers to a state of incongruency, where internal or external pressures lead the bereaved to simulate the opposing pattern's response (Doka, 2016). This

superficial similarity between a dissonant griever and the pattern they seek to reproduce could provide some difficulties in clinical assessment.

Individuals of either instrumental, intuitive or blended patterns can become dissonant. For example, an instrumental griever who abstains from problem-solving activities, or someone who develops feelings of guilt for not meeting their own expectation of emotional intensity during bereavement. With respect to intuitive grievers with a dissonant response, this may manifest as someone who is still overwhelmed by the loss yet suppresses their emotional needs to better align with cultural norms (Doka & Martin, 2010; Miller, 2015; Zhou et al., 2023).

This unauthentic grief response is considered to be a precursor to prolonged grief disorder as evidenced by the growing literature that associates suppression of emotions, refusal of the reality of the loss and increase in additions and other maladaptive coping strategies as symptoms of or concomitant to prolonged grief disorder (American Psychiatric Association, 2022; Eisma et al., 2013; Parisi et al., 2019; Smith et al., 2024).

Differences and Similarities between the Grieving Patterns and the Dual Process Model

At first sight, intuitive and instrumental grief seem strikingly similar in nature to the dual process theory, and one could easily propose that the intuitive pattern is congruent with the loss restoration. In contrast, the instrumental pattern is closely aligned to the restoration orientation. However, when analysed more deeply, the loss orientation is not composed simply of emotional processing of the loss, but also the practice of death rituals, cognitive processes and other coping mechanisms through which meaning reconstruction takes place regarding the loss of a loved one. In this sense, all cognitive aspects with ruminations about the circumstances and action-focused behaviours to deal with the loss typical of the instrumental grieving pattern are also included as loss orientation (Stroebe & Schut, 2010).

There is also a key distinction in the main contribution of each theory. The dual process model proposes a description of the temporal changes to the way individuals cope with loss, with oscillations between a focus on the loss, and acceptance of its reality with the return to daily functioning. On the other hand, the grief pattern conceptualisation proposes three main tendencies in the way in which an individual reacts and adapts to loss. It describes a natural tendency, instead of the progress by which loss is integrated. Accordingly, while in the dial process model, coping mechanisms are modulated through time, in the second, there is the presupposition of stability of the natural grief pattern of the bereaved. In this sense, the time after loss is not considered to affect the natural pattern of the bereaved.

Consequently, the perseverance in a single orientation in the dual process model is seen as pathological, as the conduct of the bereaved becomes more inflexible (Stroebe et al., 1999). Two different models of maladaptive grief can be identified: one inhibited and another persistent. In relation to the grief pattern' conceptualisation, grief is usually considered maladaptive when the individual refuses to act according to their predisposition of response tendencies (*e.g.* an intuitive griever who avoids emotional experience).

There is a notable scarcity of studies using the grieving patterns framework to guide clinical intervention. A rare example is the study by Dominick et al. (2010) who reported the efficacy of an online psycho-education intervention for grief normalisation. This framework in conjunction with other meaning-making exercises, illustrated with several testimonies of grievers, proved effective for improvement of self-efficacy, lessening of state anxiety and more positive attitudes towards their bereavement.

Beyond this, the most relevant research is the study conducted by Schut et al. (1997), which compared the efficacy of interventions for bereavement using either loss-orientation or restoration-orientation. The bereaved were randomly assigned to either a control group or counselling focusing on one of the two orientations. The findings support that bereaved individuals benefit most from receiving counselling in the orientation that is the least familiar to them (*e.g.* receiving problem-solving counselling if the use of emotion-focused coping is more familiar). In this study, problem-solving-focused counselling proved to be slightly more effective than emotion-focused counselling, regardless of gender. It is worth noting the possible bias in individuals who are more prone to seeking help and accepting participation in counselling and investigations. There was no previous assessment of the coping strategies used before bereavement, so the parameter for comparison is limited. The sample is composed of individuals who show some severity of their grief symptoms after at least 11 months of the death, so the comparison with adaptive, or "healthy grief", is also limited. This is important since these results are not conducive to denying the grief pattern theory and only reaffirm the need to validate scales that allow the retrieval of more empirical evidence to support this model.

Clinical practice guided by these grief pattern model appears be contrasted by empirical evidence. Beckett and Dykeman (2015) identified that psychologists who watched videotapes of individuals describing their loss consistently considered instrumental grievers as better functioning than individuals with intuitive patterns. Paradoxically, these psychologists also regarded that a therapeutic alliance was harder to establish with instrumental grievers in comparison to intuitive grievers. Moreover, 66% of clinicians reported to favour emotion-

focused grief interventions to instrumental grievers. These findings stress the discrepancy between intervention guidance for both models.

Prolonged Grief Disorder

The addition of Prolonged Grief Disorder as a formal diagnosis in DMS-V-TR (American Psychiatric Association, 2022; consult table A1 for the diagnostic criteria) and ICD-11 (WHO; World Health Organization, 2019) highlighted the need for clarifying what is an adaptive or maladaptive grief trajectory and how psychological intervention can assist grievers in their grief process (Geisler & Dykeman, 2023; Prigerson et al., 2021).

Certain variables, such as the presence of psychopathology, violent or unexpected losses, and the type of relationship to the deceased, are well-known predictors for the development of maladaptive grief responses (American Psychiatric Association, 2022; Yousefi & Ashouri, 2023). Additionally, some studies report that females have a higher risk of developing Prolonged Grief Disorder when compared to men (*e.g.* Yousefi & Ashouri, 2023). According to Doka and Martin (2010, pp.75-82), theoretically, both grieving patterns have equal probability of developing pathological grief trajectories after violent or unexpected losses. Moreover, the Doka and Martin also suggest that blended grievers, in cases of unexpected losses, may present difficulties attending to their grief-related needs as they have more active domains of grief experience to attend to (Doka & Martin, 2010, p.83-84).

The association between grief patterns and psychopathology has been addressed in some studies that aim to validate the GPI scale. The instrumental pattern was correlated with a dimension coined the “atypical response” from the Grief Experience Inventory (GEI; Martin & Wang, 2006), although the connection of atypical responses to prolonged grief disorder is unclear. Unexpectedly, Gamino et al. (2020) proposed that greater results in the GPI (Doka & Martin, 2010) could be indicators of greater grief intensity, as evidenced by significant associations between intuitive and instrumental grief and several dimensions of the Hogan Grief Reaction Checklist (HGRC) and the Integration of Stressful Life Events Scale (ISLES). In particular, intuitive grief displayed moderate positive correlations with the Despair, Panic, Blame, Detachment, Disorganization, and Overall Misery dimensions of the HGRC, while establishing moderate negative correlations with the Footing, Comprehensibility and total integration dimensions of the ISLES. Instrumental grief, in this study, presented the same correlations but with a weaker magnitude.

One of the caveats of the Dual Process Model, and the grief pattern conceptualisation resides precisely in the definition of what is adaptive or pathological. And this line is drawn in different points according to different models (Beckett & Dikeman, 2017).

Predominant bereavement models suggest that bereavement reactions and integration to loss occur according to the coping strategies implemented by the bereaved (Eisma & Lenferink, 2023; Eisma & Stroebe, 2021). As such, several maladaptive coping mechanisms can be traced as predisposing and maintaining factors in Prolonged Grief Disorder, including avoidance (Smith et al., 2024), rumination (Smith et al., 2024), psychological flexibility (Huang et al., 2023), and concurrent or pre-existing psychiatric conditions like depression, anxiety, somatisation and trauma (Thimm et al., 2024).

Table A1

Diagnostic for the Prolonged Grief Disorder according to the DSM-V-TR.

Prolonged Grief Disorder
A. The death, at least 12 months ago, of a person who was close to the bereaved individual (for children and adolescents, at least 6 months ago).
B. Since the death, the development of a persistent grief response characterized by one or both of the following symptoms, which have been present most days to a clinically significant degree. In addition, the symptom(s) has occurred nearly every day for at least the last month: 1. Intense yearning/longing for the deceased person. 2. Preoccupation with thoughts or memories of the deceased person (in children and adolescents, preoccupation may focus on the circumstances of the death).
C. Since the death, at least three of the following symptoms have been present most days to a clinically significant degree. In addition, the symptoms have occurred nearly every day for at least the last month: 1. Identity disruption (*e.g.*, feeling as though part of oneself has died) since death. 2. Marked sense of disbelief about death. 3. Avoidance of reminders that the person is dead (in children and adolescents, may be characterized by efforts to avoid reminders). 4. Intense emotional pain (*e.g.*, anger, bitterness, sorrow) related to the death. 5. Difficulty reintegrating into one's relationships and activities after death (*e.g.*, problems engaging with friends, pursuing interests, or planning for the future). 6. Emotional numbness (absence or marked reduction of emotional experience) as a result of the death. 7. Feeling that life is meaningless as a result of the death. 8. Intense loneliness as a result of the death.
D. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
E. The duration and severity of the bereavement reaction clearly exceed expected social, cultural, or religious norms for the individual's culture and context.

Prolonged Grief Disorder	
F.	The symptoms are not better explained by another mental disorder, such as major depressive disorder or posttraumatic stress disorder, and are not attributable to the physiological effects of a substance (*e.g.*, medication, alcohol) or another medical condition.

Note. Adapted from *Diagnostic and Statistical Manual of Mental Disorders* (5th ed., text rev.; DSM-5-TR; p. 322-323), by American Psychiatric Association, 2022, American Psychiatric Publishing. Copyright 2022 by American Psychiatric Association.

Avoidance

Avoidance is the distancing from situations, individuals or contexts as a way of protecting oneself from painful thoughts or feelings or anticipated negative consequences (APA, n.d.b). Loss-related avoidance consists of the attempt to deviate from circumstances that remind the bereaved of the loss, as well as the avoidance of memories and thoughts pertaining to the circumstances of the loss (*e.g.* date of death, health state of the deceased before death) and its implications. Loss-related avoidance as well as behavioural avoidance partially mediate the associations of rumination and worry with prolonged grief symptoms (Eisma et al., 2020).

In a longitudinal study which analysed the trajectories of prolonged grief (Djelantik et al., 2022), grief avoidance displayed consistent results, independently of the trajectory of prolonged grief (chronic, acute recovery, or resilient). This supplies evidence that grief avoidance, while pathological, could represent a peripherical aspect of prolonged grief.

Avoidance of contexts in which conversations about feelings of the loss are expected are associated with instrumental grievers (Chan & Cheung, 2022), while some types of behavioural avoidance may be associated with an intuitive pattern due to the need of maintaining contact with the deceased and consequent difficulty to return to previously held function levels (Doka & Martin, 2010). In a general sense, maladaptive avoidance could be found in both patterns when that coping mechanism is used to the detriment of the processing of grief.

Rumination

Rumination can be defined as repetitive thoughts that centre around negative events and their associated affect (Eisma et al., 2020; Araújo et al., 2024). These thoughts are seen as aversive and undesirable. In grief, these thoughts are usually directed towards understanding a certain event and its consequences (Eisma & Stroebe, 2021). Grief rumination is considered to help perpetuate grief symptomatology and other comorbid disorders like depression, anxiety, and posttraumatic stress (Eisma & Stroebe, 2017; Eisma et al., 2020) since ruminative thought

processes usually incite distress and difficult the processing of grief (Eisma & Stroebe, 2017; Eisma & Stroebe, 2021; Eisma et al., 2020). One characteristic of grief rumination is that it usually involves counterfactual thinking and thought processes in which the individual indulges in realities where the loss has not occurred, where the surrounding context reacts differently to the loss or its circumstances, where different from reality (Eisma & Stroebe, 2017; Eisma et al., 2020).

Some scholars suggest that rumination itself is a type of avoidance where excessive focus on a determined part of the loss, for instance, maintaining bonds with the deceased leads to avoidance of other relevant aspects of the loss (Eisma & Lenferink, 2023; Eisma et al., 2013; Stroebe et al., 2007). On the other hand, Doka and Martin's conceptualisation (2010) mention different aspects of rumination as present in both patterns. For intuitive grievers, the contact with the emotional experience of the loss and remembrance of the deceased while for instrumental grievers it is the ruminative reflection on the circumstances of the loss. In this sense both patterns could have some ruminative characteristics.

Psychological flexibility

Psychological flexibility is a concept that encompasses an individual's tendency to react and deal with situations, taking their goals and values into account. The choice of the term "flexibility" comes from the opposing notion of inflexibility, and this choice emphasises the capacity to choose and employ adequate self-regulatory skills, especially when dealing with a stressor (Cunha et al., 2024; Doorley et al., 2020; Huang et al., 2023). Psychological flexibility is composed of six interdependent processes: acceptance and willingness (capacity to welcome one's life experiences even if they are negative), cognitive diffusion (ability to distance oneself from negative thoughts), self as context (self as a mean to experience), values (conscience of what is meaningful to the individual), committed action (action according to values) and present moment awareness (being in contact with current experiences; Cunha et al., 2024).

Psychological flexibility was first described by Hayes et al. (1999) as a guiding path for clinical intervention in the emerging Acceptance and Commitment Therapy (ACT), as this conceptualization suggests that psychological inflexibility is central to human suffering. Since then, several studies have demonstrated that psychological flexibility is a strong predictor of well-being and health (*e.g.* diminishing of pre-existing symptoms, whether psychological or psychosomatic in nature; Ong et al., 2024).

Additionally, older adults present significant greater levels of psychological flexibility. In particular, age is considered a predictor of greater acceptance and present moment awareness which are both indicators of the employment of effective emotion regulation strategies (Plys et al., 2023).

Regarding grief and bereavement, psychological flexibility can be seen in the variety of coping strategies an individual can utilise to self-regulate and cope with loss and mainly, the capacity to adapt their conduct according to the environment. Hence, individuals with more diverse coping strategies, such as blended grievers should present less prolonged grief symptoms (Huang et al., 2023). In particular, these process of cognitive diffusion, self as context, committed action and present moment awareness present several similarities to both an instrumental griever's capacity to delegate thoughts, and focus on a determined part of the loss, and capacity to maintain engagement in activities which are in accordance with the bereaved's values and relevant to the current context of the bereaved. In addition, to maintain experiential contact with the present moment and to allow that contact to reconstruct the meaning of the experience, namely, in an emotional sense, is characteristic of intuitive grievers.

Additionally, individuals with greater capacity for adaptation, and psychological flexibility, have been associated to the co-endorsement, of forward and loss-related coping strategies, which are reminiscent of instrumental and intuitive grief respectively (Huang et al., 2023). In this sense, blended grievers which utilise a larger repertoire of coping strategies are more likely to have larger psychological flexibility. Furthermore, Butaney et al. (2025) highlighted the benefit of promoting different strategies for well-being according to the individual's gender and preferred coping mechanisms.

Somatisation

Several studies have reported the effects that stress, particularly after loss, can have on the body: pain, muscle strain, sensation of weakness, alterations to the digestive system and nausea, restlessness and insomnia (Hennemann et al., 2023; Sillis et al., 2022). Conceptually, the instrumental pattern is characterized by the presence of somatic complaints (Martin & Doka, 2000). Martin and Wang (2006), found however, that the intuitive pattern had a weak significant correlation with somatisation. It is worth noting that somatisation seems to be more frequent in younger bereaved, and the sample from Martin and Wang's study (2006) was composed of university students. Somatisation also commonly co-exists with other internalization disorders such as anxiety and depression (Fiore, 2021) and could also be present in intuitive grievers.

Depression

The presence of depressive symptoms in grief has been studied for many decades, and their similarities (Freud, 1917/1949) and distinctive conceptual boundaries are still relevant research themes today (Djelantik et al., 2022). Currently, investigation remarks the possibility of coexisting grief (prolonged of normative) with depressive symptoms (American Psychiatric Association, 2022). The psychological burden that accompanies loss usually brings some depressive symptoms (Redican et al., 2024) while depressive disorders during acute grief become more prevalent in cases of unexpected or particularly violent deaths (Lenferink et al., 2018). The intuitive grief pattern has a positive moderate correlation with depressive symptoms affects such as sadness, despair, and feelings of misery (Gamino et al., 2020; Martin & Wang, 2006). Despair and overall misery levels after loss were also higher in individuals with instrumental grief, although with a weaker correlation than with intuitive grief (Gamino et al., 2020). Longitudinal studies of grief trajectories present that individuals with which is contrary to theoretical expectation – that individuals that allocate more grief energy to emotional domains are most likely to feel too intensely and develop depressive disorders compared to individuals who do not allocate much energy into the emotional domain (Martin & Doka, 2000; Doka & Martin, 2010). The presence of depressive symptoms in grief seem to vary by loss-related factors such as closeness to the deceased, type of death, kinship to and age of the deceased (Redican et al., 2024).

Anxiety

Manifestations of anxiety are well studied regarding grief reactions and investigation is consistent in reporting the increase in severity of anxiety in bereaved populations and especially in acute grief (Redican et al., 2024). Anxiety has not been studied in relation to differing grief patterns, nonetheless, anxiety is expected to be present in both patterns although with different manifestations: cognitive and somatic symptoms in instrumental patterns and emotional symptoms in the intuitive pattern. In particular, dissonant responses, should present more severe anxiety manifestations due to the difficulty integrating the loss (Corr et al., 2018; Doka, 2016).

Trauma

The term trauma refers to any disturbing experience that leads to the triggering of fear, helplessness and dissociation (APA dictionary, n.d.c). Traumatic grief refers to the traumatic reaction to loss and is usually associated with the occurrence of violent, sudden or unexpected losses (Rubin et al., 2020). Grief responses in traumatic grief include disorganisation, intrusive

thoughts and memories, grief avoidance and social isolation. Emotional reactions are characterized by numbness, sense of vulnerability and loss of control and presence of secondary emotions such as blame, anger, guilt or emptiness (Bonanno & Kaltman, 2001; Corr et al., 2018, p.216; Chan & Cheung, 2022).

From the perspective of the grief pattern's theory, a traumatic loss presents as such an overwhelming event that it can disrupt the normal channelling of energy to the several domains of grief experience. This would lead to a potential paralysis in the acute reaction of disorganisation which prevents activation of the preferred response tendencies of the griever (Doka & Martin, 2010, pp.87-89).

In particular, Doka & Martin (2010) state that the overwhelming initial grief reaction may be so overbearing as to prevent identification of a griever's pattern. This inability to channel energy into the natural pools of experience is considered to instigate the development of persistent dissonant responses in which individuals, are unable to use their preferred response tendencies (Chan & Cheung, 2022, Doka & Martin, 2010).

An intuitive griever, after a traumatic loss, may experience heightened arousal, and hypervigilance, and strong sensations of lack of control and vulnerability (Doka & Martin, 2010). On the other hand, instrumental grievers may present more cognitive symptoms of trauma such as the intrusive flashbacks, physical restlessness and emotional suppression (Doka & Martin, 2010).

The Grief Pattern Inventory

There are four English versions of this instrument. The first version was presented in Martin and Doka's book (2000), where the items were listed along with guidelines for their scoring and interpretation. However, no psychometric properties were tested in the book. The first version contained 25 items and assessed two dimensions: instrumental grief with 10 items and intuitive grief with 10 items. The final five items ought to be evaluated individually to characterise dissonant or maladaptive grief. The final score is obtained by summing all scores and comparison to several intervals for each grief pattern.

The second version, which is the one utilised in this dissertation, is based on a study done by Martin and Wang (2006), which initiates the validation process of this instrument using item correlation analysis and discriminant and convergent validity. In this study (Martin & Wang, 2006), the sample consisted of 63 college students from multiple nationalities. No

internal consistency tests were presented. The version of the GPI used in that study is comprised of 14 items (10 are present with similar wordings on the original version, and the other 4 were developed specifically for the study). The investigators make no mention of any item evaluating dissonant grief responses. Martin and Wang (2006) also suggest a further reduction of the scale for the 10 most intercorrelated items (5 for the intuitive and 5 for the instrumental pattern). That recommendation was followed by Lange et al. (2020) in a sample of 51 Cameroonian widows, but no internal consistency analysis was presented. This 10-item modified version was also employed by Obst et al (2021), with internal consistency levels ranging from .71 to .76. In this study, the items were scored by the sum of all items, with all instrumental items reversed.

The third version was developed in the book by Doka and Martin (2010), which added dissonant grief as a fourth dimension. This version of the instrument is composed of 30 items. Contrary to other versions, the scale of response varies from -2 to +2 and indicate frequency of endorsement of the item' content in the last 2 weeks. Item scores are obtained via the sum of the items of intuitive and instrumental dimensions. Blended grief is assessed with results in both dimensions being close to 0 while dissonant items are evaluated separately. Similarly to the first version, there was no assessment of the psychometric properties of the instrument in the book.

Gamino et al. (2020) sought to explore the factor structure of the GPI in a sample of 271 bereaved adults in the USA. However, these analyses deviated from contemporary psychometric standards (Boateng et al., 2018; Brown, 2015). First, internal consistency analysis based on the theoretical division of the items was performed. Items considered to worsen internal consistency were then removed with basis on iter-item correlations. Dissonant items were then attributed to the instrumental and intuitive dimensions according to item correlations. The final modified factors yielded acceptable Alpha coefficients, ranging from .795 to .824, for the intuitive and instrumental dimensions, respectively. This modified, 28-items, reduced instrument was then submitted to an exploratory factor analysis, with use of an orthogonal rotation, which forces the factors to completely independent of each other, contradicting the theoretical assumption of a single continuum of grief expression (Brown, 2015; Doka & Martin, 2010). Utilising an orthogonal rotation is also uncommon in conducting EFAs in the psychological sciences due to the high likelihood of associations between constructs (Watkins, 2018).

There have been other investigations that have utilized the GPI, with samples with other types of losses like the loss of a dog (Bartone & Blazina, 2016), or of the loss after the end of a

romantic relationship (Primeau, 2013) which show the versatility of the instrument and use of the grief pattern' conceptualisation in relation to non-death losses.

In sum, even though several iterations of the instrument were developed, no study to date, conducted a methodologically sound attempt at validation of the inventory. All studies before this used an assumed factor structure, rather than empirically discovering it.

Appendix B

Grief Pattern Inventory – Portuguese translation

Por favor, classifique cada uma das seguintes afirmações com base nas suas reações à perda.

Itens	Discordo totalmente (1)	Discordo parcialmente (2)	Nem concordo nem discordo (3)	Concordo parcialmente (4)	Concordo totalmente (5)
1. Sou mais emotivo(a) do que a maioria das pessoas que conheço.					
2. É-me natural chorar e mostrar os meus sentimentos aos outros.					
3. Ajuda-me expressar o meu luto através das lágrimas.					
4. Embora eu saiba que estou a fazer o luto à minha maneira, os outros podem pensar que sou frio e que não tenho sentimentos.					
5. Parece que não sinto as coisas de forma tão profunda como a maioria das pessoas que conheço.					
6. Aprecio quando me encorajam a partilhar os meus sentimentos mais íntimos acerca da minha perda.					
7. Foi-me dito que estou a evitar o meu luto, apesar de eu não achar que o esteja a fazer.					
8. Apesar de ter regressado à minha rotina normal, continuo a ser dominado(a) por sentimentos fortes e dolorosos.					
9. Acredito que um grupo de apoio no luto é (seria) muito útil para mim.					
10. Sinto-me ressentido(a) quando os outros me obrigam a mostrar sentimentos que, na verdade, não tenho.					
11. Prefiro falar sobre acontecimentos relacionados com a minha perda do que dos meus sentimentos em relação à mesma.					
12. Descrever-me-ia como uma pessoa mais intelectual do que emocional.					
13. Não gosto que os outros saibam o quão perturbado(a) estou com a minha perda.					
14. Muitas vezes disfarço o que estou realmente a sentir por dentro.					

Appendix C

Descriptive statistics of the Grief Pattern Inventory

Table C1

Inter-item Correlations of the GPI in sub-sample 1 (n=181).

Variable	GPI 1	GPI 2	GPI 3	GPI 4	GPI 5	GPI 6	GPI 7	GPI 8	GPI 9	GPI 10	GPI 11	GPI 12	GPI 13	GPI 14
GPI 1	—													
GPI 2	0.508***	—												
GPI 3	0.461***	0.590***	—											
GPI 4	-0.124	-0.286***	-0.317***	—										
GPI 5	-0.180*	-0.233**	-0.315***	0.515***	—									
GPI 6	0.164*	0.424***	0.508***	-0.184*	-0.179*	—								
GPI 7	-0.002	-0.155*	-0.281***	0.309***	0.304***	-0.123	—							
GPI 8	0.220**	0.061	0.062	0.062	0.083	0.096	0.265***	—						
GPI 9	0.252***	0.129	0.117	0.082	0.023	0.201**	0.139	0.370***	—					
GPI 10	0.132	-0.090	0.043	0.265***	0.254***	-0.052	0.234**	0.275***	0.295***	—				
GPI 11	0.097	-0.096	0.039	0.207**	0.167*	0.066	0.235**	0.280***	0.263***	0.395***	—			
GPI 12	-0.343***	-0.349***	-0.249***	0.397***	0.374***	-0.033	0.195**	0.053	0.049	0.271***	0.282***	—		
GPI 13	0.077	-0.277***	-0.041	0.371***	0.230**	-0.195**	0.344***	0.236**	0.169*	0.415***	0.477***	0.379***	—	
GPI 14	0.105	-0.157*	-0.005	0.389***	0.230**	-0.094	0.336***	0.253***	0.151*	0.338***	0.381***	0.371***	0.654***	—

*p<.05, **p<.01, ***p<.001

Appendix D

Exploratory Factor Analysis

Table D1

Kaiser-Meyer-Olkin Test (KMO) results in Sub-sample 1.

	KMO
Overall KMO	0.763
GPI 1	0.714
GPI 2	0.748
GPI 3	0.633
GPI 4	0.831
GPI 5	0.815
GPI 6	0.581
GPI 7	0.798
GPI 8	0.815
GPI 9	0.726
GPI 10	0.850
GPI 11	0.876
GPI 12	0.756
GPI 13	0.770
GPI 14	0.803

Table D2

Parallel Analysis Results in Sub-sample 1 (EFA).

	Real data component eigenvalues	Simulated data mean eigenvalues
Factor 1*	4.378	1.475
Factor 2*	2.951	1.376
Factor 3	1.126	1.287
Factor 4	1.049	1.224
Factor 5	0.894	1.130
Factor 6	0.710	1.078
Factor 7	0.569	1.016
Factor 8	0.513	0.949
Factor 9	0.478	0.895
Factor 10	0.399	0.831
Factor 11	0.288	0.774
Factor 12	0.267	0.721
Factor 13	0.227	0.664
Factor 14	0.150	0.581

Note. '*' = Factor should be retained. Results from Principal Components-based parallel analysis.

Appendix E

Confirmatory Factor Analysis - Model 1

Table E1

Factor loadings of the items of the GPI in Model 1 of the CFA.

						95% Confidence Interval	
Factor	Indicator	Std. estimate	Std. Error	z-value	p	Lower	Upper
Instrumental	GPI_13_rev	0.794	0.063	12.576	< .001	0.670	0.918
	GPI_14_rev	0.609	0.066	9.180	< .001	0.479	0.739
	GPI_10_rev	0.517	0.072	7.212	< .001	0.377	0.658
	GPI_11_rev	0.690	0.073	9.513	< .001	0.548	0.832
	GPI_7_rev	0.416	0.075	5.520	< .001	0.269	0.564
	GPI_8_rev	0.291	0.095	3.070	.002	0.105	0.477
	GPI_9_rev	-0.126	0.089	-1.419	.156	-0.301	0.048
Intuitive	GPI_1_rev	0.577	0.065	8.874	< .001	0.450	0.705
	GPI_2_rev	0.838	0.044	18.929	< .001	0.751	0.925
	GPI_3_rev	0.659	0.068	9.699	< .001	0.526	0.792
	GPI_6_rev	0.377	0.090	4.196	< .001	0.201	0.553
	GPI_5_rev_2	0.526	0.078	6.702	< .001	0.372	0.680
	GPI_12_rev_2	0.675	0.066	10.193	< .001	0.545	0.805

Table E2

Residual variances of the items of the GPI in Model 1 of the CFA.

					95% Confidence Interval	
Indicator	Std. estimate	Std. Error	z-value	p	Lower	Upper
GPI_13_rev	0.369	0.100	3.684	< .001	0.173	0.566
GPI_14_rev	0.629	0.081	7.774	< .001	0.470	0.787
GPI_10_rev	0.732	0.074	9.873	< .001	0.587	0.878
GPI_11_rev	0.524	0.100	5.226	< .001	0.327	0.720
GPI_7_rev	0.827	0.063	13.155	< .001	0.703	0.950
GPI_8_rev	0.915	0.055	16.548	< .001	0.807	1.023
GPI_9_rev	0.984	0.022	43.804	< .001	0.940	1.028
GPI_1_rev	0.667	0.075	8.878	< .001	0.520	0.814
GPI_2_rev	0.298	0.074	4.015	< .001	0.152	0.443
GPI_3_rev	0.565	0.090	6.311	< .001	0.390	0.741
GPI_6_rev	0.858	0.068	12.658	< .001	0.725	0.991
GPI_5_rev_2	0.723	0.083	8.764	< .001	0.562	0.885
GPI_12_rev_2	0.544	0.089	6.084	< .001	0.369	0.719

Table E3

Modification indices, cross-loadings of the Model 1 of the CFA.

			Modification Indices	EPC
Intuitive	→	GPI_9_rev	26.744	-0.564
Instrumental	→	GPI_1_rev	18.192	-0.550
Instrumental	→	GPI_5_rev_2	14.668	0.503
Intuitive	→	GPI_8_rev	8.951	-0.362
Instrumental	→	GPI_6_rev	5.854	0.296

Appendix F

Confirmatory Factor Analysis - Model 2

Table F1

Factor loadings of the items of Model 2 of the CFA (with 12 items).

						95% Confidence Interval	
Factor	Indicator	Std. estimate	Std. Error	z-value	p	Lower	Upper
Instrumental	GPI_13_rev	0.797	0.063	12.679	< .001	0.674	0.920
	GPI_14_rev	0.616	0.065	9.442	< .001	0.488	0.743
	GPI_10_rev	0.521	0.071	7.300	< .001	0.381	0.661
	GPI_11_rev	0.698	0.072	9.686	< .001	0.557	0.839
	GPI_7_rev	0.422	0.075	5.631	< .001	0.275	0.569
	GPI_8_rev	0.322	0.093	3.445	< .001	0.139	0.505
Intuitive	GPI_1_rev	0.576	0.065	8.804	< .001	0.448	0.704
	GPI_2_rev	0.842	0.045	18.905	< .001	0.754	0.929
	GPI_3_rev	0.659	0.068	9.754	< .001	0.526	0.791
	GPI_6_rev	0.373	0.090	4.143	< .001	0.197	0.550
	GPI_5_rev_2	0.526	0.079	6.698	< .001	0.372	0.680
	GPI_12_rev_2	0.674	0.067	10.129	< .001	0.544	0.805

Table F2

Residual variances of the items of the GPI in Model 2 of the CFA.

					95% Confidence Interval	
Indicator	Std. estimate	Std. Error	z-value	p	Lower	Upper
GPI_13_rev	0.365	0.100	3.641	< .001	0.168	0.561
GPI_14_rev	0.621	0.080	7.738	< .001	0.464	0.778
GPI_10_rev	0.728	0.074	9.781	< .001	0.582	0.874
GPI_11_rev	0.513	0.101	5.092	< .001	0.315	0.710
GPI_7_rev	0.822	0.063	12.966	< .001	0.697	0.946
GPI_8_rev	0.896	0.060	14.885	< .001	0.778	1.014
GPI_1_rev	0.668	0.075	8.871	< .001	0.521	0.816
GPI_2_rev	0.292	0.075	3.895	< .001	0.145	0.439
GPI_3_rev	0.566	0.089	6.358	< .001	0.391	0.740
GPI_6_rev	0.861	0.067	12.789	< .001	0.729	0.993
GPI_5_rev_2	0.723	0.083	8.736	< .001	0.561	0.885
GPI_12_rev_2	0.545	0.090	6.072	< .001	0.369	0.721

Table F3

Modification indices based on cross-loadings in Model 2 of the CFA.

			Modification Indices	EPC
Instrumental	→	GPI_1_rev	19.873	-0.547
Instrumental	→	GPI_5_rev_2	15.808	0.497
Intuitive	→	GPI_8_rev	9.824	-0.364
Instrumental	→	GPI_6_rev	5.532	0.274

Note. EPC= Expected parameter change. A Modification Index shows how much the chi-square value of overall fit would change if the parameter in question is freed up. EPC shows the expected change of the parameter itself.

Table F4

Modification indices based on residual covariances in Model 2 of the CFA.

			Modification Indices	EPC
GPI_8_rev	↔	GPI_1_rev	10.670	-0.487
GPI_10_rev	↔	GPI_5_rev_2	8.688	0.507
GPI_7_rev	↔	GPI_5_rev_2	6.806	0.416
GPI_13_rev	↔	GPI_6_rev	5.925	0.400
GPI_3_rev	↔	GPI_6_rev	5.115	-0.392
GPI_1_rev	↔	GPI_2_rev	4.911	-0.440
GPI_10_rev	↔	GPI_1_rev	4.197	-0.333

Note. EPC= Expected parameter change. A Modification Index shows how much the chi-square value of overall fit would change if the parameter in question is freed up. EPC shows the expected change of the parameter itself.

Appendix G

Confirmatory Factor Analysis - Model 3

Table G1

Factor loadings of the items of Model 3 of the CFA.

						95% Confidence Interval	
Factor	Indicator	Std. estimate	Std. Error	z-value	p	Lower	Upper
Instrumental	GPI_13_rev	0.793	0.062	12.714	< .001	0.670	0.915
	GPI_14_rev	0.612	0.065	9.431	< .001	0.485	0.740
	GPI_10_rev	0.519	0.071	7.285	< .001	0.379	0.658
	GPI_11_rev	0.694	0.072	9.706	< .001	0.554	0.834
	GPI_7_rev	0.422	0.075	5.630	< .001	0.275	0.569
	GPI_8_rev	0.355	0.093	3.821	< .001	0.173	0.537
Intuitive	GPI_1_rev	0.592	0.065	9.163	< .001	0.465	0.719
	GPI_2_rev	0.837	0.044	18.996	< .001	0.750	0.923
	GPI_3_rev	0.656	0.067	9.744	< .001	0.524	0.788
	GPI_6_rev	0.372	0.090	4.138	< .001	0.196	0.549
	GPI_5_rev_2	0.526	0.078	6.717	< .001	0.373	0.680
	GPI_12_rev_2	0.671	0.066	10.129	< .001	0.541	0.801

Table G2

Correlation coefficients of each item of the GPI present in the third Model of the CFA.

	R^2
GPI_13_rev	0.628
GPI_14_rev	0.375
GPI_10_rev	0.269
GPI_11_rev	0.482
GPI_7_rev	0.178
GPI_8_rev	0.126
GPI_1_rev	0.350
GPI_2_rev	0.700
GPI_3_rev	0.430
GPI_6_rev	0.139
GPI_5_rev_2	0.277
GPI_12_rev_2	0.451

Table G3

Standardized factor covariances of the GPI in Model 3 of the CFA.

							95% Confidence Interval	
			Std. estimate	Std. Error	z-value	p	Lower	Upper
Instrumental	↔	Intuitive	-0.492	0.096	-5.123	< .001	-0.680	-0.304

Table G4

Residual variances of the items of the GPI in Model 3 of the CFA.

					95% Confidence Interval	
Indicator	Std. estimate	Std. Error	z-value	p	Lower	Upper
GPI_13_rev	0.372	0.099	3.764	< .001	0.178	0.566
GPI_14_rev	0.625	0.080	7.858	< .001	0.469	0.781
GPI_10_rev	0.731	0.074	9.900	< .001	0.586	0.876
GPI_11_rev	0.518	0.099	5.219	< .001	0.324	0.713
GPI_7_rev	0.822	0.063	13.009	< .001	0.698	0.946
GPI_8_rev	0.874	0.066	13.237	< .001	0.744	1.003
GPI_1_rev	0.650	0.076	8.495	< .001	0.500	0.800
GPI_2_rev	0.300	0.074	4.075	< .001	0.156	0.445
GPI_3_rev	0.570	0.088	6.457	< .001	0.397	0.743
GPI_6_rev	0.861	0.067	12.855	< .001	0.730	0.993
GPI_5_rev_2	0.723	0.082	8.777	< .001	0.562	0.885
GPI_12_rev_2	0.549	0.089	6.176	< .001	0.375	0.724

Table G5

Residual covariances of items 1 and 8 of the GPI.

							95% Confidence Interval	
			Std. estimate	Std. Error	z-value	p	Lower	Upper
GPI 8	↔	GPI 1	0.355	0.084	4.235	< .001	0.191	0.520

Appendix H

Quadrant analysis

Table H1

Frequency of individuals with prolonged grief according to their grief pattern.

	Prolonged Grief Disorder		
Grief Pattern	No	Yes	Total
High-grief expression	61	15	76
Instrumental	78	22	100
Blended	51	4	55
Intuitive	94	4	98
Total	284	45	329

Note. Each cell displays the observed counts. The total is *n*=329 due to 2 missing responses in one of the variables considered as a criterion for suggested prolonged grief disorder.

Table H2

Pearson Correlations of item 8 of the GPI to PG-13 and IES-6 in the total sample (n=331).

			Pearson's *r*
Trauma Symptoms	-	GPI 8	0.576***
Prolonged Grief	-	GPI 8	0.669***

****p*<.001

Table H3

Mean and standard deviation of the trauma symptoms (IES-6-R) by quadrant.

	Trauma symptoms			
	High-Grief Expression	Instrumental	Blended	Intuitive
Valid	73	98	53	95
Missing	4	3	2	3
Mean	9.329	8.235	3.547	4.916
Std. Deviation	6.156	5.989	4.496	5.331
Minimum	0.000	0.000	0.000	0.000
Maximum	22.000	24.000	16.000	24.000

Table H4

Frequency of response on the item GPI 13 in individuals with prolonged grief.

	Prolonged Grief Disorder		
GPI 13	No	Yes	Total
Totally disagree	69	2	71
Partially disagree	58	8	66
Neither agree or disagree	52	8	60
Partially agree	69	12	81
Totally agree	36	15	51
Total	284	45	329

Note. Each cell displays the observed counts. The total is *n*=329 due to 2 missing responses in one of the variables considered as a criterion for suggested prolonged grief disorder.

Table H5

Frequency of response on the item GPI 14 in individuals with prolonged grief.

	Prolonged Grief Disorder		
GPI 14	No	Yes	Total
Totally agree	44	1	45
Partially agree	39	5	44
Neither agree or disagree	31	6	37
Partially agree	115	13	128
Totally agree	55	20	75
Total	284	45	329

Note. Each cell displays the observed counts. The total is *n*=329 due to 2 missing responses in one of the variables considered as a criterion for suggested prolonged grief disorder.