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Research Paper

The Grief Response Scale (GRS): Development and initial validation of a new instrument based on the integrative-relational model in a sample of bereaved people

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ABSTRACT

Introduction: The experience of grief and loss involves a variety of trajectories and responses, including feelings of shock or disbelief, somatic symptoms, longing for the loved one and avoidance behaviours, as well as positive reactions such as post-traumatic growth or meaning-making. Despite the large number of psychometric instruments available for assessing the pathological dimensions of grief, few tools address the different responses to bereavement.

Objective: The aim of this research was to develop and test the psychometric properties (factorial structure, reliability and validity) of an instrument based on the Integrative-Relational Model of grief and designed to address the grief responses (the Grief Response Scale (GRS)) in a clinical sample of participants who had experienced bereavement.

Method: In total, 379 participants were recruited from different clinics in Spain. Each participant completed a self-report questionnaire including the GRS and measures of complicated grief, post-traumatic stress disorder, depression, anxiety and post-traumatic growth. Twenty-eight clinical psychologists contacted each of the participants individually in order to carry out the assessment.

Results: Exploratory factor and item analysis yielded a six-factor solution for the GRS, including symptomatological distress, avoidance orientation, loss orientation, positive changes, loss integration and social support. Reliability values ranged from $\omega = 0.88$ for the symptomatological distress subscale to $\omega = 0.65$ for the loss orientation subscale. We assessed validity evidence using Pearson's correlations, which showed significant positive and negative associations depending on the subscale. We also found statistically significant differences between participants who met the criteria for complicated grief ($ICG \geq 30$) and those who did not.

Discussion: The GRS appears to be a suitable tool for assessing the range of grief responses in a clinical population. It can measure both complicated and pathological reactions to grief, as well as positive outcomes. The GRS may also be useful for clinicians working with bereavement and end-of-life situations.

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Introduction

Definition and contemporary models of grief

Bereavement and the grieving process are universal experiences involving somatic, emotional, cognitive and behavioural reactions, in response to which bereaved people use different coping strategies in an attempt to make sense of and understand what has happened. During the process, each of these natural responses varies in intensity and form and affects different functional areas (Stroebe et al., 2017a). Most people cope adaptively with grief and in time are able to rebuild their lives. However, a significant proportion of people (approximately 10 % in the case of natural loss and 49 % in the case of traumatic loss) may develop prolonged grief (Djelantik et al., 2020; Lundorff et al., 2017). Recent research has focused on pinpointing the main symptoms or experiences typical of prolonged grief that set it apart from other types of psychopathologies like depression or post-traumatic stress disorder (PTSD) (Bonanno & Malgaroli, 2020; Fernández-Alcántara & Zech, 2017).

Conceptualising grief as a multidimensional and dynamic process calls into question many classical explanatory models based on stages or phases, creating the need to develop integrative models based on scientific evidence (Stroebe et al., 2017b).

Most approaches emphasise how grief manifests itself differently in terms of its duration and intensity over time and in each individual. There can also be a variety of grief trajectories (Bonanno et al., 2002; Galatzer-Levy et al., 2018). Models such as the Dual Process Model (Stroebe & Schut, 1999; 2010) are based on the way in which the bereaved person copes with this distress, as well as their coping resources. These are the efforts or responses that the bereaved person consciously or unconsciously uses to manage acute somatic or emotional symptomatology (Stroebe et al., 2017a).

This model suggests that such strategies may be adaptive at first, or used on an ad hoc basis. Sustained over time, however, they can become rigid defences leading to prolonged grief. One example would be rumination, which can be used either to process loss or as an avoidance strategy (Stroebe et al., 2007). It is therefore important that mental health professionals can identify these responses and explore the role they play both in the context of and at the time of bereavement. In this way, specific interventions can be designed to help them perform an adaptive function or, in other cases, to eliminate them (Payás, 2010).

Other contemporary models describe grief as a process where coping mechanisms are geared towards trying to make sense of what has happened and of life after the loss (Neimeyer et al., 2002). If successful, the meaning-making process can bring about positive changes in the bereaved person's sense of identity, meaning in life and interpersonal relationships. Such meaning reconstruction models centre on describing the processes involved in assigning new life and personal meaning following the experience of loss. They also show that a proportion of bereaved people not only respond resiliently and adapt to the new situation without their loved one, but report being able to survive the loss by finding renewed meaning in their lives and experiencing positive changes (Davis et al., 1998; Neimeyer et al., 2002).

The integrative-relational model

Payás (2010) integrative-relational model describes four dimensions that may play a role in both adaptive and prolonged grief: stun-shock, avoidance-denial, continuing bonds-connection and growth-transformation. The model is not intended to reflect phases or sequential stages, but rather combinations of symptomatological responses, coping strategies and specific outcomes, such as new meanings that may emerge at a particular point during bereavement. Any of these dimensions can co-exist to varying degrees with the others, which can be very useful in clinical intervention.

The stun-shock dimension describes the period of grief marked by intense and dysregulated symptomatology, including but not limited to

confusion, bewilderment, dissociation, hypervigilance, intrusive thoughts and rumination. Such symptoms are often associated with difficulties in processing and making sense of the circumstances surrounding the death, particularly in the case of traumatic death (Burton et al., 2006). Sustained over time, these responses can lead to the development of PTSD and, in some cases, prolonged grief disorder (PGD).

The avoidance-denial dimension describes the point at which the bereaved person, in an effort to cope with their distress, primarily resorts to avoidance strategies to distance themselves from anything associated with the loss. Avoidant coping of this kind can be conscious and deliberate, as seen in efforts to avoid places with memories, or unconscious and automatic, as seen in instances of denial (Lazarus & Folkman, 1984). It includes diversionary responses, warding off memories, making an effort not to remember and substance use, among others. It enables the bereaved person to disengage from their grief, thereby reducing emotional distress and mitigating the impact of the loss. In the early stages of grief, such avoidance may have an adaptive function (Ryckeboosch-Dayez et al., 2016). However, if these avoidant responses continue over time, they can give rise to rigid defences leading to prolonged grief (Boelen et al., 2006a; Shear et al., 2011).

The model's third dimension, continuing bonds-connection, includes coping mechanisms specifically geared to different aspects of the loss and the associated emotions. Examples include the use of keepsakes, visiting places, the urge to share memories with another person and so on, as well as things to activate continuing bonds, such as having imaginary conversations with the loved one. This dimension is compatible with Stroebe and Schut's (1999; 2010) Dual Process Model theory and also with continuing bonds theory (Klass & Steffan, 2017; Stroebe et al., 2010).

Finally, the grieving process may help to create new meaning, which is an essential component of grief (Davis et al., 1998; Gillies & Neimeyer, 2006; Tedeschi & Calhoun, 2006). Within the integrative-relational model, the fourth dimension, growth-transformation, signifies the degree to which the grieving process can offer renewed meaning. This may involve accepting the loss and its impact, the emergence of new opportunities and goals for the future, the reconstruction of one's self-identity and positive changes in beliefs, values, goals and meaning in life.

Assessing grief through the integrative-relational model

The multidimensional integrative-relational model helps to identify the variations in intensity of grief, prevalence of symptoms and forms of coping in people living with bereavement. This model is flexible enough to accommodate the high degree of variability of experience by allowing for different trajectories or pathways. By combining different conceptual models (e.g. Davis et al., 1998; Gillies & Neimeyer, 2006; Klass & Steffan, 2017; Stroebe & Schut, 1999; Tedeschi & Calhoun, 2006), this approach overcomes the limitations of a single theoretical framework. It therefore provides a comprehensive perspective on individual differences in grief, which can help clinicians formulate appropriate treatment plans (see Payás & Chaurand, 2019; Payás, 2007, 2010, 2015 for further evidence of this model). The orientation towards integration corresponds to a contemporary trend within psychotherapy, with obvious benefits in terms of efficacy, efficiency and application (Norcross, 2005).

While certain instruments assess some of these grief responses individually, there are few that comprehensively examine all these responses collectively. This comprehensive approach aims to create a manifestation profile encompassing both those associated with psychopathological factors and those involved in growth and the integration of new meaning in the wake of the loss. This is especially important as most responses can occur at the same time. This is shown in the study by Kokou-Kpolou et al. (2022), who identified profiles of bereavement symptomatology alongside post-traumatic stress reactions, underlining

the importance of assessing them together.

In light of the above, the aim of this study was to develop and present initial evidence of the reliability, validity and factorial structure of an instrument called the Grief Response Scale (GRS), designed specifically to assess the multidimensionality of grief based on Payás (2010) integrative-relational model. The hypotheses were: (1) the GRS would have a factorial structure reflecting the main dimensions of the integrative-relational model; (2) the reliability values of the different subscales would be adequate (greater than 0.70); and (3) in terms of validity, the subscales associated with the *stun-shock* and *avoidance-denial* dimensions would show high and moderate associations with post-traumatic stress symptomatology, bereavement, anxiety and depression; the subscales related to the *integration-connection* dimension would show low associations with grief intensity and psychopathology; and the scales associated with the *growth* dimension would show associations with measures of post-traumatic growth and loss integration.

Method

Participants

To validate this questionnaire, we recruited the sample from a Spain-wide network of bereavement centres associated with the Instituto de Psicoterapia Integrativa Relativa (IPIR), as well as from the University of Granada's Psychology Clinic. In total, we sent out 587 questionnaires and recruited 379 bereaved men and women (64.56 %). Participants had to meet the following inclusion criteria: be over 18 years of age, be able to understand or express themselves proficiently in Spanish, have sought support following the death of a family member (child, spouse or partner, parent, sibling, grandparent or other close relative) and no more than five years should have elapsed since the bereavement. Exclusion criteria included the existence of other physical or mental health problems.

The sample was predominantly female (76.5 %) and with a higher education (50 %). In most cases, participants had lost a child (33 %) or their partner (31.7 %), through natural and anticipated death (48.8 %). The mean age was 46.7 years. The average time that had elapsed since the bereavement was 21.77 months (see Table 1).

Instruments

Grief response scale (GRS)

To generate the GRS items, we conducted a literature review, as well as a review of the different instruments used to assess responses to grief. These included global grief assessment scales such as the Texas Revised Inventory of Grief (TRIG: Faschingbauer, Devaul & Zisook, 1977); screening measures for detecting prolonged grief, such as the Inventory of Complicated Grief (ICG: Prigerson et al., 1995) or the more recent Traumatic Grief Inventory-Self Report Plus (TGI-SR+: Lenferink et al., 2022); instruments linked to avoidance behaviours such as the Grief-Related Avoidance Questionnaire (GRAQ-Shear et al., 2007); others linked to the processes of growth and integration of the experience such as the Post-Traumatic Growth Inventory (PTGI (Tedeschi & Calhoun, 1996) or the Integration of Stressful Life Experiences Scale (ISLES: Holland et al., 2014); and scales relating to different ways of coping with loss in an effort to give meaning to it such as the Coping Assessment for Bereavement and Loss Experience (CABLE: Crunk et al., 2021). All of these assessment instruments served as the underlying theoretical framework for the development of the items in the GRS. However, the items in the GRS were drafted independently and did not use the same wording as the above instruments.

Using the integrative-relational model and its various dimensions as a framework, we generated 32 items in the initial design phase, eight for each dimension. For the *stun-shock dimension*, we selected items involving a range of severe clinical symptoms. These were mainly

Table 1

Sociodemographic data of participants (N = 379).

Variables	N (%) or Mean (SD)
Age (years)	48.26 (12.84)
Sex	
Male	87 (23 %)
Female	290 (76.5 %)
Missing values	2 (0.5 %)
Civil Status	
Living alone	51 (13.5 %)
Married	158 (41.7 %)
In couple	57 (15 %)
Widow/er	89 (23.5 %)
Divorced	23 (6.1 %)
Missing values	1 (0.3 %)
Educational Level	
Without studies	7 (1.8 %)
Basic Studies	63 (16.6 %)
Secondary School	115 (30.3 %)
University	193 (50.9 %)
Missing values	1 (0.3 %)
Kinship with the deceased	
Son	125 (33 %)
Partner	87 (23 %)
Father/Mother	120 (31.7 %)
Sibling	34 (9 %)
Grand Father/Mother	4 (1.1 %)
Other familiar	6 (1.6 %)
Missing values	3 (0.8 %)
Sex of the deceased	
Male	233 (61.5 %)
Female	144 (38 %)
Missing values	2 (0.5 %)
Cause of Death	
Anticipated natural	185 (48.8 %)
Sudden death	63 (16.6 %)
Perinatal Death	21 (5.5 %)
Accident	38 (10 %)
Suicide	45 (11.9 %)
Homicide	3 (0.8 %)
Other causes	24 (6.3 %)
Age of the deceased (years)	46.74 (26.31)
Time since loss (months)	21.77 (21.55)

symptoms of restlessness and those of an intrusive nature, as well as physiological reactions associated with the loss, which have a major impact on the person's functioning and well-being. For the *avoidance-denial dimension*, we chose items that reflect deliberate, observable and objective coping mechanisms aimed at distancing oneself from anything reminiscent of the loss and the associated difficult emotions. We chose descriptors of cognitive and behavioural effort, as well as those referring to the interpersonal dimension. The *continuing bonds-connection* consisted of eight items describing the bereaved person's ability to stay connected to relational memories with the deceased loved one via observable and objective behaviours. These included using objects, visiting places with memories and engaging in social relationships to share the emotions associated with the loss. We refrained from using statements that reflect subjective perceptions, such as intrusions, or purely cognitive processes, such as ruminations, which may be a sign of maladaptive coping processes. The *growth-transformation dimension* comprises items reflecting how the loss of attachment is positively re-evaluated and also statements describing the positive changes in life as a result of this loss integration. The instrument used a five-point Likert response scale (from 0 = never to 4 = very often), measuring the intensity and frequency of these responses in the previous two weeks. In line with other instruments for assessing bereavement (Kissane et al., 1997), this time frame was used to avoid retrograde memory bias.

Impact of event scale-revised (IES-R: Weiss and Berger, 2006)

This instrument measures the subjective distress that can accompany stressful or traumatic experiences (adapted for Spanish by Báguena et al., 2001). The revised version of the scale consists of 22 items,

divided into three subscales: symptoms of intrusion, hyperactivity and avoidance. Each item is assessed on a Likert scale from 0 to 4. Reliability was adequate in the Spanish adaptation of the instrument ($\alpha = 0.95$), as well as in the present sample ($\alpha = 0.94$).

Inventory of complicated grief (ICG: Prigerson et al., 1995)

This assesses the existence of symptoms characterising complicated grief (Spanish adaptation by García et al. (2009)). There are 19 items on a five-point Likert scale (0 to 4). The items reflect the main symptoms of complicated grief, including longing for the deceased and different emotional and behavioural responses. Several studies have shown high internal consistency, with values of $\alpha = 0.94$. The reliability values in the current sample were adequate ($\alpha = 0.92$).

Symptom checklist-90-revised (SCL-90-R; Derogatis, 2002) - Anxiety and depression subscales

The SCL-90-R is a brief measure composed of 90 items designed to evaluate a wide range of psychopathologies. This study evaluated only the depression and anxiety subscales. The reliability indices of the different scales range from 0.81 to 0.90. In the present study, the values for reliability were $\alpha = 0.91$ for the depression subscale and $\alpha = 0.90$ for the anxiety sub-scale.

Integration of stressful life experiences scale - Short Form (ISLES-SF: Holland et al., 2014)

This scale assesses the person's ability to integrate different stressful life experiences or events into their life. In this case, the scale refers to the most recent loss experienced by the person. It is composed of six items scored on a Likert scale from 1 to 5. The Spanish version (Currrier et al., 2013) shows adequate validity and reliability indices (item-total scale correlations between $r = 0.54$ – 0.79). In the present sample, the reliability score was adequate ($\alpha = 0.90$).

Post traumatic growth inventory-short form (PTGI-SF: Cann et al., 2010)

This 10-item questionnaire is used to assess post-traumatic growth (PTG). Each item is rated on a six-point Likert-type scale ranging from 0 ("no change") to 5 ("to a very great degree"), with respect to the extent to which this change was experienced "as a result of the crisis". We used the Spanish adaptation (Castro et al., 2015), which showed adequate psychometric properties, with high reliability values ($\alpha = 0.83$) (Castro et al., 2015). In the present sample, the reliability of the scale was $\alpha = 0.87$.

Procedure

We prepared a data collection booklet in order to collect patients' sociodemographic and clinical variables relating to the intensity of grief, characteristics of the deceased and the therapeutic intervention received by the patients. The IPIR Institute was responsible for disseminating the information, contacting bereavement practitioners, and explaining the inclusion and exclusion criteria for the selection of participants. The practitioners received hard copies of the evaluation booklet by post. The practitioners then contacted the patients directly and explained the research objectives and the nature of their participation in an initial session. Those who agreed to participate completed the informed consent and evaluation booklet in a single session at the practitioner's office. The evaluation session took approximately 40 min. Twenty-eight practitioners were involved, covering a range of therapeutic approaches including cognitive-behavioural, humanistic, integrative-relational, narrative and systemic. Patients' time in therapy ranged from one to 38 months, with a mean of 10.28 months ($SD = 8.44$). The project received approval from the University of Alicante's Ethics Committee (Reference: UA-2019-06-05).

Data analysis

We carried out an exploratory factor analysis using Maximum Likelihood and Varimax rotation to evaluate the instrument's factorial structure. We used McDonald's omega and Cronbach's alpha coefficients to measure internal consistency in order to assess the reliability of the various dimensions of the GRS and Pearson's correlation coefficient to assess validity between the various GRS subscales and related measures. These included post-traumatic stress symptomatology, complicated grief, anxiety, depression, trauma integration and post-traumatic growth. Given the number of multiple comparisons, we used the Bonferroni correction and set the p value for statistically significant correlations as $p < .006$. As a further measure of validity, we used Student's t -tests to compare the differences between the means of participants who met the criteria for complicated grief according to the ICG (score above 30) and those who did not. In the Spanish validation of the ICG, García et al. (2009) propose a cut-off score of > 25 , although other studies have employed a more stringent criterion of > 30 (Fernández-Alcántara & Zech, 2017). This second more stringent criterion was used to divide the groups into Complicated vs. Non-Complicated Grief. As a preliminary hypothesis regarding discrimination between known groups, we expected that for all dimensions of the scale, we would find statistically significant differences between participants with complicated grief and those without. We used the SPSS v22 software package to perform the different statistical analyses, with a significance level of $p < .05$.

Results

Factorial structure

For the purposes of the exploratory factor analysis, according to the Kaiser-Meyer-Olkin criterion ($KMO = 0.865$) and Bartlett's Test of Sphericity ($\chi^2(276) = 3538.08, p < .001$), the sample size was sufficient. The results show that the six factors with eigen values greater than one were *symptomatological distress, loss orientation, avoidance orientation, loss integration, positive changes and social support*. Table 2 shows the mean values for each of the items as well as the factor loadings. We eliminated eight items as their factor loadings did not reach the value of 0.30 for any of the factors identified. Table 3 shows the descriptive data for the final items that make up the scale.

Reliability

We calculated reliability using McDonald's omega for each of the six identified subscales (see Table 4). Five of the sub-scales had adequate reliability values (≥ 0.70), while the loss orientation subscale had slightly lower value ($\omega = 0.65$). Cronbach's alpha values were also reported in Table 4.

Evidence of validity

We first analysed bivariate correlations between the instrument's different subscales (see Table 5), as with the other validity measures (see Table 6). The *symptomatological distress* scale showed moderate and positive relationships with the *loss orientation* and *avoidance orientation* scales and negative relationships with the *positive changes, loss integration and social support* scales. The *avoidance orientation* scale showed moderate and positive associations with the *symptomatological distress* scale and low and negative associations with *positive changes, loss integration and social support*. The *loss orientation* scale showed positive associations with *symptomatological distress* and low and negative associations with *loss integration and social support*. The *positive changes* scale showed low and negative associations with *symptomatological distress* and *avoidance orientation* and moderate and positive associations with *loss integration and social support*. Finally, the *loss integration* scale showed negative

Table 2
Factorial loadings of the items in the six factors identified in the Exploratory Factor Analysis.

Item	Symptomatological Distress	Positive Changes	Loss Integration	Loss Orientation	Avoidance Orientation	Social Support
2	.814					
4	.726					
5	.662					
3	.650					
1	.629					
12	.506		-.336			
6	.426			.340		
18		.823				
19		.776				
21		.566				
14		.397				
16			.709			
17			.549			
15			.511			
20		.357	.421	.322		
11				.721		
13				.633		
7				.445		.366
10					.728	
8	.374				.663	
9					.505	
23						.788
24		.334				.519
22		.373				.492

Table 3
Descriptive data of the items of the GRS.

Items	Mean	SD	Asymmetry	Kurtosis
1	1.99	1.08	.026	-.588
2	1.45	1.19	.441	-.712
3	0.97	1.12	.989	.069
4	1.47	1.20	.417	-.704
5	1.74	1.21	.17	-.91
6	1.74	1.41	.221	-1.205
7	2.02	1.16	.11	-.748
8	1.89	1.33	.042	-1.096
9	2.01	1.41	-.055	-1.257
10	1.55	1.26	.324	-.889
11	1.88	1.28	.135	-.942
12	1.52	1.19	.521	-.56
13	1.87	1.38	.146	-1.162
14	1.31	1.33	.959	1.728
15	2.89	1.15	-.822	-.201
16	2.15	1.33	-.258	-1.071
17	2.65	1.19	-.622	-.478
18	2.7	1.28	-.68	-.635
19	2.36	1.35	-.306	-1.103
20	2.31	1.35	-.331	-1.07
21	1.69	1.41	.222	-1.278
22	2.08	1.19	-.05	-.843
23	2.09	1.08	-.041	-.48
24	3.03	1.01	-.889	.311

Table 4
Reliability values for the subscales of the GRS.

Sub-scales	Total Items	Cronbach's α	Mc Donald's ω
Symptomatological Distress	7	.87	.88
Positive Change	4	.79	.79
Loss Integration	4	.75	.75
Loss Orientation	3	.65	.65
Avoidance Orientation	3	.71	.71
Social Support	3	.69	.70

associations with *symptomatological distress*, *avoidance orientation* and *loss orientation* and positive associations with *positive changes* and *social support* (see Table 5).

With regard to evidence of validity with other measures (see Table 6), the *symptomatological distress* and *avoidance orientation* scales

showed positive and moderate to highly significant associations with all three dimensions of PTSD symptomatology (intrusions, hyperactivity and avoidance), as well as complicated grief, anxiety and depression and negative associations with measures of trauma integration. The *loss orientation* scale was positively and moderately associated with the symptomatology of intrusions and hyperactivity, complicated grief, anxiety, depression and post-traumatic growth and negatively associated with trauma integration. Finally, in the case of the *positive changes*, *loss integration* and *social support* subscales, we identified moderate and positive relationships with trauma integration and post-traumatic growth and negative relationships with post-traumatic stress symptomatology, complicated grief, anxiety (only for the positive changes and loss integration subscales) and depression (see Table 6).

Finally, we studied the differences in the various scales between patients with complicated grief and those with non-complicated grief. To do this, we first selected participants whose bereavement had taken place at least six months before completing the questionnaire. A six-month post-loss period was considered the minimum period required to assess the presence of complicated grief (Killikelly & Maercker, 2017). Once selected on the basis of this criterion, participants were divided into two groups according to their ICG scores: complicated grief group (ICG greater than or equal to 30) and non-complicated grief group (ICG less than 30). The results are shown in Table 7. We found statistically significant differences for all dimensions of the GRS.

Discussion

The aim of this study was to develop and validate an instrument for the assessment of different responses to the grieving process, examining its factorial structure, reliability and validity in a clinical sample of bereaved patients. The results obtained reveal a relevant factorial structure, adequate reliability and the validity tests confirm the preliminary hypotheses, demonstrating that the psychometric performance of the scale is adequate.

With regard to the factorial structure, exploratory factor analysis identified a total of six dimensions associated with the integrative-relational model (Payás, 2010): (1) *symptomatological distress*, (2) *avoidance orientation*, (3) *loss integration*, (4) *loss orientation*, (5) *positive changes* and (6) *social support*. This structure partially supports our first hypothesis: the first three dimensions correspond directly with the *stun-shock* dimension, *avoidance-denial* and *continuing*

Table 5
Bivariate Pearson’s correlations between the different sub-scales of the GRS.

	Symptomatological distress	Avoidance Orientation	Loss Orientation	Positive Changes	Loss Integration	Social Support
Symptomatological distress	1	.522**	.335**	-.275**	-.497**	-.180**
Avoidance Orientation	.522**	1	.067	-.112*	-.288**	-.103*
Loss Orientation	.335**	.067	1	-.005	-.155**	.169**
Positive Changes	-.275**	-.112*	-.005	1	.517**	.489**
Loss Integration	-.497**	-.288**	-.155**	.517**	1	.345**
Social Support	-.180**	-.103*	.169**	.489**	.345**	1

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

Table 6
Bivariate Pearson’s correlations between the different sub-scales of the GRS and the measures of validity.

	IES – Intrusions	IES- Hyperactivity	IES- Avoidance	ICG	SCL-90-R Anxiety	SCL-90-R Depression	ISLES	PTGI-SF
Symptomatological distress	.648***	.775***	.621***	.769***	.769***	.793***	-.675***	-.044
Avoidance Orientation	.386***	.442***	.574***	.422***	.413***	.430***	-.339***	-.010
Loss Orientation	.413***	.336***	.077	.463***	.254***	.418***	-.373***	.163***
Positive Changes	-.231***	-.247***	-.174***	-.296***	-.183***	-.296***	.326***	.711***
Loss Integration	-.423***	-.461***	-.419***	-.562***	-.325***	-.550***	.589***	.343***
Social Support	-.209***	-.199***	-.183***	-.192***	-.145**	-.192***	.236***	.496***

Note. * $p < .05$,
** $p < .01$,
*** $p < .006$

IES= Impact of Event Scale-Revised, ICG= Inventory of Complicated Grief, SCL-90R= Symptom Checklist-90-Revised, ISLES= Integration of Stressful Life Experiences Scale - Short Form, PTGI-SF= Post Traumatic Growth Inventory-Short Form.

Table 7
Differences between groups of Complicated and Non-Complicated Grief in the score of the subscales of the GRS.

Sub-scale	Group	N	Media	DT	t	GI	p
Symptomatological distress	NCG	154	6.43	4.30	-15.15	294	<0.001
	CG	142	14.92	5.31			
Avoidance Orientation	NCG	155	3.98	3.09	-7.85	296	<0.001
	CG	143	6.67	2.79			
Loss Orientation	NCG	155	4.49	2.52	-8.01	296	<0.001
	CG	143	6.97	2.80			
Positive Changes	NCG	154	9.31	4.13	4.61	294	<0.001
	CG	142	7.11	4.04			
Loss Integration	NCG	154	12.08	2.71	10.12	292	<0.001
	CG	140	8.28	3.68			
Social Support	NCG	155	7.64	2.50	2.27	296	.024
	CG	143	6.96	2.66			

Note. NCG= Non-complicated grief (<30 score in the ICG), CG= Complicated Grief (≥ 30 score in the ICG).

bonds-connection, respectively. The fourth dimension of the model (growth-transformation) seems to be split into two subscales: loss integration and positive changes. Finally, certain items evaluated social support, which cuts across the four basic dimensions. This was in line with the subsequent reconceptualisation of the model carried out during the COVID-19 pandemic (Payás, 2020).

Reliability evidence for the instrument’s various dimensions showed that four of the scales had internal consistency values above 0.70 (Taber, 2018) and only two, the *loss orientation* and *social support* subscales, had slightly lower values. The internal consistency values are affected by the number of items in the dimension, whereby dimensions with fewer items have lower reliability values, which likely explains why the three dimensions with the fewest items (three items each) have the lowest reliability coefficients (Kopalle & Lehmann, 1997).

With respect to the evidence of construct validity evaluated, the results concerning the evidence of convergence and divergence of the scale dimensions with other constructs were confirmed by our results. Discriminant validity tests showed that the instrument’s dimensions discriminate between people who score highly on the ICG and those who do not. These results indicate that the instrument performs well in detecting complicated grief. This is a particularly relevant variable for making decisions about follow-up care and interventions or recommendations for the bereaved (Mason et al., 2020).

The *symptomatological distress* subscale has been associated with the severity of disruptive symptoms. This relates to the circumstances surrounding death, particularly when it has been traumatic (Neimeyer & Lee, 2022), and corresponds to the stun-shock dimension of the integrative-relational model. The data show a high correlation between this scale and the scores for complicated grief, as well as other psychopathological factors. Furthermore, there are notable differences in the values of this scale when comparing complicated grief with uncomplicated grief, where significantly lower values are found. There is also a negative correlation with the *positive changes* and *loss integration* subscales. These results are in line with studies finding that if such symptoms persist over time and in intensity, they may be associated with grief complications (Boelen et al., 2010; Djelantik et al., 2017).

The presence of *avoidance oriented* responses appears to adversely affect grief outcomes. This is indicated, on the one hand, by the negative correlation with the *loss integration* and *positive changes* subscales and with post-traumatic growth and, on the other, by the comparison between the uncomplicated and complicated grief samples, with *avoidance orientation* appearing to be higher in the latter group. These findings are consistent with studies indicating that in the long term, extreme and rigid avoidance strategies are seen as maladaptive and are a major factor in complicated grief, whereas in uncomplicated grief the intensity of avoidance is lower (Boelen et al., 2006a). This subscale captures the

avoidance-denial dimension.

With respect to the *loss orientation* dimension, the literature remains unclear as to whether maintaining the bond with the deceased loved one is an adaptive response or not and the empirical evidence to date reflects this ambiguity (Boelen et al., 2006b; Field et al., 1999; Klass & Steffan, 2017). On the one hand, *loss orientation* may increase the risk of severe grief reactions. Paradoxically, some continuing bonds responses may behave like avoidance (Boelen et al., 2006b; Field et al., 1999). Other viewpoints suggest that the adaptive side of maintaining bonds is a natural way of facilitating connection in order to give the relationship meaning and foster productive bonding (Klass & Steffan, 2017; Stroebe et al., 2010). The results found are in line with this dual behaviour of the *loss orientation* subscale. On the one hand, the correlation with the complicated grief subgroup is slightly higher than with the uncomplicated grief group, which points to the presence of these maladaptive continuing bonds. On the other hand, it is also worth noting that, for some people experiencing uncomplicated grief, these continuing bonds may be associated with adapting well to grief. Some authors point to the need to assess different types of continuing bonds responses together with grief outcome measures (Root & Exline, 2014).

The growth-transformation dimension of the integrative-relational model is represented by two subscales which, although highly correlated, reveal some somewhat distinct nuances. The four items of the *loss integration* scale show how the way in which the loss of attachment and its consequences are re-evaluated or understood can be less negative and more consistent with the bereaved person's pre-existing belief system. This subscale is significantly correlated with the ISLES scale and less so with the post-traumatic growth scale. Meanwhile, the positive changes subscale aims to show the extent to which the results of such efforts have an adaptive effect by facilitating positive changes in the bereaved person's life. Consequently, it has a higher correlation with post-traumatic growth than the ISLES scale. Conceptually, this discrepancy may reflect different resignification processes. Loss integration indicates assimilation processes wherein there is a change in the evaluation of what has happened, taking into account the bereaved person's overall pre-existing beliefs. At the same time, *positive changes* mark more of an *accommodation* process where the bereaved person changes their perception not only of the loss, but of their life in general, experiencing concrete shifts in the reorientation or restructuring of beliefs (Park and Folkman, 1997). The results of these two scales, *loss integration* and *positive changes*, could be indicators of the degree to which loss avoidance and loss orientation responses are having a positive effect.

The sixth factor from the factor analysis has three items that explain ways of approaching or connecting with the loss by seeking social support for emotional comfort. This subscale shows moderate correlations with *positive changes* and *loss integration*, as well as with the post-traumatic growth measure, and significantly low correlations with *symptomatological distress* and *loss orientation*. These findings are consistent with research indicating a relationship between having adequate social support and not feeling lonely and health status, as well as emotional, physical and psychological well-being in bereaved patients (Cacciatore et al., 2021). Social support is a protective factor in the evolution of the bereavement process (Bottomley et al., 2015).

Clinical implications

Although this study introduces the GRS for the first time, this instrument may be useful for both researchers and clinicians. In the latter case, participants with higher scores in some of the subscales may benefit from specific grief techniques or interventions. If *symptomatological distress* values are high, then this should be the focus of attention, as well as preparing and reviewing the narrative surrounding the circumstances of the death. In contrast, if the values of this subscale are low, we may hypothesise that the retelling of the circumstances of the death will not trigger a dysregulated response. In the case of avoidance distress, high scores for both subscales, *symptomatological distress* and

avoidance orientation, mean it may not be advisable to tackle the avoidance issues directly, as participants may be regulating the heightened symptomatological distress. However, when the *avoidance* subscale has high levels associated with a low level of *symptomatological distress*, this could indicate that interventions promoting the gradual easing of these avoidant responses could lead to a better adaptation to grief. As for the *loss orientation* and the *loss integration* scales, higher values in these scales, accompanied by lower values on the previous scale, may indicate the activation of dysregulated memories, or unproductive ruminative dialogues. Therapeutic intervention in these cases should aim to improve the productivity of these strategies of approach and connection, including the restaging of specific memories, approach behaviours (Payás & Chaurand, 2019) or triggering imaginary conversations with the loved one (Greenberg et al., 1993; Paivio & Greenberg, 1995; Payás, 2010; Shear et al., 2005). These are just a few of the tentative hypotheses that could be the subject of future GRS research. It is worth emphasising that although the six GRS subscales do not correspond directly to the four dimensions of the integrative-relational model, they do reflect its main concepts. Furthermore, this measure is sensitive to different outcomes associated with grief coping mechanisms (e.g. adaptive and maladaptive outcomes of continuing bonds) and dimensions of posttraumatic growth (loss integration and positive changes).

These results in this present study suggest that the instrument can be of great use to clinicians and researchers. As noted, the scores on the different subscales help us to identify the profile of each patient and to detect their specific needs. This is especially important in the context of bereavement, as each person's experience is different and there is a great deal of variation in how people react. However, while there are other instruments that assess grief, the GRS may help healthcare professionals to set specific goals for dealing with it. In terms of its usefulness for research purposes, the GRS includes dimensions that provide additional insight into the grief process. It also enables examination of the relationship between grief and other variables and relevant factors involved in coping with loss.

Limitations and future research

This study has several limitations. Firstly, it included a non-probability convenience sample, which lowers the study's external validity. Secondly, a large number of interviewers took part in the data collection process. This could lead to high variability in data collection, even though all interviewers used a standardised data collection procedure. Thirdly, the results of the EFA showed a large number of cross-loadings (scores > 0.30) for some items. This may indicate that some items or grief experiences may be associated with more than one factor. Thus, future studies employing more complex methodologies (such as exploratory structural equation modelling - ESEM, see Burneo-Garcés et al., 2022) may be useful for further development and refinement of the GRS. Fourthly, the reliability of two of the subscales was low, most likely due to the number of items. Given that they include important responses to grief, it is important to test these dimensions in future research and use other reliability assessment methods (e.g. test-retest). Finally, further research is needed to establish the validity of the subscales. As the GRS was based on previous questionnaires that have been validated, additional measures of complicated grief or post-traumatic growth and resilience may confirm the convergent validity of the scale.

Future studies are needed in order to replicate this measure's factorial structure, as well as to obtain additional evidence of validity and reliability. We also recommend longitudinal studies that monitor the changes in the responses of each scale over time. These studies should confirm the hypotheses reported here regarding the specific relationships between responses, how they are interpreted and clinical implications in the context of bereavement. Ongoing research into this newly developed GRS should also consider variables such as the intensity, content or duration of treatment.

Conclusion

This study's findings indicate that the GRS has a six-dimensional factorial structure (*symptomatological distress, avoidance orientation, loss orientation, positive changes, loss integration and social support*), with adequate internal consistency values and satisfactory evidence of construct validity. Further research is required in order to replicate its factorial structure, as well as to obtain additional evidence of validity and reliability. The specific relationship of these subscales seems to indicate dimensions of grief with diagnostic and predictive value which can be modified through clinical intervention. A comprehensive and validated grief assessment tool such as the one presented here can help clinicians to understand and monitor the grieving process and its evolution, providing guidance on treatment that is sensitive to the changing needs of bereaved people.

Author contribution statement

APP, MFA, MNPM, FCQ, AMC and MJCM designed and conceptualized the research; APP, AC, DC and AMC coordinated the data collection process; MFA and MNPM performed data analysis; MFA, MNPM and MJCM wrote the initial draft of the manuscript. All authors have read and agreed to the final version of the manuscript.

Declaration of Competing Interest

Authors declare no conflict of interest.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.ejtd.2023.100373](https://doi.org/10.1016/j.ejtd.2023.100373).

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