The Pain of Grief: Exploring the Concept of Psychological Pain and its Relation to Complicated Grief, Depression, and Risk for Suicide in Bereaved Adults

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Abstract

Objective—Emotional or psychological pain is a core symptom of complicated grief (CG), yet its correlates are largely unexamined among bereaved individuals.

Method—Bereaved adults (*N*=135) completed self-reports regarding psychological pain, CG, depression, and suicidality. We assessed correlations among these variables and tested whether psychological pain was elevated among individuals with CG and individuals with current or past suicidal thoughts and behaviors. Using logistic regression, we also assessed psychological pain, depression, and CG symptom severity as predictors of suicide risk.

Results—Psychological pain was strongly associated with both CG and depression severity and was elevated among subjects reporting current or past suicidality. CG and depression were not statistically significant predictors of suicidal ideation after accounting for the effects of psychological pain.

Conclusions—Psychological pain is strongly associated with bereavement-related psychopathology and warrants further investigation in studies examining the nature and treatment of CG.

Keywords

Emotional pain; Psychological pain; Bereavement; Grief; Depression; Suicide

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In the mid-20th century, grief researchers began to systematically describe the mental and physical experiences that accompany bereavement (Granek, 2010). In these early descriptive accounts, there is frequent reference to feelings of pain in those who had experienced the death of a loved one. Lindemann (1944, p. 155) observed recurrent "waves of somatic distress" and "intense […] mental pain." Parkes (1972, p. 39) similarly described intense pangs of "severe anxiety and psychological pain" and identified this experience as "the most characteristic feature of grief." These waves or pangs of psychological pain were described as part of a broader grief syndrome that included intrusive thoughts about the death or the deceased, yearning, disruption of sleep and appetite, and decreased behavioral activity.

In the latter half of the 20th century, researchers found that, for some bereaved adults, the grief syndrome persists for years following the loss, causing substantial distress and impairment. Various terms have been used to label this syndrome, including Persistent Complex Bereavement Disorder and Prolonged Grief Disorder. We will refer to it as Complicated Grief (CG). In recent years, the American Psychiatric Association and World Health Organization have released diagnostic criteria for this syndrome (World Health Organization, 2019; APA, 2013). Harkening back to early descriptions of bereavement, diagnostic criteria for CG in both the ICD-11 and DSM-5 include a symptom of "emotional pain." However, this symptom is not clearly defined and has received little empirical attention in the context of bereavement. Here, we explore the phenomenon of emotional pain by turning to research outside the bereavement literature. We then assess this construct and its correlates among bereaved individuals with and without CG.

Social, Emotional, and Psychological Pain

Pain affect (i.e., the felt unpleasantness of pain, Eisenberger, 2015) is presumed to have evolved as a neural alarm system, motivating rapid withdrawal from sensory pain-inducing stimuli and fostering subsequent avoidance of physical threats (MacDonald & Leary, 2005). Over time, this neural alarm system may have become linked to survival threats beyond physical injury, such as the threat of social isolation or dissolution of attachment relationships (Baumeister & Leary, 1995; Bowlby, 1969/1982; Cacioppo et al., 2006). That is, harbingers of social isolation, including rejection, abandonment, and loss, may have acquired the capacity to trigger pain affect in a similar manner as nociceptive indices of tissue damage (Eisenberger & Lieberman, 2004; MacDonald & Leary, 2005; Panksepp, 1998). This notion of pain arising from non-physical stimuli has been suggested in several areas of psychology and has been variously referred to as emotional, psychological, social, or mental pain (MacDonald & Leary, 2005; Meerwijk & Weiss, 2011; Orbach, Mikulincer, Sirota, & Gilboa-Schechtman, 2003; Shneidman, 1993). For the sake of clarity, we will use *psychological pain* as an umbrella term to refer to any instance of pain affect arising from a non-physical stimulus.

There are two literatures that have given especially careful consideration to the notion of psychological pain. The first is the literature on "social pain." MacDonald and Leary (2005, p. 202) coined the term social pain to describe psychological pain that arises specifically from the perception that one is "being excluded from desired relationships" by virtue of rejection, separation, or bereavement. There is evidence that social and physical pain affect

share many similarities. For example, substances that relieve physical pain, such as acetaminophen, marijuana, and opioids, also appear to reduce pain affect associated with loneliness, social rejection, and separation distress (Deckman, DeWall, Way, Gilman, & Richman, 2014; DeWall et al., 2010; Panksepp, Herman, Conner, Bishop, & Scott, 1978). Moreover, there is some evidence that social and romantic rejection are associated with activation in brain regions implicated in pain affect arising from physical stimuli (Eisenberger & Lierberman, 2003; Fisher, Brown, Aron, Strong, & Mashek, 2010; Kross, Berman, Mischel, Smith, & Wager, 2011), including the dorsal anterior cingulate cortex (dACC) and anterior insula (for critical discussion of the literature on social and physical pain, see Lieberman, Burns, Torre, & Eisenberger, 2016; Lieberman & Eisenberger, 2015; Wager et al., 2016; Woo et al., 2014). Of particular relevance to the current study, researchers have also observed increased activation in these brain regions in response to grief-related stimuli (Gundel, O'Connor, Littrell, Fort, & Lane, 2003). Together, these studies suggest that bereavement, and reminders of bereavement, may activate the "neural alarm system" subjectively experienced as pain.

The second literature to have examined the notion of psychological pain is the research on "psychache" as a driving factor in the experience of suicidality. Reminiscent of the way that Lindemann described the "mental pain" of bereaved individuals as "waves of discomfort" (1944, p. 155), Shneidman described "overflowing waves of pain" in suicidal individuals (Shneidman, 1998, p. 131). Through case studies and observations, Shneidman developed the concept of "psychache" to describe the intense affective experiences of "hurt, anguish, or ache that takes hold of the mind" (Shneidman, 1998, p. 13). He posited that suicidal thoughts and behavior emerge when death is seen as an escape from this unbearable psychological pain (Shneidman, 1993, 1998). Consistent with this theory, self-reported psychological pain is more strongly associated with suicidal thoughts, motivation, preparation, and attempter status than are other well-established suicide risk factors, such as depression, hopelessness, and perfectionism (Flamenbaum & Holden, 2007; Holden, Mehta, Cunningham, & McLeod, 2001; Troister & Holden, 2010), and change in psychological pain over time is associated with change in suicidal thoughts and preparation for suicide (Troister, Davis, Lowndes, & Holden, 2013).

Shneidman (1998, p. 25) argued that psychological pain arises from unmet psychological needs, many of which may arise in the context of bereavement. Most saliently, bereavement frustrates the need for affiliation, nurturance, and succor recognized by Shneidman as creating "a yearning and sense of loss for what (and who) are not in her life" (Shneidman, 1998, p. 72). This observation is consistent with attachment theories of grief, which posit that bereavement removes biological and psychological regulators present in our attachment relationships that, for a subset of individuals, are difficult to fill (Bowlby, 1969/1982; Shear & Shair, 2005). Thus, bereavement likely engenders the frustrated needs that Shneidman believed were the most fertile ground for developing psychological pain and, subsequently, suicidal thoughts and behavior. Consistent with Shneidman's theory of suicide, bereaved adults with CG are at increased risk for suicidal thoughts and behaviors (e.g., Latham & Prigerson, 2004; Mitchell, Kim, Prigerson, & Mortimer, 2005; Prigerson et al., 1999; Szanto, Prigerson, Houck, Ehrenpreis, & Reynolds, 1997), with more than half of treatment-

seeking adults with CG reporting suicidal thoughts (Shear, Frank, Houck, & Reynolds, 2005; Shear et al., 2014).

The Current Study

In the literatures reviewed in the previous section, researchers from disparate backgrounds in psychological and psychiatric research each described a subjective experience of intense pain affect arising not from physical injury, but from exclusion from desired relationships or thwarted psychological needs. Notably, across disciplines, bereavement was identified as being especially likely to elicit this pain affect. Given this consistent observation and the inclusion of "emotional pain" in the ICD-11 and DSM-5 criteria for grief disorders, this painful affective experience warrants further study in bereaved adults.

In the current study, we assessed psychological pain using the Psychache Scale (PAS; Holden et al., 2001), a measured used to assess the "psychache" described in Shneidman's theory of suicide. We used this scale to achieve three aims. First, we aimed to examine the association between psychological pain and complicated grief. We hypothesized that self-reported psychological pain would be positively correlated with overall complicated grief symptom severity, and that psychological pain would be elevated in individuals with CG. To further inform our understanding of the relationship between psychological pain and CG, we examined the correlations between psychological pain and each individual CG symptom. Second, we examined the association between psychological pain and depression. Given that psychological pain is included as a diagnostic criterion of CG, but not of depression, we anticipated that psychological pain would be more strongly associated with CG symptom severity than it would be with depression symptom severity in bereaved adults. Third, we examined the association between psychological pain and suicidal thoughts and behavior in bereaved adults. Because psychological pain has predicted suicidality in other samples (e.g., Flamenbaum & Holden, 2007; Holden et al., 2001; Troister & Holden, 2010), we hypothesized that psychological pain would be positively associated with suicidality, including current suicidal ideation, risk for suicide, and a past history of suicidal behavior. Further, we hypothesized that psychological pain would remain a significant predictor of suicide risk after accounting for the effects of depression and CG symptom severity.

Method

Subjects

Subjects were adults (age 21–65) who had experienced the death of a loved one at least one year ago and responded to an advertisement for one of two studies examining cognitive factors in bereaved adults with and without CG. Advertisements and flyers were placed in clinic waiting areas, distributed throughout the community, printed in the newspaper, and posted online (e.g., Craigslist). Exclusion criteria included non-English speaking status, current mania, current psychosis, and any other factor that would render the individual unable to provide informed consent, understand task procedures or questionnaires, or adequately ensure safety during the study visit. For inclusion in the current study, individuals must also have completed the two primary outcomes measures (i.e., Inventory of Complicated Grief and Psychache Scale). Of the 164 individuals who provided informed

consent, 9 met at least one exclusion criterion. An additional 20 subjects did not complete at least one of the questionnaires that are the focus of the current study. Thus, 135 subjects were included in the final sample.

Procedure

Data for the current study were collected during an initial clinical assessment visit for two studies examining cognitive factors and their relation to CG. In both studies, we first obtained informed consent. Subjects in one study then completed a Mini-International Neuropsychiatric Interview (MINI; Sheehan et al., 1998). Subjects in the other study completed a worksheet in which they listed people, places, and objects that were a part of their life in preparation for a later cognitive assessment and then completed the MINI. The MINI was used to assess for the presence of seventeen disorders as well as a screen for potential suicide risk. The interview was administered by trained graduate students and post-baccalaureate research assistants. If subjects endorsed current suicidal thoughts during the MINI diagnostic interview, the interviewer completed a standardized risk assessment. If subjects endorsed moderate or high risk, the interviewer developed a safety plan with the subject and provided referral resources as clinically appropriate. Subjects in both studies concluded the visit by completing a brief series of questionnaires, including the assessments of CG, psychological pain, and depression. Subjects received $20 compensation for completing this initial clinical assessment visit. The Committee on the Use of Human Subjects at Harvard University approved the study protocols.

Measures

Psychological Pain—We administered the Psychache Scale (PAS; Holden et al., 2001) to assess subjects' experience of psychological pain. The PAS is a 13-item self-report measure. Subjects rate the frequency with which they have experienced nine different exemplars of psychological pain (e.g., "I seem to ache inside;" "My pain makes my life seem dark") on 5-point scale ranging from *Never* to *Always*. Subjects additionally rate their agreement with five items pertaining to the severity of their psychological pain (e.g., "I can't take my pain anymore") on a 5-point scale ranging from *Strongly Disagree* to *Strongly Agree*. Subjects are explicitly instructed to respond to these items in regards to their psychological pain, not their physical pain (Holden et al., 2001). Scores on the PAS range from 13–65, with higher scores indicating more severe psychological pain. The scale has demonstrated strong internal consistency, reliability, and incremental validity for predicting suicide-related outcomes relative to other established measures of suicidality (Holden et al., 2001). Internal consistency in the current study was excellent ($\alpha = .94$).

Psychopathology—To assess CG symptom severity, we administered the Inventory of Complicated Grief (ICG; Prigerson et al., 1995), a 19-item measure assessing symptoms of the CG syndrome. Each item is rated on a 5-point scale assessing the frequency of symptoms from *Never* to *Always*. ICG scores range from 0 to 76, with higher scores indicating increased symptom severity. Consistent with prior research, we considered a score of 30 on the ICG in subjects bereaved at least one year to indicate the presence of CG (Shear et al., 2005; Shear et al., 2016; Marques et al., 2013). Internal consistency in the current study was excellent ($\alpha = .93$).

We administered the Quick Inventory of Depressive Symptomatology – Self Report (QIDS-SR; Rush et al., 2003) to assess symptoms of depression. The QIDS-SR is a 16-item self-report assessment in which subjects rate symptoms of depression on a 4-point scale ranging from *Not Present* to *Severe*. A total score is calculated based on 9 symptoms of depression. Total scores range from 0–27, with a score of 6 indicating mild depression, a score of 11 indicating moderate depression, and a score of 16 indicating severe depression. In order to avoid inflating the correlation between depression and suicidal ideation or behavior in the current study, we calculated a second QIDS score omitting the suicidal thoughts question (i.e., QIDS item 12) and used this score for all analyses. Scores on the 15-item version of the QIDS-SR range from 0–24. Internal consistencies of both versions of the measure were good (α = .83 for full QIDS, α = .84 for QIDS without suicide item).

Suicidal Thoughts & Behaviors—To assess suicidal thoughts and behaviors, we administered the suicide risk module of the MINI. This module is a 13-item assessment of current risk factors for suicide (e.g., hopelessness), current thoughts about suicide, and history of suicidal behavior. Each item is rated as being present or absent. These items are then used to assess risk severity by weighting each item according to its assumed contribution to risk (e.g., endorsing hopelessness is given 1 point whereas endorsing a current suicide plan is given 8 points) and summing the items (range 0 – 52). That weighted sum score can then be used to estimate current level of risk for suicide, including low (1–8), moderate (9–16), or high (17–52) risk. Using an abbreviated version of this module, Roaldset, Linaker, and Bjørkly (2012) found that both the weighted sum score and the individual MINI suicidality items each prospectively predicted suicidal behavior at 3 and 12 months post-assessment. In this study, we focused our analyses on the weighted sum score indexing current suicidality and the individual MINI suicidality items, with a focus on items querying passive suicidal ideation ("Did you think you were better off dead or wish you were dead?"), active suicidal ideation ("Did you think about suicide?") and history of suicide attempt ("Did you ever make a suicide attempt?").

Data Analysis

All analyses were conducted in R version 3.6.0. Mean replacement was used to account for small amounts of missing data (.7% on the PAS and .4% on the QIDS). Associations among psychological pain and symptoms of CG, depression, and suicidality were assessed by computing Person correlations. A series of t-tests assessed hypotheses regarding greater psychological pain among individuals with CG, as well as among individuals exhibiting current passive or active suicidal ideation, a lifetime history of suicide attempt, or low or moderate risk for suicidal behavior. Multivariate stepwise logistic regression analyses assessed the relative contributions of psychological pain, depression, and CG symptoms to the presence of suicidal ideation, suicidal risk, and lifetime history of suicidal attempt in the current sample of bereaved adults. Full data and code are available at https://osf.io/435qt/.

Results

Subjects

The majority of subjects were female (62.2%) and European American (47.4%) or African-American (43.0%). The mean age was 47.3 years old ($SD = 12.1$). Most had lost a parent (54.8%), sibling (23.0%), or spouse (11.1%). The most common cause of death was long-term illness (49.6%), followed by short-term illness (28.9%), and accident, homicide, or suicide (18.5%). The mean duration of the relationship to the deceased was 34.4 years ($SD = 17.2$), ranging from 0 years, for a subject who lost a child at birth, to 61 years. The mean time since death was 5 years ($SD = 6.4$, $range = 1–34$ years).

Of the 135 individuals who participated in the study, 58 (43.0%) met criteria for CG (defined as an ICG score of 30) and 41 (30.4%) met criteria for current depression based on the MINI diagnostic interview. Current depression was notably more common in those with CG (48.3%) than among those without CG (16.9%). Lifetime depression was also more common in those with CG (84.5%) than among those without CG (63.6%). The mean CG symptom severity in the overall sample as measured by the ICG was 27.9 ($SD = 16.3$). The mean depression symptom severity as measured by the full QIDS (including the suicide item) was 8.5 ($SD = 5.2$).

In the MINI-Suicide module, most subjects demonstrated no current risk (50.4%) or low risk (41.5%) for suicidal behavior. Eleven subjects were at moderate risk (8.2%) and none were at high risk. The mean weighted sum score was 2.1 ($SD = 3.4$; $range = 0 – 15$). The most commonly endorsed item over the past month was hopelessness (39.3%), followed by thoughts that one would be better off dead or wishing for death (19.3%), thoughts about suicide (8.9%), and the desire to harm oneself (7.4%). Overall, 27 individuals (20.0%) reported at least some level of passive or active suicidal thoughts, and 25 (18.5%) reported a lifetime history of a suicide attempt.

Psychological Pain, Complicated Grief, and Depression

The correlations among psychological pain, depression and CG symptom severity appear in Table 1. Consistent with our hypothesis, psychological pain severity was significantly positively correlated with CG symptom severity, $r = .68$ [.57, .76], $p < .01$. Individuals with CG exhibited significantly greater psychological pain, $M = 32.28$, than bereaved individuals who did not meet criteria for CG, $M = 20.92$, $t(93.21) = 6.78$, $p < .001$, $d = 1.30$. Psychological pain among bereaved adults who did not meet criteria for CG was comparable to published samples of non-suicidal or non-clinical comparison groups (DeLisle & Holden, 2009; Flamenbaum & Holden, 2007; Holden et al., 2001). Inconsistent with our expectations, the correlation between psychological pain and depression symptom severity (not including the suicidality item) was as strong as the correlation between psychological pain and CG symptom severity ($r = .68$, $p < .01$).

As an exploratory aim, we examined the relationship between psychological pain and specific symptoms of CG (see Supplementary Materials A). Although each symptom was significantly correlated with psychological pain, there was substantial variation in the strength of these correlations, ranging from relatively small (e.g., feeling drawn to places or

things associated with the person who died, $r = .21$) to relatively large (e.g., feelings of loneliness, $r = .59$). Of particular relevance to the current study, the CG symptoms with the strongest associations to psychological pain were closely tied to a sense of social disconnection, including loneliness ($r = .59$), feelings of emptiness without the deceased ($r = .58$), and a feeling of being distant from other people ($r = .58$).

Psychological Pain and Suicidality

The correlations of psychological pain with MINI suicidality weighted sum score and the QIDS suicidal thoughts item appear in Table 1. Consistent with previous literature, psychological pain exhibited a moderate to strong association with both indices of suicidality, rs = .51 and .44 respectively, ps < .01. As shown in Figure 1, individuals reporting current passive or active suicidal thoughts exhibited significantly greater psychological pain ($M = 34.62$, $SD = 12.06$) than did individuals with no current suicidal thoughts ($M = 23.60$, $SD = 9.12$), $t(33.80) = 4.44$, $p < .001$, $d = 1.10$. Similarly, those with a lifetime history of suicide attempt reported significantly greater psychological pain ($M = 34.63$, SD = 12.94) than did those with no such history ($M = 23.79$, SD = 9.04), $t(29.53) = 3.97$, $p < .001$, $d = 1.10$. Overall, individuals demonstrating low or moderate risk for suicidal behavior reported significantly greater psychological pain ($M = 30.43$, $SD = 11.62$) than individuals demonstrating no risk ($M = 21.37$, $SD = 7.16$), $t(108.75) = 5.37$, p < .001, $d = .94$.

As can be seen in Table 2, results of stepwise multivariate logistic regression analyses examining the ICG, QIDS, and Psychache measures as predictors of suicide risk factors suggested that psychological pain remained a significant predictor of suicidal ideation, suicidal risk, and past suicide attempt when controlling for depression and CG symptom severity (βs = .73-.86, ps < .05). Depression was also a significant predictor of low or moderate suicide risk ($\beta = .70$, $p = .02$). However, depression was not an independent significant predictor of suicidal ideation or past suicide attempt, and complicated grief was not a significant independent predictor of any suicide variable in these multivariate analyses.

Discussion

Psychological pain has been described as a hallmark feature of grief but has received little focus in empirical studies of CG. In this study, we assessed psychological pain in a sample of bereaved adults. Consistent with our hypotheses, psychological pain was strongly correlated with overall CG symptom severity. Relative to those reporting low CG symptom severity, those with elevated CG symptoms reported substantially elevated psychological pain. This finding is consistent with early descriptive accounts of grief (Lindemann, 1944; Parkes, 1972), recent research on the role of emotional pain in the CG symptom network (Robinaugh, Millner, & McNally, 2016), and the inclusion of emotional pain as a criterion of CG in the DSM-5 and ICD-11 (APA; 2013; World Health Organization, 2019). Our exploratory analyses examining the association of psychological pain with individual CG symptoms suggest that it may be especially tied to components of CG that reflect an ongoing sense of social isolation (e.g., loneliness, feeling distant from others, and feelings of emptiness without the deceased).

Contrary to our hypotheses, psychological pain was just as strongly correlated with depressive symptoms as it was with symptoms of CG in this sample of bereaved adults. This finding is noteworthy given that "emotional pain" is explicitly proposed as a symptom of CG in diagnostic criteria sets but is not included as a symptom of depression in the DSM. However, terms indicating pain affect are frequently used in descriptions of severe depression, especially in research on melancholia (Taylor & Fink, 2006). For example, in a memoir vividly describing his personal experience with depression, William Styron frequently referred to the pain of severe depression (Styron, 2010). William James described a "positive and active anguish, a sort of psychical neuralgia" (James, 1902, p. 147). Helen Mayberg described the experience of her depressed patients by noting, "You're numb but you hurt. You can't think, but you are in pain" (as cited by Dobbs, 2006). Consistent with these anecdotal observations, self-reported psychological pain has previously been found to be strongly associated with depression symptom severity across several studies (DeLisle & Holden, 2009; Li et al., 2014; Mee, Bunney, Reist, Potkin, & Bunney, 2006; Meerwijk, Ford, & Weiss, 2015; Troister & Holden, 2012, 2013; Xie et al., 2014). Our findings add to this literature, suggesting that psychological pain is also strongly positively associated with depression symptom severity among bereaved individuals.

Finally, we found that bereaved adults reporting current thoughts about suicide, a history of suicide attempt, and overall elevated suicide risk reported significantly elevated psychological pain. This is consistent with previous findings that psychological pain is a predictor of suicidal thoughts and behavior and extends these findings to a sample of bereaved adults. Logistic regression analyses further suggest that psychological pain remained a significant predictor of suicidal ideation and elevated suicide risk after controlling for the effects of depression and complicated grief. Accordingly, psychological pain should be monitored among bereaved adults, especially given the increased risk of suicidal thoughts and behavior in this population (Latham & Prigerson, 2004).

Future Directions

Together, these findings strongly suggest that psychological pain warrants further study in bereaved adults, as well as those with depression and those at risk for suicidal thoughts and behaviors. Central to this effort will be the need to clarify the nature of psychological pain. In other words, it will be important to clarify what is being measured by the Psychache Scale. There are at least three possibilities worthy of further consideration. First, psychological pain may simply denote general emotional distress. From this perspective, the Psychache Scale would capture the intensity of distress wrought by different negative emotional experiences. This perspective is perhaps most consistent with Shneidman's (1993, 1998) notion of psychological pain, which, he hypothesized, can arise from a wide range of frustrated needs and negative emotions.

Alternatively, psychological pain may refer to a discrete emotional experience that is distinct from other negative emotions. This perspective is perhaps most consistent with the social pain literature, which posits specific evolutionary origins, biological bases, and subjective qualities of social pain that distinguish it from other emotional experiences (e.g., MacDonald & Leary, 2005). From this view, psychological pain is not merely a synonym for distress; it

is a distinct affective experience that, our data would suggest, is strongly tied to complicated grief, depression, and suicidal thoughts and behavior in bereaved adults.

Finally, perhaps psychological pain is neither a broad index of general distress nor a discrete emotion. Instead, pain affect may be best understood as a fundamental ingredient of emotional experience. This possibility is grounded in research suggesting that emotions are not natural kinds, but rather are constructed experiences built from diverse mental components (Barrett, 2006; Lindquist, 2013). As a given emotional experience is constructed, the presence and intensity of pain affect may vary. Psychological pain may describe the category of constructed experiences in which pain affect is the most salient ingredient of the emotional experience. For example, a bereaved individual might experience unadulterated pain affect when confronted with vivid memories of their loved one's death, leading them to describe their subjective experience as one of intense psychological pain. In other instances, pain affect may be present but secondary to other cognitive and affective experiences. For example, a bereaved individual might experience pain affect alongside thoughts about what life would be like if the deceased were still alive and a desire to be with them again, producing a subjective feeling of intense yearning. Accordingly, the Psychache Scale may assess the extent to which this fundamental ingredient is present in the subject's broader emotional experiences.

In addition to clarifying the emotional nature of psychological pain, it will also be important to learn more about the overlap between psychological and physical pain. The Psychache Scale (Holden et al., 2001) explicitly instructs subjects to respond to questions with regards to psychological rather than physical pain. However, many of the items could reasonably encompass both emotional and physical experiences (e.g., "I can't take my pain anymore"; "My pain is making me fall apart"; Holden et al., 2001). Indeed, psychological pain as assessed by the PAS is associated with severity of chronic physical pain (Frumkin, Haroutounian, & Rodebaugh, 2020), and bereavement is related to poorer health including increased incidence of chronic pain (Bradbeer, Helme, Yong, Kendig, & Gibson, 2003; Stroebe, Schut, & Stroebe, 2007). In future studies, it will be important to clarify the nature of psychological pain as it pertains to both emotional and physical well-being.

In addition, it will also be important to clarify who is most susceptible to psychological pain following bereavement. In a prospective study of risk factors and their relation to specific CG symptoms following spousal bereavement, we found that self-reported interpersonal dependence and dependence on one's spouse were the strongest prospective predictors of bereavement-related emotional pain (Robinaugh, LeBlanc, Vuletich, & McNally, 2014). Accordingly, those with high dependence on others may be especially likely to experience activation of the 'neural alarm system' described by Eisenberger and Lieberman (2004), perhaps because the cost of social separation is so great for these individuals.

Finally, it will also be beneficial to clarify which interventions reduce (or increase tolerance of) psychological pain following bereavement, and whether additional targeting of emotional pain is needed. For example, distress tolerance strategies in Dialectical Behavior Therapy (Linehan, 1993) may be one means of managing psychological pain in those with CG (Barrett, Tolle, & Salsman, 2017). In addition, the correlations between psychological pain

and symptoms of loneliness, emptiness, and feeling distant from others suggest that efforts to directly enhance the quality and quantity of a patient's remaining social supports may also contribute to the amelioration of psychological pain. Lastly, it will be valuable for researchers to examine the effects of recently developed cognitive behavioral therapy-based interventions for CG on both psychological pain and tolerance of psychological pain in those with CG.

Limitations

Our study has several limitations. First, although our motivating interest was to deepen our understanding of the "emotional pain" component of CG, the measure we administered was intended to assess the "psychache" construct described in the suicide literature. This measure was chosen because it is a well-established measure of what appears to be a highly overlapping construct. However, it is not clear whether these constructs are equivalent and, thus, it is unclear how well this assessment tool measured emotional pain. In future work, it will be critical to clarify the relationship between these constructs and, potentially, to develop an assessment specifically targeting the experience of emotional pain as described in the bereavement literature.

Our results may also be limited by our assessment of suicidality, as well as our relatively small sample of at-risk individuals. In future studies, it will be important to assess psychological pain among bereaved adults with greater severity of suicidal thoughts and behavior. Additionally, it will be important to obtain a thorough assessment of suicidal thoughts and behavior. In the current study, our assessment of suicide risk was focused on a binary rating of the presence or absence suicidal thoughts and behavior, a "risk score" derived from these ratings, and a single-item self-report assessment of suicidal thoughts. These assessments could potentially contribute to measurement problems and misclassification (Millner, Lee, & Nock, 2015). Finally, our data are cross-sectional, preventing us from determining directional causality in the hypothesized relationships among CG symptoms, depression symptoms, psychological pain, and suicidal thoughts and behavior. Prospective research is needed to clarify the potential role of psychological pain in promoting suicidal thoughts and behavior among bereaved individuals.

Conclusions

To our knowledge, this study was the first to examine psychological pain in the context of bereavement. Psychological pain was associated with CG and depression symptom severity as well as with suicidal thoughts and behavior. Moreover, psychological pain continued to predict suicidal thoughts, past suicide attempt, and risk for suicide after controlling for the effects of CG and depression. Together, these results suggest that further research on psychological pain in bereaved adults is warranted, with particular emphasis on clarifying the nature of psychological pain, identifying those most vulnerable to experiencing it, and developing tools for effectively ameliorating this intensely aversive affective experience.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

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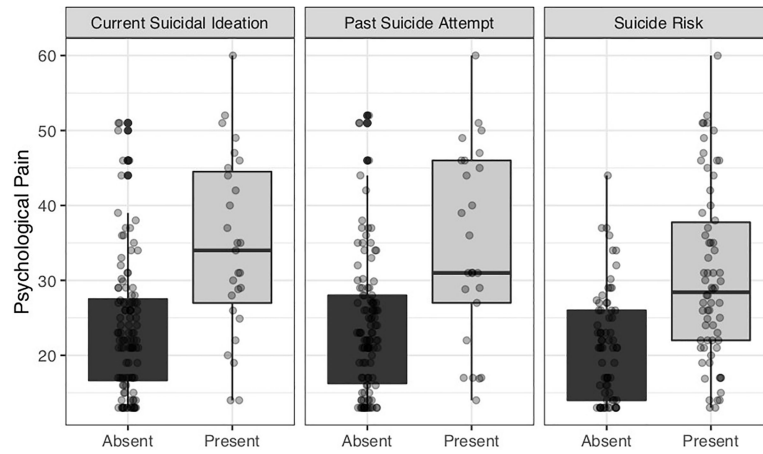
Figure 1.
Mean psychological pain in bereaved adults endorsing and not endorsing suicide risk factors. Psychological pain was measured by the Psychache Scale. Current suicidal ideation is any ideation (passive or active) reported on the Mini-International Neuropsychiatric Interview (MINI) Suicidality module. Suicide risk was assessed based on the MINI Suicidality module and participants were dichotomized into no risk and low/moderate risk groups (no subjects were at high risk). All group differences were significant (p < .001).

Table 1

Means, standard deviations, and correlations with confidence intervals

Variable	M	SD	1	2	3	4
1. Psychache	25.80	10.69				
2. ICG	27.93	16.30	.68** [.57, .76]			
3. QIDS[a]	8.30	4.99	.68** [.58, .77]	.69** [.59, .77]		
4. QIDS Suicidality	0.18	0.44	.44** [.29, .57]	.26** [.10, .41]	.34** [.18, .48]	
5. MINI Suicidality	2.07	3.41	.51** [.37, .62]	.37** [.21, .51]	.39** [.23, .52]	.75** [.66, .81]

Note. M and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014).

* indicates $p < .05$.

** $p < .01$. Psychache = Psychache Scale, ICG = Inventory of Copmlicated Grief, QIDS = Quick Inventory of Depression Symptoms, MINI = Mini-International Neuropsychiatric Interview suicidality weighted sum score, QIDS Suicidality = QIDS item 12.

[a] QIDS scores were calculated excluding the suicidality item (item 12).

Table 2.

Logistic regression results of psychache, complicated grief, and depression scores predicting suicide risk factors.

	Predictor	β	AIC	BIC	Pr(>Chi)
Ideation					
Step 1	(Intercept)	−1.52 ***	131.3	140.0	
	ICG	0.69 **			
Step 2	(Intercept)	−1.61 ***	127.3	139.0	.01 *
	ICG	0.23			
	QIDS[a]	0.72 *			
Step 3	(Intercept)	−1.67 ***	122.5	136.6	.007 **
	ICG	−0.16			
	QIDS[a]	0.39			
	PAS	0.86 *			
Risk					
Step 1	(Intercept)	−0.04	181.4	190.2	
	ICG	0.62 **			
Step 2	(Intercept)	−0.03	170.2	181.9	.0003 ***
	ICG	0.02			
	QIDS[a]	0.96 ***			
Step 3	(Intercept)	0.01	164.6	179.1	.006 **
	ICG	−0.30			
	QIDS[a]	0.70 *			
	PAS	0.83 **			
Past Attempt					
Step 1	(Intercept)	−1.72 ***	120.6	129.3	
	ICG	0.90 ***			
Step 2	(Intercept)	1.74 ***	121.5	133.1	.29
	ICG	0.70 *			
	QIDS[a]	0.32			
Step 3	(Intercept)	−1.77 ***	118.5	133.0	.03 *
	ICG	0.36			
	QIDS[a]	0.02			
	PAS	0.73 *			

Note. Ideation = any passive or active suicidal ideation reported on the MINI; Risk = low or moderate risk as determined by the MINI; Past Attempt = previous suicide attempt reported on the MINI. MINI = Mini-International Neuropsychiatric Interview, PAS = Psychache Scale, ICG = Inventory of Complicated Grief, QIDS = Quick Inventory of Depression Symptoms, β = standardized regression coefficient; AIC = Akaike information criterion.

[a]QIDS scores were calculated excluding the suicidality item (item 12).

[*] indicates p < .05.

[**] indicates p < .01.

[***] indicates p <.001.