NEW PERSPECTIVES IN BEREAVEMENT AND LOSS: COMPLICATED AND DISENFRANCHISED GRIEF ALONG THE LIFE CYCLE

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EDITORIAL
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Editorial: New Perspectives in Bereavement and Loss: Complicated and Disenfranchised Grief Along the Life Cycle

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Editorial on the Research Topic

New Perspectives in Bereavement and Loss: Complicated and Disenfranchised Grief Along the Life Cycle

Losing a loved one is one of the crucial and most difficult experiences that individuals may cope with during their lifetime. Although most people will go through an adaptive grieving process, there is a significant percentage who will encounter difficulties. Recent meta-analytic findings showed that around a 10% in the cases of natural deaths (Lundorff et al., 2017) and a 49% in the cases of unnatural losses (Djelantik et al., 2020) are at high risk of developing complicated (CG) or prolonged grief disorder (PGD). At present, although there are diagnostic criteria in both the next DSM-5-TR and the ICD-11 (Prigerson et al., 2021), there is no consensus on the symptomatology that defines a CG, and there are different proposals in this respect. In addition, it is necessary to conduct research in the areas of identification and clarification of the emotional, cognitive, and behavioral reactions that characterize CG in different populations, such as substance abuse population, people with less economical resources, etc. In this sense, scientific literature has identified different trajectories and types of grief (including anticipatory grief, disenfranchised grief, etc.) where the adaptation to loss can be difficult to manage, especially if the bereavement process is not acknowledged by the social environment. In the latter cases, usually defined as disenfranchised grief, there are multiple examples that may include cases of perinatal grief, loss due to the diagnoses of a chronic condition in oneself or in a close person, grief due to mental illness or in cases of the diagnosis of a disability, loss of a job, loss of a pet or even grief related to the multiple changes in the environment (Setubal et al., 2020; van Eersel et al., 2020; Comtesse et al., 2021).

In the current Research Topic, a series of investigations have been presented to deepen the experience of grief in specific populations using novel methodologies and data analysis. Glickman has shown how the prevalence of PGD in university students (13.4%) is almost similar to that found in the adult population in previous research (Lundorff et al., 2017). The author found that bereavement-related factors, race, history of anxiety or depression, trauma other than the death, or insecure attachment style were associated with increased odds for PGD. Another study (Li et al.), using latent-class analysis, explored the different subgroups of bereaved adults regarding post-traumatic growth (PTG). PTG is related to the positive changes that can be associated with a potentially traumatic experience (Calhoun et al., 2010). The results indicate the complexity of the emotions after the loss of a loved one, and how PTG is linked with depression and anxiety. Two of the studies have also shown the particularities of the bereavement experience in people who are

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regular substance users. In the first of these, using a network analysis approach Masferrer et al. found that complicated grief was largely independent of patterns of personality disorders, assessed through the Millon Clinical Multiaxial Inventory (with the exception of depressive and paranoid subscales). The second study found that CG patients diagnosed with substance use disorder endorsed more dysfunctional coping responses (e.g., social withdrawal, self-criticism) in comparison with those without CG (Caparrós and Masferrer). These studies suggest the importance of measuring CG symptoms when designing specific psychological interventions in substance abusers.

One of the crucial challenges of current research in the field of grief and bereavement is the identification of those at risk of developing CG or PGD. For that purpose, the development and validation of psychometric instruments to assess grief intensity and intervening variables is mandatory. The identification of people at risk of developing CG or PGD is one of the crucial challenges in the area (Treml et al., 2020). Based on the cognitive behavior model (Boelen et al., 2006; Doering et al.), present the psychometric properties of the German adaptation of the Grief Cognitions Questionnaire. They included the data of the full version of the instrument as well as a reduced version, which can be easily applied in clinical and research contexts.

Finally, three studies have been included regarding interventions and actions directed to the people suffering the loss from different perspectives. In the context of an European Project, Orkibi et al. conducted a mixed-methods study in Master's students to explore what characteristics and attitudes were associated to their interest in being involved, as health care professionals, in palliative and end-of-life care. Variables such as previous care experience and previous loss were identified, in line with previous studies in other samples such as nursing students (Martí-García et al., 2020). In the scoping review conducted by Wojtkowiak et al., the role of rituals and symbolic elements in the grief-related interventions is highlighted. This is a central topic, especially regarding the COVID-19 situation in which we are immersed at the moment and that implies the absence of some of the traditional rituals as well as the social isolation of the bereaved (Kokou-Kpolou et al., 2020). Finally, the effectivity of a novel intervention program based on Katherine Shear's model was presented (Shear et al., 2005). The ten-session program for anticipatory grief in caregivers of dementia patients included modules of psychoeducation, exposure techniques, and role-playing situations to address the specific grief related symptoms. Results showed positive results in improving grief symptoms, caregiver burden, resilience, PTG, and quality of life of family caregivers (Bravo-Benítez et al.).

In sum, this Research Topic adds new evidence about: (1) the profile of CG and the main coping strategies in substance abusers of populations; (2) the effectiveness of interventions for improving ambiguous grief symptomatology; (3) the development and validation of assessment tools that can be used as part of the initial diagnosis or as an outcome of treatment progress and (4) the importance of prevention and social support strategies for both health care professionals that participate in end-of-life care and those suffering from complicated grief and (5) the importance of considering the cultural aspects in the ritual and symbolic interventions in the cases of CG.

AUTHOR CONTRIBUTIONS

MF-A, CK-K, FC-Q, and MP-M wrote the first draft of the manuscript. All authors contributed to manuscript revision, read, and approved the submitted version.

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ORIGINAL RESEARCH
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Understanding the Relationship Between Complicated Grief Symptoms and Patterns of Personality Disorders in a Substance Users' Sample: A Network Analysis Approach

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Background: The presence of personality disorders is greatly prevalent among substance users. Personality disorders could increase vulnerability to complicated grief symptoms. Bereavement is commonly overlooked among substance users. We used network analysis to estimate the structure of relations between patterns of personality disorders and complicated grief symptoms among a bereaved substance-using population.

Methods: Complicated grief and personality disorders were assessed in a sample of 196 bereaved substance users. We use the graphical least absolute shrinkage selection operator (LASSO) to compute a regularized partial correlation network revealing associations among different patterns of personality disorders and complicated grief symptoms.

Results: In a network involving nodes for personality disorders and symptomatology of complicated grief, patterns of depressive and paranoid personality disorder showed small relationships to complicated grief symptoms. All other personality disorders showed negligible to no relationship to complicated grief symptoms. Further, in the overall network, complicated grief showed the lowest level of centrality, suggesting that it is independent of personality disorders, whereas depressive and paranoid personality disorder symptoms showed the highest centrality.

Conclusion: Network analysis can be used to understand the relationships among higher-level constructs such as disorders. We found that complicated grief is largely independent of patterns of personality disorders with the exception of depressive and paranoid. Findings have implications for assessment and appropriate treatment of complicated grief symptoms and substance use disorder.

Keywords: personality disorders, substance use disorder, complicated grief, psychopathology, network analysis

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INTRODUCTION

The majority of people adapt to bereavement over time (Bonanno et al., 2011), but for a minority, grief symptoms remain elevated and persistent, which is a clinical syndrome often described as complicated grief (Zhang et al., 2006; Boelen and van den Bout, 2008). Different studies have found a prevalence of complicated grief symptoms in about 10–20% (Lobb et al., 2010; Mancini and Bonanno, 2012; Lundorff et al., 2017). The 11th edition of the International Classification of Diseases (ICD) included complications in bereavement as "prolonged grief disorder," characterized by core symptoms such as longing for and preoccupation with the deceased, along with emotional distress and significant functional impairment that persist beyond half a year after the loss of a significant other (World Health Organization, 2018). People with substance use disorders (SUDs) are particularly likely to have faced significant adversity. People with SUD frequently report life stories marked by suffering, traumatic experiences during childhood (Cuomo et al., 2008), economic instability, unemployment (Sumnall and Brotherhood, 2012), physical complications (Sanchez-Peña et al., 2012), as well as social exclusion (Calabria et al., 2010). Moreover, people with SUD are a particularly vulnerable subpopulation and report high levels of trauma and loss experiences (Martin and Privette, 1989; Farley et al., 2004; Zuckoff et al., 2006; Furr et al., 2015). However, grief symptoms are frequently ignored among patients with SUDs, despite their traumatic background. Indeed, the antecedents of complicated grief among people with SUD people are not well understood. One factor that may increase vulnerability to complicated grief is personality disorders (PD), which have a well-documented association with SUD (Trull et al., 2010; Goldstein et al., 2012; Agrawal et al., 2013). People with PD could have more intense reactions to the loss of a significant person than people without a personality disorder diagnosis (Giourou et al., 2018). Moreover, personality disorders enhance the likelihood of feelings of abandonment and rejection sensitivity that could impair adaptation to bereavement (Brüne, 2016; Millon, 2016). Although some prior research has examined the relation between personality disorders and complicated grief, no prior research has used network analysis to explore the relationships among these constructs.

Personality disorder is conceptualized as "an enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual's culture, is pervasive and inflexible, has an onset in adolescence or early adulthood, is stable over time, and leads to distress or impairment" (American Psychiatric Association, 2013). According to the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*) (American Psychiatric Association, 2013), personality disorders from different clusters frequently co-occur. Although personality disorders have historically been treated as categorical entities (American Psychiatric Association, 2013), there is increasing recognition that personality disorders are more appropriately viewed as dimensional and overlapping. In this approach, personality disorders are defined by impairments in personality functioning, which vary in severity across different personality disorder diagnoses (Widiger and Trull, 2007; Eaton et al., 2010). In support of this perspective, subthreshold disorder manifestations are linked with significant distress and dysfunction, indicating an underlying dimensionality to mental disorders not captured by categorical diagnoses (Krueger and Eaton, 2015).

The presence of personality disorders is widely prevalent among SUDs (Jahng et al., 2011; Langås et al., 2012; Walcott et al., 2013; Casadio et al., 2014). Prevalence estimates for the different personality disorders in a sample of substance abusers suggest 42.6%; cluster B was the most common, followed by clusters C and A (Colpaert et al., 2012). In fact, this study is part of wider research in which the presence of any personality disorders assessed with Millon Clinical Multiaxial Inventory (MCMI-III, Millon et al., 2007) was 29.4% (Masferrer and Caparrós, 2017). Moreover, there is some degree of overlap between personality disorders and SUD criteria, which raises the possibility that some comorbidity could be a consequence of definitional overlap (Sher and Trull, 2002). Given the dimensional nature of personality disorders and their overlap with SUD, the analysis of simple, unidirectional relationships between personality disorders and other constructs ignores the potential for conceptual overlap and reciprocal relationships (McNally et al., 2017).

There are a number of reasons why personality disorders could increase risk for complicated grief symptoms. Personality disorders index a wide range of maladaptive emotional, cognitive, and behavioral traits. For example, personality disorders are associated with affective instability, a fluctuating sense of identity, and maladaptive coping behaviors (Hopwood et al., 2012). Interpersonal dependency, which is implicated in various personality disorders, has shown a link with maladaptive grief outcomes (Denckla et al., 2011). In the context of loss, these maladaptive traits could have particularly deleterious effects, increasing risk for complicated grief symptoms.

Moreover, it has been widely shown that personality disorders are associated with greater risk of dysfunctional reactions to traumatic events. Specifically, patients with comorbidity between SUD and post-traumatic stress disorder (PTSD) have been found to have a more severe clinical profile in comparison to patients with either SUD or PTSD alone (Hoorelbeke et al., 2016). Comorbidity of SUD and PTSD is specifically associated with a greater incidence of personality disorders (Schäfer and Najavits, 2007). Consistent with this relation, some studies have found that difficulties in emotional regulation are associated with PTSD (Ehring and Quack, 2010; Roberts et al., 2015), and it is important to note that many personality disorders have emotional dysregulation as a nuclear symptom. This is particularly relevant in the case of histrionic and narcissistic personality disorder. Narcissistic vulnerability was found as a contributor to the occurrence of PTSD (Bachar et al., 2005). Using a psychodynamic approach, Horowitz (1999) argued that people with hysterical and obsessive patterns were more vulnerable to complications in bereavement mainly because of a biased interpretation of the meaning of loss. However, empirical findings have yet to bear this supposition out. For example, Tomarken et al. (2001) found that obsessive, histrionic, and narcissistic personality patterns were not associated with complicated grief symptoms. In the present study, therefore, we used a network analysis to examine complex associations between patterns of personality disorders and complicated grief symptoms.

The current research is based on Millon's integrative model of personality disorders (Millon, 2011), which is derived from evolutionary theory and uses different perspectives (biological, interpersonal, cognitive, and psychodynamic). Millon classifies personality disorders along four main dimensions: personalities with difficulties in taking pleasure (i.e., avoidant, schizoid, or depressive disorders), personalities with interpersonal problems (i.e., dependent, histrionic, narcissistic, or antisocial disorders), personalities with intrapsychic conflict (i.e., compulsive, sadistic, masochistic, or negativistic disorders), and personalities with structural deficits (i.e., schizotypal, borderline, and paranoid disorders) (Millon, 2011). One key aspect of Millon's conceptualization is the proposal that personality disorders are embedded in how people understand themselves and relate to others, a "self–other" polarity that aligns with interpersonal problems (Millon, 2011). Given that dependency is associated with complicated grief (Denckla et al., 2011; Mancini et al., 2015), this suggests that personality disorders that involve interpersonal problems could increase risk for complicated grief symptoms. In addition, because personality disorders involve structural deficits that could lead to an inability to represent the self, interpersonal loss could be particularly detrimental for people who rely on others for their self-understanding. Indeed, conceptualizations of complicated grief increasingly suggest links between the dynamics of identity, feelings of dependency, and the risk for complicated grief (Maccallum and Bryant, 2013). These factors suggest potential links between complicated grief symptoms and personality disorder that may have eluded prior research, because of their focus on *DSM* conceptualizations of personality disorder.

Network analysis defines mental disorders as a causal system of functionally interrelated symptoms that have assumed a pathological equilibrium (Blumenfeld et al., 2004). In the network approach, each symptom is represented by a node, while the edge between two nodes represents the relationship between them. Prior research on networks of grief and depression symptoms suggested a clear relationship between the two disorders, with loneliness serving as a bridge symptom (Borsboom and Cramer, 2013; Robinaugh et al., 2014; McNally et al., 2015; Fried et al., 2017). Indeed, previous network analyses have focused exclusively on networks of symptoms, arguing that symptoms are "mereological" and constitute the disorder itself. This approach calls into question the idea that the symptoms of grief are the result of an unobservable or latent construct, such as complicated grief (Butte and Kohane, 1999). However, the network approach can also be used to decipher the interrelationships among higher-order constructs (Millon et al., 1997; Hoorelbeke et al., 2016) in order to obtain a fine-grained understanding of their centrality and possible directionality (Borsboom and Cramer, 2013; Costantini et al., 2015; Hoorelbeke et al., 2016), including examining relationships among diagnostic entities. Because no prior studies have estimated the relation between personality disorders and complications in bereavement, we addressed this question broadly and at a construct level. After determining the network of relations among complicated grief symptoms and personality disorders, we explored pairwise interactions among symptoms specifically.

In the present study, we sought to better understand the relationships among patterns of personality disorders and complicated grief symptoms among an SUD population. We used a network analysis to uncover these relationships and to provide a visual depiction of these associations, which can help to illuminate theoretical links among complicated grief symptoms and personality disorders and may inform treatment approaches for symptomatology of complicated grief.

MATERIALS AND METHODS

Participants

This study is part of a wider research program on complicated grief and substance use disorders (Masferrer and Caparrós, 2017). The current research was based on a consecutive non-probabilistic sampling of convenience.

Participants were outpatients of an addiction treatment center. The inclusion criteria were (1) diagnosis of alcohol, cocaine, or heroin dependence according to the *DSM-IV-TR*, (2) suffering the loss of a significant person (family, best friend, or partner) at least a year previously and at any time during their life, and (3) abstinence during the last month. The sample size was calculated on the basis of the estimated prevalence of complicated grief symptoms in the general population and an assumed prevalence of 15% with an alpha level of 0.05 for a precision of ±0.05. For the present study, we interviewed 205 patients, but 9 participants were excluded for the current analysis because they did not meet the inclusion criteria, resulting in a final sample of 196. Participants were, on average, 45.58 years old (SD = 10.14) and largely male (78.1%), working (36.7%), with secondary studies (67%). Most were married or with a partner (37.3%), followed by divorced or separated (32.1%), with the remaining single (22.4%) or widowed (8.2%). Previous articles reported the following information.

Measures

Personality disorders were assessed using the Spanish version of the *Millon Clinical Multiaxial Inventory* (Millon et al., 1997; Cardenal and Sánchez-López, 2007). The MCMI-III is a 175-item, dichotomous-answer (true/false), self-report questionnaire that measures 11 clinical personality patterns (schizoid, avoidant, depressive, dependent, histrionic, narcissistic, antisocial, aggressive, compulsive, negativistic, and self-destructive), 3 traits of severe personality pathology that represents advanced states of personality pathology (schizotypal, borderline, and paranoid), 7 clinical syndromes of moderate severity (anxiety disorder, somatic disorder, bipolar disorder, dysthymic disorder, alcohol dependence, substance dependence, PTSD), 3 severe clinical syndromes (thought disorder, major depression, delusional disorder), and a validity scale and 3 modifying indices (disclosure scale, desirability scale, and debasement scale). The PD scales cover major diagnostic criteria of the *DSM-IV*. Cronbach's alpha ranged from 0.66 to 0.80, and the test–retest reliability ranged from 0.85 to 0.93. The test–retest reliability for the categorical diagnosis was moderate, $k < 0.45$.

Complicated grief symptoms were assessed using the Spanish version of the *Inventory of Complicated Grief* (ICG) (Limonero et al., 2009). It consists of 19 items. Responses are provided on a five-point Likert scale representing an increase in severity (0—never, 1—seldom, 2—sometimes, 3—often, and 4—always) (range = 0–76). To determine a complicated grief diagnosis, we used a cutoff point of 25 based on the English version of the ICG (Prigerson et al., 1995). The internal consistency of the Spanish version was high at 0.88 Cronbach's alpha and presented at 0.81 test–retest reliability.

Procedure

Participants who met the three inclusion criteria were notified by their therapist reference. If patients agreed to collaborate, the psychologist (who is the first author) called each patient to plan an appropriate time for an interview for them. All participants were informed about study procedures as well as terms of confidentiality. The psychometric tests were conducted following the Organic Law 15/1999 of Protection of Personal Data. Informed consent was obtained from all participants, and the protocol was approved by the Institutional Ethics and Research Review Board of the Institut Assistència Sanitària (IAS).

Statistical Analysis

For personality disorders as well as for complicated grief symptoms, we used continuous variables as the basis for our analyses. To visualize networks, we used the *R* package *qgraph* (Epskamp et al., 2012). R package bootnet allowed us to estimate psychological networks in a generalized framework. We implemented glasso in combination with Extended Bayesian Information Criteria (EBIC) model selection to estimate regularized Gaussian Graphical Model (GGM) nodes (Friedman et al., 2014; Rhemtulla et al., 2016; Epskamp et al., 2018).

To determine the role of personality disorders and symptoms of complicated grief in the network, we calculated centrality indices. Centrality can be understood to reflect how linked the different constructs are and how potentially clinically relevant a construct is in a network (Fonseca-Pedrero, 2018). Network models make the assumption that the pattern of relations among constructs is direct, bidirectional causal pathways among variables, so intervening on a highly central construct will affect other nodes both directly and indirectly, pushing the entire network into a healthier state (Borsboom and Cramer, 2013). To determine the centrality of personality disorder and complicated grief symptoms in our networks, we first focused on the strength metric (Opsahl et al., 2010) because of its theoretical relevance to and reliability in psychopathology networks (Fried et al., 2018). Strength reflects the sum of the absolute value of edge weights for a given node (regularized partial correlations). An extension of the strength metric is expected influence (EI) (Robinaugh et al., 2016). EI calculates the sum of edge weights, but it also retains the negative value (or sign) of the weight. EI is identical to the strength index when there are no negative edges but can be substantially different when there are negative edges. EI provides a more accurate index of node centrality when negative edges are present (Robinaugh et al., 2016).

RESULTS

Psychopathological Variables

More than a half of participants had a diagnosis of alcohol dependence (68.9%), 18.4% had heroin dependence, and 12.8% had cocaine dependence. Related to complications in bereavement, 34.2% of patients met criteria for complicated grief symptoms (Masferrer et al., 2017). The occurrence of any personality disorders in the sample was 29.4%. The personality disorders with higher frequency were compulsive (7.1%) and narcissistic (7.1%) followed by antisocial (4.6%) and sadistic (3.1%) (Masferrer and Caparrós, 2017).

Network Analysis

The results of the estimated network analysis are presented in **Figure 1**. Thicker edge weights represent stronger partial correlations, controlling for all other correlations. Blue edges represent positive relations, and red edges represent negative relations. These are partial correlation coefficients. Nodes that are closer together are more strongly related. Although complicated grief symptoms were associated with patterns of depressive (edge = 0.15), paranoid (edge = 0.12), schizotypal (edge = 0.05), and borderline (edge = 0.05), the network edges were weak. In addition, most patterns of personality disorder showed no relation to complicated grief symptoms, including patterns of avoidant, schizoid, negativistic, sadistic, and masochistic. Interestingly, patterns of narcissistic (edge = −0.02), histrionic (edge = −0.02), and antisocial (edge = −0.06) showed small negative relations to complicated grief symptoms.

Network Centrality. Because negative edges were present in our LASSO networks, we relied on EI as our measure of centrality (Robinaugh et al., 2016). Complicated grief is the second least central construct and reveals low EI (0.24) (**Figure 2**), suggesting that it contributes little to the network. Interestingly, the pattern of avoidant personality disorder also showed the lowest degree of EI (0.12), suggesting that it exerts less influence on the overall network of personality disorder symptoms. The pattern of personality disorder nodes with the strongest influence on the network was paranoid (EI = 1.71).

DISCUSSION

The main objective of this study was to identify relationships among patterns of personality disorders and complicated grief symptoms among a bereaved SUD population. To our knowledge, the present study is the first to use network analysis to estimate the relation between patterns of personality disorders and complicated grief symptoms. Using a network approach focused at the disorder level, we found that complicated grief symptoms showed relatively few relationships to patterns of personality disorders. However, a number of personality disorders were strongly related to one another, though in some cases, these relationships were negative. This finding is consistent with the high degree of comorbidity of personality disorders but also suggests underlying dimensions that are inversely related.

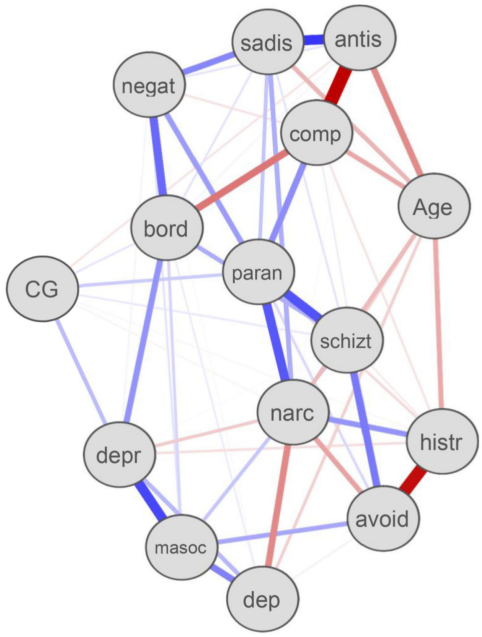

FIGURE 1 | Personality disorders and complicated grief symptoms network. Paran, paranoid; negat, negativistic; narc, narcissistic; bord, borderline; CG, complicated grief; masoc, self-destructive; sadis, sadistic or aggressive; comp, compulsive; antis, antisocial; dep, dependent; avoid, avoidant; histr, histrionic; schizt, schizotypal; depr, depressive.

Together the results suggest that complicated grief symptoms are not a consequence of underlying personality disorder.

The present findings contribute to a modest literature on bereavement and personality disorder. Although several studies have examined personality disorders among SUD samples (Goldstein et al., 2012; Langås et al., 2012; Agrawal et al., 2013), relatively little research has examined personality disorders and complicated grief symptoms among an SUD population. Overall, complicated grief symptoms showed relatively few and weak edge weights with specific patterns of personality disorder symptoms. These edge weights represent partial correlation coefficients and can be interpreted as effect size in terms of traditional conventions for magnitude (Cohen, 1992). On this basis, the relations between complicated grief symptoms and patterns of schizotypal, compulsive, borderline, and paranoid were negligible to very small in terms of their magnitude (edges from 0.01 to 0.11). Both narcissistic and antisocial personality disorder showed negative edges with complicated grief symptoms, indicating that they show small negative associations with grief (edges −0.03 and −0.08, respectively). The only pattern of MCMI-III personality disorder to show a modest relationship to complicated grief symptoms was depressive (edge = 0.15), a result consistent with prior research. As Robinson and Marwit (2006) stated, bereaved mothers with higher levels of distress following loss showed high levels of neuroticism characterized by guilt, low self-esteem, irrationality, shyness, and moodiness. Moreover, some neurotic personality traits that reflect difficulties in emotional regulation are prone to complicated grief symptoms (Prigerson et al., 1997). The current results are consistent with previous finding that histrionic and narcissistic personality disorders show little relation to complicated grief symptoms (Tomarken et al., 2001). Some personality traits from personality disorders are adaptive as long as they do not take an extreme form (Prigerson et al., 1997). In support of this line of reasoning, previous research carried out with the MCMI found that a curvilinear function characterized the histrionic and compulsive scales (Millon et al., 2007). This implied that it is the low and the high scores that are maladaptive, whereas

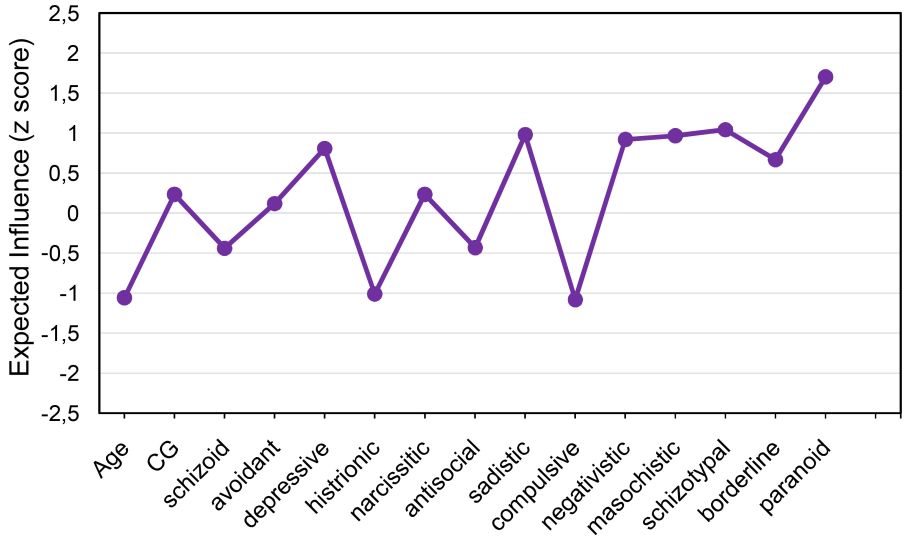

FIGURE 2 | Expected influence for each psychological construct.

intermediate levels on these scales would indicate adaptive patterns (Caparrós and Villar, 2013).

In the present study, we found little evidence that patterns of personality disorder are potential risk factors in bereavement (Meuser and Marwit, 2000) and that on balance, complicated grief is not a consequence of personality disorder psychopathology.

Consistent with the findings on edge weights, we also found that complicated grief symptoms had low levels of centrality in the overall network. This further suggests that complications in bereavement are not embedded in personality disorder psychopathology. Rather, complicated grief likely reflects other factors related to the experience of loss itself. The one exception is the relation of complicated grief symptoms to the pattern of depressive personality disorder. This suggest that treatments should focus on the individual's distinctive experience of loss and not on dispositional characteristics, especially among those with comorbid SUDs, who appear to be at greater risk for grief symptoms.

These findings also support the high levels of comorbidity typically found in personality disorders (Pfohl et al., 1986). However, it should also be noted that there were a considerable number of negative edges between patterns of personality disorder, suggesting the presence of underlying dimensions that are negatively interacting, with one tending to suppress another dimension. In fact, comorbidity might be understood as an artifact of the diagnostic system (Bonanno, 1999). In relation to centrality, which summarizes the likelihood that a construct is central to the overall network, the patterns of depressive as well as paranoid personality disorder were the most central. The dimensional structure of the pattern of paranoid personality disorder is highly relevant (Edens et al., 2009) because this may represent one that transcends other personality disorders (Bernstein and Useda, 2007). There results offer some support for Millon's suggestion that patterns of paranoid personality disorders are more maladaptive components of personality pathology (Millon, 2011), insofar as each of these had the highest levels of centrality to the overall network.

The present findings further suggest that substance use treatment should bear in mind the relevance of complicated grief symptoms. It is particularly noteworthy that a depressive personality pattern, characterized by being prone to negative affect, self-criticism, low self-esteem, and pessimistic outlook, may be a marker of complicated grief symptoms, and as premorbid personality can affect the grieving process, treatments for substance use that consider the simultaneous role of this pattern and grief would be a particular benefit.

This study has a number of limitations. First, the use of a self-report scale may yield socially desirable responding. The present research is cross-sectional; therefore, it does not permit the testing of temporal relationships among the variables, and causal inferences cannot be made. Because of the small sample size, our findings may not be replicated and should be understood as generating hypotheses for future research. Notwithstanding the relatively small sample, this work offers valuable insights into the associations between patterns of personality disorders and symptoms of complicated grief. Future research should focus on the symptom level as opposed to the disorder level, in order to better understand the connections between specific complicated grief symptoms and personality disorder symptoms and their bidirectional influence. Specific complicated grief symptoms (for example, loneliness) may bear a particular relation to substance use, and this would be a useful topic for future research.

Up to now, far too little attention has been paid to personality disorders and bereavement. To our knowledge, this is the first study to estimate patterns of personality disorders and complicated grief symptoms among an SUD sample through network analysis. Given that complicated grief played a weak role in a network of patterns of personality disorders, our findings underscore the independent nature of grief-related pathology (Bonanno et al., 2007). Although grief is a normative experience (Mancini and Bonanno, 2009; Zimmermann et al., 2014), complicated grief has significant negative effects on functioning. Complicated grief symptoms among substance users are likely underappreciated, and interventions for substance use should bear in mind that depressive personality symptoms may enhance the risk of complicated grief symptoms.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Institutional Ethics and Research Review Board of Institut Assistència Sanitària (IAS). The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

LM and BC conceived and designed the research. LM collected field data and wrote the manuscript. AM guided the statistical analysis. AM revised the manuscript. All authors interpreted the results and approved the final manuscript. All authors contributed to the article and approved the submitted version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2020.566785/full#supplementary-material

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Prolonged Grief Disorder in a Diverse College Student Sample

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Objective: The purpose of this study was to explore the rate of prolonged grief disorder (PGD) and associated factors in a large sample of diverse college students. Sources of grief support and perceived helpfulness of support were also examined.

Method: An online survey was administered to bereaved students at three colleges at the City University of New York. PGD measured by the Inventory of Complicated Grief was the primary outcome. Chi-squared and *t*-tests were used to assess the association between PGD and associated factors.

Results: A total of *n* = 899 participants completed the Inventory of Complicated Grief (ICG) based on a significant death loss = >12 months. An estimated 13.4% (*n* = 120/899) met criteria for PGD. The rate of PGD was associated with race, history of anxiety or depression, trauma other than the death, insecure attachment style, kinship to the deceased, closeness to the deceased, cause of death, and sudden/unexpected death. The majority of students sought grief support from a friend or family member.

Conclusion: The rate of PGD in this sample of college students is similar to that of adults and most prevalent for students of color. Identification of those most at risk is critical to referring these students to effective treatments.

Keywords: prolonged grief disorder, grief support, attachment, bereaved, students of color

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INTRODUCTION

The death of a loved one is one of the most difficult life experiences and often triggers a grief reaction with intense and painful emotions. While acute grief usually dissipates over time and becomes integrated, a sizeable minority of people has ongoing difficulty after the loss. Severe and prolonged grief symptomatology is designated as Persistent Complex Bereavement Disorder (PCBD) in the DSM-5 (American Psychiatric Association, 2013). Proposed revisions to modify criteria for "Prolonged Grief Disorder (PGD)" will soon recognize it as a formal DSM diagnosis within section Materials and Methods. The ICD-11 (World Health Organization, 2019) characterizes PGD as persistent symptoms of acute grief lasting beyond 6 months that include yearning for or preoccupation with thoughts of the deceased and intense emotional pain (e.g., sadness, guilt, anger, difficulty accepting the death, feeling one has lost a part of one's self, an inability to experience positive mood, and emotional numbness). These symptoms cause significant impairment in work and social functioning and a withdrawal from previously enjoyed activities. Prevalence studies have shown that roughly 10% of adults bereaved by natural causes develop PGD (Lundorff et al., 2017) with higher rates for bereavement due to traumatic/violent death or disasters (Kristensen et al., 2012).

One third of traditional age college students (average age 18–23) in the United States have lost at least one family member or friend in the past year (Balk et al., 2010) and nearly half have lost a loved one in the past 2 years (Varga et al., 2015). Due to the Covid19 pandemic, where (at the time of this writing) over 300,000 lives have been lost in the United States, the number of bereaved is likely higher, and disproportionally impacts students of color. For all college students, bereavement can present unique challenges due to the pressures of juggling school, work, and family responsibilities, and for some, being separated from familiar support systems. Many bereaved students of color face additional challenges such as limited access to resources including access to quality and affordable healthcare.

Consequences of PGD for college students include lack of concentration and focus, lack of motivation, sleep difficulties, isolation from family and friends, suicidal ideation, poor grades, and possible dropout or dismissal, in addition to mental and physical health problems common to adults with PGD such as anxiety, depression, and chronic illness (Cox et al., 2015). PGD can persist for years without targeted intervention.

Limited research has been conducted on the prevalence of PGD in college students and these studies have significant limitations including small sample sizes, overly restrictive inclusion criteria (limiting bereavement to the past 2 years) and a lack of diverse samples.

Prevalence rates between studies are difficult to compare due to the use of different instruments and different criteria for measuring PGD. However, the rates of PGD in college students reported in prior studies are significantly lower than rates found in adults. Balk et al. (2010) found that 4.3% (n = 2/46) of predominantly white college students could be classified as having PGD using the 13-item Inventory of Traumatic Grief (ITG; Prigerson et al., 2008). Varga et al. (2015) found that 5.52% (n = 10/181) of bereaved college students from the United Arab Emirates and the Southeast United States met criteria for PGD utilizing the Prolonged Grief Questionnaire (PG-13; Prigerson et al., 2009). Varga (2016) found that only 0.5% (n = 6/1132) of graduate students in the Southeast Unites States met criteria for PGD utilizing the PG-13. All three of these studies defined bereavement as experiencing a death-loss within the past 2 years.

Lifetime death-losses were included in one study by Al-Gamal et al. (2019) of bereaved undergraduate students from Saudi Arabia. Using a cut-off score of 32 on the PG-13, with bereavement 6 months or longer, (n = 27/226) 12% met criteria for PGD. The highest rate of PGD was found by Williams et al. (2019) who examined bereavement-related mental health problems in undergraduates from a public Midwestern university with a history of sudden, unexpected death-loss. Using a cut-off score of 26 on the PG-13, (n = 46/326) 14% met criteria for PGD, however, time since loss was not specified.

The vast majority of studies on bereavement in American college students have used samples that were predominantly white. Only a handful of studies used more diverse samples and none of them reported the prevalence of PGD. However, among 1,581 bereaved students (40% Black) enrolled at a large Southern University, Laurie and Neimeyer (2008) found that Black students had higher levels of complicated grief symptoms (not PGD as a diagnosis) than whites and experienced more bereavement by homicide and greater grief for the loss of extended kin. Studies on bereavement in Black adults have shown that Blacks have higher rates of PGD than whites (21 vs. 12%; Goldsmith et al., 2008), more experiences of unexpected loss and high reliance on religious coping (Schoulte, 2011).

In addition to race (Goldsmith et al., 2008), prior research has identified a range of risk factors for PGD in adults such as sudden loss (Kristensen et al., 2012), violent/traumatic death (Djelantik et al., 2017), kinship with the deceased (loss of child or spouse; Newson et al., 2011), insecure attachment style (Jerga et al., 2011), history of mood or anxiety disorders (Melhem et al., 2004; Vanderwerker et al., 2006), prior exposure to trauma (Nickerson et al., 2014), age (Lundorff et al., 2017), and gender (Kersting, 2011).

Factors associated with PGD among college students, particularly students of color have been underexamined. Al-Gamal et al. (2019) found in Saudi Arabian bereaved students that PGD was associated with depression, lack of social support, and being female. In predominantly white American college student samples, higher grief symptoms (not PGD as a diagnosis) have been associated with insomnia, traumatic death, closeness to the deceased (Hardison et al., 2005), avoidant emotional coping (Cousins et al., 2017), and experiential avoidance (Murrell et al., 2018).

An examination of the rate of PGD in a more diverse college student sample might yield important information about the grief experiences of this population. Based on the findings reported by Goldsmith et al. (2008) and Laurie and Neimeyer (2008), we could expect to find a higher rate of PGD in this sample. Prior research points to several factors that might contribute to greater grief complications among students of color including higher rates of unexpected/sudden loss, violent death, closer attachments with extended family members (e.g., grandparents, cousins, aunts, and uncles), and prior traumatic events (Schoulte, 2011).

Researchers in the field of complicated/prolonged grief assert that problematic thoughts, such as ruminations about why or how the person died or behaviors such as avoidance of reminders of the loss can interfere with the normal healing process, resulting in a prolonged and intense state of acute grief (Shear, 2012). Certain risk factors (as mentioned above) can increase the likelihood that these problematic thoughts and behaviors will gain a foothold. College students may experience risk factors similar to adults; however, research on this topic is limited.

The purpose of this exploratory study is 3-fold: (1) to identify the rate of PGD in a large sample of diverse college students, (2) to examine the relationship between PGD and potential risk factors, and (3) to identify sources of grief support used by these students and perceptions of the helpfulness of these supports.

MATERIALS AND METHODS

Participants

The sample comprised 974 students attending three colleges at a public university in a large northeastern metropolitan area during the 2019–2020 academic year. Internet survey data were collected over two semesters (at a single time point for each participant) through the college research pool for course credit. Participants had to be 18 years or older and have experienced the death of a family member or close friend at any point in their life. Students indicated their consent to participate after reading a description of the study on-line. Participants were provided with a list of grief resources at the end of the survey. The university's institutional review board approved the study.

Measures

Socio-demographic characteristics were measured by a questionnaire that included age, gender identity, race/ethnicity, religiosity/spirituality, academic status, and country of origin.

Loss summary questionnaire (Shear, 2009) was adapted to collect information about the number of deaths experienced and characteristics of the most significant death. For the most significant death, respondents were asked to provide the age of deceased, time since death, cause of death (illness, accident, homicide, and suicide), whether it was sudden/expected, and level of closeness of the relationship (four point scale from "not very close" to "extremely close").

History of depression, anxiety, and other traumatic events were assessed with the following single-item questions: "Have you ever been diagnosed with depression? Have you ever been diagnosed with anxiety? Have you ever experienced a traumatic event, excluding the death of your loved one? Examples of traumatic events include but are not limited to physical or sexual assault, natural disasters, serious accident, life threatening illness, being in combat while in military service, physical or sexual abuse, or witnessing an assault or death of another person."

Inventory of Complicated Grief (ICG) is a 19-item self-report measure of clinically impairing grief symptoms (Prigerson et al., 1995). The ICG has been used in various studies of CG to determine severity of grief symptoms and has good internal validity and reliability (alpha = 0.94) and 6-month test-retest reliability (r = 0.80). Cronbach's alpha in the present sample = 0.92. A diagnosis of PGD was based on three criteria: (1) bereavement for 12 months or longer, (2) ICG total score = >30, and (3) a score = >10 on the Work and Social Adjustment Scale (WSAS). While the authors of the ICG originally recommended a cut-off score of 25 to diagnose of PGD, further analysis of the instrument (Carmassi et al., 2014) recommended a more conservative value of 30 to increase sensitivity and specificity. This threshold has been used in various clinical trials of complicated grief treatment (Shear et al., 2016) and research studies on PGD (Treml et al., 2020).

WSAS is a modification of a scale developed by Hafner and Marks (1976), which measures grief-related functional impairment. It is a five-item scale with ratings of 0 (not at all) to 8 (severe interference) on the extent to which grief interferes in five areas of daily functioning: work, home management, private leisure, social leisure, and family relationships. It has good internal validity and reliability (alpha = 0.94) and test-retest reliability (r = 0.73). Cronbach's alpha in the present sample = 0.93. Scores of 10 or higher on the WSAS are associated with "significant functional impairment" (Mundt et al., 2002).

Social Support Survey Instrument (SSS) is a 19-item self-report scale that measures four dimensions of social support: emotional/informational (e.g., someone to confide in or talk to about yourself or your problems), tangible support (e.g., someone to help you if you were confined to bed); affectionate support (someone to love and make you feel wanted), and positive social interaction (e.g., someone to do something enjoyable with). Each item is scored on a five-point scale (0 = none of the time, 1 = a little of the time, 2 = some of the time, 3 = most of the time, and 4 = all the time). The scale has good internal consistency reliability for all subscales as well as the overall support index with alphas = 0.91–0.97 (Sherbourne and Stewart, 1991). Cronbach's alpha in the present sample = 0.97 for the overall score and 0.95–0.97 for the subscales. A binary variable for social support was derived so that participants with a composite score of >38 were considered to have "good social support" while those with a score = <38 had "poor social support." This threshold was based on having an average score of 2 or less on each question in the scale.

Experiences in Close Relationships Scale (ECR-Short Version) is a 12-item self-report scale that measures two dimensions of attachment style: attachment anxiety (e.g., I worry that others will not care about me as much as I care about them) and attachment avoidance (e.g., I am nervous when another person gets too close to me). Each item is rated on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree). The measure has adequate internal consistency {alpha = 0.78 (anxiety) and 0.84 (avoidance) and good test-retest reliability [r = 0.82 (anxiety) and r = 0.89 (avoidance)]; Wei et al., 2007}. Cronbach's alpha in the present sample = 0.68 for anxiety and 0.75 for avoidance.

Grief Support was assessed with the following question: "Think about the people to whom you have turned for support regarding your grief. Please indicate whether you sought help from the following and if so, their level of helpfulness (not at all helpful, a little helpful, and very helpful): religious leader, licensed mental health professional at your college counseling center, licensed mental health professional in the community, doctor/general practitioner, family member, friend, or other." A qualitative question was also asked about "any other ways you have tried to cope with your grief" and "how helpful each activity was in coping with your grief."

Statistical Analysis

STATA version 16.1 was used for all statistical analyses. PGD was the primary outcome. Chi-square tests (categorical) and t-tests (continuous) were used to assess the association between

PGD and demographic and psychosocial variables. Descriptive statistics were stratified by PGD diagnosis. Statistical significance was set at $p <$ =0.05 for all analyses.

RESULTS

Participant Characteristics

Demographic and psychosocial characteristics stratified by PGD are shown in **Table 1**. Sixty-nine percent of participants were female with a mean age of 22 years (range 18–60). The sample was 31% Asian, 30% Hispanic, 24% Black (non-Hispanic), and 13% White (non-Hispanic). Thirty-eight percent were born outside the United States, 23% had a history of depression or anxiety, and 46% experienced a traumatic event other than the death.

TABLE 1 | Demographic/psychosocial characteristics by prolonged grief disorder (PGD).

	Total *N* = 899	No PGD (*n* = 779)	PGD (*n* = 120)	*p*
Continuous variable				
Mean age (SD)	22.0 (6.2)	22.0 (6.3)	21.9 (5.5)	0.93
Mean anxious attachment (SD)	21.6 (6.4)	21.2 (6.4)	24.9 (5.1)	<0.001
Mean avoidant attachment (SD)	24.4 (7.1)	23.9 (7.2)	27.5 (5.2)	<0.001
Categorical variable	**Total *n***	***n* (%)**	***n* (%)**	
Race/ethnicity				0.04
White, non-Hispanic	114	104 (91.2)	10 (8.8)	
Black, non-Hispanic	215	179 (83.3)	36 (16.7)	
Hispanic	267	239 (89.5)	28 (10.5)	
Asian	272	229 (84.2)	43 (15.8)	
Native American/ Hawaiian	22	21 (95.5)	1 (4.6)	
Gender				0.15
Male	270	243 (90.0)	27 (10.0)	
Female	621	529 (85.2)	92 (14.8)	
College				0.24
Baruch College	306	272 (88.9)	34 (11.1)	
City College	189	158 (83.6)	31 (16.4)	
York College	404	349 (86.4)	55 (13.6)	
Religious/spiritual				0.84
Not at all	160	142 (88.8)	18 (11.3)	
A little	247	212 (85.8)	35 (14.2)	
Moderately	394	341 (86.6)	53 (13.5)	
Extremely	98	84 (85.7)	14 (14.3)	
Academic year				0.80
Freshman	318	279 (87.8)	39 (12.3)	
Sophomore	179	154 (86.0)	25 (14.0)	
Junior	262	223 (85.1)	39 (14.9)	
Senior	128	111 (86.7)	17 (13.3)	
Born in United States				0.74
No	340	293 (86.2)	47 (13.8)	
Yes	559	486 (86.9)	73 (13.1)	
History of anxiety or depression				<0.001
No history	691	616 (89.2)	75 (10.9)	
Positive history	204	160 (78.4)	44 (21.6)	
History of other trauma				0.01
No	483	431 (89.2)	52 (10.8)	
Yes	414	346 (83.6)	68 (16.4)	
Social support				0.19
Good support	791	695 (87.9)	96 (12.1)	
Poor support	68	56 (82.4)	12 (17.7)	

Not all categories add up to 899 due to missing data.

Loss Characteristics

Loss characteristics were stratified by PGD and are shown in **Table 2**. More than one loss was reported by 76% of the sample. Most significant loss included a grandparent (53%), aunt/uncle (17.5%), friend (11%), parent (9%), sibling (2%), spouse/significant other (0.5%), and other (e.g., cousin, niece/nephew, and godfather/godmother; 7%). Average time since death was 6 years (range 0–38). Cause of death was illness (80%), accident (13%), homicide (4%), and suicide (3%). Sudden/unexpected death was reported by 69%. Thirty-six percent reported being "not all or somewhat close" to the deceased, 38% "very close," and 26% "extremely close." Mean ICG score was 19.23, SD = 13.12 and mean WSAS score was 5.72, SD = 7.76. The overall rate of PGD was 13.4% (n = 120/899).

TABLE 2 | Loss variables by PGD.

	Total *N* (*n* = 899)	No PGD (*n* = 779)	PGD (*n* = 120)	*p*
Continuous variable				
Mean years since death	6.1 (5.1)	6.1 (4.9)	6.1 (6.1)	0.52
Mean Inventory of Complicated Grief (ICG)	19.2 (13.1)	16.0 (8.3)	40.3 (8.3)	<0.001
Mean Work and Social Adjustment Scale (WSAS)	5.7 (7.8)	3.8 (6.0)	18.5 (5.9)	<0.001
Categorical variable	**Total *n***	***n* (%)**	**n (%)**	
Number of losses				
One	211	188 (89.1)	23 (10.9)	0.45
Two	281	240 (85.4)	41 (14.6)	
Three or more	401	345 (86.0)	56 (14.0)	
Most significant loss				<0.001
Parent	84	59 (70.2)	25 (29.8)	
Grandparent	470	424 (90.2)	46 (9.8)	
Significant other	5	2 (40.0)	3 (60.0)	
Aunt or uncle	157	141 (89.8)	16 (10.2)	
Sibling	17	13 (76.5)	4 (23.5)	
Friend	101	83 (82.2)	18 (17.8)	
Other*	65	57 (87.7)	8 (12.3)	
Closeness to deceased				<0.001
Not at all/somewhat	319	300 (94.0)	19 (6.0)	
Close	343	294 (85.7)	49 (14.3)	
Very close	237	185 (78.1)	52 (21.9)	
Extremely close				
Cause of death				<0.001
Illness	712	634 (89.0)	78 (11.0)	
Accident	111	87 (79.4)	24 (21.6)	
Homicide	37	30 (81.1)	7 (18.9)	
Suicide	30	21 (70.0)	9 (30.0)	
Sudden/unexpected death				0.01
No	280	255 (91.1)	25 (8.9)	
Yes	619	524 (84.7)	95 (15.4)	

*Not all categories add up to 899 due to missing data.*Other significant loss includes cousin, niece, nephew, godparent, and mother-in-law.*

Association Between Personal Characteristics and PGD

Having PGD was associated with race/ethnicity, X^2 (5, N = 895) = 12.02, p = 0.04, whereby the rate of PGD among Black students (16.7%) was twice that of white students (8.8%). The rates of PGD among Asians (15.8%) and Hispanics (10.5%) were also higher than that of whites.

Higher rates of PGD were also associated with the history of depression or anxiety, X^2 (1, N = 895) = 15.7, $p < 0.001$, history of trauma other than the death, X^2 (1, N = 897) = 6.2, $p = 0.01$, and attachment style: anxious, $t(882) = -5.97$ $p < 0.001$ and avoidant, $t(882) = -5.03$, $p < 0.001$.

Association Between Relationship With the Deceased and PGD

PGD was associated with kinship, X^2 (6, N = 899) = 38.8, $p < 0.001$, whereby rates were higher for those who had lost a significant other (60.0%), parent (29.8%), or sibling (23.5%) than those who had lost a friend (17.8%), aunt/uncle (10.2%), or grandparent (9.8%). PGD was also associated with closeness to the deceased, X^2 (2, N = 899) = 30.5, $p < 0.001$.

Association Between Circumstances of the Death and PGD

The rate of PGD was higher for those who were bereaved due to suicide (30.0%) than for those who were bereaved due to accident (21.6%), homicide (18.9%), or illness (11.0%), X^2 (3, N = 890) = 18.3, $p < 0.001$. PGD was associated with sudden/unexpected death, X^2 (1, N = 933) = 9.0, $p = 0.003$.

There were no statistically significant associations between PGD and age, gender, religiosity/spirituality, college attended, academic year, being born in the United States, social support, number of losses, or years since the death.

Grief Support

Sources of grief support and perceived helpfulness are shown in **Table 3**. The majority of participants sought help from a friend (80%) or family member (76%). The least utilized support person was a professor (11%) and college mental health counselor (14%). The helper with the highest rating for "how helpful was the helper?" was religious leader (62%) although this source of support was only utilized by 16% of participants.

TABLE 3 | Sources of grief support and perceived helpfulness.

Source of grief support	Utilized (%)	Very helpful (%)
Friend	80	59
Family member	76	55
Other helper*	54	7
Community mental health counselor	21	46
Doctor/GP	19	38
Religious leader	16	62
College mental health counselor	14	37
Professor	11	54

**Other helper includes boss, boyfriend/girlfriend, coach, co-worker, God, and pet.*

Other sources of comfort/coping included exercise (sports, yoga, dance, and walking), meditation, visual arts, listening to and playing music, writing in a journal, writing to the deceased, watching TV/movies, reading, playing video games, looking at old pictures/videos/text messages of the deceased, using social media, housework/chores, spending time with family and friends, talking to the deceased, caring for plants/animals, God/religion, therapy, support groups, charity work (helping others), time outdoors, crying/yelling, staying busy, visiting the cemetery, and traveling. One student wrote,

> *I know that (my loved one) loved to write poems and songs; therefore, I sometimes write about her and life in general. Sometimes I sing and listen to the songs she taught me. I honor her memory by wearing her skirt on her birthday. When I was a child, I watched her sew the skirt and add beautiful embroideries by hand. I feel that wearing that skirt is special and it captures her essence and creativity, in many ways that live in me. All this has helped me to accept her death and not think about the ways that I was absent. I think about the wonderful person that she was, and I look for ways that her memory lives on. Remembering her is my way of grieving.*

DISCUSSION

To this author's knowledge, this study is the first to report on the prevalence of PGD in a large sample of diverse American college students. The overall rate of PGD was 13.4%, higher than what has been reported in college samples, particularly when bereavement was limited to the past 2 years (0.05–5.5%). Balk et al. (2010) speculated that the relatively low rate of PGD found in their sample may have been due to under-reporting (e.g., seeing themselves as not needing help or being too impaired to participate in a research study). Alternatively, the authors speculated that resilience among college students may buffer them from developing PGD. Varga et al. (2015) posited that the low rate of PGD (5.52%) found in their sample may have been due to the absence of students who had failed or dropped out of school. The results in the present study suggest a couple of additional explanations; that the low rate of PGD found in these studies may have been due to limiting time since death to the last 24 months or that predominantly, white college students are less vulnerable to PGD than students of color.

In contrast with the aforementioned studies, the present study included lifetime death-losses, which more accurately captures the number of people with PGD. The average time since death in this sample was 6 years, suggesting that studies that have limited bereavement to the last 2 years have grossly underestimated the number of students suffering with the disorder.

The rate of PGD of 13.4% found in this study is consistent with what has been found for adults. A meta-analysis of 14 studies revealed a pooled prevalence of PGD of 9.8% in people bereaved by natural causes although a variety of measurement tools and criteria for PGD were used across studies (Lundorff et al., 2017). The results of the present study may suggest that young adults are no less vulnerable to PGD than older adults. Another possibility is that PGD is more prevalent among students of color than among white students. Further studies that include lifetime death-losses and diverse samples should be conducted to confirm both of these hypotheses.

The rate of PGD among Black students (16.7%) was higher than any other group and nearly twice the rate of white students (8.8%). This is consistent with findings reported by Goldsmith et al. (2008), where 21% of Black adults had PGD compared with 12% of white adults. A host of environmental factors probably contribute to racial/ethnic disparities in grief outcomes. The accumulation of daily stressors caused by microaggressions and systemic racism, and inadequate access to psychological and social services, quality healthcare and essential material support, can magnify stress following the loss of a loved one. If financial circumstances of the bereaved change as a consequence of the death (e.g., loss of income, housing, etc.), this can be an additional burden. Higher death rates in the Black community due to natural and unnatural causes (Schoulte, 2011) may also contribute to higher rates of PGD among students of color. Black students in this sample were more likely than white students to experience sudden loss, (OR = 1.89; 95% CI = 1.19–3.01; $p = 0.007$), bereavement by homicide (OR = 13.65; CI = 1.82–102.29; $p = 0.011$) and have a history of trauma other than the death (OR = 1.64; CI = 1.05–2.54; $p = 0.029$). Stress theorists note that exposure to chronic stress has long-term physiological effects, which negatively impact both physical and psychological health (Clark et al., 1999; Gouin et al., 2008). As a result of the chronic stress that many people of color in the United States experience (Price et al., 2010), the death of a loved one may overwhelm an already overtaxed coping system and increase vulnerability to grief complications.

Although history of depression or anxiety was not measured with validated instruments, the results presented here are consistent with prior research with both adolescents (Melhem et al., 2007) and adults (Vanderwerker et al., 2006; Nickerson et al., 2014). PGD is often accompanied by comorbid disorders such as depression, anxiety, and PTSD (Keyes et al., 2014), which may be risk factors for PGD or consequences of the death. However, a longitudinal study on parentally bereaved children and adolescents found that prolonged grief was predicted by a previous history of depression (Melhem et al., 2011), providing evidence that at least the former may be true.

Consistent with prior research, attachment anxiety and attachment avoidance were both associated with PGD (Fraley and Bonanno, 2004; Field and Filanosky, 2010; Meert et al., 2010; Jerga et al., 2011). Those who lost a parent, significant other or sibling had the highest rates of PGD. For these students, it is possible that attachment insecurity increased their vulnerability to grief complications. It is also possible that given their young age, the death of their loved one resulted in a more insecure attachment style rather than the reverse. The direction of this relationship requires further study using both trait and state measures of attachment and a longitudinal research design.

Whereas several studies with adults have shown that losing a spouse or a child increases the risk for prolonged grief (Kersting, 2011; Newson et al., 2011), the present study found that losing a parent was associated with a high rate of PGD (30%) compared with other losses. That nearly one-third of those who lost a parent developed PGD speaks to the enormity of this loss for young people. It is also consistent with theoretical frameworks for prolonged grief, particularly attachment theory, which emphasizes the severe disruption (both psychological and physiological) caused by the loss of an attachment figure, particularly parental loss for children (Bowlby, 1980). Also consistent with attachment theory is the finding that PGD was associated with closeness to the deceased. Most people who develop PGD describe having had a close and loving relationship with the person who died (Shear, 2012).

Circumstances of the death such as sudden/unexpected loss and loss due to suicide were also associated with PGD. In a literature review of bereavement and mental health after sudden and violent losses, Kristensen et al. (2012) point to the difficulty of “grasping the reality” that a loved one has died when the loss is unexpected. Sudden loss deprives the bereaved of an opportunity to say goodbye or carry out any last wishes. If circumstances of the death were traumatic (e.g., violent) or distressing (e.g., loved one was alone or in physical pain), the bereaved may suffer with persistent troubling thoughts about the loved one’s last moments. Suicide-loss presents unique challenges for loved ones who often experience feelings of rejection, stigma, shame, and self-blame. Rates of suicide among the suicide-bereaved are also higher than for non-suicide bereaved, making this a particularly vulnerable subgroup (Tal et al., 2017).

For grief support, participants sought help primarily from a friend (80%), family member (76%), and “other helper” (54%), which included God, a boss, boyfriend/girlfriend, coach, coworker, and a pet. The least utilized supports were doctor, mental health counselor, religious leader, and professor. That 80% of the sample sought help from friends and only 60% found this support helpful suggests that colleges could better address the needs of this population by educating students about grief and how to respond to classmates who are bereaved.

There are several limitations of this study. The sample was drawn from a college research pool available mainly to social science students who self-selected and may not be representative of the general population of college students. Data were collected at only one time point (after the loss), which makes it impossible to assess the directionality of the relationship between PGD and associated factors. History of depression/anxiety diagnosis and history of trauma were measured with single-item questions, which may limit the reliability of these variables. The use of self-report measures across the board may not be as reliable as clinician-reports due to distortion on the part of subjects. Finally, socio-economic status and financial consequences of the death were not included in the analysis, which could provide a more nuanced understanding of the rate of PGD in this sample. CUNY is a public university, accessible to students of all economic backgrounds. Forty percent of its students come from households that earn less than $20,000 per year and over 90% come from households considered to be low-income[1] (CUNY Office of Institutional Research, 2016). Prior research has shown that lower income is associated with PGD in adults (Kersting, 2011) and college students (Al-Gamal et al., 2019). It would be important to tease out the effects of income/financial strain from race/ethnicity, which may be conflated in this study.

Despite these limitations, this is the first study to examine the rate of PGD in a large college student sample that includes a majority of students of color and takes into account lifetime death-losses. Results showed an overall rate of PGD that was higher than what has been reported for predominantly white college student samples. Results presented here also revealed a large disparity in rates of PGD between students of color and white students, providing further evidence of worse health outcomes for people of color in the United States.

Screening of high-risk students should be conducted on college campuses and targeted treatment for PGD should be made available for those who need it. Mental health counselors at college counseling centers could be trained in evidence-based approaches such as Complicated Grief Treatment (Shear et al., 2016), which can be offered in 16 sessions, suitable to a transient student population. Peer education on grief support would also contribute to better outcomes for bereaved college students who more frequently turn to peers than counselors when feeling distressed.

Additionally, several important demographic and psychosocial factors should be viewed as potential risk factors when screening for PGD including race/ethnicity, history of depression/anxiety and trauma, insecure attachment style, kinship, closeness to the deceased, sudden/unexpected death, and death due to suicide. College counselors and peer educators should be alert for these factors in order to identify and refer bereaved students who may be most at risk for PGD.

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[1] Low-income is defined as households earning less than 80% of the area medium income (AMI). The AMI of the New York City region (established by the Department of Housing and Urban Development) is $113,700 for a family of four (New York City Housing Development Corporation, 2020).

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the author, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the University Integrated Institutional Review Board of The City University of New York. The participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

KG conducted all aspects of the project including research design, data collection, data analysis, preparation of the manuscript, and revisions.

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Depression, Anxiety and Post-traumatic Growth Among Bereaved Adults: A Latent Class Analysis

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Background: The death of a loved one can trigger a range of responses, including painful thoughts and emotions, as well as positive changes, such as post-traumatic growth (PTG). To understand more about the relationship between these outcomes this study explored the co-occurrence of depression, anxiety and PTG among a group of bereaved Chinese adults.

Methods: Data were collected from 194 participants, who had lost a first-degree relative. Latent class analysis was used to analyze the data to identify subgroups of participants with shared symptom profiles.

Results: Three classes were identified: a Growth class, a Depression/Anxiety/Growth class and a Depression/Anxiety class. Marital status, social support, close relationship with the deceased and witnessing the suffering of the deceased were identified as differential predictors of class membership.

Conclusion: The findings contribute to our understanding of the potentially wide ranging impacts of bereavement and highlight the important role of stressor characteristics and support and in influencing impairment and positive outcomes.

Keywords: bereavement, depression, anxiety, post-traumatic growth, latent class analysis

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INTRODUCTION

Bereavement is one of life's potentially most stressful events. Although the majority of bereaved persons do not experience lasting impairment, many experience periods of emotional distress that can lead to mental health conditions including depression, anxiety, and prolonged grief disorder (PGD) (also known as complicated grief) (Stroebe et al., 2007; Killikelly and Maercker, 2017). In addition to negative emotional outcomes, however, there is increasing evidence that positive change and personal growth may also be experienced by those who have experienced extreme stress or life adversities such as bereavement (Calhoun et al., 2010). Tedeschi and Calhoun (2004) labeled this phenomenon post-traumatic growth (PTG). PTG may be manifested in various ways, including better building relationships with others, envisaging new possibilities in life, increased personal strength, enriched spiritual change and more appreciation of life (Tedeschi and Calhoun, 1996). It is these shifts in thinking, and in the way one relates to the world, which are thought to assist in adaption to major life stressors (Tedeschi and Calhoun, 2004).

To date, most studies examining PTG have focused on the relationship between PTG and post-traumatic stress disorder (PTSD) following traumatic events. Perhaps surprisingly, many studies have found a positive relationship between PTSD symptom severity and PTG, whereby higher levels of symptoms have been associated with greater growth (Shakespeare-Finch and Lurie-Beck, 2014; Shand et al., 2015; Schubert et al., 2016; Strasshofer et al., 2018). Other studies have found the opposite relationship, with higher levels of symptoms are associated with less PTG (Arpawong et al., 2016). A meta-analysis concluded that the relationship may best be represented by a curvilinear relationship (Shakespeare-Finch and Lurie-Beck, 2014). That is, those with few or many PTSD symptoms experience less growth than those with moderate symptoms. Studies have also begun to explore PTG in the context of bereavement (Michael and Cooper, 2013; Waugh et al., 2018; Eisma et al., 2019b). With limited number of studies, the findings are mixed. One study found negative association between grief intensity and PTG (Engelkemeyer and Marwit, 2008), while another one found that moderate level of grief was associated with highest growth (Currier et al., 2012).

Depression and anxiety are common experience in bereavement (Shear and Skritskaya, 2012; Schaal et al., 2014). Though the co-morbidity of depression, anxiety and PG are thigh, their distinctiveness are well documented (Prigerson et al., 2010; Boelen and Lenferink, 2020; Yan et al., 2020). However, only one study has explored the association between depression/anxiety and PTG among the bereaved. It found that moderate symptoms are associated with higher growth than either low or high symptoms scores (Currier et al., 2012; Eisma et al., 2019b).

One explanation for these varied findings is the heterogeneity in trauma and bereavement outcomes. This includes both symptom severity and patterns of comorbidity (Galatzer-Levy and Bonanno, 2012; Maccallum et al., 2015; Galatzer-Levy et al., 2018). Most studies exploring PTG, however, have used statistical techniques that model linear relationships between symptom severity and PTG across single symptom domains (e.g., depression or PGD). The relationships observed in individual studies may be influenced by sample differences in severity and co-morbidity. In recognition of inter-individual heterogeneity, research efforts are now being made to extend beyond symptom severity and examine responding among groups of bereaved participants who share comorbidities (Smith and Ehlers, 2019). Identifying subgroups who share symptom profiles may increase the possibility of identifying specific relationships with predictors, which could help increase the sensitivity of inform screening measures or treatments for individuals in these subgroups. Latent class analysis (LCA) is a person-centered statistical method that identifies clusters of individuals who share a similar pattern of responding across indicators (e.g., diagnostic criteria) (Lanza et al., 2007). To data, LCA has been profitably applied in bereavement to explore the relationship between symptom clusters and cognitive appraisals, attachment concerns, and related impairments (Nickerson et al., 2014; Djelantik et al., 2017; Lenferink et al., 2017; Maccallum and Bryant, 2018; Eisma et al., 2019a). Several studies have also begun to apply latent clustering approaches to investigating the co-occurrence of PTG and symptoms following traumatic events.

Zhou et al. (2018c) used latent profile analysis to investigate the presence of PTG and PTSD symptoms in a sample of bereaved and non-bereaved adolescent earthquake survivors in Wenchuan 1 year after the earthquake. They found three clusters: a growth class (high on PTG, low on PTSD symptoms), a "resilient" class (low on both PTG and PTSD), and a symptom and growth class (high on both PTSD and PTG). These same classes were identified in two other studies undertaken with bereaved and non-bereaved adult (Cao et al., 2018) and child and adolescent survivors of the earthquake (Chen and Wu, 2017). Overall, these studies are consistent with previous PTSD literature indicating that PTG may be experienced with or without ongoing distress following trauma. However, as not all participants in these studies were bereaved, it is unclear the extent to which findings generalize to bereavement. To our knowledge, only two studies have applied latent clustering techniques to examine PTG and distress in bereaved only samples. Zhou et al. (2018b) identified subgroups in a mixed sample of bereaved Chinese individuals based on endorsement of PGD and PTG items an average of 7.81 years after their loss. They found the same three classes identified in Zhou et al. (2018c) among earthquake survivors. A second study using a sample of bereaved parents identified three latent profiles. They labeled these groupings "resilient" (low on both dimensions), "coping" (moderate impairment and high growth) and "dysfunctional" (high impairment and low PTG) (Zhou et al., 2018a).

These studies indicate that there are subgroups of bereaved individuals who experience PTG with and without high levels of ongoing symptoms. It is possible, however, that there are different relationships between PTG and different symptom domains. For example, a meta-analysis of PTG in cancer survivors conducted by Shand et al. (2015) found a small positive association between PTG and PTSD, a small negative association between PTG and depression, and no association between PTG and anxiety levels (Engelkemeyer and Marwit, 2008; Moore, 2012). Previous investigations of PTG in bereavement using linear methods has suggested that there may be distinct patterns of association between PTG and different bereavement-related emotional syndromes, such as PTSD, depression and anxiety (Helgeson et al., 2006; Eisma et al., 2019b). However, this has yet to be investigated using clustering analytic techniques. It may be the case that there are subgroups of bereaved individuals who share distinct patterns of comorbid symptoms that related differentially to PTG. Therefore, the aim of this study was to extend on existing literature on PTG in bereavement by applying LCA to explore the relationships between PTG, and symptoms of depression, and anxiety. Further, no research to date has explored the relationship between symptoms and subscales of post-traumatic growth inventory (PTGI) using LCA. Identifying the relationships between anxiety, depression and PTG subscales has the potential to provide new insights into the nature of PTG. Therefore, in the current study we examined subscale relationships. Based on previous research we expected to identify at least three classes: one high on both symptoms and growth, one low on both symptoms and growth, and one high on growth only (Zhou et al., 2018a,b). We also thought it possible that we may identify a high symptom only class. However, as this is the first study to apply LCA to examine PTG and anxiety and depression, we did not have strong predictions about the individual relationships between PTG with anxiety and depression, respectively.

Another purpose of the study is to explore predictors of different classes. Predictors to depression and anxiety after the death include gender, educational level, negative self-perception, avoiding attachment style and low social support (Nickerson et al., 2014; Boelen et al., 2016; Lenferink et al., 2017; Maccallum and Bryant, 2018), In terms of studies adopting LCA or LPA, social support (Chen and Wu, 2017; Cao et al., 2018), exposure to the trauma and relationship to the deceased (Zhou et al., 2018a,b) are found to differentiate PTG class from other classes. We included these loss-related and socio-demographic variables as predictors of subgroup membership in our analysis. We hypothesized that membership of a class characterized by high symptoms would be associated with a closer relationship with the deceased, witnessing the suffering of the deceased, and lower social support.

MATERIALS AND METHODS

Participants and Procedure

The data was part of a survey study about the mental health and predictors of bereaved Chinese adults. Participants were recruited via workshops, on-line memorial forums and advertisements Those who were interested in participating logged into the study website to fill questionnaires Written informed consent was obtained from all participants prior to completing the survey. Involving human participants, this study was reviewed and approved by Human Research Ethics Committee for Non-Clinical Faculties at the University of Hong Kong. The first round of data collection was completed between January and May, 2012. In total 1358 valid responses were collected during that time. One year later, an invitation to join the survey again were sent to participants who had lost their first-degree relatives within 2 years when they first fill the questionnaires. The scale to measure PTG was included in the second time, thus only those who join the second round of the data collection was included as the sample in the present study. Valid responses were collected from 194 bereaved Chinese adults. Detailed recruiting and data scrutinizing process were described in another published study (Li et al., 2018).

Measures

Anxiety and Depression

The Chinese version of Hospital Anxiety and Depression Scale (HAD was used (Leung et al., 1993). This scale containing two seven-item subscales to measure the symptoms of depression and anxiety. Items were rated on a five-point scale (0 = not at all or never, 4 = several times a day or always). The cut-off score on each subscale for detecting the respective clinical disorder is 8 (Leung et al., 1993). In this study, Cronbach's alpha of the HADS was good (alpha = 0.86, depression subscale = 0.84, anxiety subscale = 0.69).

Post-traumatic Growth

Post-traumatic growth inventory was a widely used 21 item scale which assesses five dimensions of PTG (relating to others, new possibilities, personal strength, spiritual change, and appreciation of life) (Tedeschi and Calhoun, 1996). Items were rated on a six-point scale ranging from 0 (not at all) to 5 (very strongly). The psychometric property of this scale was found to be good among Chinese (Cheng et al., 2015). In this study, subscale Cronbach alphas of the PTG were good (alpha = 0.95, relating to others = 0.91, new possibilities = 0.87, personal strength = 0.86, spiritual change = 0.40, appreciation of life = 0.55).

Social Support

Inventory of Social Support (Hogan and Schmidt, 2002) was a five-item scale to measure specific social support for the bereaved. Items were rated on a six-point scale ranging from 0 (not at all) to 5 (very strongly). It was translated from English into Chinese by the authors, and back translated to verify the accuracy of the translation. In this study, Cronbach's alpha of the PTG was good (alpha = 0.83).

Socio-Demographic, Loss-Related and Other Variables

Socio-demographic variables collected via the survey consisted of gender, age, educational background (the highest educational degree they have obtained), marital status (single or married) and religion (whether they are affiliated to any religion, and specify the name of religion if any). Death related information included cause of the death (natural death such as old age or disease or unnatural death such as suicide, accident, homicide, and unknown causes), kinship to the deceased (spouse, child, parent, siblings, or grandparent). We also asked about the quality of the relationship and their perceptions of their loved ones' near-death experience. Participants were asked to answer three questions by selecting a number from 0 to 10 on each one: 1 "Please rate the intimate degree of your relationship to the deceased 0 = very distant, 10 = very close." Please rate the harmonious degree or your relationship to the deceased 0 = full of conflict, 10 = very harmonious), Please rate the suffering degree of his/her death (0 = totally peaceful death, 10 = extremely suffering and painful death).

Statistical Analysis

The LCA was undertaken using Mplus Version 7 (Muthén and Muthén, 1998-2012). LCA uses dichotomous indicators to classify individuals who share similar symptom profiles into classes. In this analysis latent class membership was identified on the basis indicators of anxiety, depression and PTG. There were five indicators of PTG, one for each subscale, and one indicator of anxiety and depression, respectively. Consistent with a previous study, responses to each item of PTGI were coded as absent if the score was 0–2, and as present when the score was 3–5

(Zhou et al., 2018b). Therefore, average subscale scores under 0–2 were coded absent. Average subscale scores 3–5 were coded as present. The total scores for anxiety and depression, respectively, were adopted as indicators in the LCA. Subscale scores from 0 to 7 were coded as condition absent; scores of eight were coded as condition present (Leung et al., 1993). To determine the optimal number of classes we examined the following indices: Akaike's Information Criterion (AIC), Bayesian Information Criterion (BIC), Sample-Size Adjusted Bayesian Information Criterion (SS-BIC), and entropy (classification quality). Lower values of AIC, BIC, and SS-BIC and a higher entropy value indicate a better fit. Significant LMR-LRT indicates a marked improvement of the k-class model compared to the k-1-class model (Nylund et al., 2007). To examine predictors of class membership, we first conducted one-way ANOVA's and Chi Square analyses to examined whether each of the possible predictor variables differed significantly between subgroups. Next, we used multinomial regression to examine which of the predictors best distinguished between classes, when controlling for the overlap between the predictor variables.

RESULTS

Participant Characteristics

Participant characteristics are presented in **Table 1**. The mean age of participants was 42.09 years (*SD* = 10.18 years). Thirty-five participants (18.0%) were single and 159 participants (82.0%) were married. The average time since loss was 1.88 years (*SD* = 0.52 years). Twenty-seven participants (13.9%) had lost their core family members, including spouse (9.8%) and a child (4.1%). The rest have lost their parents (79.9%) and siblings (6.2%). One hundred sixty-six participants (85.6%) had relative who died of natural causes, and the rest (14.4%) lost their loved ones from unnatural causes.

Latent Class Analysis

Table 2 presents the fit-indices for the one to four-class solutions. Based on consideration of these fit the three-class solution was retained. The estimated symptom probabilities for each indicator in each of the three classes can be seen **Figure 1**. Consistent with prior literature, we considered values greater than 0.59 as indicating a high probability of item endorsement, 0.15 to 0.59 as moderate probability, and 0 to 0.14 as low probability (Nickerson et al., 2014; Maccallum and Bryant, 2018). The first class, labeled Growth class (64.4% of the sample) had moderate probability of depression or anxiety and high probability of endorsing all five PTG subscales. The second class labeled Depression/Anxiety/Growth class comprised 20.1% of the sample and was characterized by a combination of a high probability of the presence of anxiety, depression, and 3 of the 5 PTG subscales, relating to others, personal strength and appreciation of life. The third class labeled Depression/Anxiety class (15.5% of the sample) with participants showing moderate to high probability of both anxiety and depression but low probability of growth, with the exception of Personal strength which had a moderate probability.

Predictors of Class Membership

Table 1 presents the socio-demographic and loss-related variables for individuals in each of the three classes. Chi-square tests and one-way ANOVAs revealed no significant differences between the classes in terms of age, sex, education background, religious belief, cause of death, time since loss, subjective intimacy, and harmony with the deceased. The classes did differ significantly in terms of marital status, kinship to the deceased, social support and the witnessed distress before the death. The Depression/Anxiety/Growth group were more likely to have lost a spouse or child, had low social support and endorsed witnessing greater distress by the deceased. Poor marital relationship and low social support were predictors of the Symptom group. Therefore, those variables were included in multinomial logistic regression analysis.

Multinomial Logistic Regression Analysis

Multinomial logistic regressions were conducted to examine predictors of class membership when the shared variance between predictor variables was controlled. Marital status, kinship to the deceased, social support and the degree of witnessed distress were include as predictors. We first ran the analysis with the Growth class as the reference class, and then repeated the analysis with the Depression/Anxiety/Growth classes the reference. **Table 3** presents the findings comparing (1) the Depression/Anxiety/Growth class with the Growth class, (2) the Depression/Anxiety class with the Growth class, and (3) the Depression/Anxiety/Growth class and the Depression/Anxiety class. Compared with the Growth class, both symptom classes were predicted by lower social support. In addition, the Depression/Anxiety/Growth class was more likely to have lost a spouse or child than the Growth class, and the Depression/Anxiety class was more likely to be single than the Growth class. Compared to the Depression/Anxiety class, the Depression/Anxiety/Growth class were more likely to have endorsed witnessing greater distress by the deceased.

DISCUSSION

The present study employed LCA to examine relationships between depression, anxiety and PTG in a heterogeneous sample of bereaved Chinese. Three subgroups were identified: The largest class comprising almost two thirds of the sample (Growth) was characterized by only a moderate probability of anxiety and depression, and a high probability of all aspects of PTG; the next largest class (Depression/Anxiety/Growth) was characterized by a high probability of depression and anxiety, and high probability of most aspects of PTG (relating to others, personal strength, and appreciation of life). The smallest class (Depression/Anxiety) was characterized by a moderate probability of depression and anxiety and a low probability of PTG, with the exception of personal strength. Overall, these findings are consistent with previous studies examining the relationship between PTG and PTSD or PGD following bereavement (e.g., Zhou et al., 2018b), but extend our understanding to show that PTG may also occur the presence and absence of depression and anxiety.

Previous work across a range of populations has found that anxiety and depression may be differentially related to amount of PTG (Engelkemeyer and Marwit, 2008; Moore, 2012), and there may be distinct patterns of association between PTG and different bereavement-related emotional syndromes, such as PTSD, depression and anxiety (Eisma et al., 2019b). In the current study we did not observe differential relationships with PTG for depression and anxiety. As can be seen in **Figure 1**, participants who endorsed depression were also likely to endorse anxiety. This is consistent with previous work showing a high degree of co-morbidity in mental health conditions among bereaved populations (Simon et al., 2007). Notably, our study is also the first to examine subscales of PTGI using LCA, which helps to better explore the relationships between anxiety, depression

TABLE 1 | Socio-demographic, loss-related and other characteristics.

		Total sample *N* = 194	**Growth class (*n* = 125, 64.4%)**	**Depression/Anxiety/ Growth class (*n* = 39, 20.1%)**	**Depression/Anxiety class (*n* = 30, 15.5%)**	**Significant test**
Socio-demographic variables						
Age (M(SD))		42.09 (10.18)	42.24 (9.78)	42.51 (10.42)	40.90 (11.70)	$F_{(2,191)} = 0.250$
Gender (*N*(%))						$\chi^{2}_{(2)} = 2.340$
Female		89 (45.9)	24 (49.6)	14 (35.9)	13 (43.3)	
Male		105 (54.1)	38 (50.4)	25 (64.1)	17 (56.7)	
Education (N(%))						$\chi^{2}_{(8)} = 11.558$
Primary and below		1 (0.5)	0 (0.0)	0 (0.0)	1 (3.3)	
Middle school		39 (20.1)	23 (18.4)	6 (15.4)	10 (33.3)	
Adjunct college		64 (33.0)	40 (32.0)	16 (41.0)	8 (26.7)	
Bachelor	73 (37.6)		49 (39.2)	14 (35.9)	10 (33.3)	
Graduate and above		17 (8.8)	13 (10.4)	3 (7.7)	1 (3.3)	
Marital (N(%))						**$\chi^{2}_{(2)} = 9.522^{**}$**
Single	35 (18.0)		16 (12.8)	8 (20.5)	11 (36.7)	
Married	159 (82.0)		109 (87.2)	31(79.5)	19 (63.3)	
Religion (N(%))						$\chi^{2}_{(2)} = 2.149$
No		157 (80.9)	98 (78.4)	32 (82.1)	27 (90.0)	
Religious		37 (19.1)	27 (21.6)	7 (17.9)	3 (10.0)	
Loss-related variables						
Loss time (M(SD))		1.88 (0.52)	1.83 (0.49)	2.04 (0.57)	1.89 (0.55)	$F_{(2,191)} = 2.475$
Type of loss (N(%))						**$\chi^{2}_{(2)} = 13.252^{**}$**
Core family member	Spouse	19 (9.8)	6 (4.8)	6 (15.4)	7 (23.3)	
	child	8 (4.1)	3 (2.4)	4 (10.3)	1 (3.3)	
Others	parents	155 (79.9)	106 (84.8)	27 (69.2)	22 (73.3)	
	sibling	12 (6.2)	10 (8.0)	2 (5.1)	0 (0)	
Type of death (N(%))						$\chi^{2}_{(2)} = 2.276$
natural death		166 (85.6)	109 (87.2)	34 (87.2)	23 (76.7)	
unnatural death		28 (14.4)	16 (12.8)	5 (12.8)	7 (23.3)	
Other variables						
Social support (M(SD))		13.94 (4.14)	14.63 (4.22)	12.97 (3.88)	12.33 (3.50)	**$F_{(2,191)} = 5.291^{**}$**
Intimacy (M(SD))		9.59 (0.91)	9.62 (0.90)	9.72 (0.69)	9.27 (1.11)	$F_{(2,191)} = 2.413$
Harmony (M(SD))		9.36 (1.34)	9.32 (1.53)	9.51 (0.79)	9.33 (1.06)	$F_{(2,191)} = 0.311$
Suffering (M(SD))		5.49 (4.03)	5.20 (4.11)	6.95 (3.63)	4.80 (3.89)	**$F_{(2,191)} = 3.394^{*}$**

*M, mean; SD, standard deviation; *p < 0.05; ** p < 0.01. The bold values are significant.*

TABLE 2 | Goodness-of-fit statistics for 1–4 class solutions.

Model tested	**Log likelihood**	**BIC**	**SS-BIC**	**AIC**	**Entropy**	**LMR-LRT *p* value**
Class1	−811.090	1659.056	1636.881	1636.181		
Class2	−647.260	1373.537	1326.020	1324.519	0.919	$< 0.001^{***}$
Class3	−627.767	1376.694	1303.835	1301.533	0.875	0.021^{*}
Class4	−618.662	1400.628	1302.426	1299.324	0.903	0.164

*AIC, Akaike Information Criterion; BIC, Bayesian Information Criterion; SS-BIC, Sample Size Adjusted BIC; LMR-LRT, Vuong-Lo-Mendell-Rubin Likelihood Ratio Test. *p < 0.05; *** p < 0.001.*

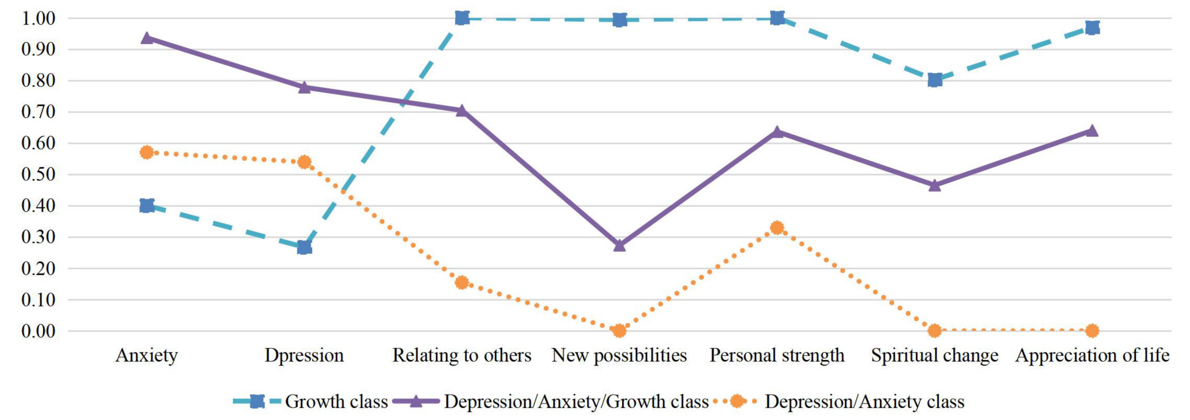

FIGURE 1 | Estimated probability for the three classes.

TABLE 3 | Multinominal logistic regression predicting class membership.

	B	SE	Exp(B)	95%CI	*p*
Depression/Anxiety/Growth class vs. Growth class					
Marital (single vs. married)	0.028	0.559	1.028	0.344–3.076	0.960
Type of loss (spouse and child vs. others)	1.307	0.568	3.695	1.214–11.254	**0.021***
Social Support	−0.573	0.757	0.905	0.823–0.995	**0.040***
Suffering	−0.100	0.049	1.101	0.995–1.219	0.062
Depression/Anxiety class vs. Growth class					
Marital (single vs. married)	1.080	0.547	2.945	1.008–8.605	**0.048***
Type of loss (spouse and child vs. others)	1.054	0.638	2.870	0.822–10.020	0.098
Social Support	−0.142	0.054	0.867	0.780–0.964	**0.008****
Suffering	−0.056	0.055	0.946	0.849–1.054	0.311
Depression/Anxiety class vs. Depression/Anxiety/Growth class					
Marital (single vs. married)	1.052	0.650	2.864	0.802–10.233	0.105
Type of loss (spouse and child vs. others)	−0.253	0.675	0.777	0.207–2.918	0.708
Social Support	−0.043	0.062	0.958	0.849–1.081	0.490
Suffering	−0.152	0.066	0.859	0.754–0.078	**0.022***

*M, mean; SD, standard deviation; *$p < 0.05$; ** $p < 0.01$. The bold values are significant.*

and five dimensions of PTG. As shown in **Figure 1**, spiritual change had the lowest probability of all PTG aspects across all subgroups. It may be due to the fact that few bereaved Chinese have religious beliefs (Zhou et al., 2018b), same as in the present sample. Previous study has documented the poor psychometric property of this dimension in Chinese, which may due to this reason (Zhou et al., 2018c). We also found that while the Depression/Anxiety/Growth group endorsed most aspects of PTG, the level of endorsement for "new possibilities" was comparatively lower. As depression and anxiety are often associated with learned helplessness and perceived future threats, this finding may reflect a relative deficit in this group in noticing "new possibilities" in their life (Eysenck et al., 2007; Vollmayr and Gass, 2013; Dominic et al., 2015). It is also possible that those who see fewer "new possibilities" in their future experience greater depression and anxiety. Future longitudinal studies will help to better understand the direction of these relationships.

The largest class in this sample was the Growth class (64.4%). This group had a moderate likelihood of experiencing anxiety, and to a lesser extent depression. This finding is consistent with the results of previous studies among bereaved Chinese adults (Zhou et al., 2018a,b). But different from findings in non-Chinese samples, which has tended to find little PTG among those with low symptoms (Currier et al., 2012; Moore, 2012). To our knowledge there is no similar LCA study among western samples, and so it is unclear that to which extent this finding is restricted to bereaved Chinese. Nevertheless it suggests that grow this possible with limited emotional distress in Chinese adults. Longitudinal studies will assist to tease apart these possibilities.

We identified two classes with a relatively high probability of anxiety and depression, but different probabilities of PTG. The Depression/Anxiety/Growth class had the highest probability of symptoms and endorsed many aspects of PTG. The Depression/Anxiety class had a moderate to high probability of symptoms and a low probability of PTG. As noted, recent studies have identified a curvilinear between symptom severity and PTG (Eisma et al., 2019b). Our findings are somewhat inconsistent with this trend, in that the class with moderate-high symptoms had less PTG than the classes with the highest and lowest symptom probabilities. There are, however, significant differences in the methodologies used across studies that prevent direct comparison. Further, LCA seeks to identify clusters of individuals who share symptom profiles: the results reflect the probability of symptom presence (or absence) rather than the overall severity of symptoms. Interestingly, the only independent predictor of membership of the Depression/Anxiety/Growth class compared to the Depression/Anxiety class in this study was witnessing the suffering of the deceased. This extends on previous studies which that have found that higher levels of pre-loss stress predicted Stress (symptom)/Growth Class (Chen and Wu, 2017; Cao et al., 2018; Zhou et al., 2018c). It may also account for differences across studies based on sample characteristics. It is possible that witnessing the suffering of a loved one prompts both distress and a search for meaning to explain that distress, which in turn promoted the greater likelihood of growth with their accompanying pain. It is consistent with the idea that stress accompanying with the trauma (death) is the engine to growth (Joseph et al., 2012).

Social support emerged as another important predictor in our study. Low social support differentiated the classes that had higher likelihood of distress (Depression/Anxiety, Depression/Anxiety/Growth), from the low distress Growth class. This is consistent with findings in earthquake survivors (Cao et al., 2018). Members of the Growth class perceived higher social support compared with the Depression/Anxiety and the Depression/Anxiety/Growth classes. It is possible that greater social support facilitated the development of PTG in this class. Calhoun and Tedeschi (2006) argued that the support of others can provide safe and appropriate conditions for disclosure and exploration, and promote PTG by providing a new cognitive schema or a new perspective on trauma. This opinion was supported by other researchers and empirical findings too (Cadell et al., 2003; Wolchik et al., 2009; Levi-Belz, 2015). Alternatively, greater PTG or fewer symptoms may have lead individuals in this class to recognize and utilize more sources of social support. Longitudinal studies will be needed to determine the direction of this relationship.

Loss of a core family member also differentiated the Growth class and Depression/Anxiety/Growth classes. The Growth class was less likely to have lost a spouse or child than the Depression/Anxiety/Growth only. A close relationship to the deceased has previously been shown to predict worse symptoms for the bereaved (Ringdal et al., 2001; Holland et al., 2009; Houwen et al., 2010; Zara, 2019). This finding is also consistent with Zhou et al. (2018b), who found that the death of a first-degree relative (compared with other relationships) predicted membership of a combined Symptom (Grief)/Growth class. Loss of a spouse or child may also have impacted objective social support availability, contributing to the observed relationship between social support and class membership.

There are several limitations to the conclusions that can be drawn from this study. First, the data was cross-sectional. As noted, we did not find any significant effect of time since loss on the pattern of results but cannot rule out the possibility that the relationship between symptoms and growth may evolve over time. Future studies applying latent class trajectory analysis will advance our understanding how these relationships over time. Second, the characteristics of participants play a role in the results of LCA. In contrast to prior studies, we did not identify a class characterized by low symptoms and low PTG, labeled "resilient" in previous studies (Chen and Wu, 2017; Zhou et al., 2018a,b,c). This may reflect a difference in the relationship between PTG following bereavement and non-bereavement related trauma, respectively, but may also be attributed to differences in sample specific characteristics and variables included in analyses across studies. Our sample had experienced a range of losses and included more males than is often found in bereavement studies, however, they were mainly recruited from on-line forums. Participants were self-selected to join the study. Whether they had a better or worse experience in bereavement which lead their interest to join the study is unknown. Future research is needed to determine the extent to which our findings can generalize to the general bereavement populations. Future studies will also profit from examining additional factors related to PTG, such as cognitive processing and coping strategies. These measures were not available in the current study but their future inclusion may shed light on the mechanisms that accompany PTG. Third, as the optimal number of indicators that can be included in an LCA is determined by sample size we included only single indicators of depression and anxiety. This allowed us to examine relationships between subscales of PTG, but not individual symptoms of anxiety and depression. Our sample size was comparable to previous analyses (e.g., Maccallum and Bryant, 2018). However, future studies would benefit from increased sample sizes to enable the inclusion of individual symptom indicators to yield more detailed profile of the symptoms. Despite these limitations, this is the first study to examine the pattern of depression, anxiety and PTG among bereaved adults. Extending on previous work we found that PTG often co-occurs with significant distress, but may be present in the absence of ongoing distress. By identifying the importance of social support and pre-death stress in contributing to symptoms and growth, the findings shed light on processes that may be targeted to identify those at greater risk and improve outcomes for those experiencing ongoing distress following a bereavement.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/**Supplementary Material**, further inquiries can be directed to the corresponding author/s.

ETHICS STATEMENT

Written informed consent was obtained from the individuals for the publication of any potentially identifiable images or data included in this article.

AUTHOR CONTRIBUTIONS

JL contributed to the conception and design of the study and wrote the draft of the manuscript. YS performed the statistical analysis and wrote part of the manuscript. FM wrote and revised the manuscript. AC supervised the design and data collection process and contributed to revising the work. All authors contributed to the article and approved the submitted version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2020.575311/full#supplementary-material

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Coping Strategies and Complicated Grief in a Substance Use Disorder Sample

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Background: Previous research has identified a link between the loss of a significant person, grief complications, and substance abuse. People with substance use disorder (SUD) are more vulnerable to complicated grieving symptoms following loss. From sociocognitive theories, the model of coping with stress assumes that substance use is one of the responses used to cope with traumatic life events. The main objective of this study is to identify the coping strategies of people with SUD and to analyze their relationship to complicated grief (CG).

Methods: A sample of 196 bereaved drug-dependent patients was assessed, after providing written consent, in sociodemographic variables, drug and bereavement related characteristics, CG symptomatology (Inventory of Complicated Grief) and coping strategies (Coping Strategies Inventory).

Results: There are differences in relation to the coping strategies used among patients with CG, using more those focused on emotional expression, social withdrawal, wishful thinking, and self-criticism.

Conclusion: We can conclude that, in general, CG in patients with SUD is more associated with the use of less adaptive coping strategies. This data can contribute to a better understanding of the different variables involved in the grieving process among people with SUD. It is important to point out the clinical implications of addressing what the coping strategies associated with improved grief outcomes among people with addiction problems are.

Keywords: coping strategies, complicated grief, substance use disorder, alcohol, cocaine, heroin

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INTRODUCTION

The identification of risk factors and protective factors associated with substance use and concurrent problems is a substantial area of research in terms of preventive and intervention strategies in vulnerable populations, such as people with substance use disorders (SUD). Numerous studies have investigated the relationship between coping and different clinical disorders course (Taylor and Stanton, 2007; Al-Gamal et al., 2016), and have considered coping strategies as an important variable for a better understanding of addiction problems (Walker and Stephens, 2014). Coping has been broadly defined as "cognitive and behavioral efforts to manage specific external or internal demands (and conflicts between them) that are appraised as taxing or exceeding the resources of a person" (Lazarus, 1991, p. 112). In addition, Skinner and Zimmer-Gembeck (2016) described coping strategies as a basic process integral to adaptation and survival, depicting how people detect, appraise, deal with and learn from stressful encounters.

Previous research has identified a link between the loss of a significant person, grief complications and substance abuse (Denny and Lee, 1984; Zuckoff et al., 2006). In addition, people with substance use disorders (SUD) often report personal losses in their life histories that make recovery difficult (Furr et al., 2015), and are more vulnerable to report complications in bereavement after the loss of a significant individual (Masferrer et al., 2017). Complicated grief (CG) has been defined as a deviation from the normal (in cultural and societal terms) grief experience in either time course, intensity, or both, entailing a chronic and more intense emotional experience, which either lacks the usual symptoms or in which the onset of symptoms is delayed (Stroebe et al., 2007).

Estimating the incidence of CG symptoms is not easy since its study has been carried out on different samples and with different definition criteria (Stroebe et al., 2007). In general, population studies prevalence ranges from 2.4 to 22.7% (Bonanno, 2006; Fujisawa et al., 2010; Kersting et al., 2011; Newson et al., 2011; Wittouck et al., 2011). In clinical samples, research prevalence vary from 18.6% among hospitalized patients with unipolar depression (Kersting et al., 2009) to between 20 and 34% among psychiatric patients (Zisook et al., 1985; Zisook and Lyons, 1990; Prigerson et al., 2002), 24.3% among bipolar disorder patients (Simon et al., 2005), 33.3% among a mixed sample of psychiatric outpatients (Piper et al., 2001), and 34.2% in SUD patients (Masferrer et al., 2017).

From sociocognitive theories, the model of coping with stress assumes that substance use is one of the responses used to cope with traumatic life events (Wills and Hirky, 1996). In general, research data in the field of addictions suggest that problem-centered strategies are related to a more positive evolution while avoidance strategies are related to a worse evolution (Feil and Hasking, 2008). Longitudinal and cross-sectional studies conducted in both community samples (Johnson and Pandina, 2000) and clinical samples (Hasking and Oei, 2002; Feil and Hasking, 2008; Adan et al., 2017) show that both avoidance and emotion-focused coping strategies are proper indicators of alcohol use (Coriale et al., 2012). In relation to opioid use, mixed results were found in terms of coping, with some studies stating that behavioral coping was more widely used than cognitive coping strategies, or a report of less use of problem-focused coping and less use of emotion-focused coping in an abstinent period (Pal and Chavan, 1996; Hyman et al., 2009).

Most people encounter a challenge in their emotional states as a component of regular day to day existence. Particularly, the majority of SUD individuals may experience overpowering feelings, regardless of whether as a consequence of the impact of drugs, withdrawal, or the everyday relation with stressors. Indeed, figuring out how to balance these emotional states is a core aspect related to SUD treatment (Tariq and Jameel, 2020).

Sometimes, when coping strategies are deficient, bereaved people can easily develop complications in bereavement, which is associated with multiple physical and mental problems that cause social disruption and significantly reduce quality of life (Latham and Prigerson, 2004; Boelen and Prigerson, 2007; Stroebe et al., 2007; Masferrer et al., 2017). Previous research on coping and CG has found that, in older adults who had lost their spouse, engagement and rumination were associated with a worse prognosis of grief (Prigerson et al., 1995a); in samples of young college students, avoidant emotional coping was also found to be associated with increased severity of CG (Schnider et al., 2007). Overall, results show that emotion-focused coping is associated with poorer mental health outcomes (Coyne and Racioppo, 2000).

Although there is a lot of research that has analyzed the relationship between coping and substance use (Anderson et al., 2006), and also research that has studied the relationship between grief and coping strategies (Schnider et al., 2007), there are no studies, to our knowledge, that have analyzed coping strategies in such a specific population as people with substance use disorder with associated CG. The main objective of the present study was to identify the coping strategies of people with SUD and to analyze their relationship to CG. The specific objectives were (1) to study the relationship between CG and its factors, and the different coping strategies; (2) to analyze if there are differences between the CG group and adaptive grief group regarding different types of SUD and the coping strategies used and, finally, and (3) to identify the significant coping strategies in predicting CG in SUD patients.

METHODOLOGY

The current study is part of a larger research project that aims to investigate different variables related to CG in SUD patients (Masferrer et al., 2015). The sample size was calculated based on the estimated prevalence of CG in the general population and with an alpha level of 0.05 and an accuracy of 0.05. According to previous studies (Lobb et al., 2010) we assume a 15% CG prevalence. The prevalence of CG in this SUD sample was 34.2%.

Participants

The sample was based on a consecutive non-probabilistic convenience sample of 196 SUD patients at the Public Addiction Treatment Centre in Spain. The inclusion criteria were that they: (1) had a diagnosis according to Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) criteria of alcohol, cocaine or heroin dependence; (2) had suffered the loss of a significant person at some point in their life and before the year prior to the study, and (3) abstinence during the last month. Related to the sociodemographic variables, 78.1% were men and 20.2% women. The average age was 45.6 years (sd = 10.14, min = 22, max = 74). 37.2% were married or had a partner. More than a half of the sample (65.3%) reported primary education and the rest had secondary or higher education. Regarding the main diagnosis, 68.9% had alcohol dependency, 18.4% heroin dependency, and 12.8% cocaine dependency. Regarding professional situation at the time of the evaluation, 63.3% reported being retired, unemployed, inactive or receiving disability aid, and 36.7% were actively working. Mean time since the death of the significant person was 11.97 years (sd = 11.07, min = 1, max = 46). Complicated grievers reported less time since death (9.36 years; sd = 9.78) than adaptive grievers (13.33 years; sd = 11.48; p = 0.02).

Measures

Characteristics related to gender, age, marital status, educational level, and professional situation were evaluated through an *ad-hoc* questionnaire (for more information see Masferrer et al., 2017).

The Spanish version of the Inventory of Complicated Grief (ICG; Prigerson et al., 1995b; Limonero et al., 2009) was used, which provides a total score for CG and three factors (memories of the deceased, sensation of emptiness, and experience of the deceased) through 19 items with a five-point Likert scale. The maximum score is 76 and the cut-off point used was 25 according to the original version. The internal consistency of the Spanish version was 0.88 and the test-retest reliability was 0.81.

The Coping Strategies Inventory Spanish version (Tobin et al. 1989; Cano et al., 2006) was used to assess coping. This instrument consists of 40 items on a Likert scale (0: nothing - 4: totally agree) and evaluates eight primary scales: (1) Problem Solving (PS), (2) Cognitive Restructuring (CR), (3) Social Support (SS), (4) Emotional Expression (EE), (5) Problem Avoidance (PA), (6) Wishful Thinking (WT), (7) Social Withdrawal (SW), and (8) Self-Criticism (SC). There are four secondary scales: Problem Focused Engagement (composed of problem solving and cognitive restructuring), Emotion Focused Engagement (Social Support and Express Emotions), Problem Focused Disengagement (Problem Avoidance and Wishful Thinking), and Emotion Focused Disengagement (Social Withdrawal and Self Criticism), and two tertiary scales: Engagement (Problem and Emotion Focused Engagement) and Disengagement (Problem and Emotion Focused Disengagement). Cronbach's alpha of the Spanish version ranged from 0.70 to 0.86 with the average being 0.81.

Procedure

The psychometric tests were administered following the Organic Law 15/1999 regarding the Protection of Personal Data. Informed consent was obtained from all participants and the protocol was approved by the Institutional Ethics and Research Review Board of the Institut d'Assistència Sanitària (IAS). According to them, the study expires with the current regulations of the International Conference of Harmonization of the Procedure of Good Clinical Practice (CPMP/ICH/135/95) as well as the International Guidelines for the Ethical Review of Epidemiological Studies. Those who voluntarily wanted to participate and signed the informed consent were evaluated through a clinical interview with the psychologist (second author) and were administered the psychometric questionnaires included in the protocol. The duration of each of the interviews carried out was about 1.5 h.

Statistical Analysis

The CG group was formed by the participants scoring higher than 25 on the ICG (n = 67). The alcohol group and the heroin and cocaine group were formed according to the main diagnosis. We use these two groups in order to separate legal and illegal substances group. Pearson correlations were used to test associations among quantitative variables of coping and CG. The Student's t-test was used to determine differences between groups (main substance diagnoses/CG) in coping. In order to identify the coping strategies related to the presence of CG, we conducted a multiple linear regression model. Data processing and analysis were performed using the SPSS statistical program version 21.0 for Windows (IBM Corp., Armonk, NY, United States).

RESULTS

Coping Strategies and Grief Symptoms

Associations between the total ICG scale, its factors and coping strategies were analyzed (**Table 1**). Preliminary analyses in the total sample showed that desiderative thinking and social withdrawal correlated positively with the total CGI score and with all its factors. Express emotions were also positively associated with ICG except for the Presence experience of the deceased factor. Self-critical coping, although of lesser magnitude,

TABLE 1 | Correlations among complicated grief and coping strategies.

Coping CG	PS	CR	SS	EE	PA	WT	SW	SC	PFE	EFE	PFD	EFD	E	D
Total CGI	0.120	0.085	0.049	0.204**	0.130	0.229**	0.315**	0.155*	0.124	0.159*	0.258**	0.274**	0.166*	0.313**
MD	0.086	0.064	0.045	0.194**	0.125	0.222**	0.294**	0.154*	0.091	0.151*	0.250**	0.263**	0.143*	0.301**
EF	0.099	0.068	0.030	0.186**	0.166*	0.201**	0.274**	0.102	0.101	0.136	0.263**	0.216**	0.140	0.275**
PED	0.118	0.137	0.008	0.133	0.066	0.188**	0.320**	0.197**	0.156*	0.090	0.183*	0.307**	0.141*	0.300**

Complicated grief (CG): Total CGI, total score complicated grief inventory; MD, memories of the deceased; EF, empty feelings; PED, presence experience of the deceased. Coping strategies: PS, problem solving; CR, cognitive restructuring; SS, social support, EE, express emotions; PA, problem avoidance; WT, wishful thinking; SW, social withdrawal; SC, self-criticism; PFE, problem focused engagement; EFE, emotion focused engagement; PFD, problem focused disengagement, EFD, emotion focused disengagement; E, engagement (problem and emotion); D, disengagement (problem and emotion).

[*] Correlation is significant in the level 0.05.

[**] Correlation is significant in the level 0.01.

was also positively and significantly associated with ICG and all its factors, except the empty feelings factor. With this same factor, the subscale of problem avoidance also correlated positively. Social withdrawal obtained the highest rates. The second order scales, Problem Focused Disengagement and Emotion Focused Disengagement, correlated positively and significantly with all the scores of CG. Although it is important to note that the second and third order factors related to disengagement coping showed stronger correlations than those of engagement.

Differences Between Adaptive Grievers and Complicated Grievers Groups

Differences in coping between groups of SUD patients with and without CG are analyzed (**Table 2**). The CG group score significantly higher on self-criticism, express emotions, wishful thinking, and social withdrawal. In same direction, significative differences were also shown on the second- and third-order scales in both problem-focused and emotion-focused disengagement.

In relation to the types of substance, there are no significant differences ($t = -1.07$, $p = 2.84$) in the CG scores between the alcohol group (M = 20.87, SD = 16.84) and the heroin and cocaine group (M = 23.64, SD = 16.46). In the first group, there was 30% of the cases with CG, and in the second group was 40% of CG.

Table 3 shows that significant differences exist between the alcohol group and the heroin and cocaine group in wishful thinking, cognitive restructuring, and problem avoidance, with the patients with alcohol use showing higher scores in all of

TABLE 2 | Differences between adaptive grievers and complicated grievers groups.

	Adaptive grief (*N* = 129)	**Complicated grief (*N* = 67)**			
	M (SD)	**M (SD)**	**Cohens' d**	***t***	***p***
Coping strategies					
Problem solving	14.66 (5,34)	15.75 (4.33)	0.22	−1.54	0.152
Self-criticism	8.57 (7.07)	10.91 (7.02)	0.33	−2.21	0.028
Express emotions	8.77 (6.01)	11.10 (6.05)	0.39	−2.58	0.011
Wishful thinking	13.71 (5.59)	15.81 (3.81)	0.44	−2.75	0.002
Social support	8.96 (5.63)	9.46 (5.54)	0.09	−0.60	0.553
Cognitive restructuring	9.38 (5.40)	9.55 (5.42)	0.03	−0.21	0.883
problem avoidance	5.36 (4.49)	6.34 (5.66)	0.19	−1.23	0.222
Social withdrawal	7.16 (5.07)	10.19 (5.48)	0.57	−3.87	0.001
Second factor scales					
Problem focused engagement	21.04 (8.90)	25.30 (7.87)	−0.15	−0.98	0.330
Emotion focused engagement	17.73 (9.62)	20.57 (9.22)	−0.30	−1.97	0.048
Problem focused disengagement	19.08 (6.87)	22.15 (6.93)	−0.45	−2.96	0.003
Emotion focused disengagement	15.72 (9.99)	21.10 (9.78)	−0.54	−3.60	<0.001
Third factor scales					
Engagement	41.77 (15.55)	45.87 (15.20)	−0.27	−1.76	0.078
Disengagement	34.80 (14.17)	43.25 (14.35)	−0.59	−3.95	<0.001

TABLE 3 | Differences in coping between alcohol dependence group and heroin and cocaine group main diagnosis.

	Alcohol group (*N* = 135)	**Heroin and cocaine (*N* = 61)**			
	M (SD)	**M (SD)**	**Cohens' d**	***t***	***p***
Coping strategies					
Problem solving	15.41 (4.71)	14.20 (5.65)	0.23	1.57	0.119
Self-criticism	9.33 (7.26)	9.46 (6.86)	−0.02	−0.12	0.904
Express emotions	10.07 (5.98)	8.44 (6.28)	0.27	1.74	0.083
Wishful thinking	15.09 (4.79)	12.97 (5.60)	0.41	2.72	0.007
Social support	9.44 (5.62)	8.46 (5.49)	0.18	1.14	0.258
Cognitive restructuring	10.02 (5.63)	8.15 (4.61)	0.36	2.46	0.015
Problem avoidance	6.13 (5.29)	4.74 (3.89)	0.30	2.07	0.004
Social withdrawal	8.15 (5.26)	8.30 (5.74)	−0.03	−0.18	0.861
Second factor scales					
Problem focused engagement	25.43 (8.29)	22.34 (8.84)	0.36	2.36	0.019
Emotion focused engagement	19.51 (9.27)	16.90 (10.02)	0.27	1.77	0.077
Problem focused disengagement	21.22 (6.98)	17.70 (6.58)	0.51	3.33	0.001
Emotion focused disengagement	17.47 (10.08)	17.75 (10.61)	−0.03	−0.18	0.862
Third factor scales					
Engagement	44.94 (14.70)	39.25 (16.64)	0.37	2.41	0.017
Disengagement	38.70 (14.57)	35.46 (15.02)	0.22	1.43	0.156

them, although with moderate effect sizes. In the second order factors, the existing differences are found in relation to the focus of the problem, obtaining higher scores in the alcohol group in both engagement and disengagement. It is also this group that obtains higher and significantly different scores in the third order scales problem and emotion focused engagement.

In order to determine which coping strategies are associated with CG risk, a multiple linear regression was performed. Scores of CG, as dimensional variables, were the dependent variable, and coping strategies were considered the independent variable. The results are presented in **Table 4**. Those coping strategies defined also as dimensional variables associated with CG were express emotions and social withdrawal.

DISCUSSION

This study examined the relationship between coping strategies and CG in a sample of SUD patients. To our knowledge this is the first study to analyze coping and its relationship with two concurrent complex mental health conditions, CG and substance use disorder, in the same sample. This raises the question of whether loss among SUD patients may be associated with a different form of coping strategy than those observed in previously studied CG populations.

In general, the results supported previous research in which both CG and substance consumption are related to coping with potentially threatening situations.

As expected, the relationships observed between CG and dysfunctional coping patterns were stronger than engagement strategies in an SUD sample. Despite some correlations were weak and this indicates that there is minimal relationship between the variables, the tendency of the results were that problem focused disengagement and emotional focused disengagement were positively associated with CG. Specifically, wishful thinking and social withdrawal were the strategies most strongly linked to CG in all its facets. Wishful thinking is a cognitive strategy that implies another reality, formed by the beliefs and decision making based on what people might be pleased to imagine, instead of appealing to evidence, rationality, or reality. This was in line with the fact that, in some cases after a loss of a significant person, grief response can involve a lack of acceptance of the death and lead to complications in bereavement (Crunk et al., 2017; Nakajima, 2018).

Contrary to our expectations, and with previous evidence that avoidance is associated with negative outcomes among bereaved people (Bonanno, 2005) and more severity in CG symptoms (Shear et al., 2007), it is interesting to note that there was no relationship between problem avoidance and CG in the overall sample, except with the empty feelings subscale of the IGC. Considering more integrative models of coping, and according to some authors, it is important to point out that flexibility in coping is a mechanism to adapt to stressful life events (Park et al., 2015), and different coping strategies may be adaptive in different points in time or under different circumstances (Burton et al., 2012).

A remarkable difference was found in the CG SUD group in comparison with the adaptative grief SUD group. Problem and Emotional Disengagement identified CG group in a significative way. The strategies based on wishful thinking and self-critical judgments against oneself or self-blame can be an improper handling of the stressful situation in CG. In the same line, social withdrawal represented the other dysfunctional mechanism of the emotional disengagement in patients with SUD and CG. These results are consistent with those found by Schnider et al. (2007), the authors found that emotional avoidant coping was a significant predictor of CG in a college sample. The CG group also used more express emotions management as a functional management mechanism. These strategies are aimed at releasing emotions linked to stressful situations.

When we analyze the differences between groups classified according to the substance consumed, we found no differences in CG between the alcohol group and the cocaine and heroin group. Analyzing whether there are differences between patients for alcohol consumption (legal drugs) and for cocaine and heroin consumption (illegal drugs) is important because at the clinical level the therapeutic groups are often separated. In terms of coping, patients with a main diagnosis of alcohol dependence used more strategies, and higher than those related to wishful thinking, cognitive restructuring, and problem avoidance. The difference found in cognitive restructuring could be associated with cognitive impairments that are assumed to

TABLE 4 | Multiple regression analysis of coping strategies associated with complicated grief scores.

	Unstandardized coefficients		**Standardized coefficients**			
	B	**SE**	**Beta**	***t***	**Sig.**	**95% CI [LB UB]**
Constant	1,82	4,63		0.39	0.695	[−7.31, 10.95]
Problem solving	0.302	0.26	0.09	1.18	0.240	[−0.20, 0.81]
Self-criticism	−0.043	0.18	0.06	0.79	0.815	[0.68, 1.62]
Express emotions	0.499	0.21	0.18	2.38	0.019	[0.09, 0.91]
Wishful thinking	0.179	0.27	0.06	0.66	0.509	[−0.35, 0.71]
Social support	0.058	0.24	0.02	0.24	0.809	[−0.42, 0.54]
Cognitive restructuring	−0.095	0.27	−0.03	−0.35	0.724	[−0.62, 0.43]
Problem avoidance	0.155	0.27	0.05	0.56	0.577	[−0.39, 0.70]
Social withdrawal	0.964	0.25	0.31	3.80	0.001	[0.46, 1.46]
	R	**R^2**	**Adjusted R^2**			
Model summary	0.400	0.160	0.124			

differ between substances (Bruijnen et al., 2019). There is evidence that, in opioid abuse, there exist impairments to the memory domain and to executive functioning, such as verbal fluency, inhibition, and decision making (Gruber et al., 2007). These functions are necessary in cognitive restructuring and problem resolution. Concerning chronic stimulant abuse, cognitive impairment is also present (Spronk et al., 2013).

Finally, our work concluded that social withdrawal and expression of emotion coping strategies were predictive variables of a CG dimensional factor. On the one hand, the active avoidance of contact with other people and, on the other, the need to release emotions were two of the resources that identified the presence of CG in people with SUD. According to previous research, CG tends to be associated with emotion-centered rather than problem-centered coping (Mancini and Bonano, 2019) and avoidance strategies are more related to courses with a worse prognosis (Feil and Hasking, 2008).

Overall, these results indicated that the co-occurrence of two serious health conditions (addiction and CG) was related to poorer management of stressful situations. Maladaptive coping, characterized by using disengagement strategies and an important lack of engagement strategies, was the main result found in this study.

The current research had some limitations. One of the most important is the cross-sectional design, which was an impediment to consider and justify the directionality (cause-effect) relationship between CG and coping in the SUD sample. Future longitudinal studies are necessary in order to establish a proper sequence of the events occurred. The second limitation was the size of our sample, as well as the use of a convenience sample which limit the generalization of our results. Another important limitation was that the presence of psychiatric disorders that could be associated with CG was not evaluated in the present study. Fourth, coping assessment was relied on a self-reporting measure (CSI). Finally, in this study, multiple comparisons correction was not made. Despite these limitations, the study provided significant new data related to the specificity of the sample. Future research should analyze the impact of other sociodemographic, personality, and clinical variables related to the coping strategies among SUD population. The period since the death of the significant person is another of the variables that should be analyzed in depth. Trajectories of CG can vary between subjects and numerous risk factors can be associated.

Our findings may contribute to a better understanding of the different variables involved in the grieving process among people with SUD. It is important to point out the clinical implications of addressing which coping strategies are associated with a better evolution of grief in people with addiction problems. Clinical benefits can be derived from these results. In one hand, training people to employ effective coping strategies in their lives could prevent different health and psychological problems. On the other hand, focusing therapy groups on identifying and raising awareness of less adaptive strategies used will have a very beneficial effect on the course of substance use disorder. More personalized interventions are important in the process of recovery and specific interventions should target those people with special clinical conditions. New treatment approaches for SUD individuals with CG should focus primarily on decreasing frequently occurring mechanisms, such as self-criticism, desiderative thinking, and social withdrawal, and increasing emotional and cognitive strategies linked to better management of stressful situations, such as problem solving, cognitive restructuring, and social support.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Institutional Ethics and Research Review Board of the Institut d'Assistència Sanitària (IAS). The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

BC and LM conceived and designed the research. LM collected field data. BC wrote the manuscript. Both authors interpreted the results and approved the final manuscript.

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Validation of a German Version of the Grief Cognitions Questionnaire and Establishment of a Short Form

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Background: Whereas the majority of bereaved persons recover from their grief without professional assistance, a minority develops pathological grief reactions. Etiological models postulate that dysfunctional cognitions may perpetuate such reactions. The Grief Cognitions Questionnaire (GCQ) assesses thoughts after bereavement in nine interrelated domains. A short form (GCQ-SF) with four domains is often used. However, an evaluation of the psychometric properties of the GCQ-SF and its utility compared to the GCQ is lacking and these instruments have not been validated in German.

Method: German bereaved persons (time since loss 35.3 ± 34.6 months) responded to an online survey containing the GCQ, measures of grief severity, grief rumination, symptoms of depression and anxiety, and optimism and pessimism. 585 participants (18–78 years, 88% women) were included. Item analyses and confirmatory factor analyses were conducted. Correlations between the GCQ and GCQ-SF and grief rumination, optimism and pessimism assessed construct validity. Criterion-related validity was assessed by comparing whether the correlation of the GCQ (and the GCQ-SF) with grief severity was higher than with anxious and depressive symptoms. Logistic regression and receiver-operator characteristics (ROC) compared the questionnaires on their ability to predict probable prolonged grief 'caseness' (ICG $\geq$ 25, time since loss $\geq$6 months).

Results: Internal consistencies for both questionnaires were identical and excellent (α = 0.96). Confirmatory factor analyses obtained a satisfactory fit for models with nine and four correlated subscales and respective higher-order factor models. The GCQ and the GCQ-SF correlated higher with grief severity than with other measures of psychopathology. The logistic regression showed a significant association between the GCQ-SF and prolonged grief 'caseness'. Of the remaining subscales of the GCQ, only one subscale ('Others') contributed to the prediction. The ROC analyses showed nearly identical areas under the curve.

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Conclusion: The translated GCQ and GCQ-SF demonstrated very good psychometric properties. The correlations with grief severity highlight the questionnaires' clinical relevance. The questionnaires possessed identical diagnostic specificity and sensitivity. Whenever a timesaving assessment of the most typical grief-specific cognitions is important, the GCQ-SF represents an alternative to the GCQ. The original GCQ may still be superior when a more detailed description of a bereaved person's cognitions is desirable.

Keywords: grief, bereavement, cognition, validation study, questionnaire

INTRODUCTION

While losing a loved one can be a painful and distressing life event, most people adjust to it in due time. For a minority of the bereaved, however, grief does not abate and becomes what the ICD-11 terms Prolonged Grief Disorder (PGD) (World Health Organization [WHO], 2020) and the DSM 5 labels Persistent Complex Bereavement Disorder (PCBD) (American Psychiatric Association [APA], 2013). The classification systems differ with respect to certain characteristics of the condition: most importantly, while the ICD-11 only requires a time criterion of 6 months for establishing a PGD diagnosis, the DSM-5 sets a time criterion of 12 months for PCBD. Additionally, accessory symptoms of the respective disorders vary [cf. (Boelen et al., 2018) for an overview and empirical investigation and (Boelen et al., 2020) for a commentary on the recently proposed changes to PCBD]. Both classification systems agree, however, that the disorder is characterized by intense yearning for the deceased person, pervasive cognitive preoccupation with the deceased and emotional distress due to the separation. This article will refer to both conditions as 'prolonged grief' to indicate pathological grief processes in general. Prolonged grief is associated with clinically significant impairment and negative health outcomes (Prigerson et al., 1997; Maccallum and Bryant, 2019). Its estimated prevalence among bereaved persons in general ranges from 6.7% (Kersting et al., 2011) to 9.8% (Lundorff et al., 2017). When considering only persons bereaved by violent losses, estimates have been as high as 49% (Djelantik et al., 2020).

Various theoretical conceptions have been put forward to explain how normal grief can turn into prolonged grief. Among them is the cognitive behavioral model by Boelen et al. (2006b), which has received considerable empirical support. This model proposes that individual risk factors (e.g., the relationship to the deceased, loss characteristics) influence grief symptoms through three mediating and interacting core processes, which are central to the development and the maintenance of the disorder. These three processes are (a) insufficient integration of the loss into the autobiographical knowledge base; (b) negative global beliefs and misinterpretations of grief reactions; and (c) anxious and depressive avoidance strategies. Thus, negative cognitions play an important role in this model, but also in other etiological conceptualizations (Parkes, 1988; Schwartzberg and Janoff-Bulman, 1991; Rando, 1993).

In the cognitive behavioral model, negative cognitions can exert their influence through different pathways (Boelen et al., 2006b): They may lead directly to aversive emotional states consistent with prolonged grief such as emotional pain, yearning or sadness. Negative cognitions may also encourage situational and cognitive avoidance strategies blocking emotional processing. Finally, negative cognitions may prevent the loss from becoming integrated in the autobiographical memory, e.g., because elaborating the loss and its implications triggers painful negative thoughts. Negative cognitions may thus contribute to the development and maintenance of prolonged grief symptoms.

Importantly, and in contrast to the aforementioned potential risk factors (loss characteristics, etc.), negative cognitions are modifiable. They can be the target of prevention and treatment of prolonged grief (Doering and Eisma, 2016). In order to be able to target cognitions for modification, it is of high relevance to assess and identify grief-related negative cognitions. To this end, the 'Grief Cognitions Questionnaire' (GCQ) (Boelen and Lensvelt-Mulders, 2005) was developed as a measure of negative thought content after bereavement.

The GCQ captures nine grief-specific negative belief themes. Among them are negative cognitions about the self ('Since he/she is dead, I am of no importance to anybody anymore'), the world ('His/her death has taught me that the world is unjust'), one's life ('My life is meaningless since he/she died'), and the future ('Since he/she is no longer here, I have a negative view on the future'). On the one hand, these beliefs may develop after being confronted with the death of a loved one because the loss challenges and changes pre-existing more positive beliefs (Schwartzberg and Janoff-Bulman, 1991). On the other hand, the loss may also strengthen already existing negative beliefs (Thimm and Holland, 2017). Another belief theme concerns cognitions related to self-blame ('I will never be able to forgive myself for the things I did wrong in the relationship with him/her') that may hinder the resolution of grief (van der Houwen et al., 2010; Stroebe et al., 2014). These include self-reproach focused on having caused the death, not having prevented it or for having made non-redressable mistakes in the relationship with the deceased. A further theme encompasses negative evaluations of the available social support after the loss ('Many people have let me down since his/her death'). Negative evaluations of the social environment's reactions are associated with poorer health outcomes in bereavement (van der Houwen et al., 2010). The remaining themes consider cognitions about one's own grief reactions. Such cognitions may complicate the grieving process (Malkinson, 1996). Some mourners may interpret their grief reactions as dangerous ('Once I start crying, I will lose control'), which may promote grief-related experiential avoidance (Boelen et al., 2010). Others may be concerned about the appropriateness of their grief reactions ('I don't mourn the way I should do'). Finally, cognitions may reflect a perceived necessity to cherish one's grief as a means to maintaining a relationship with the deceased ('As long as I mourn, I do not really have to let him/her go'). In some cases, such beliefs may also hinder adjustment to a reality without the loved person (Stroebe and Schut, 2005). The nine subscales of the GCQ reflect these grief-specific negative belief themes.

The GCQ was established initially in a sample of bereaved persons who experienced the death of a first-degree relative (Boelen et al., 2003). Various studies examined its psychometric properties. Robust evidence speaks for the GCQ's reliability (Cronbach's $\alpha = 0.96$ for the total scale and $0.81 \leq$ Cronbach's $\alpha \leq 0.95$ for the subscales) and temporal stability ($r_{\text{test-retest}} = 0.94$ and 0.85 after three and four-week retest-intervals, respectively) (Boelen and Lensvelt-Mulders, 2005). Its conceptualized factorial structure of nine interrelated factors (Boelen et al., 2003) has been confirmed (Boelen and Lensvelt-Mulders, 2005).

Concerning its validity, the GCQ total score was positively associated with pessimism and behavioral avoidance of bereavement cues, while it correlated negatively with measures of positive thinking and optimism (Boelen and Lensvelt-Mulders, 2005; Cesur and Durak-Batıgün, 2021). Since the GCQ was designed as a measure of negative (bereavement-related) thinking, the positive association between the GCQ and pessimism and its negative association with optimism speak for its convergent and discriminant validity. The relationship between negative grief-specific cognitions and grief rumination (Boelen and Lensvelt-Mulders, 2005) also underlines the convergent validity of the GCQ. While the GCQ assesses negative cognitions and their endorsement by bereaved participants, grief rumination assesses the frequency with which participants engage in the process of repetitive and recurrent thinking about causes and consequences of the loss and loss-related emotions (Eisma et al., 2014). Thus, the cognitions specified in the GCQ may be viewed as part of the cognitive 'content' that is repetitively processed and activated in grief rumination. In accordance with the Response Style Theory (Nolen-Hoeksema et al., 2008), rumination contributes to bereavement-related distress by increasing the accessibility of negative cognitions (Eisma and Stroebe, 2017).

Regarding its criterion validity, the GCQ classified correctly (87.8%) probable 'caseness' for prolonged grief (Boelen and Lensvelt-Mulders, 2005). Further studies demonstrated that this association remained significant even when controlling for depressive symptoms (Liu et al., 2019). The GCQ is positively associated with grief severity: When considering grief severity as a continuous variable, all GCQ subscales explained a significant amount of variance over and above loss-related and sociodemographic variables (Boelen et al., 2003), and symptoms of depression and anxiety (Boelen and Lensvelt-Mulders, 2005; Cesur and Durak-Batıgün, 2021). Participants who were identified by self-report as candidates for prolonged grief demonstrated higher scores for the total scale and all subscales even when controlling for loss-related characteristics (Boelen et al., 2003; Boelen and Lensvelt-Mulders, 2005). Thus, research has demonstrated a close and specific association of the GCQ with prolonged grief over and above the contribution of loss-related factors, sociodemographic variables and indicators of other psychopathology.

As the whole scale is quite long (38 items), subsequent research often used combinations of GCQ subscales instead of the full GCQ. The use of a limited number of subscales makes the questionnaire more time-efficient. This is of special importance in grief research, since bereaved individuals may be highly distressed and long questionnaires may add to the response burden in surveys (Rolstad et al., 2011). Since the four subscales 'Life', 'Self', 'Future', and 'Threatening Interpretations of Grief' [sometimes also termed 'Catastrophic Misinterpretations' (Boelen and Lenferink, 2020)] were concurrently and prospectively most strongly associated with poorer adjustment to bereavement (Boelen et al., 2003, 2006a; Boelen and Lensvelt-Mulders, 2005), their combination is the most frequently used GCQ short form (GCQ-SF). In spite of its frequent use in research, a thorough psychometric analysis of this short form has not yet been undertaken.

Several studies have investigated the GCQ-SF and found evidence for its association with grief severity (Boelen and Klugkist, 2011; Shi et al., 2019; Boelen and Lenferink, 2020). In a sample of very recently bereaved individuals, a latent class analysis demonstrated significant associations between membership of grief symptom profiles and negative cognitions as measured by the GCQ-SF (Boelen and Lenferink, 2020). Especially the subscale 'Threatening Interpretations of Grief' was a significant predictor for overall symptom burden, thus underscoring the importance of negative cognitions for bereavement outcome. In a sample of bereaved persons who were surveyed at three time points (less than five months after the loss, and six and 15 months later, respectively), the four GCQ-SF subscales were related to grief severity, both concurrently and longitudinally, even after controlling for relevant sociodemographic and loss-related variables (Boelen et al., 2006a). When baseline grief severity was taken into account, all GCQ-SF subscales predicted grief severity at the second assessment, and 'Life' and 'Future' even at the third. Notably, the GCQ-SF has not only been used in observational studies but has also served as secondary outcome in a study investigating cognitive behavioral therapy for prolonged grief (Boelen et al., 2011). In this study, a reduction in the subscale scores after grief-specific psychotherapy was associated with better treatment outcome (i.e., greater reduction in grief severity), both at post-treatment and at follow-up.

This considerable body of evidence suggests that the GCQ is a reliable, change-sensitive, and valid instrument to assess negative cognitions after bereavement. Instruments such as the GCQ are highly relevant: the recognition of prolonged grief as a disorder in the international classification systems ICD-11 and DSM 5 underlines the need to assess etiological factors that contribute to this disorder, such as negative grief-specific cognitions. Additionally, there is a need for validated translations of these questionnaires: prolonged grief and grief in general must be considered with special regard to cultural differences in the duration of symptoms and the expression of grief (Killikelly and Maercker, 2017). To further international, cross-cultural empirical research, validated translations become ever more important. Concerning the GCQ, which is available in Dutch and English, subscales have been translated to French (Kokou-Kpolou et al., 2018); formal validation studies have been conducted for a Turkish version (Cesur and Durak-Batıgün, 2021) a Jordanian version (Basim and Noor, 2020), and a Chinese version (Yu et al., 2014). A German version of the GCQ, however, is lacking, as is a validation study for the GCQ short form.

The first aim of the present study was therefore to establish and validate a German version of the GCQ to further its international availability. We expected the German GCQ to demonstrate psychometric properties comparable to the original version. The second aim was to investigate the psychometric properties and factorial structure of the GCQ short form (comprising the subscales 'Life', 'Self', 'Future', and 'Threatening Interpretations of Grief'). We predicted that the GCQ-SF would show psychometric properties mostly comparable to the GCQ; a slightly lower reliability could be expected due to the shortening of the scale (as Cronbach's alpha increases with the number of items). Concerning the factorial structure, we expected an acceptable model fit for a second-order four-factor model representing the four included subscales on the first level and a second-level general factor. In an exploratory analysis, we investigated the associations between the GCQ and the GCQ-SF with sociodemographic variables, i.e., age and gender. Lastly, we aimed to assess the original GCQ and the GCQ-SF with regard to their construct and criterion-related validity. With regard to construct validity, we predicted that the GCQ and the GCQ-SF scores would be associated positively with grief rumination and pessimism, and negatively with optimism. Regarding criterion-related validity, we made three predictions: First, that the GCQ and the GCQ-SF would be associated with grief severity. Second, that the GCQ and GCQ-SF would be more strongly associated with grief severity than with symptoms of anxiety or depression. Third, that the GCQ and the GCQ-SF would be strongly related to probable 'caseness' of prolonged grief, i.e., belonging to a high-risk group for prolonged grief.

MATERIALS AND METHODS

Procedures

Ethical approval (2016-39k) was obtained from the Ethics Committee of the Department of Psychology from the Philipps-University Marburg (Germany). Recruitment lasted from April to December 2017. Invitations for the study, including a link to an online survey platform, were posted on grief-related websites (e.g., peer support websites) and sent via mailing lists of the university (staff and students). The survey platform provided information about e.g., study aims, confidentiality and study eligibility criteria. Inclusion criteria were age ≥18, having lost a loved one within the last 10 years and being a German native speaker. Exclusion criteria were suicidal ideation or anticipating feeling too distressed by loss-related questions. Criteria for inclusion and exclusion were assessed by self-report. Median time to complete the questionnaire was 17 min (ranging from 7 min to 46 min). Participants received no compensation for completing the survey.

Measures

Demographic and Loss-Related Variables

In addition to sociodemographic data (age, gender, native language, educational level) participants also provided loss-related data. First, participants were asked which losses they had ever experienced (i.e., spouse/partner, child, sibling, parent, grand-parent, other). Next, they indicated which loss was still most distressing to them. For this loss, additional data were collected: time since loss (indicated by date of death and three categories: less than 6 months, 6-12 months, more than a year); relationship to the deceased (i.e., spouse/partner, child, sibling, parent, grand-parent, other); cause of death (natural, accident, suicide, homicide, other); and how the participants had experienced the death (expected, unexpected, both/neither).

Grief Cognitions Questionnaire

Two independent psychologists [BD and LB (cf. acknowledgments)] translated the English version of the Grief Cognitions Questionnaire into German. The versions were reviewed and compared for differences indicating a different understanding of the original items. Both translations were very close and were subsequently merged by consensus into one German version. This consensus version was back-translated (AB) following the guidelines by Beaton et al. (2000). The back-translated questionnaire was then discussed with the original author (PB) for semantic equivalence. The final German version is provided as **Supplementary Material 1**. The GCQ is a 38-item questionnaire that measures grief-related negative cognitions (Boelen et al., 2003; Boelen and Lensvelt-Mulders, 2005). Participants are presented with 38 cognitions as statements and indicate the extent to which they agree with the respective statement on a 6-point Likert scale (0 = disagree strongly, 5 = agree strongly). The GCQ comprises nine inter-correlated subscales (Boelen and Lensvelt-Mulders, 2005). The subscale 'Self' encompasses global negative beliefs about the self since the loss (6 items). 'World' describes a negative view of the world since the loss (4 items). 'Future' comprises negative views on the future without the deceased (5 items). 'Life' describes negative views concerning the meaning of one's life since the death (4 items). 'Self-blame' encompasses cognitions of not having prevented the death or regrets about one's role in the relationship with the deceased (5 items). 'Others' encompasses negative evaluations of the available social support after the loss (3 items). 'Appropriateness of Grief' describes negative evaluations of one's own grief reactions (4 items). 'Cherish Grief' reflects beliefs about the importance of cherishing the pain of the loss (3 items). 'Threatening Interpretations of Grief' contains catastrophic misinterpretations of in themselves harmless symptoms of grief (4 items). A total score is calculated by summing all items, and subscale scores by summing the respective items for each subscale. In previous research, the reliability of the total scale was excellent (Cronbach's α = 0.96), with high to excellent reliability for the subscales (0.81 ≤ Cronbach's α ≤ 0.95) (Boelen and Lensvelt-Mulders, 2005). As noted, several studies have used an abbreviated version of the GCQ, i.e., the GCQ-SF, containing only the subscales 'Self', 'Life', 'Future', and 'Threatening Interpretations of Grief'(Boelen et al., 2006a, 2011).

Inventory of Complicated Grief

The Inventory of Complicated Grief (ICG) (Prigerson et al., 1995) was used in its German version (ICG-D) (Lumbeck et al., 2013). Its 19 items encompass emotional, cognitive and behavioral states relevant to prolonged grief (e.g., 'I feel myself longing for the person who died.'). Participants are asked to rate the occurrence of each state on a 5-point scale (0 = never; 4 = always). A total score assesses the severity of grief symptoms by summing of all items. The ICG-D has demonstrated excellent internal consistency (Cronbach's α = 0.94) and good validity (Lumbeck et al., 2013). In the present sample, Cronbach's α was α = 0.94. Prigerson and colleagues (Boelen et al., 2011) have established a cut-off (≥25) indicating more disabling states of grief. This cut-off has been used previously to identify probable 'cases' of prolonged grief (Kristensen et al., 2010; Newson et al., 2011).

Utrecht Grief Rumination Scale

The Utrecht Grief Rumination Scale (UGRS) (Eisma et al., 2014) was used in its German version (UGRS-D) (Doering et al., 2018). Participants rate the frequency with which they have engaged in repetitive thoughts about the loss in the past month on a 5-point scale (1 = never; 5 = very often). Its 15 items form five subscales (three items each), which focus on different themes of rumination about causes and consequences of the loss: (1) personal emotional reactions to the loss (e.g., 'How often in the past month did you try to analyze your feelings about this loss precisely?'), (2) injustice of the death (e.g., 'How often in the past month did you wonder why this had to happen to you and not to someone else?'), (3) counterfactual thoughts about the circumstances of the death (e.g., 'How often in the past month did you analyze if you could have prevented the death?') (4) meaning and consequences of the loss (e.g., 'How often in the past month did you analyze what the personal meaning of the loss is for you?'), and (5) the reactions of others to the loss (e.g., 'How often in the past month did you think about how you would like others to react to your loss?'). A total score of grief rumination is calculated by summing of all items; subscale scores can be obtained by summing the subscale items. The internal consistency of the UGRS-D is good (Doering et al., 2018); in the present sample, Cronbach's α was α = 0.92.

Hospital Anxiety and Depression Scale

The Hospital Anxiety and Depression Scale [HADS (Zigmond and Snaith, 1983)] was used in its German version [HADS-D (Herrmann-Lingen et al., 2011)]. Its two subscales, each consisting of seven items, assess symptoms of anxiety (example item: 'I feel tense or wound up') and depression (inverted example item: 'I feel cheerful') with regard to the past week. Symptoms are evaluated on a 4-point scale by asking for the frequency of occurrence, intensity of a symptom or associated changes in behavior. Subscale scores can be obtained by summing the respective items, with higher subscale scores indicating higher anxiety and depression, respectively. The subscales have good reliability (anxiety: Cronbach's α = 0.80; depression: Cronbach's α = 0.81) (Herrmann-Lingen et al., 2011) and validity. In the present sample, Cronbach's α was α = 0.92 for depression and α = 0.85 for anxiety.

Life Orientation Test-Revised

The Life Orientation Test-Revised (LOT-R) (Scheier et al., 1994) was used in its German version (Glaesmer et al., 2008). It contains ten items, with three items assessing dispositional optimism (e.g., 'In uncertain times, I always expect the best'), three items assessing dispositional pessimism (e.g., 'If something can go wrong for me, it will'), and four filler items. Items are rated on a 5-point Likert scale (0 = strongly disagree; 4 = strongly agree). Scores for the two subscales are obtained by summing the respective items with higher scores indicating higher optimism and pessimism, respectively. Its internal consistency is acceptable (Glaesmer et al., 2012). In the present sample, Cronbach's α for optimism was α = 0.79, for pessimism α = 0.74.

Participants

A total of 1,121 participants gave informed consent; 864 provided at least demographic data so that they could be assessed with regard to study eligibility. Of these 864 participants, 26 were not German native speakers and seven participants were younger than 18 years, and were thus excluded. Of the 831 eligible participants (100%), 587 completed the survey. Two participants were excluded due to answer patterns (i.e., 'straightlining', SD = 0 in all questionnaires) so that the final sample consisted of 585 participants, resulting in a completer rate of 70.4%.

The majority of the sample was female (88.4%). Mean age was 40.2 years (±SD 13.2; range 18–78 years). The majority of the participants reported a higher educational level (i.e., graduate from high school, college or university or advanced technical professional; 66.6%). Participants indicated having experienced the following losses (multiple answers possible): spouse/partner (25.3%), child (15.7%), parent (40.9%), sibling (6.8%), grandparent (21.9%) and another loved one (e.g., friend, 13.3%). Participants were asked to indicate the loss that was still most distressing to them, and report its loss-related characteristics. The participants indicated the following relationships for the most distressing loss: spouse/partner (24.6%), child (14.5%), parent (33.7%), sibling (5.1%), grandparent (13.7%) and other loved one (8.4%). The cause of death was predominantly from a natural cause (68.0%) with the remaining causes of death being accidents (7.2%), suicides (9.1%), homicide (0.9%) or other causes (12.3%). For most participants, the death had been unexpected (56.9%), while 24.1% reported having expected the death and 19.0% described the death as either both expected and unexpected or neither expected nor unexpected. Mean time since loss was 35.3 ± 34.6 months (range 0–131 months, MD = 22.0 months).

Statistical Analyses

Since the survey set the GCQ items as mandatory, no missing data were observed in the GCQ. Answers to other items were optional.

Single missing items in other questionnaires (three single values) were replaced according to the respective questionnaire's instructions (i.e., replacement of single missing items by mean of the scale/subscale). To investigate the psychometric properties of the GCQ, standard item analyses were calculated: mean item scores and standard deviations, item difficulties, item-total correlations with the item itself excluded from the total score, and estimations of internal consistency when the item was omitted.

The factorial structure of the GCQ and the GCQ-SF was investigated by confirmatory factor analyses (CFA) with maximum likelihood estimation. Of the four models proposed for the GCQ, those two models were tested that had commanded the best empirical support (Boelen and Lensvelt-Mulders, 2005). Model 1 hypothesizes a nine-factor model with correlated factors, which represent the nine GCQ subscales. Model 2 replaces the correlations by a general factor (second-order nine-factor model). For the abbreviated GCQ-SF, we tested analogous models: Model 1-SF stipulated four correlated factors representing the four included subscales. Model 2-SF added to this a general factor (second-order four-factor model). Since the GCQ scores did not meet the assumption of a normal distribution as evident after an inspection of skewness and kurtosis, we performed a log-transformation of the GCQ scores prior to conducting the CFA. To assess goodness of fit, we inspected the χ^2 test, the root mean square error of approximation (RMSEA) and the standardized root mean squared residual (SRMR). The following are viewed as cut-off values indicating a good fit: χ/df ratio of ≤ 2 or 3, RMSEA < 0.06 to 0.08 with confidence interval, SRMR < 0.08; and for the Tucker-Lewis -Index (TLI) and the comparative fit index (CFI) ≥ 0.95 (Schreiber et al., 2006). To compare the respective models, we inspected the Akaike Information Criterion (AIC); and the Bayesian Information Criterion (BIC); while their absolute values are not informative, smaller AIC and BIC scores indicate a better model fit when comparing different models.

In exploratory analyses, we investigated the associations of sociodemographic variables, i.e., age and gender with the GCQ and the GCQ-SF. For age, we calculated correlations between age and the total scores of both questionnaires. To investigate the influence of gender, we conducted independent sample *t*-tests to compare men and women with regard to their scores in the GCQ and the GCQ-SF. If Levene's test indicated that variances were unequal, the Welch test is reported (and the degrees of freedom were adjusted accordingly). Where appropriate, Cohen's *d* is reported as a measure of effect size.

To investigate further facets of validity, we calculated correlations of the GCQ with grief severity (ICG-D), grief rumination (UGRS-D), optimism and pessimism (LOT-R) and anxiety and depression (HADS-D). To account for possible alpha error inflation due to multiple comparisons, significance levels were Bonferroni-corrected. Construct validity was assessed by inspecting zero-order correlations between the GCQ and grief rumination, pessimism, and optimism. With regard to criterion-related validity, zero-order correlations between the GCQ and grief severity (ICG-D) were calculated. Z-tests compared the zero-order correlations of the GCQ and the ICG-D to correlations of the GCQ with other measures of psychopathology (anxiety and depression). All these analyses were conducted analogously with the GCQ-SF. Additionally, a logistic regression and receiver operator characteristic (ROC) analysis compared the criterion validity of the GCQ and the GCQ-SF. As a binary criterion, the probable prolonged grief 'caseness' was operationalized using the cut-off of the ICG (ICG $\geq$ 25), which has been established in previous research (Kristensen et al., 2010; Newson et al., 2011). Only participants who fulfilled the ICD-11 time criterion (time since loss $\geq$6 months) were included in this analysis. A block-wise logistic regression (Method: forward selection; Wald) with the criterion group membership was conducted with the GCQ-SF as a first block (model 1) and the remaining five GCQ scales as a second block (model 2). The models were compared concerning the goodness of fit (log-likelihood statistic) and the explained variance (Nagelkerke's R^2). Individual predictors were assessed using the Wald statistic and odds ratios. In order to investigate the discriminatory power of the GCQ to predict probable prolonged grief 'caseness', ROC's of the GCQ and the GCQ-SF were calculated. The combined sensitivity and specificity as expressed by the area under the curve (AUC) is reported. Higher values of the GCQ are taken as indicative of probable prolonged grief 'caseness'.

The data analysis was carried out with IBM SPSS statistics 24; for the confirmatory factor analysis, the SPSS AMOS version 21.0.0 was used (IBM, Meadville, United States). Unless otherwise stated, the α-level was set to $p = 0.05$.

RESULTS

Item Analyses

For the GCQ, the internal consistency of the total scale was Cronbach's $\alpha = 0.96$. Removing any item from the scale would not have improved its internal consistency (standardized alpha for the subscales if the item was removed was 0.96 for all items). Consistency coefficients for the subscales were: Self $\alpha = 0.88$; World $\alpha = 0.87$; Life $\alpha = 0.94$; Future $\alpha = 0.91$; Self-Blame $\alpha = 0.85$; Others $\alpha = 0.84$; Appropriateness of Grief Reactions $\alpha = .85$; Cherish Grief $\alpha = 0.76$; Threatening Interpretations of Grief Reactions $\alpha = 0.88$. **Table 1** presents means and standard deviations for each item. Mean item difficulty was $p_i = 0.27$ with a range from $p_i = 0.12$ (item 9) to $p_i = 0.43$ (items 14, 18, 19). The mean inter-item correlation was $r_{itc} = .40$ with item-whole correlations ranging from $r_{itc} = 0.38$ (item 6) to $r_{itc} = 0.79$ (item 35).

For the GCQ-SF, the internal consistency of the total score was $\alpha = 0.96$. The internal consistency would not improve by omitting any item. The mean item difficulty was $p_i = 0.25$ with a range from $p_i = 0.12$ (item 9) to $p_i = 0.35$ (item 5). The mean inter-item correlation was $r_{itc} = 0.56$ with item-whole correlations ranging from $r_{itc} = 0.43$ (item 9) to $r_{itc} = 0.84$ (items 15, 35).

Confirmatory Factor Analysis

Confirmatory factor analyses examined the factorial structure of the GCQ and the GCQ-SF. **Table 2** presents the fit indices for the respective models. For the original GCQ, model 1 (nine correlated factors) demonstrated a better fit to the data on all

TABLE 1 | Item means, standard deviations, skewness, kurtosis, item difficulties, and item-whole correlations with the subscales (*n* = 585).

Item	M	SD	Skew	Kurt	Difficulty	Item-whole correlation
1† Since he/she is dead, I think I am worthless.	1.05	1.40	1.24	0.56	0.21	0.74
2 I am partially responsible for his/her death.	0.91	1.38	1.46	1.11	0.18	0.46
3 Since he/she died, I realize that the world is a bad place.	1.13	1.34	1.14	0.44	0.23	0.65
4 The people around me should give me more support.	1.76	1.65	0.62	−0.84	0.35	0.57
5† I don't expect that I will feel better in the future.	1.76	1.70	0.62	−0.88	0.35	0.67
6 I have to mourn otherwise I will forget him/her.	1.33	1.56	1.01	−0.14	0.27	0.38
7† I see myself as a weak person since he/she passed away.	1.39	1.64	0.94	−0.36	0.28	0.72
8† If I let go of my emotions, I will go crazy.	1.70	1.77	0.67	−0.95	0.34	0.66
9† I am ashamed of myself, since he/she died.	0.58	1.12	2.17	4.26	0.12	0.48
10 His/her death has made me realize that we live in an awful world.	1.29	1.55	1.07	0.01	0.26	0.65
11 My grief reactions are abnormal.	0.86	1.31	1.55	1.41	0.17	0.46
12† Life has got nothing to offer me anymore.	1.00	1.47	1.44	0.95	0.20	0.72
13† I don't have confidence in the future.	1.21	1.60	1.16	0.07	0.24	0.74
14 As long as I mourn I maintain the bond with him/her.	2.16	1.74	0.24	−1.21	0.43	0.53
15† My life is useless since he/she died.	1.05	1.51	1.42	0.96	0.21	0.77
16 I don't mourn the way I should do.	1.21	1.51	1.08	−0.01	0.24	0.39
17 I should have prevented his/her death	1.46	1.80	0.85	−0.77	0.29	0.51
18 Many people have let me down after his/her death	2.17	1.90	0.26	−1.42	0.43	0.74
19 His/her death has taught me that the world is unjust.	2.16	1.91	0.26	−1.44	0.43	0.52
20† My life is meaningless since he/she died	1.15	1.57	1.27	0.40	0.23	0.64
21† My wishes for the future will never be fulfilled.	1.67	1.57	0.67	−0.91	0.33	0.76
22† Since he/she is dead, I feel less worthy.	1.18	1.55	1.18	0.22	0.24	0.74
23† If I fully realized what his/her death means, I would go crazy.	1.61	1.77	0.79	−0.79	0.32	0.77
24 If I had done things differently, he/she would still be alive.	1.24	1.66	1.05	−0.28	0.25	0.72
25† Ever since he/she died, I think negatively about myself.	1.14	1.50	1.19	0.27	0.23	0.43
26 I do not react to this loss normally.	1.01	1.40	1.39	1.02	0.20	0.74
27† In the future I will never be really happy anymore.	1.47	1.70	0.88	−0.57	0.29	0.50
28 As long as I mourn I do not really have to let him/her go.	1.51	1.68	0.85	−0.57	0.30	0.75
29 People around me should show much more interest in me.	1.55	1.68	0.79	−0.66	0.31	0.62
30 I will never be able to forgive myself for the things I did wrong in the relationship with him/her.	1.60	1.73	0.75	−0.80	0.32	0.50
31 There is something wrong with my feelings.	0.92	1.40	1.56	1.43	0.18	0.57
32† My life has no purpose anymore, since he/she died.	1.00	1.49	1.44	0.96	0.20	0.53
33 I blame myself for not having cared better for him/her.	2.07	1.73	0.32	−1.31	0.41	0.75
34 His/her death has taught me that the world is a worthless place.	0.96	1.40	1.47	1.17	0.19	0.48
35† Since he/she is no longer here, I have a negative view on the future.	1.43	1.65	0.91	−0.43	0.29	0.79
36† If I allow my feelings to come, I will lose control.	1.52	1.74	0.86	−0.63	0.30	0.73
37† Since he/she is dead, I am of no importance to anybody anymore.	0.81	1.34	1.77	2.27	0.16	0.65
38† Once I start crying, I will lose control.	1.34	1.64	1.02	−0.26	0.27	0.64

† *Items also included in the GCQ-SF. KURT: kurtosis. The standardized alpha for the subscales if the item was removed was.96 for all items.*

TABLE 2 | Fit indices for the models tested in the confirmatory factor analyses.

Model	χ^2	*df*	*p*	χ^2/df	RMSEA	SRMR	CFI	TLI	AIC	BIC
1 (GCQ)	1980.50	629	<0.001	3.15	0.061	0.056	0.919	0.910	2204.50	2694.12
2 (GCQ)	2335.51	656	<0.001	3.56	0.066	0.069	0.900	0.892	2505.51	2877.10
1 SF (GCQ-SF)	709.44	146	<0.001	4.86	0.081	0.040	0.942	0.932	797.44	989.79
2 SF (GCQ-SF)	782.36	148	<0.001	5.29	0.086	0.048	0.935	0.925	866.36	1049.97

Model 1 (GCQ): intercorrelated nine-factor model; model 2 (GCQ): nine factors with a higher order factor; model 1-SF (GCQ-SF): intercorrelated four-factor model for the abbreviated GCQ-SF; model 2-SF (GCQ-SF): four factors with a higher order factor for the abbreviated GCQ-SF. AIC, Akaike Information Criterion; BIC, Bayesian Information Criterion; CFI, Comparative Fit Index; TLI, Tucker-Lewis Index; RMSEA, Root Mean Square Error of Approximation; SRMR, Standardized Root Mean Residual.

absolute fit indices and especially on the comparative indices (CFI, AIC) than model 2 (second-order nine-factor model). For the GCQ-SF, model 1-SF stipulated four correlated factors representing the four included subscales. Model 2-SF added to this a general factor (second-order four-factor model). The goodness of fit indices are presented in **Table 2**. Model 1-SF demonstrated superior fit to model 2-SF according to all indices. **Figure 1** illustrates the path diagram for model 1-SF; all

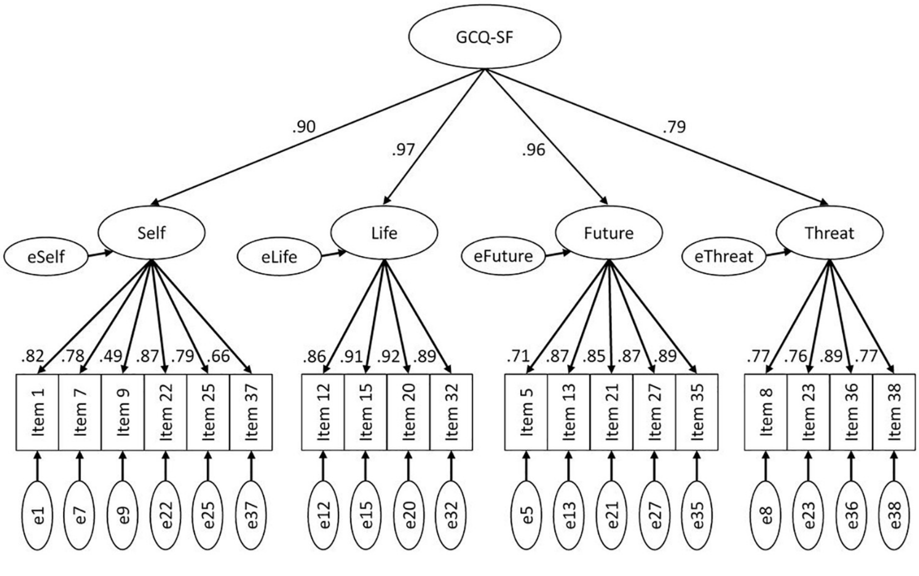

FIGURE 1 | Confirmatory factor analysis of the GCQ-SF (model 1-SF). Path diagram for the confirmatory factor analysis of the GCQ-SF with four intercorrelated factors representing the four included subscales and a general factor. Error terms are denoted with a small 'e'. All path coefficients are significant at $p < 0.001$.

regression weights were significant ($p < 0.001$). Please refer to the **Supplementary Material** for path diagrams for the model 2-SF (**Supplementary Material 2**) and the models 1 (**Supplementary Material 3**) and 2 (**Supplementary Material 4**) for the GCQ.

Exploratory Analysis of Sociodemographic Variables

Age was not significantly associated with the GCQ ($r = 0.072$, $p = 0.081$). It demonstrated a significant but small association with the GCQ-SF ($r = 0.157$, $p < 0.001$): while the subscales 'Self' and 'Threatening Interpretations of Grief' showed no correlation with age, higher age was significantly associated with more endorsement of negative cognitions regarding 'Life' ($r = 0.23$, $p < 0.001$) and 'Future' ($r = 0.24$, $p < 0.001$). Women reported higher GCQ scores (53.59 ± 39.41) than men (32.87 ± 29.36). This difference was significant ($t(99.72) = 5.20$, $p < 0.001$, $d = 0.60$). The same difference was evident for the GCQ-SF ($t(104.15) = 5.36$, $p < 0.001$, $d = 0.60$) with women reporting higher scores (25.33 ± 23.24) than men (13.32 ± 16.35).

Validity

Table 3 presents the zero-order correlations between the GCQ and grief severity (ICG-D), grief rumination (UGRS-D), optimism and pessimism (LOT-R) and symptoms of anxiety (HADS-D_{anx}) and depression (HADS-D_{depr}). Supporting convergent and discriminant validity, the GCQ-scores were positively associated with grief rumination and pessimism, and negatively with optimism. The same correlational pattern was evident for the GCQ-SF. Concerning criterion validity, the GCQ-scores were positively associated with grief severity. Fisher's z-test demonstrated that the correlation of the GCQ with grief severity was higher than with depression ($z = 5.767$, $p < 0.001$) and anxiety ($z = 8.254$, $p < 0.001$). The same results were obtained for the respective correlations of the GCQ-SF with grief severity and depression ($z = 2.811$, $p < 0.002$) and grief severity and anxiety ($z = 8.713$, $p < 0.001$). These significant differences demonstrate a closer association between GCQ and GCQ-SF and grief severity than with other measures of psychopathology.

Comparison of the Criterion Validity of the GCQ and the GCQ-SF

The criterion probable prolonged grief 'caseness' (ICG $\geq$ 25 and time since loss $\geq$ 6 months) classified $n = 238$ participants as cases and $n = 234$ as non-cases. In the logistic regression, model 1 demonstrated a significant association between GCQ-SF scores and probable 'caseness' ($\chi^2(4) = 293.77$, $p < 0.001$; Nagelkerkes $R^2 = 0.63$). All four GCQ-SF scales were significant predictors: 'Self' (Wald(1) = 6.58, $p = 0.010$; OR = 1.2, 95% CI, 1.02–1.22), 'Life'(Wald(1) = 4.12, $p = 0.042$; OR = 1.18, 95% CI, 1.01–1.37), 'Future' (Wald(1) = 9.07, $p = 0.003$; OR = 1.14, 95% CI, 1.05–1.24), and 'Threatening Interpretations of Grief' (Wald(1) = 10.62, $p = 0.001$; OR = 1.14, 95% CI, 1.05–1.24). With increasing GCQ-SF scores, the relative probability of being a member of the high-risk group for prolonged grief increased. Model 2 was also significant, selecting five of the nine subscales as predictors ($\chi^2(5) = 303.28$, $p < 0.001$). **Table 4** presents the statistical tests for the individual predictors included in the final model. While all GCQ-SF subscales were included as predictors, of the remaining five GCQ subscales, only 'Others' contributed significantly to the prediction of group membership. The amount of variance explained by the second model was 64% (Nagelkerkes R^2).

Second, we conducted an ROC analysis to examine the sensitivity and specificity with which the GCQ and the GCQ-SF predicted probable 'caseness'. For the GCQ, the analysis showed

TABLE 3 | Correlations of the GCQ, the GCQ-SF and the subscales with measures of optimism, pessimism, grief severity, grief rumination, depression and anxiety.

	LOT-pess	LOT- opt	ICG-D	UGRS-D	HADS-D Depression	HADS-D Anxiety
GCQ Sum Score	0.57***	−0.58***	0.82***	0.73***	0.72***	0.67***
GCQ-SF Sum Score	0.53***	−0.61***	0.81***	0.67***	0.76***	0.63***
Self†	0.54***	−53***	0.72***	0.63***	0.63***	0.57***
World	0.46***	−0.47***	0.68***	0.62***	0.57***	0.51***
Life†	0.44***	−0.54***	0.71***	0.56***	0.72***	0.52***
Future†	0.54***	−0.63***	0.76***	0.64***	0.80***	0.59***
Self-blame	0.35***	−0.34***	0.48***	0.53***	0.34***	0.41***
Others	0.39***	−0.39***	0.56***	0.58***	0.50***	0.48***
Appropriateness of Grief	0.34***	−0.29***	0.40***	0.37***	0.33***	0.42***
Cherish Grief	0.38***	−0.32***	0.55***	0.49***	0.42***	0.39***
Threatening Interpretations of Grief†	0.45***	−0.46***	0.70***	0.58***	0.58***	0.58***

****p* < 0.001; Bonferroni corrected threshold: p < 0.0008 (all p with *** are significant after Bonferroni correction). Scales marked with † are included in the GCQ short form (GCQ-SF). GCQ, Grief Cognitions Questionnaire; HADS-D, Hospital Anxiety and Depression Scale, German version; ICG-D, Inventory of Complicated Grief, German version; LOT-pess, pessimism subscale of the Life Orientation Test-Revised; Lot-opt, optimism subscale of the Life Orientation Test-Revised; UGRS-D, Utrecht Grief Rumination Scale, German version.*

TABLE 4 | Logistic regression of membership in high-risk vs low to medium risk for prolonged grief group on all Grief Cognitions Questionnaire (GCQ) subscales (model 2).

Predictor	β	SE β	Wald's χ^2	*df*	*p*	OR (95% CI)
Constant	−2.56	0.27	92.86	1	< 0.001	0.07
Self†	0.08	0.05	3.28	1	0.070	1.09 (0.99–1.18)
Life†	0.19	0.08	5.40	1	0.020	1.21 (1.03–1.41)
Future†	0.10	0.05	4.59	1	0.032	1.10 (1.01–1.21)
Threatening Interpretations of Grief†	0.13	0.04	10.52	1	0.001	1.14 (1.05–1.23)
Others	0.11	0.04	9.29	1	0.002	1.12 (1.04–1.20)

Scales marked with † are included in the GCQ short form (GCQ-SF). Method of entry: forward selection (Wald).

an AUC = 0.896 (SE = 0.014; $p < 0.001$; CI: 0.868–0.924); the GCQ-SF demonstrated an AUC = 0.900 (SE = 0.015; $p < 0.001$; CI: 0.871–0.928). See **Figure 2** for a comparison of the sensitivity and specificity profiles.

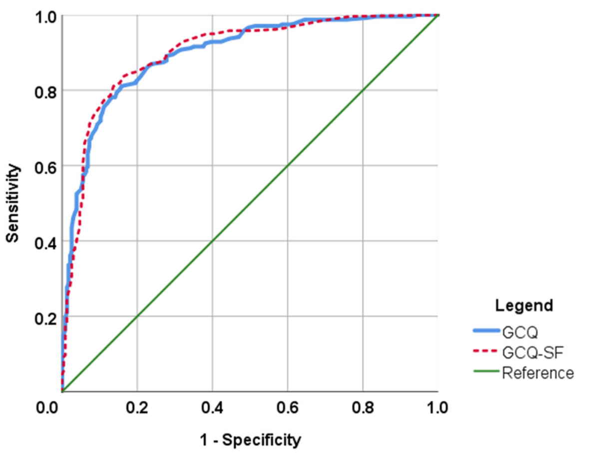

FIGURE 2 | ROC curves of the GCQ and GCQ-SF. Comparison of sensitivity and specificity of the GCQ and GCQ-SF in predicting probable prolonged grief caseness (ICG ≥ 25 and time since loss ≥6 months).

DISCUSSION

This is the first study to investigate the psychometric properties of the frequently used abbreviated version (GCQ-SF) of the GCQ and to validate both the long and abbreviated versions of the GCQ in German. The German GCQ replicated the factor structure of the original GCQ, while for the abbreviated GCQ-SF, a four-factor structure with interrelated factors was proposed, representing its four subscales. Both questionnaires demonstrated very good item properties, excellent internal consistency and validity. Comparative analyses of the GCQ and GCQ-SF supported the usefulness of the abbreviated version: the GCQ-SF's criterion validity is nearly identical to the GCQ, while using only four of the original nine subscales, including 19 of the original 38 items.

The GCQ and the GCQ-SF demonstrated excellent internal consistency. Internal consistencies of the subscales were good to excellent with the exception of 'Cherish Grief' (still satisfactory with Cronbach's α = 0.76), which is part of the original GCQ but not the GCQ-SF. Item-whole correlations were medium to high showing slightly better psychometric properties for the GCQ-SF. The item difficulties were mostly in the medium range, which is desirable to achieve maximum discriminatory power. Five items (9, 11, 31, 34, 38) proved of high difficulty in our sample, i.e., were seldomly endorsed; only two of them are also part of GCQ-SF. Their difficulties suggest that many bereaved persons in our sample felt that these items did not describe their personal situation adequately. When interpreting this fact it is important to consider that negative cognitions after bereavement are, on the one hand, a very common finding in bereaved samples (Parkes, 1988; Schwartzberg and Janoff-Bulman, 1991; Rando, 1993), but on the other hand, a correlate of prolonged grief as a pathological grief reaction (Boelen et al., 2006b). It may thus make sense that some items may be relevant to many 'healthy' grievers, while others only apply to a minority of bereaved persons with more disabling grief reactions: hence, some items are endorsed less often. The more difficult items may be applicable to non-normative samples of bereaved persons and have discriminatory power among them, e.g., in treatment-seeking populations with higher bereavement-related distress or samples with special loss characteristics. To illustrate, item nine ('I am ashamed of myself, since he/she died') may only be relevant under certain circumstances, e.g., after bereavement by suicide, which is often associated with an increased perception of stigma (Hanschmidt et al., 2016). Future research investigating the psychometric properties of the GCQ could further clarify the utility of these items in different populations of bereaved persons, i.e., in samples of persons with clinically relevant bereavement-related distress and different loss characteristics.

The confirmatory factor analyses for the German GCQ mirrored the results for the original GCQ (Boelen and Lensvelt-Mulders, 2005). For the GCQ, we tested the two models identified as the best fitting in the original and found adequate fit indices indicating that the translated German version functions very similar to the original scale. While the model with nine interrelated factors demonstrated a better fit to the data on both the absolute fit indices and the comparative indices than the model including an additional higher-order factor, the fit indices of both models were in the same range. Thus, while acknowledging the distinctness of the subscales, the use of the total GCQ score as a general index of negative cognitions after bereavement seems still justified. For the GCQ-SF, the overall fit indices were below those of the long version. Nevertheless, the confirmatory factor analysis provided structurally very similar results, indicating a better fit for a model with four interrelated factors while still legitimizing the usage of the sum score of the scale. In addition to the fit indices, parsimony should also be considered when evaluating model fit, which would favor the higher-order models. On a content-level, the GCQ subscales are indicators of different themes of negative cognitions after bereavement. Depending on the respondents' individual bereavement experience, some themes may be more relevant to their personal situation than others and not all will necessarily be endorsed similarly. This may explain the slightly better fit of lower-order models in our data for both GCQ and GCQ-SF. For research purposes and from the conceptual viewpoint of the cognitive behavioral model of prolonged grief (Boelen et al., 2006b), however, it seems essential to assess the overall role that negative cognitions plays in the bereavement response. The use of the sum score serves this function and can thus meaningfully contribute to grief research.

In an exploratory analysis, we investigated the association of sociodemographic variables with the GCQ and GCQ-SF. Age did not correlate significantly with the GCQ. Its association with the GCQ-SF, however, was significant and could be traced to two subscales. Older participants reported higher scores on the subscales 'Life' and 'Future', indicating more negative cognitions with regard to a life and future without the deceased. This could reflect the increasing difficulty of envisioning, and adapting to, a life after the loss for older bereaved individuals. We also found an effect of gender on the GCQ and the GCQ-SF, with women reporting higher scores than men. Women may be more likely to endorse or to report negative grief-specific cognitions. On the other hand, this finding must be interpreted with caution, because our sample was predominantly female and our analysis thus cannot control for confounding factors such as age, relationship to the deceased and other loss-related variables. While our results thus highlight the need to investigate gender differences in grief-specific cognitions, a detailed analysis should be reserved for more gender-balanced samples that allow controlling loss-related factors.

With regard to validity, our results align well with, and corroborate, previous findings from cross-sectional and prospective studies (Boelen et al., 2003, 2006a; Boelen and Lensvelt-Mulders, 2005; Boelen and Klugkist, 2011). As expected, both versions of the GCQ correlated positively with pessimism and negatively with optimism. Both GCQ versions also demonstrated substantial associations with symptoms of prolonged grief, depression and anxiety. Importantly, however, their associations with prolonged grief symptoms were significantly stronger than those with indicators of other types of psychopathology, thus strengthening the argument of a specific association of the GCQ (and the GCQ-SF) with these symptoms. While a correlation in the medium range has been reported between the GCQ and a three-item *ad-hoc* scale of grief-related rumination (Boelen and Lensvelt-Mulders, 2005), our study found a high correlation between the GCQ (and the GCQ-SF) and a validated scale of grief-specific rumination (UGRS-D). This closer association between thought content (GCQ/GCQ-SF) and ruminative thought processes (UGRS-D) is probably explained by the use of different measures in previous research and our study.

Since these results speak for the good psychometric properties of both GCQ versions, we were additionally interested in a comparison of both questionnaires. To compare the GCQ and the GCQ-SF with regard to their criterion validity, we first established probable prolonged grief 'caseness' in our sample based on the cut-off score in the ICG (Kristensen et al., 2010; Newson et al., 2011) and the ICD-11 time criterion (World Health Organization [WHO], 2020). In the logistic regression to predict group membership, the forward selection method included all four GCQ-SF subscales in the models, while only one of the remaining five GCQ subscales was a significant predictor ('Others'). This second model including 'Others', however, contributed only one additional percent of explained variance to the variance already explained by the four GCQ-SF subscales. In this analysis, the GCQ-SF thus performs nearly identical to the GCQ, which is twice as long. In a second analysis, we used a ROC approach to investigate the questionnaires' discriminatory power, also using probable 'caseness' of prolonged grief as criterion. Again, the

GCQ-SF performed equally well as the GCQ, with a negligible difference in AUCs of 0.004 favoring the GCQ-SF. This means that both questionnaires share the same properties in relative specificity and sensitivity.

However, it is important to consider that the GCQ-SF provides only information about the grief-specific cognitions concerning 'Self', 'Life', 'Future' and 'Threatening Interpretations of Grief'. Whenever a more comprehensive assessment of negative beliefs is desirable, especially for clinical purposes, the original GCQ with its five additional subscales may be better suited to the task. In our study, the additional subscales of the original GCQ ('World', 'Self-Blame', 'Others', 'Appropriateness', 'Cherish Grief') added only little to its criterion validity (i.e., explanation of variance in probable prolonged grief 'caseness'). This suggests that these five themes are less important to prolonged grief (as specified in our provisional diagnostic category). However, this conclusion is based on a group-level analysis of a non-treatment-seeking sample with varying time since loss. It does not preclude that in individual cases these five themes may be of high relevance to individual grief distress, e.g., self-blame following the death of a spouse (Field and Bonanno, 2001). These considerations point to the fact that the GCQ and GCQ-SF may have differential fields of application. Importantly, however, the results of our study clearly show that the GCQ-SF, in spite of its brevity, preserves all positive psychometric properties of the original questionnaire.

Strengths and Limitations

Strengths of our study are the large sample size, the careful backtranslation procedure in developing the German GCQ in cooperation with one of the authors of the original GCQ, and the use of well-validated questionnaires in the assessment of all constructs. Our recruitment strategies allowed us to reach out to, and include, a wide age-range of participants with different bereavement experiences, a wide range of time since loss and varying levels of grief-related distress. In our analysis of discriminatory power of the GCQ, we considered the cut-off for 'caseness' of prolonged grief established in the research tradition of the field and combined it with the most recent time-criterion for PGD, thus facilitating the interpretation of our results within a dynamic and changing classification of pathological grief reactions.

At the same time, some limitations of our study must be taken into account. First, our design is cross-sectional and does therefore not allow for causal interpretation. Second, our sample was predominantly female (88%), thus the generalizability of our findings remains to be tested. While the use of convenience sampling and some of our various recruitment strategies may have contributed to the present sampling bias, an overrepresentation of female participants in bereavement research has been reported as a general methodological problem in this field of research previously (Stroebe et al., 2003). Future research should try to implement recruiting strategies that oversample hitherto underrepresented populations, especially bereaved men. Samples that are more balanced would also allow for detailed analyses of the preliminary gender effect, which was evident in our data. Third, all our measures were based on self-report. Self-report is an adequate way of assessing cognitions, i.e., private mental processes. However, for clinical and diagnostic purposes, i.e., when establishing the possible caseness for prolonged grief, a more thorough assessment than the ICG, such as a clinical interview, is desirable. This is especially important when considering the findings of our discriminatory power analyses where we established a tentative caseness for prolonged grief based on the German version of the self-report measure ICG. The ICG is a very well-validated instrument for assessing grief-related distress: nevertheless, it does not assess all symptoms of PGD and PCBD (for a discussion: (Eisma et al., 2020)), and no clinical diagnosis can be made based on self-report only. Fourth, our GCQ-SF results are based on data of participants who answered the complete GCQ. While we found no evidence for negative effects of the serial position of the items in the survey (Galesic and Bosnjak, 2009), we cannot exclude priming effects due to the presentation of a wider range of negative cognitions. Lastly, although our confirmatory factor analyses yielded adequate results, which were comparable to findings on the original GCQ, the fit indices reflect an adequate rather than an excellent fit; this is particularly true with regard to the short version and indicates that the model specification could still be optimized.

Future Research and Implications

The present study validated a German version of the GCQ and additionally investigated the psychometric properties of its frequently used, abbreviated form GCQ-SF. While both questionnaires demonstrated good to excellent psychometric properties, our study also suggests different areas of future research and applicability for both questionnaires.

The original GCQ's strength lies within its comprehensive assessment of various themes of negative cognitions after bereavement in the clinical setting, i.e., the provision of individual grief counseling and therapy. It offers the health care provider a chance to assess all relevant cognitive themes comprehensively and at the same time more efficiently than in an interview. Themes that are of high individual relevance to the client can then be followed-up by a more in-depth exploration. The GCQ can thus help to identify a client's dysfunctional cognitions after bereavement and provide a starting point for psychotherapeutic interventions like cognitive restructuring, which is an efficient and widely employed strategy in PGD treatment (Doering and Eisma, 2016). The GCQ can also serve as a tool to assess treatment progress, i.e., by comparing scores before and after treatment. The change sensitivity of the GCQ-SF's total score after cognitive behavioral therapy has already been shown in psychotherapy research (Boelen et al., 2011). Future research should investigate whether changes in individual items of the original GCQ delineate the effects of cognitive restructuring on specific, personally highly relevant themes in therapy, thus informing health care providers' focus on an individual patient level. In this way, future research could address the GCQ's ability to contribute to planning and evaluation of therapy. Through its comprehensiveness, the GCQ also offers another very interesting line for future research: It could serve to identify cognitive themes that are of special relevance to distinct bereavement experiences. By recruiting a treatment-seeking sample with varying bereavement-related characteristics (e.g., type of loss, causes of death, expectedness vs unexpectedness of death) and administering the GCQ, research could systematically investigate the associations between these characteristics and specific cognitive themes they may give rise to, thus providing empirical evidence to support the development of more population-tailored interventions.

In contrast, the GCQ-SF is limited to 19 items, which capture cognitions that are more widely endorsed (i.e., it contains fewer items with high item difficulty). Its brevity saves time compared to the original GCQ. While this aspect may not be of special relevance in individual therapy, it may offer important advantages in other settings. Efficacy or effectiveness research of grief therapy needs reliable, change-sensitive and relatively short outcome measures (Rosner, 2015). This is especially important since study participants often face many time points of assessment, all including a whole package of questionnaires. In this context, 19 additional items may make a difference to the patients' commitment to answer the questionnaires conscientiously and to their burden of grief-related distress in the diagnostic assessment (Galesic and Bosnjak, 2009). Since we still know too little about the relative effectiveness of different treatment components in PGD treatment (Doering and Eisma, 2016), being able to assess treatment effects on changes in cognitions effectively and efficiently could contribute to future research and a better understanding of what works in grief therapy. The GCQ-SF seems very well suited to this task since – in spite of its brevity – it preserves all positive psychometric properties of the original GCQ.

In conclusion, both the GCQ and the GCQ-SF have the potential to contribute to a better understanding of negative cognitions after bereavement and to the improvement of health care provision. Establishing validated versions of these questionnaires and making them available to the interested public serves this wider goal.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The study involving human participants was reviewed and approved by Ethics Committee of the Department of Psychology from the Philipps-University Marburg (Germany). The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

BD and PB conceptualized the project. BD and AB jointly administrated the project and data curation, conducted the data analysis and interpretation, and drafted the manuscript. ME and PB contributed to data interpretation and editing the manuscript. All authors reviewed the manuscript and provided approval for the final version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2020.620987/full#supplementary-material

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Ritual in Therapy for Prolonged Grief: A Scoping Review of Ritual Elements in Evidence-Informed Grief Interventions

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The aim of this article of to analyze ritual in evidence-informed treatments for prolonged and traumatic grief. A scoping review is conducted in order to give an overview of existing literature on ritual and symbolic interventions in grief therapies for prolonged grief and the type of evidence supporting these interventions. The 22 studies reported in this review reveal a variety of ritual elements ranging from symbolic expression and interaction, writing assignments, dialogue with the deceased or an imaginary person, to farewell ceremonies at the end of the treatment. The interventions are studied within different populations (e.g., bereaved spouses, perinatal loss, grief after violent death, and genocide). Almost all studies show significant effects of the grief treatment, trauma and related symptoms. However, the effects are mostly measured for the entire treatment and not separately for the ritual intervention. In the discussion we focus on the role of ritual and culture in prolonged grief treatment.

Keywords: prolonged grief, traumatic grief, ritual intervention, therapy, treatment, evidence-based, evidence-informed

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INTRODUCTION

Grief comprises emotional pain related to the death of a loved one, feelings of yearning and longing, and preoccupation with the deceased person or the circumstances of the death (1, 2). The emotional pain can take the form of intense sadness or pangs of grief, bitterness, anger, guilt, denial, reproach, difficulty accepting death, a feeling of having lost part of oneself, feeling that life is meaningless, and difficulty in engaging with social or other activities. If these reactions cause clinically significant distress or impairments in functioning during more than 6–12 months, and if these reactions go beyond cultural norms for bereavement reactions and are not better explained by culturally specific mourning rituals, a diagnosis of a grief disorder may apply (1, 2). In this paper, we will use "prolonged grief" to denote symptoms associated with grief disorders that were assessed within the context of grief therapy. The death of a loved one due to violent causes can also cause post-traumatic stress disorder (PTSD), characterized by intrusive memories, attempts to avoid these, negative thoughts and mood and increased arousal, and reactivity. The term "traumatic grief" will be used in this paper to denote symptoms of prolonged grief and PTSD following the loss of a loved one due to violent or non-natural causes of death.

Rituals around grief and death have been practiced since the early beginnings of culture (3–5). Across countries, communities and historical periods, rituals have been a crucial element in dealing with grief and loss (6–9). Although many traditionally religious practices have been decreasing in Western societies, grief rituals remain in secular contexts (9). Rituals, as cultural enactments of meaning making, are still an important part of death culture across the world. Death rituals, such as funerals and memorials, are argued to help mourners transition into their new inner states and social statuses, such as from "wife" to "widow," and to symbolically keep a bond with the deceased (10).

In the therapeutic literature, there has been increasing attention toward new types of treatment and interventions that include some kind of symbolic or ritual communication (11–13), such as a ritual of remembrance or renewal at the end of a treatment (14). These types of ritual acts in therapy are interesting, because they make use of elements from traditional rituals. The therapeutic context, where rituals are used, however, differs from traditional ritual, as it is used as intervention for coping with prolonged and traumatic grief and are argued to provide an important part to the grieving process, especially in prolonged or traumatic grief (12, 15). From an interview study with 10 psychotherapists, three types of grief ritual interventions were categorized: first, rituals to honor the deceased loved one and to keep a symbolic bond (12), second, rituals to let go of the traumatic experience, and third, rituals to self-transform (12). The interviews reveal that by using symbolic objects and acts, clients are able to enact their feelings into ritual action. Although the loss cannot be changed, rituals create an opportunity to express and enact painful emotions.

But what defines rituals in grief interventions? First, we need to establish what is understood as ritual more generally. In the ritual studies literature, there are at least 60 different scholar definitions of rituals (16). A starting point here are the four most common characteristics of rituals across cultures and contexts: rituals are an "*embodied*, *condensed* and *prescribed enactment*" [(16), p. 196]. This means that rituals are: (1) embodied action (not merely mental activity); (2) follow a certain protocol or structure; (3) differ from the ordinary or everyday use of language, action and objects and (4) need to be performed or enacted in a specific way.

Legare and Souza (17) argue that rituals "pose a cognitive paradox: although widely used to treat problems, they are cultural conventions and lack a causal explanation for their effects" [(17), p. 1], which additionally becomes more complicated by the fact that "as in few other human activities, the actors both are, and are not, the author of their acts" [(18), p. 5]. People actively conduct rituals and simultaneously are "conducted" by the ritual.

Rituals are also defined in terms of "a lack of instrumental purpose" [(19), p. 73; (20), p. 2] and "goal-demotion" [(21), p. 598; (17), p. 2]. The notion of ritual efficacy is still debated (17, 22). Rituals have been defined as "causally opaque" [(17), p. 1], while also regulating emotions, performance and social connection (19, 20). Rituals thus might have a purpose, perhaps not an obvious, explicit or rational one. The ritual a whole might serve a purpose, the subsequences, subparts or singular acts of the ritual, are not necessarily experienced in such a way, possibly due to the cognitive overload, and emotional arousal during ritual (21). As rituals strongly focus on emotional, sensory, embodied and attentive processes, they do serve the need to invest time into a specific, prescribed activity. From a cognitive perspective, this means that the intention to invest time in a "causally opaque" activity, is motivational, and therefore already "serves a purpose."

Although symbols and symbolic communication are a central aspect of rituals, ritual experiences are not merely a symbolic expression of a certain belief or attitude (22, 23). Instead, rituals create a symbolic, alternative reality that enables meaningful actions. This means that within a ritual, participants psychologically experience the ritual as "real" or authentic [(11), p. 40]; they feel in control while at the same time, they become one with the ritual, which at the same time gives a sense of letting go. Goodwyn (11) writes that participants know that there is a symbolic connection between the act, object and the meaning, without feeling that what they are doing is merely "symbolic" (p. 40). The ritual creates a safe environment to express emotions as the ritual has a clear beginning and end. Furthermore, the ritual is an aesthetic translation of reality through the use of specific attributes, such as candles or flowers, which creates an emotionally safe space to feel painful emotions (24). The emotions felt during ritual are authentic, but the context is "artificial" in the sense of being culturally created (16).

In some intense rituals, participants feel that they become one with the ritual, which happens when the boundaries of one's self become vague and one feels unified with the ritual (25). This is what Rappaport (26) describes as "high-order meaning" (p. 73) and Whitehouse and Lanman (25) define as "identity fusion" (p. 676). Becoming one with the ritual experience means that the meanings given are grounded in one's identity and deepest inner self. The ritual offers symbols to be able to link one's memories and identity with the ritual. Whitehouse and Lanman (25) argue that in identity fusion aspects of one's episodic memory are linked to the experience, in contrast to group identification when one feels that some prototypical features are shared (p. 676). In ritual, the symbolic, imagined world and the real world become one (27). This unique and specific characteristic might be an important reason why rituals have been integrated in grief therapy (15). When grief is particularly traumatic or problematic, the bereaved remain in a "persistent ambivalent state in which the bereaved simultaneously refuses to accept the loss of the loved one while also recognizing the stark reality of loss" [(28), p. 240]. Ritual creates a possibility to act on that ambivalence and through the use of symbolic language and acts the ambivalence in not denied or rejected, instead it is embraced. Liénard and Boyer (29) focus on the concept of "ritualized behavior," instead of the general category of ritual, to stress the notion of "a specific way of organizing the flow of behavior, characterized by compulsion (one must perform the particular sequence), rigidity (it must be performed the right way), redundancy (the same actions are often repeated inside the ritual) and goal demotion (the actions are divorced from from their usual goals)" (p. 815). For the sake of clarity in this study, we define rituals in therapeutic interventions as, *sensory, attentive and intentional acts that are performed in a structured, imaginative or aesthetic way and make use of symbols, symbolic language, and symbolic action.*

While there is growing interest in ritual in grief therapy, there has not been a systematic overview of ritual use in evidence-based and evidence-informed therapy yet. By evidence-informed we refer to interventions that can be scored on the levels of evidence as developed by the Oxford Center for Evidence-Based Medicine (30). The aim of this article is to systematically investigate what kind of rituals and ritualized acts are used in grief interventions for prolonged grief and what kind of evidence is described for their effectiveness in terms of reducing symptoms of prolonged grief and/or PTSD following the loss of loved ones.

The research question is: *what kind of ritual elements are found in evidence-informed grief interventions for prolonged and traumatic grief*? By ritual elements we refer to specific acts within the interventions that include ritualized or symbolic enactments that are related to the grief experience. The research question will be approached by a scoping review (31). A scoping review is a synthesis of the literature that incorporates different search strategies (32). By conducting this scoping review on ritual in grief therapy, we will analyze what kind of rituals elements are used in evidence-informed grief therapy and what kind of evidence there is for the use of ritual in therapy. The overall aim of this study is to add knowledge on the importance of cultural processes in grief therapy. From studying existing literature on grief interventions with ritual elements we can learn what kind of ritual acts do help in dealing with prolonged grief.

TABLE 1 | Evidence-informed psychotherapies for traumatic grief comprising symbolic interactions with the deceased person.

Name	Reference	Interaction	Description
Complicated Grief Treatment	(33)	Dialogue	Imaginary conversation with the deceased
Integrated Cognitive Behavioral Therapy for Grief	(34)	Dialogue	Walk to the grave: what I always still wanted to tell and ask, how your death has impacted my life
		Ritual	Dedicate a memento
Writing Therapy for Grief	(35)	Letter	Letter to imagined significant other
Finding Meaning in Loss	(14)	Letter	Hello again letter, letter from loved one
		Ritual	Ritual of remembrance or a ritual of renewal
Brief Eclectic Psychotherapy for PTSD/Traumatic Grief (BEPP)	(36, 37)	Letter	Ongoing farewell letter
		Dialogue	Imaginary conversation with the deceased
		Ritual	Farewell ritual
Narrative Exposure Therapy (NET)	(38)	Ritual	Light a candle (start of treatment), ending ritual

METHODS

Search Strategy

In order to answer the research question, we conducted a scoping review (31) through an online bibliographic search of databases and search systems. We used the key publications in **Table 1** to give input into our search strategy. More conventional bibliographic databases and databases of guidelines, (ongoing) trials and gray literature were included. We searched the following online search systems: PsycINFO (Ovid), Ovid Medline, Embase (Ovid), Ovid Evidence Based Medicine Reviews, PTSDpubs, TRIP database, The National Institute for Health and Care Excellence (NICE), International Clinical Trials Registry Platform (ICTRP), and OpenGrey.

The research question and **Table 1** served as input for the search terms. We collected terms based on these lead publications using the Ovid Citation Analyzer. After that we built a search strategy in PsycINFO (Ovid), which we then adapted to the other databases, and search systems. The whole search strategy for PsycINFO (Ovid) is shown in **Table 2**.

The search terms were grouped into clusters (see **Table 2** for the set numbers and the details of the search terms): complex grief (set 1), grief in the context of traumatic stress (sets 2 and 3), psychotherapy and behavioral therapy (set 4), evidence based practice, program evaluation, clinical trials (set 5), longitudinal studies (set 6), aggregated evidence: systematic reviews, meta-analyses, guidelines (set 7). These clusters were combined using Boolean operators. The search results were imported in Endnote and deduplicated using the method outlined in Bramer et al. (39). **Table 3** shows the number of references retrieved in each search system, the number of duplicates, and thus the new articles collected. These articles were then screened for inclusion in this review.

Screening and Selection

In order to screen and select articles for this review, we used Rayyan (a web-based program for systematic reviews), see Ouzanni et al. (40). Four inclusion criteria were used for the screening and selection (see **Table 4**). A reference was selected if (1) it referred to grief, bereavement or loss, (2) described a grief intervention, (3) measured course of symptoms in relation to the grief intervention, and (4) included ritual elements. Ritual elements were operationalized as (a) a form of symbolic communication and/or (b) use of ritualized action, objects or language and/or (c) included a reference to religious ritual (e.g., prayer, meditation) *and* (d) addressed the grief or loss experience. In this way, with each step, references not meeting one of these four criteria were excluded—as shown in **Figure 1**. These inclusion criteria were translated into keywords in Rayyan (see **Table 5** for complete overview of Rayyan keywords). Four thousand four hundred and ten references were screened on the basis of the four inclusion criteria (**Table 4**).

The first inclusion criterion, which refers to grief, trauma, bereavement or loss (keywords such as *grief, trauma, bereavement, bereaved, post-traumatic, post-traumatic stress, complicated grief, traumatic grief, bereaved, mourn, mourning, or loss*), resulted in 2,625 references. The second criterion included references that describe a grief intervention (keywords such as *psychotherapy, therapy, intervention, treatment)* resulted in 2,267 references. The third criterion included references that contain information about the course of symptoms after the grief intervention (keywords such as *pretest, posttest, pre-test, post-test, test, quantitative, measurement, testing, symptoms, trial, randomized, randomized, RTC, controlled,*

TABLE 2 | Search strategy for PsycINFO (Ovid)[a].

#	Searches	Results	Type
Search history sorted by search number ascending			
1	(pcbd or pgd or ((Complex or complicated or prolonged or persist* or traumat* or pathological) adj2 (bereave* or grief or grieving or mourn*))).ti,ab.	2,541	Advanced
2	exp Post-traumatic Stress Disorder/or exp acute stress disorder/or exp combat experience/or exp Emotional Trauma/or exp Post-Traumatic Stress/or exp Stress Reactions/or trauma/or exp traumatic neurosis/or (psychotrauma* or Trauma or PTSD or DES*NOS or C*PTSD or EPCACE or multitrauma or traumatized or traumatized or DTD or “Enduring Personality Change after Catastrophic Experience*” or (Stress adj3 disorder*) or ((combat or war) adj3 (experience* or disorder* or fatigue or neurosis or neuroses or stress)) or ((Emotional or Complex or chronic or Complicated or Multiple) adj3 Trauma*) or (acute adj3 Stress) or ((Stress or Crisis) adj3 Reaction*) or ((Post-Traumatic or post-traumatic or Trauma*) adj3 (stress or neurosis or neuroses or syndrome* or Disorder* or psychosis or psychoses or distress*)) or (Shell adj1 Shock) or (Compassion adj3 Fatigue) or (type adj3 trauma) or (trauma adj2 (stressor adj2 disorders))).ti,ab.	115,582	Advanced
3	exp grief/or exp bereavement/or (bereave* or bereft or grief* or grieving or griever* or mourn* or sorrow* or lament*).ti,ab,id.	25,838	Advanced
4	Treatment/or exp Cognitive Behavior Therapy/or exp Behavior Therapy/or exp Psychotherapy/or (treatment* or intervention* or therapy or therapies or therapeutic* or psychotherapy or psychotherapies or psychotherapeutic* or program* or session* or BEPP or BEP-TG or CGT or “complicated grief treatment” or “Finding Meaning in Loss” or cbt or Abreact* or Autosuggesti* or Bibliotherap* or catharsis or countertransferen* or ECT or Hypno* or Jocotherap* or katharsis or logotherapy or mindful* or narcotherapy or psychopharmacotherapy* or Self-Analy* or sociotherap* or transferen* or EMDR or “eye movement desensiti*” or CBSM or desensitization or desensitization or “psychiatric somatic therap*” or (brief adj3 eclectic) or (psychiatric adj3 (treatment* or intervention* or therap*)) or ((anger or assertive* or autogen* or behavio* or milieu or relaxation) adj3 training) or (behavio* adj3 contract*) or ((legal or involuntary or psychiatric or psychiatric) adj3 commitment) or ((transact* or behavior*) adj3 analysis) or (cognitive adj3 (behavior* or rehabilit*)) or (relax* adj3 (method* or Techni*)) or (role adj3 play*) or ((systematic or psychologic) adj3 desensiti*) or ((involuntary or compulsory) adj3 (admission or hospitali*)) or (Balint adj3 group*) or (behavior* adj3 modification) or ((auto or self) adj3 suggestion) or (free adj3 association) or (anger adj3 management) or (family adj3 psychiatry) or (guided adj3 imagery) or (analytical adj3 psychology) or ((imaginal or vivo) adj3 exposure)).ti,ab.	1,536,756	Advanced
5	exp evidence based practice/or exp Treatment Effectiveness Evaluation/or Clinical Trials/or Mental Health Program Evaluation/or Placebo/or ((evidence adj1 (base* or inform*)) or empirical or cohort or (case and (comparison or referent)) or risk or causation or causal or “odds ratio” or etiol* or etiol* or “natural history” or predict* or prognos* or outcome or course or retrospect* or “clinical trial” or ((singl* or doubl* or trebl* or tripl*) and (mask* or blind*)) or “latin square” or placebo* or random* or control or controll* or prospectiv* or volunteer* or “research design” or ((comparative or evaluation or follow-up or prospective or cross-over) adj1 stud*) or (disability and evaluation*) or ((statistical or Probabilistic or Polynomial or “two parameter*” or “2 parameter*” or Binomial) and (model or models)) or (likelihood and (functions or function or estimat*)) or ((linear or loglinear or logistic) and (model or models or regression*)) or ((time or risk or risks) and (factor or factors)) or regression* or multivariate or (recover* and (function or functions)) or sensitivit* or “area under curve*” or auc or prognos* or placebo* or randomly or randomi* or trial or ((singl* or doubl* or trebl* or tripl*) adj3 (blind* or mask* or dummy)) or (control* adj3 (trial* or study or studies or group*)) or factorial* or allocat* or assign* or volunteer* or crossover* or “cross over*” or (quasi adj5 (experimental or random*)) or groups).ti,ab.	2,217,492	Advanced
6	(cohort* or longitudinal or prospective or retrospective or timeserie* or followup or (repeated adj1 measure*) or (pre adj1 post) or (time adj1 serie*) or (follow adj1 up) or (panel adj3 stud*)).ti,ab.	344,535	Advanced
7	Literature Review/or Meta Analysis/or Treatment Guidelines/or ((reviews.dt. or (review or “systematic review”).pt.) and systemat*.ti,ab.) or (“systematic review” or “systematic literature” or “integrative review” or “integrative literature” or “evidence-based review” or “evidence-based overview” or “evidence-based literature” or “evidence-based survey” or “literature search”).ti,ab. or (“data synthesis” or “evidence synthesis” or “data extraction” or “study selection”).ti,ab. or “cochrane database syst rev.”jn,jx,jw. or (meta-analy* or metaanaly* or metanaly*).ti,ab. or meta*.dt. or “meta analysis”.pt. or (meta-synthesis or metasynthesis or meta-study or metastudy or metaethnograph* or meta-ethnograph*).ti,ab. or hta.ti,ab. or (“health technol assess” or “evid rep technol assess summ”).jn,jx,jw. or “health technology assessment”.ti,ab. or (guideline or framework or manual protocol).ti,ab.	259,425	Advanced
8	(1 or (2 and 3)) and 4 and (5 or 6 or 7)	1,576	Advanced

[a] *The search strategies in the following search systems were adapted further as follows.*

Ovid Medline: because “trauma” in Medline often refers to physical trauma, these terms were left out of the search in set 2: trauma, multitrauma, traumatized, traumatized, ((Complex or chronic or Complicated or Multiple) adj3 Trauma), (type adj3 trauma).*

Embase (Ovid): because “trauma” in Embase often refers to physical trauma, these terms were left out of the search in set 2: trauma, multitrauma, traumatized, traumatized, ((Complex or chronic or Complicated or Multiple) adj3 Trauma), (type adj3 trauma). Also, “PCBD” and “PGD” rendered a lot of irrelevant results and were taken out of set 1.*

PTSDpubs: the elaborate search strategy caused PTSDpubs to jam, so we pruned the search strategy strongly, using mainly subject terms where possible.

TRIP: our free version does not support complex search strategies, so we used a simplified search string.

NICE, ICRP, OpenGrey: these search systems do not support complex search strategies, so we used a simplified search string.

TABLE 3 | Retrieved, duplicate, and unique items from each search system.

Database	Number retrieved	External dups	New articles added
PsycInfo (Ovid)	1,576	546	1,030
Ovid Medline	1,507	682	825
Embase (Ovid)	1,185	126	1,059
Ovid Evidence Based Medicine Reviews	358	214	144
PTSDpubs	160	11	149
TRIP database	78	4	74
NICE	1,143	50	1,093
ICTRP	40	6	34
Open Gray	2	0	2
Totals	6,049	1,639	4,410

TABLE 4 | Inclusion criteria for references.

Criterion	Description
1	-Refers to grief, bereavement, or loss
2	-Describes grief intervention(s)
3	-Describes course of symptoms after grief intervention (quantitative measurement)
4	-Intervention includes ritual elements

control groups, randomly allocated, controlled study), resulting in 1,475 references. The fourth inclusion criterion referred to articles that included ritual elements in the grief intervention (keywords such as *ritual, symbol, memorial, writing, imaginary conversation, candle, metaphor*), which resulted in a final selection of 348 references.

The abstracts of these 348 references were read and selected on the basis of the four inclusion criteria (**Table 4**). We selected references on the basis of criterion 1 (including $n = 340$ references), criterion 2 ($n = 247$). Criterion 3 ($n = 114$) and criterion 4 (arriving at 39 references). Again, this led to the exclusion of references not meeting all of the criteria ($n = 309$). The full texts of the remaining 39 references were screened excluding 19 on the basis of criterion 1 ($n = 3$), criterion 3 ($n = 3$) and criterion 4 ($n = 12$). One of these full-texts articles, a systematic review of evidence-based grief interventions after homicide (41), yielded two more relevant studies on grief therapy and ritual elements, which were included in the final results. Not including this systematic review, we arrived at a final overview of 22 studies (see **Appendix 1**).

Charting the Data

The included 22 studies are summarized in **Appendix 1** describing the name of the intervention, the reference that reported the intervention, a description of the intervention and the used ritual elements, the studied population, the type of evidence in terms of study design and data collection, effect on grief, and level of evidence (42). The CEBM levels of evidence have been chosen for this study due to the clear, transparent and broad use of this categorization of evidence levels (30, 42). Level 1 refers to "systematic reviews of randomized trials or *n*-of-1 trials." Level 2 refers to "randomized trial or observational study with dramatic effect." Level 3 are "non-randomized controlled cohort/follow-up" studies. Level 4 refers to "case-series, case-control studies, or historically controlled studies" and level 5 is based on "mechanism-based reasoning." The levels of evidence may be graded down on the basis of study quality, imprecision or effect size and the like. Not all articles included an in-depth description of the grief intervention, but referred to additional articles or manuals, which were used for a more in-depth description of ritual elements.

RESULTS

General Description of Grief Therapies

The selected studies reported different populations with prolonged or traumatic grief, such as violent loss (e.g., homicide), genocide and war trauma, as well as more general grief reactions, such as elderly bereaved losing a spouse with persistent grief distress, professionals (e.g., police or hospice workers), loss due to a missing person or perinatal loss. The studies were conducted in different countries, such as United States ($n = 7$), The Netherlands ($n = 4$) (one study with refugee population), Portugal ($n = 2$), Rwanda ($n = 2$), Germany ($n = 2$), India ($n = 2$), Japan ($n = 1$), Denmark ($n = 1$), and Iran ($n = 1$) (with Afghan refugee population). The studies found for this review were published between 2009 and 2019. All studies reported participants being selected in outpatient contexts. Eight of the reported interventions are individual [*ATTEND-model, Cognitive Narrative Psychotherapy, Complicated Grief Treatment, Writing assignments (Pennebaker's model), Traumatic Grief Treatment Program, Narrative Exposure Therapy (NET), Integrative Cognitive Behavioral Therapy for Complicated Grief (CG-CBT), Cognitive Behavioral Therapy (CBT) with mindfulness]*, while nine are group interventions [*Mindful-based Cognitive Therapy (MBCT), Mustard-Seed Project, Restorative Retelling, TOZI Healing Retreat, Brief Eclectic Psychotherapy for PTSD/Post-traumatic grief (BEPP), Brief Eclectic Psychotherapy for Traumatic Grief (BEP-TG), a Single Session Music Therapy, Writing for Recovery, Mindfulness-based Stress Reduction (MBSR)*]. The described treatments vary in time span (from 15 min to 3.5 h) and length [from a single session to 20 sessions with additionally 5 optional sessions (*CB-CBT*)]. Some treatments are weekly sessions, while a few are offered 2 or 3 days in a row, in some cases with overnight housing (*Mustard Seed Project and TOZI Healing retreat)*.

Ritual Elements in Grief Therapies

The grief interventions reveal different ritual elements, ranging from meditation, symbolic communication with the deceased or an imaginary friend, to metaphorization and other types of symbolic expression (e.g., silence at the beginning or end of a session, writing assignments, the use of religious texts or poems). Some interventions consist of one specific ritual element (e.g., imaginal conversation with deceased, writing letter to imaginary friend, metaphorization of loss), while others have more or

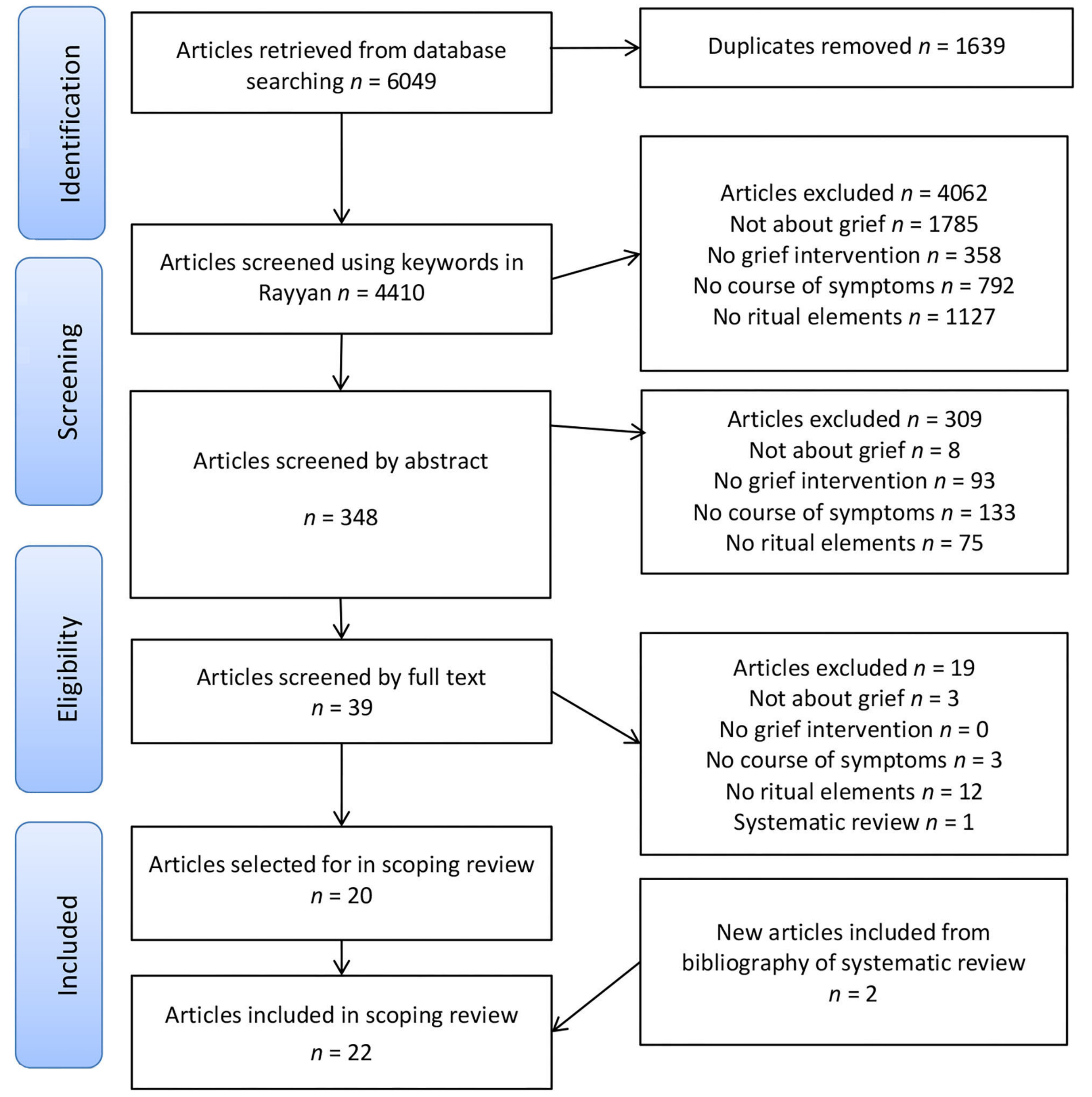

FIGURE 1 | Flowchart of the retrieval, deduplication, exclusion, and inclusion of articles.

even include a complete ceremony at the end of the treatment or intervention (e.g., drumming ceremony, visiting the funeral with the therapist, visiting the grave, having a dialogue with the deceased, having a commemorative ceremony). The degree of ritual use thus differs in the different grief interventions. Some interventions make use of specific body techniques, such as sitting or meditation, while others use specific objects, such as memorial objects that are linked to the deceased or the loss. Sometimes these mementos are used in a commemorative presentation or ceremony at the end of the treatment. Some interventions have a (optional) farewell ritual that the client can conduct privately, such as with family or other significant people.

The involvement of the therapist in the ritual elements differs and is not always clear from the descriptions. In some individual ritual interventions or home assignments clients are asked to conduct the ritual privately (such as CBT with mindfulness). Clients are asked to read the mindfulness exercise instructions online or follow them on CD (43). In the Mustard-Seed project

TABLE 5 | Overview keywords used for screening in Rayyan.

	Screening process	Used keywords in Rayyan
Starting point	Outcomes systematic search (*n* = 4410)	
Criterion 1	All references with keyword grief and loss (*n* = 2625)	Bereaved Bereavement Grief Griever Grieving Loss Mourn Mourner Mourners Mourning Post traumatic Posttraumatic Post-traumatic PTSD Sorrow Stress Trauma Traumas Traumatic Traumatised Traumatized
Criterion 2	All references with grief intervention (*n* = 2267)	Counseling Counselling Intervention Interventions Psychotherapy Psychotherapies Therapeutic Therapy Therapies Treating Treatment Treatments
Criterion 3	All references with measurement of symptoms (*n* = 1475)	Baseline Compare Compared Comparison Condition Conditions Control Controlled Follow-up Improvement Improvements Measurement Measurements Measuring Outcome Pretest Pre-test Pretesting Pre-testing Posttest Post-test Posttesting Post-testing Posttreatment Post-treatment Quantitative Randomised Randomized Randomly RCT Symptoms Test Testing Trial Trials
Criterion 4	All references with possibly ritual elements in grief intervention (*n* = 348)	Brief eclectic Candle Ceremonial Ceremony Farewell Goodbye Imaginary conversation Integrative Meaning Meaning-making Memento Memorial Memories Mindfulness based Mindfulness-based Narrative Narrative exposure Object Remembering Rite Ritual Ritualising Ritualizing Sense Sense-making Symbol Symbolic Transformation Transformative Transition Transitional
	Next step	348 abstracts were read to check inclusion criteria 1-4

(44) the therapist works together with a Zen-Monk and they both guide the sessions. In the ATTEND model, the therapist is asked to attune to the client and focus on one's own presence and self-compassion, for instance by meditating after a workday or doing some physical exercise (45, 46). In the group sessions and ceremonial rituals (e.g., commemoration or farewell ritual) it is not clear from the described articles or intervention manuals whether the therapist leads the ceremony. In the BEP-TG manual [see Smid et al. (36)] it is explicitly written that the therapist is not present during the farewell ritual and that the patient designs

her/his own farewell ritual. The final phase of the Integrative Cognitive Behavioral Therapy is described as: "patients decide what kind of memento/ritual they will dedicate to their loved ones" [(34), p. 7], which points at the ritual being conducted without the therapist being present.

Evidence Levels for Grief Therapies With Ritual Elements

As can be seen in **Appendix 1**, 8 studies were categorized level 2 of evidence (RCT with significant symptom reduction), 11 studies were categorized as level 3 evidence (non-randomized controlled cohort/follow-up study) and three studies were categorized as level 4 due to no significant result of the treatment [one RCT with no significant effect; (47), two pre/post-tests with no significant result due to small sample; (48, 49)]. All measured effects were reported for the entire treatment, with the exception of one observational study that measured a significant separate effect on the ritual element (farewell ritual) (50).

The different studies reveal symptom reduction on different measurements (see **Appendix 1**), such as *grief* [e.g., (51–55)], *depression* [e.g., (46, 56), PTSD (57, 58)], *distress due to trauma* [e.g., (46, 59)], *despair and panic behavior* (44), *intrusions and avoidance* (55), *emotional loneliness* (60) and *emotional numbing* (59). Moreover, some studies reported an improvement in *working memory* (56), *positive mood* (60), *personal growth and meaning integration* (44).

DISCUSSION

This scoping review of ritual elements in evidence-informed grief interventions for prolonged grief identified 22 studies revealing a variety of ritual elements for different types of grief and loss experiences. Rituals are used in various therapy interventions for prolonged and traumatic grief, making up a sizable part of grief treatment. Although three studies did not show significant treatment effects (47–49), 19 studies revealed significant treatment effects on symptom reduction. It is important to note that, with the exception of Smid et al. (50), the reported effects concerned the entire treatment and not only the ritual element(s). This means that the studies reported here measured effects in terms of reductions in grief or other symptoms after completion of the full treatment, not only the ritual element.

The described ritual elements show different forms of verbal symbolic expression of one's personal experiences (such as finding a metaphor for one's loss) [e.g., (52, 59)] and symbolic interaction with the deceased or imaginary friend (such as an imaginative conversation with the deceased or writing a letter to deceased loved one) [e.g., (60–62)], as well as non-verbal symbolic expressions (such as lighting a candle, visiting the grave, burning a letter, choosing objects and images to represent deceased) [e.g., (38, 46, 50, 53, 61)]. A focus on attention and bodily posture has been found in some of the interventions, where the use of silence, meditation, sitting in a circle, breathing or yoga exercises are implemented in the therapy (44, 46, 56, 63, 64).

Rituals have positive characteristics for dealing with prolonged grief as they are structured: the action is time limited (12) and the ritual symbolically and aesthetically translates the grief experience into ritual form (10, 24). Rituals take place within a symbolic reality, which gives some emotional distance to the actual experience, but at the same time creates space to feel and express emotions (24, 65, 66). By choosing objects or symbols that represent the deceased or conducting a memorial during therapy, grief emotions are channelized through the ritual form. The use of symbols and symbolic actions (e.g., having a moment of silence, lighting a candle or listening to a special music piece) helps to stay attentive and feel emotions. Emotions are intense, but not overwhelming as the time frame is limited and the actions are ritually structured. The symbolic expression and interaction help to feel emotions, but because of the aesthetic translation the emotional expression remains at some distance [see for a discussion on aesthetic distance, (24, 65, 66)]. The strength of ritual and ritual interventions lies in the use of symbolic expression and interaction. For example, while we know that we are unable to literally talk to the deceased, we do it anyway. The focus in the ritual element, such as an imaginary conversation with the deceased, is on care and attention toward the deceased. When one was unable to take care of the loved one in the past, this can be reimagined in one's thoughts or symbolic action. The person uses her imagination in connecting with the loved one or to reimage the past as one would want it to happen ("rescripting") (67). The imagined world in ritual feels authentic and real (27), which makes the ritual emotionally intense and at the same time gives an opportunity to symbolically act out something that could not be done before. Moreover, from previous research was shown that specific ritual characteristics, such as the number of procedural steps, repetition, procedural specificity (such as time), and transcendental notions (a religious icon) are related to a higher evaluation of ritual efficacy (17). The here studied ritual elements might be furthermore distinguished in terms of these specific ritual characteristics. Some of the here described ritual include more procedural steps, mostly the ceremonies at the end of the treatment, while others involve one ritual element (e.g., write a letter to imagined person). Writing a letter, however, has also in itself procedural steps, which might be of importance to notice in grief treatment. For clinical practitioners it is thus of importance to know that procedural steps and their specificity is relevant for ritual efficacy. It is not mere routine, but significant for the emotional and cognitive processing during the ritual (21, 29).

Some of the here described rituals are conduced individually (46, 51, 52, 57–59, 62) or alone as a home assignment (60), or both (48). Other rituals take place in a group setting with other fellow bereaved present (44, 53, 55, 56, 63, 64, 68) and sometimes include a farewell ceremony at the end of the treatment [e.g., (47, 49)]. In one farewell ritual family members or other loved ones can also participate (50).

The social aspect of ritual and the sense of community during ritual has been argued to be one of the key functions of rituals in our society (25, 69, 70). Conducting ritual action together, especially when the ritual is associated with pain and grief, is argued to create a sense of cohesion and solidarity (25).

Having others to share one's grief with, as well as going through an emotional ritual together is experienced as comforting. Moreover, Boyer and Liénard (21) argue that cultural rituals, as also mentioned earlier, work on the basis of cohesion and identity fusion [see also Whitehouse and Lanman (25)] as well as, by triggering "activation of motivational systems and cognitive processes that are present in humans for evolutionary reasons" [(29), p. 825]. Individual rituals are argued to be effective due to the involvement of the "hazard-precaution system," which is activated in ritualized behavior. This cognitive system is alerted when potentional dangers cross one's thoughts, such as contamination and contagion, harm to one's offspring or acts that lead to social exclusion (21, 29). Different from actual danger or fear reactions, this precaution system is often activated in phase of social and emotional transition, such as in pregnancy and caring for an infant, as well as the death of a relative [(21), p. 606]. The authors strongly lean on research on compulsory ritualized action (OCD) and argue that "ritualized behavior" or "action ritualization" temporarily suppresses undesirable thoughts and "momentary overload" or "swamp" working memory [(21), p. 605], as well as require a "high degree of cognitive control" [(21), p. 607]. Therefore, ritualized behavior is the opposite of routinized behavior, as in routines cognitive and attentive load is low [(29), p. 824]. It is thus of importance to notice that rituals psychologically differ from routines. The steps and sequences in ritual procedure are of uttermost importance. As Seligman et al. (71) write "it is the framing of the actions, not the actions themselves, that make them rituals" (p. 5).

The ritual elements that were found in this study reveal different types of rituals. Sas and Coman (12) categorized three types of grief rituals in therapy: (1) honoring rituals, (2) letting go rituals, and (3) self-transformation rituals. In the here described ritual interventions, we can see elements of all three. In some interventions the deceased is honored through symbolic expression, for instance choosing mementos or memorial objects to represent the deceased [e.g., (50, 55, 61)]. The farewell ritual in the BEPP intervention is described in the manual as: "the ritual serves to leave the traumatic experience behind. The purpose is not to forget the experience, but to give it a place in the client's personal life history" [(72), p. 32]. This description refers to ritual for letting go but might also contain elements of honoring the deceased. Rituals of continuity or honoring emphasize that the deceased is still remembered. Rituals of transition affirm that one has entered a new place in one's journey through grief. The "healing drum session" during the TOZI-retreat might be considered a transition ritual (49), as well as the laying out of the symbolic lifeline in narrative exposure therapy (57) or burning the "angry" letter in the BEP-TG treatment (61).

In the literature, there is also discussion of rituals of reconciliation that either ask for or extend forgiveness and rituals of affirmation provide ways to acknowledge legacies or to say thanks (73). A key function of death rituals is to provide structured ways to mourn and express grief, and death rituals may serve important social, cultural, and psychological functions that foster adaptation to loss (3, 10). While some ritual elements might serve more than one function, it is suggested here that the different ritual interventions are used with different functions and intentions in the various grief treatments.

Some ritual elements focus more on embodied states in terms of meditation, sitting, walking or breathing (in silence), revealing what in the literature has been discussed as "body techniques" in ritual (74). Body techniques are culturally learned ways of "using" the body in a specific way, such as using tools to eat or religious prayer or meditation. In cases of traumatic loss, bereaved often use non-verbal communication to express their emotions, such as touching their face, staring (in front of them), throwing their hands in the air, touching or hugging the body of the deceased or the coffin. In the here found grief interventions, body techniques are used to bring the person into a specific embodied state. The use of silence might help to focus on one's bodily sensations and possibly inner contemplation. Body techniques are an important part of rituals, more generally, because they help to stay focused during the ritual (e.g., remain in silence or focus attention toward a central ritual performance) and to embody the aspired action (e.g., connect with the divine, pray for the deceased or clap during a graduation ceremony). Body techniques are used in various treatments for prolonged and traumatic grief, because they help to feel emotions and sensory input within a safe environment. Other ritual elements focus on addressing painful emotions or sensations, such as re-enacting the dying scene, finding a metaphor for loss, writing an "angry" letter to the perpetrator. Rituals in grief therapy, thus, are helpful due to different processes, such as expressing various emotions (thankfulness, care for the deceased, but also feelings of guilt, and asking for forgiveness), as well as creating a bond with the deceased and other bereaved, which perhaps was before the treatment ambivalent or problematic. Rituals structure internal and external processes through ritualized action (21, 24).

The cultural dimension of grief treatment needs also to be discussed here in relation to the different grief treatments, especially in today's globalized societies. Rituals have an important role in dealing with grief across cultures. Culture relates to ritual customs, as well as how we deal with grief. A cross-cultural study comparing data on mortuary rites from 57 cultures across the world revealed that in 93% of the cases kin is exposed to and in 89.5% of the cases has contact with the dead body (75). In a majority of cultures (71.9%) a moderate intimacy with the dead body is reported and in some a low (8.8%) or high (7%) intimacy. The authors did not find significant differences in the degree to which the body is threated on the basis of these criteria between different continents (e.g., Asia, Afrika, Europe). They furthermore argue that researchers (in this case anthropologists) are required to interpret the meanings of the specific ritual acts across cultures, as mortuary rituals differ across cultures. Research has suggested psychological benefits of mourning rituals, such as regained feelings of control and social support (76, 77), which might be the case in the here described ritual interventions in prolonged and traumatic grief treatment.

In specific grief contexts, such as following the loss of loved ones due to a disaster, immigrant ethnic minority group members have been found to endorse more persistent symptoms than natives (78). Different explanations for increased mental health symptoms following loss of loved ones and migration have been suggested that involve a lack of rituals. Firstly, *ritual omission* may result from the impossibility of performing culturally appropriate rituals (79) that may be due to migration and/or traumatic circumstances of the death. Secondly, *cultural incongruity* (80) may occur, a mismatch between cultural customs in the host country and cultural traditions of immigrants that may prevent death rituals from fostering adaptation to loss. Cultural norms can prevent the loss of a loved one from being openly acknowledged, publicly mourned, or socially supported, such as in disenfranchised grief (81). Disenfranchisement in grief is found when the grief is not socially acknowledged. It occurs when the mourner or deceased are not considered significant enough or are even condemned (e.g., the person is considered at the wrong side during the war), the relationship with the deceased (e.g., extra-marital relationships), the circumstances of the death (e.g., self-inflicted death), or other aspects of the loss that are not socially acknowledged. Rituals can be ways to make disenfranchised grief visible and create a way to cope with the grief (82).

Culturally appropriate rituals need to be taken into account during end-of-life care. A study examining the potential benefits of the end-of-life informal caregiving, communication, and ritualized behaviors in adaptation to the conjugal bereavement across two different cultural contexts, France and Togo (n = 235), showed that postloss growth in Togolese bereaved was fostered by end-of-life communication with the dying and the performance of ritualized behaviors. In French bereaved individuals, experiencing more intimate communication with the dying spouse was associated with a higher level of postloss growth. The authors concluded that informal caregiving to the dying, communication with the dying, and ritual support need to be promoted as integrated components of end-of-life care (7).

Study Strengths and Limitations

This study has shown that various ritual elements are used in different grief interventions and most of the reported studies reveal evidence toward the effectiveness of the treatment. However, as most effects were studied for the entire treatment, a separate effect for the ritual elements needs further investigation. Furthermore, measuring and comparing effects for different types of therapy have some validity issues that need to be mentioned (83). For instance, the higher stressful grief symptoms in general within a population before the therapy, the higher these symptoms will be after the treatment also [(83), p. 71]. Furthermore, there are "patient factors" that increase symptom reduction due to motivation and readiness for change, economic and social resources, which are not necessary linked to a specific treatment [(83), p. 71]. Another difficulty in comparing the "relative efficacy" of different treatments lies in the debate around specific "ingredients" in therapy [(83), p. 114]. Common factors might be involved in the effectiveness of psychotherapies in general, including the treatment alliance, genuineness, patient expectations, and therapist empathy. A final difficulty with identifying ritual elements in existing therapy is that in most studies the intervention is not described in detail, as published data do not routinely include the intervention manual. This might have led to the inadvertent exclusion of some articles that actually did include a grief intervention with ritual elements.

Implications for Research and Practice

A focus on separate effects for different parts of the treatment can be included in future research, as well as adding qualitative measurement, such as open questions about what clients appreciated most during the therapy and if possible, whether or not the ritual elements were remembered and how they were evaluated. As rituals are also present within one's cultural upbringing and some of the rituals refer to traditional ritual actions (e.g., meditation) or include the reading of religious or spiritual texts, it would be noteworthy to learn more about the cultural associations that clients have with these elements. What kind of thoughts and meanings do bereaved experience during the rituals? How are the rituals during the intervention linked to the rituals that one knows from one's own cultural background? More research is needed to focus more in these questions and we hope by providing this scoping review that we can add to the discussion on rituals in grief therapy.

The here reported studies were conducted in countries across the world. In some studies, the original grief intervention was translated and explicitly adjusted to the specific cultural context (57, 58, 63, 64). Making use of rituals in therapy asks for more focus on and discussion about the role of culture in grief therapy. For mental healthcare providers who serve culturally diverse clients, cultural assessment of bereavement and grief is needed for a comprehensive evaluation of grief-related psychopathology and for negotiating appropriate treatment. The Bereavement and Grief Cultural Formulation Interview (BG-CFI) comprises a set of brief, person-centered, and open-ended questions (84), included as a supplementary module to the DSM-5 Cultural Formulation Interview (85). The BG-CFI assesses cultural traditions related to death, bereavement, and mourning as well as help seeking and coping. Using these questions, the clinician may explore cultural aspects of bereavement and grief in patients seeking mental health care following the loss of loved ones in order to enhance understanding as well as tailor interventions to alleviate distress (84).

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/**Supplementary Material**, further inquiries can be directed to the corresponding author/s.

AUTHOR CONTRIBUTIONS

JW and GS have initiated this research and formulated the research question and worked out the research design and

selected the studies for this research. JL has provided the source data by conducting the search and has written the method section. JW has reported on the outcomes with comments from JL and GS. All authors contributed to the article and approved the submitted version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyt.2020.623835/full#supplementary-material

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Intervention Program to Improve Grief-Related Symptoms in Caregivers of Patients Diagnosed With Dementia

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The objectives of the present study were to adapt a grief intervention program to family caregivers of patients with dementia, and assess its effectiveness in improving the symptoms of grief and other health-related variables. The intervention was based on Shear and Bloom's grief intervention program, with the necessary adaptations for use in the grieving process for a family member's illness. A total of 52 family caregivers of individuals with dementia participated. They were evaluated using a battery of self-report measures assessing grief, overload, resilience, post-traumatic growth, experiential avoidance, health-related quality of life, and benefits of care. The results suggest that the program is effective in improving grief symptoms, caregiver burden, resilience, post-traumatic growth, and quality of life of family caregivers. It is necessary to create and implement interventions targeting caregivers' feelings and manifestations of ambiguous grief, because there is a lack of programs providing an efficient solution for the mental and physical health of caregivers, and because of the human and socioeconomic cost involved in neglecting this group.

Keywords: ambiguous grief, sorrow, dementia, Alzheimer's disease, caregiver, grief, intervention program

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INTRODUCTION

Dementia is a major cause of disability and dependency among elderly individuals worldwide. It can be overwhelming not only for the individuals who suffer from it, but also for their caregivers and family members (World Health Organization, 2019). The risk of developing dementia increases as individuals age, and the incidence of this illness doubles every 5 years after the age of 65 (Daviglus et al., 2010). Alzheimer's disease is one of the most common dementia and is characterized by significant deficits in memory and in different neuropsychological functions, has become a major health problem in the world.

Generally, patients with dementia will need specific care, with the caregiving role usually taken on by a family member (Bangerter et al., 2019). The figure of the caregiver is fundamental because of their involvement in the quality of life of the individual concerned and because they are the main source of information on the patient's state of health for health professionals (Fundación Sanitas, 2016). Caregiving tasks take up most of the caregiver's time, which may negatively affect their social, occupational, emotional, and family aspects of life (Piccini et al., 2012). This can cause them to neglect their own needs during the course of care, organizing everything according to the patient's demands. It has been found that family caregivers suffer from a greater number of physical and mental health problems compared to the general population (Kiely et al., 2008). High levels of anxiety and depression have been reported, as well as frequent use of psychotropic drugs, as a way of coping with the complex situation of caring for a patient with these characteristics (Piccini et al., 2012).

The gradual deterioration of the family member's state due to dementia is experienced as a gradual loss of the care recipients themselves. In other words, caregivers have to cope with a series of non-fatal, non-time-limited losses, an experience that is highly stressful and has been associated with a whole host of health problems (Rubin et al., 2019). In general, caregivers' grief remains unrecognized by their social environment and health institutions. Different models have tried to account for this specific type of loss, which has been referred to as "anticipated grief," "ambiguous loss," or "dementia grief." Blandin and Pepin (2017) describe dementia grief loss as an anticipated grief produced in response to a series of cyclical losses of different magnitudes, characterized by a high degree of ambiguity and significant changes in the caregiver's identity. Boss (2016) also outlines the central role of ambiguity, identifying two types of ambiguous loss. The first type of ambiguous loss is when individuals perceive themselves to be physically absent, but psychologically present, and the second type is when individuals perceive themselves to be physically present, but psychologically absent, as is the case with dementia. This type of ambiguous loss, known as "saying goodbye without leaving," can be considered as one of the most distressing and challenging aspects of the experience of caring (Boss, 2016) and distinguishes the experience of grief from someone else's dementia caregiver. Since the loss can be intangible or uncertain, the grieving process for family members can easily become complicated (Pauline and Boss, 2009).

In the literature, an increase in the intensity of caregiver stress preceding the physical death of the individual with dementia is reported. This stress can often be equal to or greater than the levels of grief stress after their death (Noyes et al., 2010). In addition, caregivers who experience higher levels of stress before the death of the patient are at greater risk of experiencing health complications after the death of the patient (Givens et al., 2011; Chan et al., 2013; Shuter et al., 2014). There is also evidence to suggest that the intensity of the grieving process shares risk factors with caregiving overload, such as the stage of illness and behavioral problems, but there also appear to be factors specific to the experience of loss (Liew et al., 2019). In this line, it could be pointed out that ambiguous loss is characterized by factors that inherently make the grieving process difficult (Boss, 2016), as this is a process that takes place gradually over time, without a fixed pattern and without being interpreted by the person as grief (Doka, 2008).

It has also been suggested that, unlike losses from death, grieving over non-fatal losses may not be socially recognized or openly supported, and may fall into the category of disenfranchised grief (Doka, 2008). Caregivers are deprived of the right to express their grief openly and may experience greater difficulties in adjusting to and overcoming the loss. Even though some studies have considered this phenomenon to be chronic grief (Sanders and Corley, 2003; Pauline and Boss, 2009; Noyes et al., 2010), the research suggests that little is known about the grieving process of caregivers of individuals with dementia (Doka, 2008; Chan et al., 2013; Arruda and Paun, 2017).

Despite this, recent models, such as the Two-Track Model of Dementia Grief (Rubin et al., 2019), have identified an entire series of variables that interact with each other and shape this grieving experience. The authors highlight four dimensions: (1) the characteristics of the individual diagnosed with dementia (diagnosis, severity, and symptom pattern); (2) the objective circumstances of the individual being cared for and of their caregiver (objective burden of care, losses associated with caregiving, ambiguity regarding the future); (3) the contextual factors relating to care (psychological resources and socio-demographic aspects); (4) the responses and coping mechanisms of the family system. This last dimension includes variables such as caregiver health levels, e.g., anxiety, depression, health-related quality of life, meaning of life, growth, positive changes, or resilience (Rubin et al., 2019).

As shown in a recent review, a very limited number of grief-focused interventions have been identified for caregivers of dementia patients (Arruda and Paun, 2017). The few interventions conducted pre-death focused on working on the emotional health of caregivers while their family members with dementia were still alive (Boerner et al., 2004; Schulz et al., 2006; Haley et al., 2008; Holland et al., 2009; Bergman et al., 2011) and were guided by stress models (Schulz et al., 2003; Mittelman et al., 2004). In addition, the utilization of cognitive-behavioral therapy targeting this type of loss is producing very promising results with respect to well-being, health, and symptoms of grief (Meichsner and Wilz, 2018; Meichsner et al., 2019a,b).

However, there are few interventions based on a caregiver grief model designed specifically to improve the emotional health of caregivers of dementia patients in manifestations of grief both before and after the death of the care recipient.

In the context of grief interventions, Shear's K. (2010) treatment of complicated grief has been shown to be effective and to have sustained effects over time in clinical trials (Papa et al., 2013; Rosner et al., 2014; Shear and Bloom, 2017). Complicated grief treatment is a16-session evidence-based psychotherapy developed to release and facilitates a bereaved person's natural adaptive response. This program is based on the cognitive-behavioral therapy model, and also includes interpersonal therapy techniques and motivational intervention. The program aims to intervene in the processes that are supposed to maintain a maladaptive grieving process, therefore it focuses on three basic objectives: properly process the experience and integrate the loss in the life history, identify and change the problematic beliefs and interpretations of the process, and replace anxious-depressive avoidance strategies with more adaptive ones (Boelen et al., 2006). Three strategies are worked on: sharing information, promote self-observation and self-regulation, and rebuild the connection. Therapeutic objectives include: (a) advancing in the planning of future goals and rewarding activities, (b) reviewing the history of the death, (c) identifying the vital changes that the loss has produced, and (d) fostering continuous bonds through living memories. A detailed description of each of the 16 sessions can be found in Shear and Bloom (2017). Nonetheless, no studies have been identified where this intervention is applied to grieving processes not linked to losses from death.

The objectives of this study were to adapt a grief intervention program to family caregivers of patients with dementia and assess its effectiveness in improving their symptoms of grief and other health-related variables. It was expected that caregivers who participated in this intervention program would exhibit significant improvements in their overall perceived health, quality of life, as well as a significant decrease in maladaptive manifestations associated with grief.

METHODS

Design

This study used a repeated measures quasi-experimental randomized controlled design with allocation of participants to either the intervention group (IG) or to the control group (CG) (on a waiting list). A general linear model for a 2 × 2 repeated measures design was used to perform the analysis. The two levels for the between-groups factor concerned whether or not a participant had participated in the intervention program (IG and CG), while the two levels for the within-subjects factor corresponded to the two assessment times (pre-intervention and post-intervention).

Participants

Fifty-two family caregivers of patients with dementia from the A.F.A. ALTAAMID Center (Association of Relatives of Patients with Alzheimer's disease) in the city of Granada, Spain, participated in the study. Of these 52 family members, 27 participated in the program (IG), and 25 did not receive any intervention (CG, on a waiting list). The participants were randomly allocated to one group or the other.

The inclusion criteria for study participation were: being the primary caregiver of a family member with any type of dementia; being aged 18 or above; consenting to participate in the program and being available to do so. The exclusion criteria for both groups were: experiencing difficulty with testing and participating in the program; currently receiving psychological and/or psychiatric treatment. The diagnosis of dementia in the family member had to have been made by a neurologist.

The mean age of the family caregivers was 63.88 years (SD = 17.55; range: 21–89), of which 21.15% were male and 78.85% were female. Thirty of the family caregivers (57.69%) were the spouse of the patient, 34.62% were their children, and 7.69% were other relatives. Most of them had a partner at that time and lived together (71.1%). In reference to their level of education, 7.69% no education, 26.92% had primary education, 19.23% had secondary education, and 46.15% had higher education. Regarding their employment status, 28.85% had a remunerated job, 50% were retired, 15.38% did household chores, and 3.85% were unemployed. With respect to the family's monthly income, 17.31% earned the minimum inter-professional wage in Spain (SMI in Spanish), 38.46% earned between 1 and 2 times the SMI, 25% earned between 2 and 3 times the SMI, and 19.23% earned more than 3 times the SMI.

Eight of the 52 family caregivers had previously been diagnosed with an affective or mood disorder. Sixty-three percent (63.46%) of the individuals with dementia were being cared for by only one caregiver, and 36.54% were being cared for by more than one caregiver. There were no significant differences in these variables between the CG and the IG (see **Table 1**).

Instruments

The caregivers were assessed using the following instruments:

a) An interview to collect personal and socio-demographic data from the participants: their level of education, monthly family income, employment status, degree of kinship, the number of family members caring for the dependent relative, and whether they had ever been diagnosed with any psychiatric illness.

b) The Caregiver Grief Scale (CGS) (Meichsner et al., 2016), which measures the caregivers' manifestations of grief. Consisting of 11 items of Likert-type format with 5 categories, with a range that goes from 1 (totally disagree) to 5 (totally agree). The full scale and its subscales were shown to have high levels of internal consistency (Cronbach's α between 0.67 and 0.89) and high levels of construct validity. The scale includes four factors that reflect different aspects of caregiver grief: emotional pain (painful emotions related to the loss), relational loss (losses related to the relationship), absolute loss (anticipation of the future without the person), and acceptance of loss (acceptance of dementia and open expression of the grief). For the present study a back-translated version from English to Spanish was used, with reliability values ranging from $\alpha = 0.55$ to $\alpha = 0.85$ (emotional pain $\alpha = 0.62$, relational loss $\alpha = 0.77$, absolute loss $\alpha = 0.85$, acceptance of loss $\alpha = 0.55$) and an overall Cronbach's α of 0.85.

c) The Caregiver Burden Interview (CBI) (Zarit et al., 1980). The Spanish adaptation by Martín et al. (1996) was used. This scale assesses the stress and subjective overload perceived by the caregivers of dependent individuals. It consists of 22 Likert-type scale items with 5 frequency values ranging from 1 (never) to 5 (almost always). The internal consistency of the scale is $\alpha = 0.91$ and its test-retest reliability is 0.96.

d) The Connor-Davidson Resilience Scale (CD-RISC) (Connor and Davidson, 2003). The Spanish adaptation by Crespo et al. (2014) was used. It consists of 10 Likert-type items of 5 categories that cover scores from 0 (absolutely) to 4 (almost always). This scale has a high level of internal consistency as measured with the Cronbach's α statistic (0.90). With respect to convergent and divergent validity, overall scores show positive correlations between CD-RISC and measures of self-esteem as well as with caregiver perception of self-efficacy. CD-RISC is shown to be inversely correlated with depression, anxiety, and caregiver burden.

TABLE 1 | Sociodemographic characteristics of the sample.

Variables	Intervention group ($n = 27$) Mean (SD) or *n* (%)	Control group ($n = 25$) Mean (SD) or *n* (%)	χ^2/t *p*
Age	66.59 (17.25)	60.96 (17.56)	0.252
Gender			0.845
Males	6 (22.2%)	5 (20%)	
Females	21 (77.8%)	20 (80%)	
Relationship			0.139
Spouse	19 (70.4%)	11(44%)	
Son	7 (25.9%)	11 (44%)	
Others	1 (3.7%)	3 (12%)	
Co-existence			0.629
With a partner	20(74.1%)	17 (68%)	
Without a partner	7 (25.9%)	8 (32%)	
Level of studies			0.087
No studies	4 (14.8%)	0 (0%)	
Primary studies	9 (33.3%)	5 (20%)	
Secondary studies	5 (18.5%)	5 (20%)	
University studies	9 (33.3%)	15 (60%)	
Employment situation			0.447
Active	5 (18.5%)	10 (40%)	
Retirees	15 (55.6%)	11 (44%)	
Housework	5 (18.5%)	3 (12%)	
Unemployed	1 (3.7%)	1 (i4%)	
Monthly salary			0.288
IMW	4 (14.8%)	5 (20%)	
Between 1 and 2 IMW	11 (40.7%)	9 (36%)	
Between 2 and 3 IMW	9 (33.9%)	4 (16%)	
More than 10 IMW	3 (11.1%)	7 (28%)	
Number of caregivers			0.099
1	20 (74.1%)	13(52%)	
More than 1	7 (25.9%)	12 (48%)	

IMW, Interprofessional minimum wage.

e) The Acceptance and Action Questionnaire (AAQ-II) (Hayes et al., 2004). The Spanish adaptation by Mairal (2004) was used. This questionnaire assesses experiential avoidance and psychological flexibility. Consisting of 10 items of Likert type format with 7 categories that cover a score range from 1 (completely false) to 7 (completely true). It has a good level of internal consistency (as measured with Cronbach's $\alpha = 0.88$), construct validity, discriminant validity, and external validity.

f) The Post-Traumatic Growth Inventory (PTGI) (Tedeschi and Calhoun, 1996). The Spanish adaptation by Castro et al. (2015) was used. It consists of 21 items that assess the perception of personal benefits in survivors of a traumatic event. It has a Likert-type response format with 6 categories, in a score range from 0 (no change) to 5 (very high degree of change) in a positive sense: the higher the score, the greater the perceived change. This instrument has a Cronbach's alpha of 0.95. Adaptations of the PTGI have found structures that vary from one to four factors, including the three-dimensional structure proposed by the original theoretical model. In Spain, there are studies corroborating the one-factor approach (Costa Requena and Gil Moncayo, 2007), as well as studies that have found a bifactor model consisting of three specific factors and one general factor (Rodríguez-Rey et al., 2016; Garrido-Hernansaiz et al., 2017).

g) Positive Aspects of Caregiving (PAC) (Tarlow et al., 2004). This measure assesses the benefits of providing care and has good internal consistency values. It consists of 11 items evaluated on a Likert scale from 1 (strongly disagree) to 5 (strongly agree). The original version showed adequate values of reliability ($\alpha = 0.89$), as well as the Spanish adaptation, with Cronbach's alpha values of $\alpha = 0.82$ (Las Hayas et al., 2014).

h) The SF-36 Health Survey (SF-36) (Ware and Sherbourne, 1992). The Spanish adaptation by Alonso et al. (1995) was used. This survey assesses perceived health: physical functioning, limitations due to physical problems, bodily pain, social functioning or role, mental health, limitations due to emotional functioning, vitality, energy or fatigue, and general health perception. It consists of 90 items that explore 9 psychopathological dimensions. Each item is valued according to a Likert-type scale with different scores in which the discomfort perceived in the last 7 days must be indicated. Internal consistency, as measured with the Cronbach's alpha statistic, ranges from 0.70 in the pain dimension to 0.90 in physical functioning. With respect to external validity, it has been shown to be significantly correlated with existing scales measuring similar constructs.

Procedure

Firstly, the study was approved by the Ethics Committee on Human Research of the University of Granada, Spain (Ref.: 359/CEIH/2017). Subsequently, the research proposal was presented to the management team of the A.F.A. ALTAAMID Center. Once approved, the members of the center were contacted, were informed of the purpose of the research, and were asked for their collaboration. Fifty-two relatives of ∼80 patients showed interest in taking part in this study. Two groups were formed, the IG and the CG, depending on whether participants were to follow the intervention program or not. The participants were randomly allocated to one group or the other. All the participants signed a written informed consent form and completed the assessment tests in a single session, always in the same order: the socio-demographic data interview; the SF-36 Health Survey; the Caregiver Grief Scale (CGS); the Caregiver Burden Interview (CBI); the Connor-Davidson Resilience Scale (CD-RISC); the Post-Traumatic Growth Inventory (PTGI); the Acceptance and Action Questionnaire (AAQ-II); and the Positive Aspects of Caregiving (PAC).

The assessments were conducted using the facilities at the ALTAAMID Center, with an approximate duration of 60 min each.

There were as many IGs as the sample size obtained, forming groups of 5 (three groups) and 6 (two groups) participants.

Subsequently, the caregivers in the IG received 10 one-and-a-half hour intervention sessions over the course of two and a half months, once per week. The intervention was implemented in the same facilities where the assessments were conducted. The intervention was based on the guidelines of Shear and Bloom's grief intervention program (2017). The intervention was adapted to fit the characteristics of the study population, i.e., it was adapted to fit the grieving process for a family member's illness. The changes that have been made to adapt the original version of the program are as follows: (a) the number of sessions, in the original format is 16, in the current program there are 10 sessions), (b) the duration of the sessions, 45–60 min become 90 min, (c) the type of grief that the program addresses does not focus on grief due to death, but grief due to illness of a loved one, (d) the theme of the imaginal exposure techniques that in this case, it focuses on different aversive moments in the interaction with the patient, and (e) the inclusion of a mutual aid group. **Table 2** shows the content of each session of the intervention program.

The following techniques were used: imaginal exposure and *in vivo* exposure, cognitive restructuring, behavioral rehearsals, and social skills training. The main objectives were to facilitate the acceptance of both the new situation and the consequences of the loss, to foster the bonds they had with their family member, and to promote strategies for participating in activities that would increase their levels of satisfaction and quality of life. Among the program's most characteristic strategies are the following: (a) imaginal exposure to different aspects of the situation, with special emphasis on exposure to those moments that caused them the highest levels of anxiety (hot spots); (b) managing personal resources and developing coping strategies to meet the demands of their family member in an efficient manner, while reducing the perceived gap between demands and available resources and reducing the perceived emotional impact of caregiving; (c) reinterpretation of situations that were previously avoided so that caregivers perceive themselves as more motivated and as having higher levels of self-efficacy with respect to coping; (d) promotion of rewarding activities based on the caregivers' interests and desires, and systematization of activities; (e) establishment of medium- and long-term goals and objectives, identifying obstacles and seeking alternative ways to achieve them; (f) promotion of social support through the establishment of a mutual support group among the participants, in which they were encouraged to remain after the intervention program.

At the end of each session, proposals for homework were made, and the following sessions began by reviewing these proposals.

Once the intervention finished, the IGs and the CG went through the two-session assessment protocol again, in the same order as described previously. The CG engaged in the daily activities that were being carried out in the association during the course of the intervention, which consisted of individualized counseling, informative talks related to the symptomatology of their family member, the promotion of their daily functioning, and the management of the behavioral problems which are characteristic of this illness. In a second phase, the participants of the CG who wished to do so, had the opportunity to complete the intervention program (CG meaning remaining on a waiting list).

TABLE 2 | Contents of the ten sessions of the intervention program.

Session number	Content
1	- Group rules and presentation of the intervention - Participants' introductions - Psychoeducation: disenfranchised grief - Training in self-registration
2	- Description of the SUDS procedure (Subjective Units of Distress Scale) - Imaginal exposure - Working on rewarding activities - Working on goals
3	- Imaginal exposure - Working on personal resource management - Discussing avoided situations. Information
4	- Imaginal exposure - Discussing specific memories - Working on avoided situations - Working on rewarding activities and goals
5	- Imaginal exposure - Discussing specific memories
6	- Imaginal exposure - Working on avoided situations - Hot spots (remembering moments of exposure with high SUDS scores)
7	- Imaginal exposure - Discussing personal changes - Hot spots (remembering moments of exposure with high SUDS scores)
8	- Imaginal exposure - Discussing positive aspects in life
9	- Imaginal exposure - Role-playing and empty-chair technique with the affected family member - Anticipating and planning for painful dates/situations
10	- Imaginal exposure - Summary of the treatment - Identifying and dealing with feelings about the end of treatment. Encouraging acceptance of the new situation and developing the new bond - Discussing the potential for joy and satisfaction in life and positive feelings about working with patients - Goodbye

Both the assessment and the implementation of the program were conducted by the same researcher, an expert in providing care to individuals with dementia.

Statistic Analyses

Data were analyzed using IBM SPSS for Windows, version 22.0. Descriptive analyses were performed: for quantitative variables, means and standard deviations were used; for categorical variables, frequencies were calculated. Between-group differences were analyzed using the t-test for independent samples and the χ^2 test. Linear models for repeated measures (Wilks' λ) were used to assess the effect of the program. In all cases, the assumptions of homogeneity of variances were taken into account (Levene's test). The effect size was calculated with Cohen's d. The statistical significance threshold was set at $p < 0.05$.

RESULTS

We present the results of the between-groups comparisonsbased on the assessment time for the different variables (see **Tables 3**, **4**). In **Tables 3**, **4** we present the means, standard deviations, effect sizes (Cohen's *d*), and results obtained from between-groups differences, the assessment time, and the interactions between the variables. The dependent variables were caregiver grief (CGS), caregiver overload (CBI), resilience (CD-RISC), acceptance and action (AAQ-II), positive aspects of caregiving (PAC), post-traumatic growth (PTGI), and perceived health (SF-36).

Significant Time × Group interactions were observed between six of the variables assessed: manifestations of grief, caregiver overload, resilience, some dimensions of post-traumatic growth, positive aspects of caregiving, and health-related quality of life (see **Figures 1**, **2**).

With respect to the scales related to caregiver grief, we found that there were statistically significant differences in the scales CGS-Emotional pain [$F_{(1,50)} = 6.889$; $p = 0.011$] and CGS-Absolute loss [$F_{(1,50)} = 5.080$; $p = 0.029$] for the Time × Group interaction. In Emotional Pain variable, these differences indicate a decrease in the manifestations of grief-related emotions in the IG and an increase in emotional pain in the CG. In the Absolute Loss variable these differences indicated a decrease in the feelings of loss of meaning and desperation regarding the future loss in the IG, and an increase of them in the CG.

With respect to caregiver overload, we found statistically significant differences for the CBI in the Time × Group interaction [$F_{(1,50)} = 5.210$; $p = 0.027$], indicating that there was an increase in caregiver overload between the first and second assessments in the CG, while in the IG, caregiver overload decreased after the intervention.

In the case of resilience (CD-RISC), statistically significant differences were found in the Time × Group interaction [$F_{(1,50)} = 16.961$; $p < 0.001$]. These differences show that, while a decrease in resilience was observed in the CG between the first and second assessments, this value increased in the IG.

When observing the scores obtained on the experiential avoidance (AAQ-II), the statistically significant differences within the factors of Time ($F_{(1,50)} = 4.373$, $p = 0.042$) and Group ($F_{(1,50)} = 6.178$, $p = 0.016$) could be highlighted. These results indicate that, after the intervention, there is a decrease in these values in the IG, while the score remains relatively unchanged in the CG.

The PTGI-SF results show differences in the scales New possibilities [$F_{(1,50)} = 4.356$; $p = 0.042$] and Personal strength [$F_{(1,50)} = 5.929$; $p = 0.019$] for the Time × Group interaction, indicating a decrease between the first and second measurements for the CG and an increased between these measurements for the IG.

We also found significant differences between measurements of positive aspects of caregiving taken using the PAC in the Time × Group interaction [$F_{(1,50)} = 8.465$; $p = 0.028$]. These results indicate a pattern of change between the two different assessments for each of the two groups, with a decrease being observed in the CG and an increase being observed in the IG.

As for the SF36 scales, we found statistically significant differences in Physical Health, Physical Role, Mental Health, and the Total Scale in the Time × Group interaction (see **Table 4**). In all cases, these differences are explained by the fact that, in the second assessment, the CG showed a decrease in perceived health, and the IG showed an increase. Significant differences in the Time × Group interaction also appear for the Emotional Role scale [$F_{(1,50)} = 4.885$; $p = 0.032$], indicating a decrease in Emotional Role scores between the two assessments within the CG, and an increase in Emotional Role scores between the two assessments within the IG. Finally, the effect sizes for the IG are generally moderate, except for those of the PAC scale ($d = 0.70$), which are moderately high.

DISCUSSION

The objectives of this study were to adapt a grief intervention program to family caregivers of patients with dementia and assess its effectiveness in improving their symptoms of grief and the other health related variables. The results suggest that the program is effective in improving grief symptoms, caregiver burden, resilience, post-traumatic growth, and quality of life of family caregivers.

Most of previous interventions for family caregivers have been proven to be effective in improving the quality of life and emotional health of caregivers, they have not usually taken into account the symptoms related to grief during the process of deterioration of their loved ones. In the literature, it is reported that the lack of attention paid to the symptoms of this type of grief increases the probability that the caregiver develops health problems after the death of their family member (Givens et al., 2011; Chan et al., 2013; Shuter et al., 2014) and the grieving process may become complicated (Pauline and Boss, 2009).

The current program has been proven to be an effective tool for improving the well-being and quality of life of family caregivers. These benefits also have a positive effect on the care of their affected family members. In particular, the results obtained show that, after participating in the program, caregivers exhibited significant reductions in symptoms associated with grief, and also in their levels of caregiving-related stress (emotional pain associated with grief, feelings of absolute loss, subjective overload in the performance of their caregiving role, and experiential avoidance).

One of the most frequently reported outcomes in intervention studies with caregivers of dementia patients concerns the effects of these interventions on caregiver burden (Wasilewski et al., 2017; Wilz et al., 2018). These studies point out that any intervention with a planned end may not be enough to ease the burden on caregivers, as their situation becomes more complex and difficult over time (Chiu et al., 2009). In the present study, the program is not only shown to be effective in reducing the subjective burden in the performance of the caregiving role, but it also promotes a number of factors that facilitate coping with caregiving tasks (resilience, perception of the caregiver's role, and ability to adapt to adverse situations).Promoting these factors has

TABLE 3 | Differences between groups in the scales of grief, burden, resilience, experiential avoidance, post-traumatic growth, and positive aspects of caregiving.

Variable	Group	*Mean (SD)* Pre	*Mean (SD)* Post	Effect Size	Factor	*F*	*p*
CGS emotional pain	Control	9.16 (3.26)	9.68 (3.29)	0.16	Time	1.95	0.169
	Intervention	11.22 (3.07)	9.52 (3.13)	0.55	Time × Group	6.89	0.011*
					Group	1.50	0.226
CGS relational loss	Control	11.00 (3.61)	10.48 (3.94)	0.14	Time	3.23	0.078
	Intervention	12.44 (2.91)	11.52 (2.99)	0.31	Time × Group	0.25	0.616
					Group	2.16	0.148
CGS Absoluteloss	Control	9.24 (3.74)	10.24 (3.81)	0.26	Time	0.04	0.849
	Intervention	12.44 (3.13)	11.26 (3.32)	0.37	Time × Group	5.08	0.029*
					Group	6.28	0.016*
CGS acceptance to loss	Control	6.04 (2.75)	6.16 (2.61)	0.04	Time	2.02	0.161
	Intervention	7.56 (1.93)	6.48 (2.34)	0.66	Time × Group	3.16	0.081
					Group	2.50	0.120
CBI	Control	47.80 (17.71)	51.96 (20.43)	0.22	Time	0.02	0.889
	Intervention	57.78 (18.22)	53.07 (15.96)	0.28	Time × Group	5.21	0.027*
					Group	1.43	0.237
CDRISC	Control	29.60 (9.17)	26.04 (9.99)	0.37	Time	0.10	0.755
	Intervention	23.74 (8.28)	27.89 (8.09)	0.51	Time × Group	16.96	0.000**
					Group	0.77	0.384
AAQII	Control	16.76 (10.79)	16.64 (9.90)	0.01	Time	4.37	0.042*
	Intervention	25.89 (11.95)	21.22 (10.23)	0.42	Time × Group	3.94	0.052
					Group	6.18	0.016*
PTGISF relationship with others	Control	5.72 (3.22)	4.88 (2.83)	0.28	Time	4.05	0.049*
	Intervention	6.33 (2.48)	5.37 (3.26)	0.33	Time × Group	0.02	0.891
					Group	0.64	0.428
PTGISF new possibilities	Control	4.72 (3.13)	4.20 (3.09)	0.17	Time	0.48	0.491
	Intervention	4.37 (3.00)	5.40 (3.37)	0.32	Time × Group	4.36	0.042*
					Group	0.29	0.590
PTGISF personal strength	Control	5.48 (3.25)	4.84 (3.00)	0.20	Time	0.38	0.540
	Intervention	5.33 (3.09)	6.41 (3.25)	0.34	Time × Group	5.93	0.019*
					Group	0.79	0.379
PTGISF spiritual change	Control	3.60 (3.43)	3.36 (3.49)	0.07	Time	0.12	0.724
	Intervention	3.67 (3.54)	4.19 (3.64)	0.14	Time × Group	0.93	0.338
					Group	0.25	0.621
PTGISF appreciation of life	Control	5.44 (3.43)	5.96 (3.30)	0.15	Time	2.89	0.096
	Intervention	6.30 (2.66)	7.04 (2.30)	0.30	Time × Group	0.09	0.767
					Group	1.77	0.189
PTGISF total	Control	24.96 (11.07)	22.76 (10.75)	0.20	Time	0.01	0.960
	Intervention	26.00 (10.58)	28.33 (11.67)	0.21	Time × Group	2.93	0.093
					Group	1.43	0.237
PAC	Control	41.04 (10.99)	40.40 10.34)	0.06	Time	4.94	0.031*
	Intervention	43.48 (6.81)	48.26 (6.85)	0.70	Time × Group	8.46	0.005**
					Group	5.09	0.028*

CGS, Caregiver Grief Scale; CBI, Zarit Burden Interview; CD-RISC, The Connor-Davidson Resilience Scale; PTGI, Post-traumatic Growth Inventory; AAQ-II, Acceptance and Action Questionnaire II; and PAC, Positive Aspects of Caregiving. r = effect size. *$p < 0.05$; **$p < 0.01$.

a positive impact on the quality of care delivered to individuals with dementia and may have a protective effect on the caregivers' management of their caregiving process throughout the course of the illness. In the present study, participants perceive that they have further resources available (knowledge and support) to be able to face the ups and downs of their transition to a better physical and mental state, and to be able to provide care and improve their willingness and behaviors with respect to the

TABLE 4 | Differences between groups in the SF-36 Scale.

Variable	Group	*Mean (SD)* Pre	*Mean (SD)* Post	Effect Size	Factor	*F*	*p*
SF36 general health	Control	14.88 (3.15)	15.76 (2.52)	0.31	Time	2.01	0.163
	Intervention	15.89 (3.75)	16.15 (3.01)	0.08	Time × Group	0.60	0.444
					Group	0.81	0.372
SF36 physical health	Control	27.32 (3.52)	26.48 (4.27)	0.22	Time	1.16	0.286
	Intervention	22.59 (5.81)	24.56 (4.96)	0.37	Time × Group	7.24	0.010*
					Group	7.56	0.008**
SF36 physical role	Control	7.36 (1.22)	6.80 (1.68)	0.39	Time	0.01	0.951
	Intervention	6.00 (1.90)	6.59 (1.78)	0.32	Time × Group	4.72	0.035*
					Group	4.22	0.045*
SF36 emotional role	Control	5.56 (1.61)	4.80 (1.50)	0.49	Time	0.45	0.507
	Intervention	4.74 (1.40)	5.15 (1.46)	0.29	Time × Group	4.88	0.032*
					Group	0.54	0.464
SF36 social function	Control	6.04 (1.24)	5.88 (0.78)	0.16	Time	0.92	0.342
	Intervention	6.33 (1.57)	6.00 (1.36)	0.23	Time × Group	0.11	0.737
					Group	0.71	0.403
SF36 body pain	Control	5.00 (2.31)	5.36 (2.96)	0.14	Time	4.52	0.039*
	Intervention	6.33 (3.45)	4.74 (2.54)	0.53	Time × Group	11.34	0.001**
					Group	0.23	0.630
SF36 vitality	Control	14.76 (2.37)	14.80 (1.53)	0.02	Time	0.94	0.338
	Intervention	14.30 (2.46)	14.89 (2.22)	0.25	Time × Group	0.71	0.402
					Group	0.13	0.715
SF36 mental health	Control	19.36 (2.53)	18.84 (2.66)	0.20	Time	1.02	0.318
	Intervention	17.11 (2.74)	18.44 (2.53)	0.50	Time × Group	5.28	0.026*
					Group	4.79	0.033*
SF36 physical component	Control	54.56 (3.71)	54.40 (4.28)	0.04	Time	0.12	0.731
	Intervention	51.48 (5.04)	52.04 (4.28)	0.12	Time × Group	0.39	0.534
					Group	6.48	0.014*
SF36 emotional component	Control	45.48 (4.65)	44.56 (4.16)	0.21	Time	0.21	0.650
	Intervention	42.74 (3.61)	44.22 (4.04)	0.39	Time × Group	3.80	0.057
					Group	2.55	0.048*
SF36 total	Control	102.00 (6.14)	100.64 (5.84)	0.23	Time	0.53	0.470
	Intervention	96.44 (5.82)	99.79 (6.08)	0.56	Time × Group	5.68	0.021*
					Group	6.09	0.017*

SF-36 = Health Scale. *$p < 0.05$; **$p < 0.01$.

duties of caring for their family member, thus providing them with better quality care (more affectionate care, more thorough care, etc.).These changes, in turn, result in a decrease in the behavioral problems usually displayed by the person being cared for.In other studies, the perception of improved physical health has been associated with a decrease in demand for healthcare and a reduction in use of psychotropic drugs, prescribed or otherwise, in caregivers (Kiely et al., 2008).

As we have pointed out, our program significantly reduces the symptoms associated with grief. One of the symptoms that is modified is experiential avoidance. It is reported in the literature that avoidance is one of the symptoms associated with barriers to processing grief (Blandin and Pepin, 2017) and has significant long-term negative consequences on caregivers (Meichsner et al., 2019a). Shear M. K. (2010) had already pointed out that working on avoidance is not routinely considered in clinical situations. Our results show that Shear's program, the basis of our study, yields favorable results with respect to this symptom in the study population, i.e., caregivers of individuals with dementia, in line with recent intervention studies (Meichsner et al., 2019b). The dimensions of emotional pain and the absolute of the loss also showed an improvement in the IG. These aspects are related to the painful grief-related emotions and to the anticipation of the future without the loved one. However, the aspects of relational loss and the acceptance of the loss were not statistically significant between groups. Future studies using the present intervention program should also include tasks and exercises focused on the relationship (including communication and daily

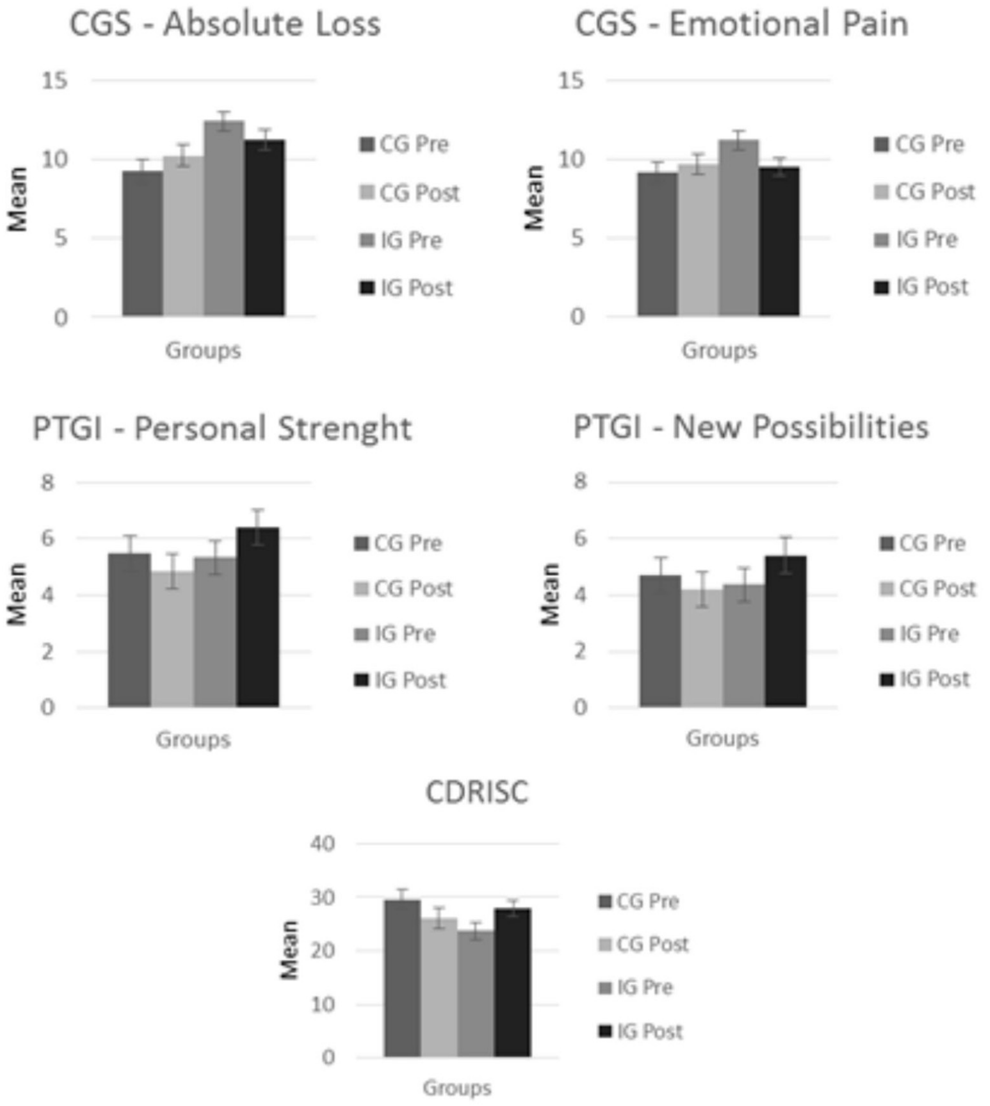

FIGURE 1 | Mean values in each group for the grief, post-traumatic growth, and resilience variables.

activities) and to the acceptance and open expression of grief (Meichsner et al., 2016). Another topic which is present in the literature on interventions for caregivers of individuals with dementia is their mode of implementation (i.e., in groups or individually) and the modules and techniques used in different interventions/programs. Moderate to strong effects have been reported, with mixed results regarding the longevity of its effectiveness, with respect to individual interventions regarding grief prior to the patient's death (Ott et al., 2010; Paun et al., 2015). Recent studies show that interventions for grief management may be conducted with positive results by other means, such as via e-mail (Chiu et al., 2009), via telephone (MacCourt et al., 2016; Wilz et al., 2018), or via the Internet (Meichsner and Wilz, 2018). Although the effects are not conclusive, one of the benefits of this type of intervention is that these environments provide caregivers with flexible access to support, without the problems they often encounter in individual or group settings, or being unable to attend as they cannot leave the care recipient alone. One drawback of this way of conducting the intervention is that the caregiver needs to have access to the internet and a certain level of digital literacy (Meichsner et al., 2019b). In group interventions, it becomes evident that, among other things, the use of education modules, the identification of changes in situations of grief and loss, and also of coping mechanisms are useful to the group (Sanders and Sharp, 2004). Our intervention program is conducted in groups, and involves the use of the following techniques: imaginal exposure, *in vivo* exposure, cognitive restructuring, behavioral rehearsals, and social skills

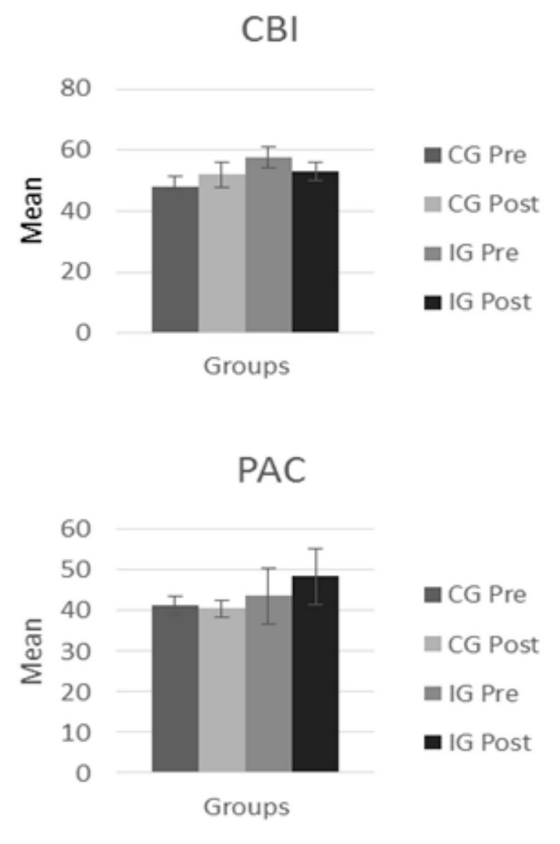

FIGURE 2 | Mean values in each group for the caregiver burden and the positive aspects of caregiving.

training. The results show that group work promotes social support and group expression, and helps in the reduction of the level of discomfort experienced by the caregivers by promoting identification with others, which contributes to processing grief.

This program covers care aspects of care that are very disabling for the individuals who suffer from them (emotional lability, grief from repeated losses, drug abuse, social isolation, personal dissatisfaction, hopelessness about the future, feelings of worthlessness, etc.), and which have not been targeted by any specific intervention before. The following benefits of the program can be highlighted: (a) the program attends to the grieving processes of family caregivers who, until then, had not had these attended to; (b) levels of adherence to the program are high, and this program is applicable to any caregiver, regardless of the stage of the illness; (c) it does not require many material or professional resources for implementation; (d)it promotes proactive changes in coping mechanisms with the role of the caregiver and the symptoms of grief; (e) it promotes changes that have an impact at the societal, family, and personal levels; (f) it incentivizes and facilitates the engagement in actionsthat already existed prior to the need for self-realization; (g) it creates long-lasting bonds of support between caregivers participating in the program. It is necessary to increase the resources allocated to researching and developing programs for caregivers in which the focus is on the the symptoms of grief experienced during the care process, because, today, regardless of the direct costs inherent to supporting individuals with dementia (Rojas et al., 2010), the socioeconomic and human costs of neglecting this group are on the rise (Galende et al., 2021). It is important to provide comprehensive care tailored to the specific needs of caregivers, including reducing caregiver overload, improving their well-being and quality of life, and providing interventions for their manifestations of grief.

Among the main limitations of this study, we could highlight the heterogeneity of the sample in terms of the characteristics of the dementia patients being cared for. In particular, there were differences in their stage of illness, level of cognitive impairment, level of dependence, and the severity of their behavioral problems. Future studies are needed to analyze how the characteristics of the patients may influence the effectiveness of the intervention. It would also be desirable to be able to incorporate into the study design the different degrees of kinship the caregivers may have with their care recipients. Another limitation refers to the fact that it has not been possible to assess the time of care, which can influence the physical and emotional effects on caregivers. Moreover, participants need to be monitored to ensure that the caregivers are able to maintain, after completing the program, the positive changes that they have made.

In conclusion, the grief intervention program used in this study, which is based on the guidelines of Shear and Bloom (2017), has been shown to be effective for use in family caregivers of patients with dementia. The program has resulted in an improvement in caregivers' overall perceived health, quality of life, and well-being, as well as a significant decrease in frequency of maladaptive manifestations of grief.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by 359/CEIH/2017. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

JB-B, MP-M, and FC-Q: conceptualization, methodology, software, validation, formal analysis, investigation, resources, data curation, visualization, and project administration. JB-B, MP-M, MF-A, and FC-Q: writing original draft preparation, writing review and editing, and funding acquisition. MP–M and FC-Q: supervision. All authors contributed to the article and approved the submitted version.

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Students' Confidence and Interest in Palliative and Bereavement Care: A European Study

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As part of a European Erasmus Plus project entitled Death Education for Palliative Psychology, this study assessed the ways in which Master's Degree students in psychology and the creative arts therapies self-rated their confidence and interest in death education and palliative and bereavement care. In five countries (Austria, Israel, Italy, Poland, Romania), 344 students completed an online questionnaire, and 37 students were interviewed to better understand their views, interest, and confidence. The results revealed some significant differences between countries, and showed that older respondents with previous experience as formal caregivers for end-of-life clients showed greater interest in obtaining practical clinical competence in these fields. A mediation analysis indicated that students' previous care experiences and past loss experiences were related to students' current interest in death education and palliative and bereavement care through the mediation of their sense of confidence in this field. The qualitative findings identified five shared themes: life and death, learning about death, the psychological burden, personal experience and robust training, and four key training needs. Overall, students' interest in studying and working with terminal illness and death are rooted in internal resources, a preliminary sense of confidence, but also external requirements.

Keywords: palliative care, loss, bereavement, death education, arts therapies, psychodrama, students

INTRODUCTION

Coping with death, including end of life management and the process of mourning, constitute ongoing challenges in contemporary society (Fonseca and Testoni, 2012; Testoni et al., 2016). One way to address this challenge in higher education is through death education (DeEd; also termed "thanatology"). Teaching DeEd to healthcare students may help overcome the taboos associated with death and dying. It can serve to increase students' awareness of the distress associated with loss and bereavement and hone their skills in death management (Testoni et al., 2019c). This international study is part of a larger project supported by the Erasmus plus program of the European Union. The overarching aim of the project is to explore how DeEd can inform palliative and bereavement care in the training of psychologists and arts therapists. This report focuses on findings from the exploratory phase of the project, which aimed at characterizing students' interests and sense of competence with respect to death and bereavement care.

Death Education and Palliative Care

The origins of DeEd can be traced back to the death-awareness movement in the United States in the 1960s–1970s that was designed to help overcome death anxiety through cognitive resources (Feifel, 1959). Death anxiety can be experienced as *mortality salience*; namely, the existential awareness that death is inevitable, not only when the person experiences death, but also when one is simply confronted with the notions of death and dying (Testoni, 2015). To reduce this unpleasant feeling and to live life at one's best, DeEd aims to increase awareness and effective communication of death- related issues, as well as ways to cope with loss and grief (Testoni et al., 2018, 2019a,d, 2020b; DeSpelder and Strickland, 2019).

Healthcare professionals use DeEd to deal with the distress of death and loss, since an inability to handle the anguish of death on the part of caregivers can lead to dehumanization of the patient, which is considered to be a factor predicting burnout for those working in these fields (Testoni et al., 2019b). A particularly difficult task for healthcare professionals is communicating bad news to dying individuals or their family members. In this case the recipients must be informed of an adverse event such as a difficult diagnosis, an unfortunate prognosis, or traumatic events involving loved ones whose implications they cannot evaluate. This constitutes the point of no return (Testoni, 2015). However, the communication of this information requires competence and a specific set of skills and expertise, starting with the medical context in which the family and the dying person find themselves. Although this can be a routine part of the work of some healthcare professionals, they may not have the specific skills in part because DeEd is currently not integrated into the training of healthcare professionals (Testoni, 2015). In fact, psychologists, arts therapists, doctors and nurses often lack the skills needed to communicate bad news and deal with the anticipated mourning which follows (Testoni et al., 2019b). Another factor that hinders the communication of bad news is the fear of death itself: when people face death they often come to grips with their own finitude, and may therefore not be able to face the terror associated with death (Solomon et al., 2000; Burke et al., 2010).

Terror Management Theory posits that the conflict between individuals' awareness of the inevitability of their own death (i.e., mortality salience) and the natural instinct of self-preservation gives rise to a paralyzing fear of death (Solomon et al., 2000). To cope with such terror, people adopt sophisticated defense strategies similar to those used to reduce the discomfort caused by cognitive dissonance (Festinger, 1957). In particular, when realizing that death is inevitable, individuals try to rebalance the dissonance between wanting to survive and the awareness of having to die through symbolic constructs aimed at denying death; for example by taking comfort in the fact that one's memory or good deeds will live forever (Solomon et al., 2017; Yaakobi, 2019). Studies generally report a non-linear relationship between death anxiety and levels of religiosity: death anxiety increases from low to medium religiosity, but decreases with increasing religiosity, from medium to high (Testoni et al., 2020b). It was claimed that the curvilinear relationship observed in the non-religious may indicate that death anxiety reduces "irreligiosity," whereas among the religious greater religiosity reduces death anxiety (Jong, 2021, p. 40). These findings could imply that profound (as opposed to superficial) contemplation of religious themes could help reduce death anxiety and would therefore be relevant to DeEd courses (Neimeyer, 1994).

In the professional context, there is some evidence that care workers' own death anxiety may have a negative impact on their own ability to care for dying patients, and that DeEd can reduce death anxiety (Peters et al., 2013). Studies on students have shown not only a reduction in their own death anxiety (McClatchey and King, 2015; Wallace et al., 2019) but also an increase in their perceived ability to cope with death and dying (Claxton-Oldfield et al., 2006). The development of awareness of the existence of death, along with the skills needed to psychologically manage the terror that can result from mortality salience episodes can help people manage death anxiety (Solomon et al., 2000). To achieve this goal, death education is fundamental (Testoni, 2015). This study thus constitutes a preliminary investigation of the perceptions of students considering careers involving contact with terminally ill patients. Although these issues are addressed in this study at the university level alone, training in DeEd can also be useful for personal development and professional work (Corr and Corr, 2003). Dealing with these issues can help students acquire ways to handle work episodes involving death and dying. These include announcing a terminal diagnosis to a sick patient, the management of anticipatory mourning, the death of the patient, the management of bereavement with family members, etc. However, death, dying and bereavement do not only involve individuals but also communities with respect to funeral arrangements, commemorations, death-related legal issues, good citizenship and civil responsibility (e.g., organ donation, volunteer work), death-related issues throughout the lifespan from children to older adults. Different cultural groups also have diverse religious or spiritual views and practices toward death and bereavement (Corr and Corr, 2003). DeEd therefore covers a broad and diverse range of topics.

Palliative care (PC) "is an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering" (World Health Organization [WHO], 2020). The Atlas of Palliative Care in Europe 2019 published by the European Association for Palliative Care (Arias-Casais et al., 2019) indicates that the number of specialized PC services and the integration of PC into the national health systems vary across EU countries. The majority (76%) have adapted their General Health Laws and included PC as a mandatory service, as a patient's right, or as a human right. PC is included in the list of primary care health services in 36 countries (71%). The lack of education and training opportunities in the Palliative Medicine field have repeatedly been identified as obstacles to the development of the discipline in the EU (Paal et al., 2019). Here, a search in official national documents and websites only identified a few academic programs and courses that focus on DeEd and palliative and bereavement care in the five countries associated with the Erasmus plus project: Austria, Israel, Italy, Poland, and Romania. This paucity of training programs underscores the need to include PC in the DeEd curriculum.

The Present Study

DeEd as well as palliative and bereavement care are of growing educational and practical interest but are still relatively under-investigated in the context of higher education. The specific aim of the exploratory mixed methods study reported here was to assess how students enrolled in master's degree (MA) programs in psychology (i.e., mostly in clinical specializations) or the creative arts therapies (in Israel alone) self-rate their confidence and interest in DeEd and palliative and bereavement care. Both quantitative and qualitative data were collected and analyzed to better understand the students' responses. The qualitative data aimed to complement the quantitative data, as in a mixed methods *sequential explanatory design* where quantitative data is followed by qualitative data (Ivankova et al., 2006).

MATERIALS AND METHODS

Participants and Procedure

In the five countries that participated in the Erasmus plus project, students were invited to fill in an anonymous online questionnaire in their local language using research survey software (December 2010–February 2020). Overall, 344 MA students (85% female) were recruited: Italy (n = 102), Poland (n = 91), Romania (n = 64), Austria (n = 47), and Israel (n = 40). At the end of the survey, the students were also invited to indicate whether they would agree to take part in a short interview on the topic. The use of data for research purposes was approved by the ethics committees of the participating universities.

Data Collection

The online questionnaire included the following **demographic questions:** age, gender, marital status, religion, level of observance, field of BA degree and whether the curriculum included any of the following course topics: death education, bereavement, loss, grief, palliative care, creative arts therapies, psychodrama, or none of these. **Background information** included: experience as a formal caregiver to end-of-life clients (e.g., at a hospice, hospital, non-governmental organization, etc.), loss of someone close in the last 2 years, having anyone close who currently has a terminal illness. Students were also asked about the master's degree they were currently enrolled in, their year of study, and whether the curriculum included any of the abovementioned course topics. In terms of **interests**, all the students were asked about the *general* topics of the project: obtaining *practical clinical* skills for working with clients coping with end-of life conditions and/or bereavement, acquiring *theoretical knowledge* about end-of-life conditions and/or bereavement, actually *working* with these clients, and learning about *arts therapies* and/or *psychodrama* interventions for these clients. Responses were rated on a scale from 1 (*Very disinterested*) to 5 (*Very interested*). Although we considered it important and useful to probe the content of each specific item of interest, we also calculated an overall mean score for the five items with higher scores reflecting greater interest. The Cronbach's alphas were: 0.87 for the total sample, 0.86 in Italy, 0.75 in Austria, 0.91 in Romania, 0.81 in Israel, and 0.86 in Poland.

In terms of **student perceptions**, the students were asked whether they believed in God, a higher power, a spiritual force, or other. They were also asked the extent to which they agreed with the following two items: death is terminal, and there is nothing after death, or death is a passage to another dimension where existence somehow continues. Responses to these two items were rated on a scale from 1 (*Strongly disagree*) to 5 (*Strongly agree*).

Two additional items assessed students' **intolerance of ambiguity** in life: "the ambiguities in life stress me" and "uncertainty makes me uneasy, anxious, or stressed." A mean score was calculated for the two intolerance items, with higher scores reflecting greater intolerance. The Cronbach's alphas were: 0.74 for the total sample, 0.74 in Italy, 0.53 in Austria, 0.78 in Romania, 0.89 in Israel, and 0.72 in Poland. Responses for these two items were rated on the same type of five-point scale.

To assess **confidence**, students were asked the extent to which they agreed with six statements (based on Whittaker et al., 2013) that were rated on a five-point scale. An example item is "I am confident about helping people with their bereavement." A mean score was calculated for the six items, with higher scores reflecting greater confidence. The Cronbach's alphas were: 0.85 for the total sample, 0.74 in Italy, 0.87 in Austria, 0.86 in Romania, 0.89 in Israel, and 0.84 in Poland.

Qualitative interview data were collected by the research team in each country from students enrolled in their universities. The interviews were conducted by either a research assistant (with sufficient expertise and experience to conduct the interview) or the principal investigator in each country. It was clarified that participation was voluntary, and confidentiality and anonymity were guaranteed. All students responded to three qualitative opened-ended questions: What do life and death mean to you? How do you feel about studying palliative care and bereavement (theory and practice)? How do you feel about working with clients who are coping with terminal illness, loss, and bereavement? Interviews were held either face-to-face or via a videoconference platform, and lasted 30 min on average.

Data Analysis

All the **quantitative data** from the survey were analyzed with SPSS for descriptive statistics, correlations, t-tests, and analysis of covariance for cross-country differences. Exploratory analyses of mediation models were examined through path analysis (i.e., structural equation modeling for observed variables), using the Lavaan software R package (Rosseel, 2012). Given the binary and ordinal nature of the data, the diagonally weighted least squares estimator was used. The fit of the mediation models to the data were evaluated using the criteria of a non-significant chi square, $\chi^2/df \leq 3$, a comparative fit index (CFI) ≥ 0.95, a Tucker-Lewis coefficient (TLI) ≥ 0.95, a root mean square error of approximation (RMSEA) ≤ 0.08 (Schreiber et al., 2006).

Overall, for the **qualitative data**, 37 students were interviewed, on a first- come- first- served basis from among those who agreed to do so after completing the questionnaire. The purpose of the semi-structured interview was to explore the training needs of students in psychology in the field of DeEd and palliative and bereavement care in depth. Special attention was paid to the emotional impact of these themes on the students, how they perceived the training process, and what meanings they attached to life and death as deeply human and universal themes. In Austria, five MA students in psychology were interviewed (three females), aged 24–50. In Israel, five MA degree students in creative arts therapies were interviewed (three females), aged 28–46. In Italy, 27 MA students in psychology (17 females) were interviewed, aged 24–30. In Poland, five MA psychology students were interviewed (two females), aged 21–24. In Romania, five MA psychology students were interviewed (all female), aged 22–23. All the interviews were conducted in the country language. Data were analyzed separately in each country's language for dominant themes by applying a thematic analysis procedure (Braun and Clarke, 2006). After the findings were thematically analyzed, all the emergent themes were reported in English by each country's researcher. Next, all the themes were compared, contrasted, and integrated by one researcher from the project team who is an expert in qualitative analysis. The themes reported were common across all countries. Note that the fact that Italy had more interviewees did not impact the findings because the data were redundant and repetitive.

RESULTS

Quantitative Results

Demographics and Background. Out of the total sample of $N = 344$, most students (79%) were enrolled in psychology programs, but 11% from Israel were studying creative arts therapies, and 9% indicated "another" major. Most students (68%) were in their second year of MA studies. Most students were single (37%), Christian (66%), and 51% stated they believed in God. In addition, 13% reported having been the formal caregiver to end-of-life clients and 41% had lost someone close to them in the last 2 years. Most students (47%) reported that the BA degree curriculum did not include any courses on death, bereavement or palliative care, and most (38%) had never read anything on end-of-life, bereavement and/or palliative care. Most (43%) reported that their MA curriculum did not include courses on the topics investigated here. Only 13% of all the students reported currently having someone close to them suffering from a terminal illness. See **Tables 1**, **2** for global and country-specific data.

Student Interest. The analyses indicated that students' reported **interest** in the project topics (5-item composite score) was positively correlated with age ($r = 0.21$, $p < 0.001$), level of religious observance ($r = 0.12$, $p < 0.05$) and was higher for females than males ($t = 4.25$, $df = 341$, $p < 0.001$, Cohen's $d = 0.56$). Conversely, interest was negatively correlated with not having read anything about these topics ($r = -0.26$, $p < 0.001$).

Student Confidence. Student reported confidence about working in these fields (6-item composite score) was positively correlated with age ($r = 0.26$, $p < 0.001$), level of observance ($r = 0.19$, $p < 0.001$), past experience as formal caregiver to end-of-life clients ($r = 0.11$, $p < 0.05$), and past experience of losing someone close ($r = 0.11$, $p < 0.05$), although the latter correlations were small in magnitude. Students' confidence negatively correlated with not having read anything about these topics before ($r = -0.23$, $p < 0.001$).

Student Perceptions. Perception of *death as terminal* was positively correlated to not having read anything about these topics previously ($r = 0.23$, $p < 0.001$) and not have any course about these topics in the BA curriculum ($r = 0.21$, $p < 0.001$); conversely, it correlated negatively with level of observance ($r = -0.56$, $p < 0.05$), past experience as a formal caregiver to end-of-life clients ($r = -0.14$, $p < 0.05$) and was lower for females than males ($t = -2.89$, $df = 341$, $p < 0.01$, Cohen's $d = -0.40$). Perception of *death as a passage* positively correlated with level of observance ($r = 0.55$, $p < 0.001$), past experience as a formal caregiver to end-of-life clients ($r = 0.18$, $p < 0.01$) and was higher for females than males ($t = 3.53$, $df = 341$, $p < 0.001$, Cohen's $d = 0.49$); conversely, it was negatively correlated to not having any course about these topics on the BA curriculum ($r = -0.15$, $p < 0.01$). *Intolerance of ambiguity* negatively correlated with age ($r = -0.20$, $p < 0.001$) and was higher for females than males ($t = 3.45$, $df = 341$, $p < 0.01$, Cohen's $d = 0.48$).

Country Differences. As seen in **Table 1**, in terms of the dominant religion in each country, an expected statistically significant difference between Israel and other countries was found with a prevalence of Jews in Israel and a prevalence of Christians in all other countries. In addition, students from Italy, Austria, and Israel reported similar levels of religiosity with significantly lower scores than students from Romania. Students from Poland reported similar levels of religiosity as students from Romania, but they also reported significantly higher scores than students from Italy and Austria. As shown in **Table 3**, ANCOVAs for each target variable indicated statistically significant differences by country, with small to medium effect sizes. Compared to other countries, students from Poland reported *less* interest in studying these topics and reported *less* confidence about working in palliative and bereavement care. In contrast, students from Romania indicated more confidence and interest than students from Italy and also indicated more confidence than students from Austria. In Poland, fewer students perceived death as a terminal event, compared to Italy and Romania. Finally, intolerance of ambiguity was higher in Israel than in the other countries except Italy, whereas students from Italy reported more intolerance of ambiguity than students from Austria and Poland.

Mediation Analysis

A mediation model was tested for the association between past *care* experiences and past *loss* experiences (as 2 distinct predictors) and the total interest score (as 1 outcome), with the total student score on confidence in palliative and bereavement care as the mediator. The effects of age, gender, and country on the mediator and outcome variables were controlled for.

TABLE 1 | Descriptive statistics for demographic variables and differences between countries for each variable.

Variable	Global (*N* = 344)	Italy (*n* = 102)	Austria (*n* = 47)	Romania (*n* = 64)	Israel (*n* = 40)	Poland (*n* = 91)	Country differences *p*-value
Age	21–53; 26.83 (6.79)	22–32; 24.09 (1.90)	21–50; 27.85 (6.04)	21–53; 31.55 (9.91)	23–51; 32.65 (8.62)	21–26; 23.48 (0.98)	<0.001
Gender							<0.001
Female	290 (84%)	71 (70%)	38 (81%)	61 (95%)	37 (93%)	83 (91%)	
Male	53 (15%)	30 (29%)	9 (19%)	3 (5%)	3 (8%)	8 (9%)	
Missing	1 (0%)	1 (1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
Marital status:							<0.001
Single	127 (37%)	49 (48%)	20 (43%)	9 (14%)	12 (30%)	37 (41%)	
Relationship	158 (46%)	49 (48%)	25 (53%)	27 (42%)	11 (28%)	46 (51%)	
Married	49 (14%)	2 (2%)	0 (0%)	26 (41%)	14 (35%)	7 (8%)	
Divorced	4 (1%)	0 (0%)	0 (0%)	1 (2%)	3 (8%)	0 (0%)	
Other	6 (2%)	2 (2%)	2 (4%)	1 (2%)	0 (0%)	1 (1%)	
Religion:							<0.001
Christian	226 (66%)	53 (52%)	30 (64%)	61 (95%)	2 (5%)	80 (88%)	
Jew	34 (10%)	0 (0%)	0 (0%)	0 (0%)	34 (85%)	0 (0%)	
Moslem	3 (1%)	0 (0%)	0 (0%)	0 (0%)	3 (8%)	0 (0%)	
None	75 (22%)	47 (46%)	17 (36%)	1 (2%)	1 (3%)	9 (10%)	
Other	6 (2%)	2 (2%)	0 (0%)	2 (3%)	0 (0%)	2 (2%)	
I believe in:							<0.001
God	176 (51%)	28 (27%)	11 (23%)	45 (70%)	18 (45%)	74 (81%)	
Higher- power	40 (12%)	14 (14%)	7 (15%)	9 (14%)	5 (13%)	5 (5%)	
Spiritual force	62 (18%)	24 (24%)	14 (30%)	8 (13%)	12 (30%)	4 (4%)	
Other	66 (19%)	36 (35%)	15 (32%)	2 (3%)	5 (13%)	8 (9%)	
Religious level	1–4; 2.58 (0.88)	1–4; 2.29 (0.86)	1–4; 2.17 (0.76)	1–4; 3.06 (0.64)	1–4; 2.43 (0.84)	1–4; 2.86 (0.90)	<0.001

The values reported in the table are the range, mean (standard deviation) for continuous variables and frequency (percentage) for nominal variables.
The last column shows the p-values for the Chi-square test for nominal variables and the F test for a one-way ANOVA for continuous variables.

We started with a saturated model estimating all direct and indirect effects, which yielded no significant effects of age and no significant direct effect of past loss experiences on the outcome. The final model, without these non-significant effects, had good fit to the data: $\chi^2/df = 0.248$, CFI = 1.00, TLI = 1.00, RMSEA = 0.00. Significant *indirect* effects were found for both past care experiences ($\beta = 0.05$, $z = 2.83$, $p = 0.005$) and past loss experiences ($\beta = 0.05$, $z = 2.39$, $p = 0.017$), as depicted in **Figure 1**. As shown, there was also a significant direct effect of past care experiences on students' interest ($\beta = 0.11$, $z = 2.00$, $p = 0.045$).

Qualitative Findings

The integrated findings from the interviews of students from each county are presented in **Table 4**. Five shared themes emerged: life and death, learning about death, the psychological burden, personal experience and robust training, and four key training needs (Austria = AU, Israel = IL, Italy = IT, Poland = PL, Romania = RO). Overall, the qualitative findings suggested that the students' interest in studying and working with terminal illness and death was impacted by internal resources and external requirements. Students' beliefs about life and death, personal values, their own experience with illness and death, and openness to personal and professional growth appeared to be a foundation for training in the field of death, palliative and bereavement care. These factors are likely to shape students' confidence in themselves and their ability to accept this challenge.

DISCUSSION

The purpose of this exploratory study was to assess how MA students in psychology and the arts therapies self-rate their confidence and interest in DeEd, palliative and bereavement care. Quantitatively, the students reported moderate levels of confidence in their ability to work with terminally ill patients (3 on a 1–5 scale), but older students exhibited greater confidence in their ability to work with these patients than younger students. This is consistent with findings showing that nurses' age was correlated with positive attitudes toward death and caring for dying patients (Lange et al., 2008), as well as with the care staff's self-efficacy toward end-of-life communication, in six European countries (ten Koppel et al., 2019).

Older students also seem to have more tolerance of ambiguity, similar to findings reported for Australian medical students (Leung et al., 2019). Notably, students with a greater tolerance of ambiguity may have greater ability to operate effectively in an uncertain or unpredictable situation (Merrill et al., 1994). The

TABLE 2 | Descriptive statistics for the student experience variables and differences between countries for each variable.

Variable	**Global (*N* = 344)**	**Italy (*n* = 102)**	**Austria (*n* = 47)**	**Romania (*n* = 64)**	**Israel (*n* = 40)**	**Poland (*n* = 91)**	**Country diff. *p*-value**
Past experience variables							
Formal caregiver to end-of-life clients (D)	45 (13%)	7 (7%)	3 (6%)	8 (13%)	2 (5%)	25 (28%)	<0.001
Lost someone close to you in the last 2 years (D)	140 (41%)	45 (44%)	19 (40%)	22 (34%)	16 (40%)	38 (42%)	0.808
Course topics included in BA:[1]							
None (D)	162 (47%)	79 (78%)	23 (49%)	32 (50%)	17 (43%)	11 (12%)	<0.001
Death Education (D)	47 (14%)	5 (5%)	4 (9%)	6 (9%)	2 (5%)	30 (33%)	<0.001
Loss, Grief and Bereavement (D)	102 (30%)	13 (13%)	7 (15%)	9 (14%)	5 (13%)	68 (75%)	<0.001
Palliative Care (D)	34 (10%)	5 (5%)	3 (6%)	3 (5%)	4 (10%)	19 (21%)	0.001
Arts Therapies (D)	37 (11%)	1 (1%)	0 (0%)	5 (8%)	20 (50%)	11 (12%)	<0.001
Psychodrama (D)	85 (25%)	10 (10%)	18 (38%)	20 (31%)	8 (20%)	29 (32%)	<0.001
Read something about end-of-life, bereavement and/or palliative care:							
None (D)	130 (38%)	58 (57%)	19 (40%)	16 (25%)	14 (35%)	23 (25%)	<0.001
Scientific Journals (D)	76 (22%)	17 (17%)	8 (17%)	23 (36%)	4 (10%)	24 (26%)	0.007
Books (D)	156 (45%)	35 (34%)	14 (30%)	30 (47%)	21 (53%)	56 (62%)	<0.001
Other (D)	21 (6%)	0 (0%)	8 (17%)	4 (6%)	5 (13%)	4 (4%)	0.001
Current experience variables							
Terminal illness of someone close to you - currently (D)	45 (13%)	9 (9%)	12 (26%)	5 (8%)	5 (13%)	14 (15%)	0.040
MA:							<0.001
Psychology	273 (79%)	102 (100%)	47 (100%)	62 (97%)	0 (0%)	62 (68%)	
Arts Therapies	39 (11%)	0 (0%)	0 (0%)	0 (0%)	39 (98%)	0 (0%)	
Other	30 (9%)	0 (0%)	0 (0%)	2 (3%)	1 (3%)	27 (30%)	
Missing	2 (1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (2%)	
Year of MA:							<0.001
1st (or 4th in Poland survey)	111 (32%)	9 (9%)	14 (30%)	29 (45%)	39 (98%)	20 (22%)	
2nd (or 5th in Poland survey)	233 (68%)	93 (91%)	33 (70%)	35 (55%)	1 (3%)	71 (78%)	
Course topics included in MA:							
None (D)	148 (43%)	44 (43%)	22 (47%)	49 (77%)	1 (3%)	32 (35%)	<0.001
Death Education (D)	58 (17%)	30 (29%)	4 (9%)	2 (3%)	0 (0%)	22 (24%)	<0.001
Loss, Grief and Bereavement (D)	95 (28%)	49 (48%)	5 (11%)	8 (13%)	1 (3%)	32 (35%)	<0.001
Palliative Care (D)	39 (11%)	22 (22%)	2 (4%)	1 (2%)	2 (5%)	12 (13%)	<0.001
Arts Therapies (D)	53 (15%)	2 (2%)	0 (0%)	0 (0%)	37 (93%)	14 (15%)	<0.001
Psychodrama (D)	85 (25%)	14/14%)	21 (45%)	10 (16%)	11 (28%)	29 (32%)	<0.001

The values reported in the table are frequency, (percentage) and p-values of the Chi-square test for each variable. For dummy variables (D) N (%) of Yes are reported.

[1] *N = 343 because one student from Romania did not answer this question.*

results suggested that younger students were more likely to have negative attitudes toward uncertain or unpredictable situations. The Israeli students had greater tolerance of ambiguity than students in other countries. This finding may be attributed to the constant uncertainty associated with the turbulent political situation and military conflict, which is reasonable because we assessed general intolerance of ambiguity in life, rather than ambiguity specific to PC or bereavement practices.

Previous experience as a formal caregiver for end-of-life clients and previous experience of losing someone close were associated with greater confidence in the ability to engage in palliative and bereavement care. This is generally consistent with findings that greater previous experience in working with dying patients is associated with a more positive attitude toward death and caring for dying patients in nurses (Lange et al., 2008; Peters et al., 2013). It is also consistent with the finding that greater self-confidence in a given vocational domain is positively correlated with greater interest in that domain (Bullock-Yowell et al., 2011). Congruently, high self-confidence in one's abilities to learn and perform in a given domain and one's strong interest in that domain are *both* potential determinants of a career choice (Betz and Rottinghaus, 2006).

TABLE 3 | ANCOVAs for country effect on target variables.

	Target variables				
	Interest total	**Confidence total**	**Death is terminal**	**Death is a passage**	**Intolerance of ambiguity**
Country effect^a					
	14.14** (0.15)	13.57** (0.14)	4.58* (0.05)	1.73 n.s. (0.02)	7.13** (0.08)
Country adjusted means^b					
Italy	3.87 (0.09)	2.91 (0.09)	2.78 (0.13)	3.16 (0.13)	3.70 (0.11)
Austria	4.04 (0.11)	2.99 (0.12)	2.36 (0.16)	3.55 (0.16)	3.06 (0.14)
Romania	4.35 (0.11)	3.61 (0.11)	2.84 (0.15)	3.51 (0.15)	3.33 (0.13)
Israel	4.33 (0.15)	3.40 (0.15)	2.51 (0.21)	3.60 (0.21)	3.94 (0.18)
Poland	3.33 (0.09)	2.52 (0.10)	2.11 (0.13)	3.61 (0.13)	3.23 (0.11)
Global (N = 344)	4.00 (0.04)	3.10 (0.05)	2.51 (0.06)	3.50 (0.06)	3.45 (0.05)
Country pairwise comparison^c					
Italy – Austria	n.s.	n.s.	n.s.	n.s.	0.003
Italy – Romania	0.016	<0.001	n.s.	n.s.	n.s.
Italy – Israel	n.s.	n.s.	n.s.	n.s.	n.s.
Italy – Poland	0.001	0.050	0.007	n.s.	0.046
Austria – Romania	n.s.	0.001	n.s.	n.s.	n.s.
Austria – Israel	n.s.	n.s.	n.s.	n.s.	0.001
Austria – Poland	<0.001	0.024	n.s.	n.s.	n.s.
Romania – Israel	n.s.	n.s.	n.s.	n.s.	0.026
Romania – Poland	<0.001	<0.001	0.007	n.s.	n.s.
Israel – Poland	<0.001	<0.001	n.s.	n.s.	0.017

Covariates were age, gender, level of observance, experience as caregiver, experience of loss, experience of terminal illness of someone close, BA course on the topics, no reading background, and year of MA.

[a] *The values reported are the F-test with 4 and 328 degrees of freedom and (partial eta-square) as measure of effect size.*

[b] *The values reported are adjusted mean and (standard error).*

[c] *The values reported are p-values for pairwise comparisons with a Bonferroni correction for multiple comparisons (n.s. for p > 0.05).*

**p < 0.01; **p < 0.001.*

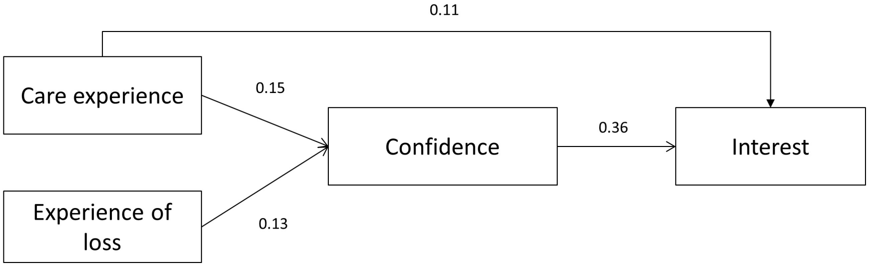

FIGURE 1 | Mediation model with student competence as a mediator between past experiences and interests. Students' past care experiences and past loss experiences related to students' current interest in death education and palliative and bereavement care, through the mediation of their sense of confidence in this field. Coefficients presented are standardized linear regression coefficients. Control variables and non-significant paths are omitted for clarity. All p values are <0.05.

Students from Romania reported the highest confidence and interest in working with terminally ill patients. These students' interest may be attributed to the demand in Romania's labor market for specialists in the field of palliative and bereavement care. Romanian students' confidence may be attributed to several factors possibly associated with greater self-efficacy beliefs in their ability to work with dying and mourning patients. The quantitative and qualitative data suggest that these factors may include maturity and thus greater life experience, as well as field training in medical institutions, psychotherapy training in parallel to the MA which nurtures better self-understanding and management of negative emotions associated with death and dying, in addition to their higher levels of religiosity that may alleviate death anxiety (Solomon et al., 2017). In contrast, students from Poland reported the least confidence and interest, possibly because the members of this group were relatively younger (and consequently less mature) than the respondents from other countries. At the same time, they reported having taken more courses at the BA level related to death, loss, grief, bereavement, and palliative care. Most also reported a richer experience in reading books and scientific articles about end-of-life, bereavement and/or palliative care. Thus, although the Polish

TABLE 4 | Themes from qualitative analysis.

Theme 1. Life and Death

Sub-theme	Explanation	Illustrative quotes
1.1. The meaning of life	The value of existence can only be fully grasped when considering mortality. Many students associated life with positive emotions ("joy," "happiness," "hope") or actions. For others (e.g., Romania), the defining characteristics of life are those that capture its uncertainty, unpredictability, and volatility.	"The meaning of life depends on the value associated with death" (IT 3). "If one does not learn about death s/he cannot live to the fullest" (IT 12). "Life is the ability to experience things, to feel everything, to create" (PL2). "Shifting sands, which can disappear at any time, but I think it's very important to enjoy the moment, and to do everything you can in the here and now." (RO1).
1.2. Death is not an end	Life and death were often interpreted in terms of their religious faith and personal values. Their own beliefs about life and death gave them meaning and a possible antidote to existential anxiety. The underlying idea was that death is not an end, is a passage (bridge, gateway) to a different form of existence.	"There is something after death, the energy transforms" (AU3). "I don't see it as the end. it's a gateway to another dimension" (RO3). "I believe this world is full of suffering, but. it is a bridge to the next world" (IL2).
1.3. Denial of death	For other participants, death did not appear to exist at all. Life was defined as a lesson, where the end brings enlightenment or "the afterlife" where individuals experience good or bad depending on their conduct in life. The idea that they might die was often somehow suppressed but the discourse changed when it came to the death of loved ones: here death was considered to signify tragic moment and an irreversible loss.	"I have faith that the human soul is eternal. Life is lessons that the soul chooses to experience on its way to enlightenment" (IL3). "I treat death as a beginning. And I am more afraid of what is after death than death itself" (PL1). "I'm not afraid of death. maybe it's the fault of youth." (RO1). "[death is] an extremely tragic moment, no matter how you look at it" (RO2).
1.4. Death is the end of life	Only a few students saw death as the ultimate end. Very few of them saw life as something natural and were aware that one's attitude toward death can be educated.	"for me death is the end of the creation process, simply, the end of creation" (PL 5). "Death is simply the end of life" (PL2). "I'm not afraid of death. I think it is a part of life, it's important to know how to leave and move on, to say goodbye in the right and safe way" (IL4). "Everything we encounter is life, because we do not know anything else" (PL2).

Theme 2. Learning About Death

Sub-theme	Explanation	Illustrative quotes
2.1. Interest in the study of death	The results highlighted a general interest in studying about death, which is regarded as taboo in the family, society, and universities.	"because it is a topic that is very rarely discussed and avoided even in the family, we do not talk about it. Not just in my family, it is not discussed very openly anywhere" (RO1). "We should talk about it a little more and be a little more open, even to children, for example, discussing all our experiences, in my opinion" (IT6). "How do you really deal with dying people? I really think it's important to learn" (AU3).
2.2. Lack of information	All the students considered that there is a considerable lack of information about death, mourning, and palliative care. Lack of knowledge and skills generated feelings of incompetence, helplessness, fear and frustration in most students.	"It's just that it was always brought up so casually, and really never brought up so much" (AU2). "In the psychology curriculum, it is absurd that there are not - except for the end-of-life course - other courses, especially in the BA program" (IT25). "It is embarrassing that there is no course so we should make plans" (AU3).
2.3. Perception of death and palliative care course	In this context, the vast majority considered that this type of course would be "necessary" and "useful." In general, students reacted ambivalently to the opportunity to study this topic: interest and enthusiasm are accompanied at the same time by fear, anxiety and doubt.	"a necessity and as a void to be filled in our training and development" (RO4). "The subject is interesting. . .. but I don't know if I can handle it" (IL1). "I think it would be useful to me, because I know that if I needed to interact with this type of person, I would be very emotional about it, and not professional" (PL2). "It is an opportunity and it's needed because the elderly in old age homes or hospices need someone who can make the last moments of their lives more beautiful, someone to be there for them" (RO5).

(Continued)

TABLE 4 | Continued

Theme 3. Psychological Burden		
Sub-theme	**Explanation**	**Illustrative quotes**
3.1. Fear of death & loss	The students were aware of the psychological impact it could have on them because it could force them to face some of their greatest fears, such as the fear of death, the fear of losing a loved one, the suffering caused by loss. The students seemed to be aware of their avoidance strategies, which were bolstered by their families, society, customs and by the curriculum; they commented that this type of course would also entail abandoning avoidant behaviors and confronting the concept of death.	"because they do not know how to deal with their own grief the grief of others and especially with the dying themselves" (AU3). ". . .whoever takes such a course is doing continuous therapy, because you do not escape, it takes place every week, and what is more, you also have to take an exam" (RO1). "Anguish will come out because [we will be] in contact with the absence of meaning and our inability to find value when exposed to the concept and experience of death "(IT14).
3.2. Fear of reliving painful feelings	The students who had experienced loss were particularly afraid of reliving painful feelings. For a few others, exposure to the inevitability of death, and possibly their own defense mechanisms, make it difficult to understand the value of palliative services, to the extent of considering them ridiculous.	". . .those thoughts, emotions. I'm afraid they'll come back" (RO3). "I feel somewhat uneasy because I do not know what I would have to do, and a little anxiety because I have lived through similar situations, and I go straight back to the thought of what happened then" (RO4). "I could [learn and apply it], but I don't know if I would like to, because there is a lot of sadness in this job. . . any job involving helping people is an enormous responsibility, but I would feel overwhelmed here" (PL1). "I think it [palliative care] only tends to delay a process that is already ongoing; even more so when the patient knows what is happening; then it becomes excruciating" (IT5).
3.3. Fear of being inept & powerless in the work	When imagining themselves working with a patient, their fear was twofold. On the one hand, they experienced the same fear, but amplified, that they would not be able to cope emotionally with the therapy. On the other hand, they felt they lack the necessary knowledge and skills, and this fear of being incompetent and powerless was overwhelming for most of them.	". . .and unfortunately, we are not prepared for it, neither emotionally nor cognitively. . . this type of situation scares me very much." (RO5). "I would certainly feel guilty even at the idea of not being able to provide patients with all the help they need" (IT1). "I would be pervaded by the fear of saying something that could hurt the person and would not help them" (IT3). "A great sense of helplessness and therefore frustration within myself" (IT20).

Theme 4. Personal Experience and Robust Training		
Sub-theme	**Explanation**	**Illustrative quotes**
4.1. Personal experience with death	The first-hand experience of caring for someone on their deathbed contributed to a more in-depth understanding of the importance of palliative care. All the students acknowledged that it is crucial to know how to address mourning. In the case of mourning some believed that the lack of a theoretical background about death could be compensated for through personal experience (Israeli and Romanian students), but it's definitely not enough. The desire to learn and work, and especially the self-confidence needed for studying and working with death, are built on this personal foundation. Accordingly, for some students, the motivation to take a course on death is personal: the course would provide the opportunity to clarify and process their own experience of loss.	"Despite the difficulty of dealing with patients who are suffering from terminal illnesses, this is a population that I am very interested in working with" (IL3). "As someone who has lost a father, I feel I have the ability to understand mourning and the situation. Because I have processed this experience in my own therapy, I feel that I can contribute to the field, you can contain it and just be sad" (IL 4). "I have experienced bereavement (I am a military orphan) and lost a good friend who passed away from cancer. I do not know if this is a specialization that I would like to deal with exclusively, but if patients bring up this content, I would have no hesitation in coping with them" (IL3). "I would not want another person to go through what I went through. although this would be more than useful" (RO3).
4.2. Personal beliefs and values	The beliefs about life and death (most often religious) and personal values are an important role in generating the motivation and self-confidence to study and work with death.	"I think that looking at death as an integral part of the life process can help deal with the fear of death" (IL2). "the main thing that gives me power and strength is my belief and trust in God and knowing that the soul comes down to the material world for a purpose" (IL1).
4.3. The desire to be good professionals	The students' interest in the course and motivation to enroll were amplified by their acknowledgment of the need to learn about death. For most students, a high level of trust in their ability to handle these patients was directly linked to their academic training.	"How do you really deal with dying people? I really think it's important that you learn about that" (AU3). "I believe that if I have the proper training, I can do it" (RO4).

(Continued)

TABLE 4 | Continued

	Theme 5. Four Key Training Needs	
	Explanation	**Illustrative quotes**
	(a) a structured framework and theoretical background to understand mourning and the dying process. (b) acquire the appropriate intervention methods, techniques, and settings which was viewed as the first step toward understanding how to address such issues. (c) have a sufficient practical education, ranging from clinical case analyses in class to practical hands-on training that would help them determine how to do the actual work. (d) undergo a personal process of self-growth to deal with the psychological burden of this type of course. Some students stated that they would need to process their own painful experiences, fear of death and loss, and their beliefs associated with them for their education and training in this area to come full circle.	"theoretical background before we begin our internships" (RO1). "We are not familiar with the stages of mourning. Some of us have first-hand experience. But others do not, and they have no background to rely on" (RO5). "to know how we work. . . [we need] some benchmarks for interventions in mourning. We do not know anything about the stages of mourning if we have not gone through them ourselves" (RO2). "the practice. . . would be a waste of time if it is not face to face. I think 80% (practical experience)" (PL2). "I am interested in learning the therapeutic approaches for this type of treatment, but even if I had the tools, I am not sure I would be able to overcome the emotional hurdle of treating terminally ill patients" (IL4). "If I work with people who have gone through similar experiences, I will automatically sympathize with them, at least at this point in my life. I need to work hard on myself not to do this" (RO5). "I am very interested in being part of a palliative team that supports and helps with the last stages of life. Of course, concerns arise as to how I would personally take the separation, and questions such as whether I did my best with the patient and family, whether I was there for them when they needed it" (IL5).

students were familiar with the theoretical literature, they were not confident about engaging in clinical work with end-of-life clients. This is consistent with the opinion expressed by one of the respondents in his qualitative interview about the importance of practical experience in education. On the other hand, a quarter of the Polish participants (more than in the other countries) had previous experience as the formal caregiver for end-of-life clients, probably mostly as volunteers. It can be assumed that this experience was both personally important but also difficult for young persons and could be correlated with the feeling of not being confident enough to work in this area.

In terms of practical considerations, healthcare students should be provided with the opportunity to learn more about the history and current situation of PC as well as the ethical and legal issues involved (Payne and Junger, 2011; Arias-Casais et al., 2019). A PC training curriculum should also consider students' self-awareness and reflective processes in terms of their own experiences, values, and belief systems such as recognizing dying as an inevitable process in life. Death anxiety should also be addressed, because it has a negative impact on individuals' care-taking abilities (Peters et al., 2013). Thus, given the association between death anxiety and religiosity, a quality PC training curriculum should also consider students' levels of religiosity. Specifically, in countries where students have low or moderate religiosity (e.g., Austria, Italy, Israel) fostering profound contemplation of religious themes (death, the afterlife, spirituality, etc.) may facilitate the reduction of potentially deleterious death anxiety (Testoni et al., 2020a). Relatedly, to support diversity and a multicultural perspective, students should be given a comparative overview of death and dying in different religions (McClatchey and King, 2015). Other domains of competence include care planning and collaborative practice, cross-cultural perspectives on death, spiritual influences on the experience of dying and terminal illness, and learning about the mourning patterns of anticipatory and complicated grief. Healthcare students should be able to communicate skillfully and sensitively with patients, their families, and inter-professional teams within and outside the healthcare system (Connolly et al., 2016).

Many of these competencies can be fostered through experiential role plays and simulations which can contribute to better practical skills and improved emotional experiences in students' clinical placement (Venkatasalu et al., 2015; Valen et al., 2020). Experiential training can also include practices offered by creative arts therapists who are credentialed healthcare professionals who have completed a MA and have clinical training in using the creative and expressive processes of art-making and its outcomes to ameliorate disabilities and illnesses and optimize health and well-being within a therapeutic relationship (Azoulay and Orkibi, 2015; Orkibi et al., 2017a,b; Orkibi, 2019; Orkibi and Feniger-Schaal, 2019; Feniger-Schaal and Orkibi, 2020; Shafir et al., 2020). The professional disciplines are visual/plastic art therapy, psychodrama, drama therapy, dance movement therapy, music therapy, and poetry/biblio therapy. These arts-based disciplines are especially valuable for clients who have difficulties expressing themselves in words alone. Creative arts therapists work with clients of all ages across a variety of settings, including in palliative and bereavement care (Hartley and Payne, 2008; Beilharz et al., 2018; Wood et al., 2019) as well as grief work (Blatner, 2000; Bolton, 2008; Thompson and Neimeyer, 2014; Brooke and Miraglia, 2015; Testoni et al., 2018). The use of the arts does not only help patients, but also families support their loved ones through the dying process and into bereavement. Studies have shown that terminal cancer patients in a hospice palliative care unit benefited from visual arts appreciation and hands-on creative artwork

(Lefèvre et al., 2016). Painting permits patients to shift from a state of anxiety and existential dread to a more accepting, fluid awareness of the dying process. Additional benefits to the patient include improved quality of life, self-expression, and meaning-making (Safrai, 2013). Music has been found to help patients' pain management and provide opportunities for self-expression (Gallagher, 2013). At the same time, music has also been used with both dying patients and their families to create lasting legacies prior to death, thus enabling the surviving family members find comfort after their loved one has passed away (O'Callaghan, 2013). Dance-movement based treatment has also been shown to allow patients to express interconnected physical and emotional pain, release tension, and reintegrate with their estranged bodies (Woolf and Fisher, 2015; Endrizzi et al., 2016). Drama and story-making have also been suggested as means of coping with death and despair and may instill hope during the period of bereavement (Gersie, 1992). Finally, the arts have also been used successfully with healthcare providers on a range of issues including visual art for burnout reduction in oncology and palliative care doctors (Tjasink and Soosaipillai, 2019), and drama for enhancing empathy and compassion in medical students (Deloney and Graham, 2003; Goodwin and Deady, 2013). Overall, this suggests that healthcare professions students enrolled in DeEd can benefit from both theoretical and experiential knowledge in the implementation of the arts in palliative and bereavement care. This type of training may also raise students' awareness of arts-based services for patients, their family members, the healthcare team, and the community.

Limitations and Future Directions

Three potential limitations of this study should be mentioned. One is the observational nature of the survey data, which precludes drawing causal inferences about the students' actual acquisition of skills and knowledge. Future evaluations should therefore include data collected before and after training to examine actual competence and skill development. Also, while self-report data reflect students' perceptions of their competence and skills, this may introduce social desirability and self-enhancing biases, as well as self-selection bias (Bethlehem, 2010). Therefore, data from trainers and/or supervisors should be triangulated with the students' perceptions and to further clarify or confirm our data here. Finally, some of the small to moderate statistically significant correlations could be attributed to the large sample size.

Despite these limitations, the quantitative results and qualitative findings provide meaningful insights into the needs, perceptions, and experiences of both psychology and arts therapies MA students. An in-depth analysis of future data will further inform the design of a layered curriculum to adequately prepare students, on both the personal and professional levels, to competently care for clients who face death and loss.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by ethics committees of the participating universities. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

All authors contributed to the conception and design of the study, data collection and qualitative data analysis, and manuscript revision, read, and approved the submitted version. HO also contributed to quantitative data analysis.

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