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Parental Bereavement during Mid-to-Later Life: Pre-to-Post-Bereavement Functioning and Intrapersonal Resources for Coping

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Abstract

The death of a child when parents are in mid-to-late life is a traumatic event for aging parents. In order to evaluate adjustment, the impact of unanticipated versus anticipated deaths, and the effects of internal resources for coping with bereavement, we examined pre- and post-bereavement functioning, using the 1992/94 and 2004/06 waves of the Wisconsin Longitudinal Study, for parents (*M* age = 52 and 65 years, respectively) whose adult child died between these dates (*n* = 175). The results revealed a general pattern of adaptation in which most bereaved parents were functioning as well as a matched comparison group (*n* = 175), though more depression symptoms were present both before and after the death of the child for the mothers of children who died from long-term illnesses and the fathers of children who committed suicide, suggesting that conditions predating the death were chronic strains for these parents. Intrapersonal resources, including a sense of purpose in life and high levels of agreeableness, were associated with better functioning, particularly for bereaved parents whose children's deaths were not anticipated. The study places parental bereavement in the context of normative aging and the framework of chronic life strain.

Keywords

Coping with bereavement; Death of a child; Depressive symptoms; Purpose in life; Agreeableness

The death of a child is one of the most profound and emotionally painful experiences that a parent can endure. The event typically elicits grief reactions that include significant depressed affect and a deep sense of loss. For most parents, the intense grief reactions abate over time, with substantial improvements in functioning evident by about 18 months after the death (Murphy, Johnson, Chung, & Beaton, 2003). However, there clearly are multiple outcomes from parental bereavement. Research has documented negative functioning that includes elevated risks for both psychiatric hospitalization (Li, Laursen, Precht, Olsen, & Mortensen 2005) and mortality among bereaved parents (Li, Precht, Mortensen, & Olson, 2003), as well as high rates of morbidity (Song, Floyd, Seltzer, Greenberg, & Hong, 2010)

and symptoms of depression lasting many years after the death (Rogers, Floyd, Seltzer, Greenberg, & Hong, 2008). In contrast, Bonanno and colleagues (Bonanno, Moskowitz, Papa, & Folkman, 2005) found that half of a group of bereaved parents never experienced symptoms of depression that significantly exceeded a non-bereaved comparison group either shortly after the death or throughout an extended follow-up period. Thus, it is important to identify the circumstances and individual characteristics that influence outcomes and contribute to effective versus ineffective coping with bereavement for parents.

The purpose of the present study is to examine bereavement and the adjustment of parents who experience the death of a child at relatively late stages of their life course, during midlife and old age, and to explore contextual and personal factors that predict outcomes for these parents. Deaths of people in their 20's, 30's, and 40's generally happen when the parents are still living, leaving many parents who experience bereavement for a child at midlife and afterwards. However, the majority of research on bereavement during this life stage focuses on widowhood (e.g., Carr, 2008), which is a more common, normative experience as compared to the death of a child. Bereavement likely interacts with the effects of aging and other individual factors that either promote or inhibit coping with this traumatic event (Hansson & Stroebe, 2007). Aging can be associated with greater vulnerability to stress because of factors such as declining health and the likelihood of experiencing multiple losses of family and friends. However, there are protective developmental processes as well that might enhance coping with bereavement. Normatively, older adults experience increases in happiness and improvements in emotional well-being from midlife to the 60's and 70's (Keyes & Ryff, 1999), including improvements in positive affect and life satisfaction (e.g., Mroczek & Spiro, 2005). Positive emotional well-being likely follows from greater financial stability, longer term marriages, and greater investment in social ties at this time of life. Also, aging is associated with cognitive mechanisms such as tendencies to pay greater attention to positive as opposed to negative experiences, avoid stressful situations that evoke strong negative affect, and use cognitive reframing to reduce the impact of negative life experiences that cannot be avoided (Charles & Carstensen, 2009). Research shows that older individuals are better able to resolve regrets, which helps them adapt to the death of a loved one (Torges, Stewart, & Nolen-Hoeksema, 2008). At this point in the life course adults are likely to be financially stable, they have achieved life goals, have launched their children, and they have developed improved coping skills and a sense of competence implementing them. However, these changes might be undermined when older adults are confronted with the death of an offspring.

As a major negative life event, the death of a child has significance as both an acute stressor and as a source of chronic strain (Pearlin, Menghan, Lieberman, & Mullen, 1981). Consistent with this framework, the dual-process model of coping with bereavement (Stroebe & Schut, 2010) identifies loss-oriented demands, which include the negative emotions associated with grief that are acute and typically abate, along with restoration-oriented demands, which are strains that emerge over a longer period of time and involve life changes and the disrupted roles and routines caused by the death. For child deaths that follow a long period of illness, chronic strain for parents might include caregiving and other difficulties associated with illness that may have begun long before the death. The coping tasks of restoration also include adjusting to the changed subjective understanding of one's life and roles brought on by the absence of the deceased. For parental bereavement, because the parent role is highly salient as a source of existential meaning and sense of purpose in life (Thoits, 1995), the disruption of parental role identity is a significant strain for most parents. As with other life events, the amount of strain and the outcome of parental bereavement likely depend on the available resources and risks for parents in coping with loss- and restoration-oriented demands. For bereavement, resources and risks can come from interpersonal sources such as social supports, but more notably from intrapersonal factors

such as personality characteristics and meaning systems that are present before and after the event (Stroebe, Folkman, Hansson, & Schut, 2006).

Based on this framework, in the present study we examine change in pre- to post-bereavement functioning and we assess resources for coping that are available both before and after the event. We focus on intrapersonal resources in particular because they are relevant to managing loss-oriented as well as restoration-oriented demands that affect most parents. Additionally, we examine the cause of the child's death as a context that likely influences bereavement-related demands. We focus on changes in depression symptoms over time because these symptoms are typically associated with grief and also are generally sensitive to chronic life strains and life-course effects (Pearlin et al., 1981; Ryff & Singer, 2001). Importantly, the study uses population-level data to identify an unselected group of bereaved parents, thus avoiding possible self-selection biases that typically occur in studies of samples drawn from bereavement support groups. In addition, we include a non-bereaved comparison group in order to determine which outcomes and resources are unique to the experience of parental bereavement and which are more generally related to aging during this stage of life.

A major challenge for most bereaved parents is the restoration-oriented demand to "move on" and pursue meaningful, generative activities following the death, which occurs in the context of also wanting to maintain a sense of attachment and connection to the deceased child (Murphy, Johnson, & Lohan, 2003). Thus, the ability to find and maintain a sense of meaning in life may be a key intrapersonal strength for coping with bereavement. Grief counseling has long emphasized that bereaved individuals need to find meaning in the death in order to regain a sense of a just and meaningful world (Keesee, Currier, & Neimeyer, 2008). However, Janoff-Bulman and Franz (1997) recognize the importance of also finding purpose in one's own life following the death of a loved one. Having a sense of purpose in life is the basis of eudaimonic well-being, the component of well-being focused on the fulfillment of human potential (Ryan & Deci, 2001). Its relevance for coping with bereavement was indicated in a cross-sectional study of bereaved parents in midlife (Rogers et al., 2007), where having a greater sense of purpose in life after the death was associated with lower levels of depressive symptoms, and this association was stronger for bereaved parents than for a comparison group of non-bereaved parents. In a study by Matthews and Marwit (2004), bereaved parents, most in midlife, were more likely than a comparison group to report negative assumptive world views, which are negative schemas about the world and one's place in it. Given that the parents were recruited from bereavement support groups on average 5.5 years after the death, the results suggest that bereaved parents continue to struggle with meaning making long after the death. Because the death of a child may disrupt role identity and reduce the parent's sense of purpose in life, having a strong sense of purpose in life prior to the death may be protective, helping to reduce the negative effects of bereavement. In addition, the ability to maintain or restore a sense of life purpose following the death may be a coping resource for emotional adaptation. The adversity of bereavement might also prompt the development of a greater sense of life purpose than was present prior to the death, although it may also undermine prior conceptions of life meaning and purpose. In the present study we examine purpose in life both prior to and following the child's death to evaluate pre-bereavement purpose in life as a protective factor and post-bereavement purpose in life as a coping resource to predict changes in depression symptoms during this period.

In their model of coping with bereavement in late life, Hansson and Stroebe (2007) postulated that personality characteristics are likely important coping resources. Personality is a highly stable intrapersonal factor that is widely recognized as a determinant of individual differences in adjustment to stress, directly because it is associated with resiliency

versus vulnerability, and also indirectly, as mediated through coping behaviors (e.g., Robinson & Marwit, 2006). We focus on agreeableness as a personality characteristic that is likely to predict more effective coping and, thus, less negative bereavement outcomes for parents. In a review of personality and coping, Carver and Connor-Smith (2010) noted that agreeableness is associated with friendliness, the regulation of negative emotions such as anger, concern for the needs of others, and a broad interest in maintaining relationships. Accordingly, when faced with stressors, agreeable people can regulate emotions, use cognitive restructuring for coping, and can skillfully obtain social support. Coping with bereavement probably is also associated with the other personality characteristics within the “big five” framework; extraversion, conscientiousness, openness to experience, and neuroticism. Pai and Carr (2010) argued that extraversion, conscientiousness, and openness are associated with coping skills that would be particularly effective for managing the practical life changes that occur in late-life widowhood. Their findings confirmed a protective effect for both extraversion and conscientiousness among widows. The death of an offspring in later life, however, would generally require fewer practical changes in daily life than for widows and, thus, these personality characteristics seemed less relevant for coping with the emotional challenges faced by bereaved parents. Regarding neuroticism, this personality characteristic is associated with generalized emotional instability and distress that cannot be clearly distinguished from stress-related symptoms on self-report measures. Also, although assessing neuroticism might help to identify individuals who are highly vulnerable to bereavement-related stress, it would not indicate skills associated with effective coping. Furthermore, we focus on agreeableness because it generally tends to increase with age and, thus, might be a salient resource for bereaved parents in mid-to-late life. Similar to purpose in life, both agreeableness prior to the death and the maintenance of agreeableness after the death should predict better outcomes for depression over time.

The cause of the child’s death is thought to be a critical contextual factor that affects the burden and stress experienced by bereaved parents. For example, deaths that are violent or unexpected (e.g., accidents, homicide) are presumed to cause severe turmoil and emotional distress that overtax coping resources and produce more negative bereavement outcomes than deaths from non-violent, expected circumstances (e.g., long-term illness). Accordingly, some studies have indicated that sudden, violent deaths of children produce particularly negative outcomes for the parents (Murphy et al., 2003a; Wijngaards-de Meij et al., 2005). However, other studies have failed to detect such differences (e.g., Feigelman, Jordan, & Gorman, 2008–2009). Other findings suggest that the cause of the death might be related to pre-bereavement circumstances that influence outcomes. Notably, in their study of violent child deaths, Murphy and colleagues (Murphy, Johnson, Wu, Fan, & Lohan, 2003) found that parents’ symptoms of emotional distress were less severe following a child’s suicide than following other forms of violent death. They proposed that suicide might have been anticipated (forecasted) by turmoil prior to the death and, thus, was less unexpected than other deaths. Similarly, bereavement after a lengthy period of caring for an ill child has been shown to be associated with unique cognitive schemas in the form of finding meaning in life with less suspicion and self-blame than parents whose children died from sudden unexpected causes (Matthews & Marwit, 2004).

The cause of the child’s death might also be associated with the pre-existing strain in parent-child relationships that can affect parent well-being. Aging parents report ambivalence in the form of concurrent positive and negative feelings about adult children who have significant health and emotional problems, likely because of factors such as relationship strain and violations of normative expectations about self-sufficiency that occur when adult children are dependent on their parents (Pillemer et al., 2007). In turn, ambivalence regarding a child with significant problems predicts depressive symptoms and poor well-being for parents (Birditt, Fingerman, & Zarit, 2010; Sutor, Gilligan, & Pillemer, 2011). Thus, child deaths

due to long-term illnesses or suicide, which follow from significant problems for adult offspring, might occur in the context of ambivalent feelings about the relationship, and thus, might be associated with unique bereavement outcomes. Because most previous research has examined parents only following the death, with no information on pre-bereavement functioning, earlier studies might have failed to identify circumstances in which the death is a component of ongoing turmoil and chronic strain rather than an isolated disruption. In the present study, we use data from a longitudinal investigation of adult development so that pre-bereavement functioning can be examined in relation to the cause (i.e., circumstances) of the death.

In examining effects of bereavement and predictions of outcomes for parents, it is important to examine possible differences in experiences for mothers and fathers. Research with younger bereaved parents suggests that negative effects on adjustment and well being are more pronounced for mothers than for fathers (Kreicbergs, Valdimarsdottir, Onelov, Henter, & Steineck, 2004; Murphy et al., 2003a, 2003c), which is generally attributed to the relatively greater investments in parenting for mothers. However, this difference might not be as salient in midlife and later life when active parenting is limited for both parents (Song et al., 2010). Nevertheless, the cause of the death might be associated with different contexts for fathers and mothers. In particular, deaths due to long term illness likely produced more care demands for mothers, who typically bear a greater burden of care for adult children with disabilities and illnesses (e.g., Seltzer, Greenberg, Floyd, Pettee, & Hong, 2001). The death may be associated with relatively greater relief from chronic stress for the mothers when it follows a long term illness with high care demands.

Considering life course factors associated with aging and potential resources available to parents in coping with bereavement, the hypotheses for the present study are as follows:

1. In the context of general improvements in mental health and decreases in depression during the transition from midlife to the early years of old age, we expected that bereaved as opposed to non-bereaved parents would show more limited decreases over time in depression symptoms.
2. The cause of the child's death would be associated with differences in parents' functioning. Specifically, relatively negative functioning following bereavement would be more pronounced for parents whose child died from sudden and violent causes rather than from long-term illnesses.
3. Based on research suggesting that the personality characteristic of agreeableness is associated with effective coping and that having a relatively strong sense of purpose in life protects against depression, we expected that parental bereavement would have less negative effects on emotional functioning when parents had greater levels of these factors before bereavement, and when they maintained high levels of agreeableness and purpose in life after the death.

Method

Participants

The research sample was drawn from participants in the Wisconsin Longitudinal Study (WLS; e.g., Hauser, Sheridan, & Warren, 1999), which is a population-based study of adult development and aging spanning more than 50 years. The study has followed a randomly selected group of 10,317 men and women who were recruited when they graduated from Wisconsin high schools in 1957, and 5,823 of their siblings who were recruited into the study at later waves. Survey data were collected in 1957 from the original participants, and in 1975/77, 1992/94, and 2004/06 from the entire sample, when respondents were on

average 18, 36, 53, and 65 years-old, respectively. Approximately 80% of the surviving sample members continued to participate in the investigation through the latest follow-up. Data for the present investigation came from the most recent two waves, 1992/94 and 2004/06, when participants were in midlife and the early years of old age, and when the measures relevant to this investigation were obtained. There were 196 WLS participants who experienced the death of a child between these two waves and who provided complete data at both waves. Of these, 21 parents who had experienced the death of another child earlier in the life course were eliminated from consideration to focus on the unique experience of parental bereavement during mid- to later-life. Thus, the bereaved sample was 175 parents (85 men, 90 women) who had experienced the first death of a child during mid-to-later-life. None of the men and women were married to each other.

In order to identify a comparison group that was similar to the bereaved parents on background characteristics prior to the death of the child, we used the following stratification variables from 1992/94 to select comparison parents from the remaining WLS participants who had at least one child: gender, age, years of education, occupational prestige, family size, and status as an original WLS participant or as a sibling participant. Potential comparison parents were randomly sampled from within each stratum in the same proportions as the distribution of the bereavement group. Thus, the comparison group consisted of a stratified random sample of 175 parents (85 men, 90 women) that resembled the bereavement group on background and demographic characteristics. Consistent with the make-up of Wisconsin's population in the mid twentieth century, virtually all of the WLS sample (99%) is White.

Two-way (group by gender) ANOVAs and X^2 tests confirmed that the two final groups did not differ significantly on the stratification variables or other relevant characteristics (see Table 1). The average age of the participants was 54.04 ($SD = 3.70$) in 1992/94 and 65.18 ($SD = 3.75$) in 2004/06. All participants were high school graduates, and 33% earned post-secondary degrees after high school. Income averaged \$72,386 ($SD = \$53,174$) per year in 1992/94, and the average Duncan Socio-Economic Index score was $M = 42.11$ ($SD = 19.44$), indicating occupations in the range between service workers and managers in 1992/94, when most participants were still working full time. By 2004/06, 69% of the participants were partially or fully retired from employment. The modal number of living children in 1992/94 was between three and four, range = 1–10, and the average age of all children was 26.83 ($SD = 6.06$), with a range between 2 and 45 years. Within the bereavement group the deceased children ranged from age 19 to age 55 at the time of death, with a mean age of 34.31 years ($SD = 6.84$), and the majority (55%) were in their thirties. Of the 175 deceased children, 120 (68.6%) were sons and 55 (31.4%) were daughters. Marital status did not differ for the bereaved and comparison group parents at either the 1992/94 or 2004/06 assessment.

Measures

Depression symptoms—Depression symptoms at each time period were assessed with the Center for Epidemiologic Studies Depression Scale (CES-D), a 20 item self-report inventory designed to measure current level of symptoms (Radloff, 1977). Each item asked how many days in the past week the person experienced depression symptoms such as “feeling lonely” and “having crying spells”. Items were scored 0 = 0 days, 1 = 1–2 days, 2 = 3–4 days, and 3 = 5–7 days, so that total scores could range from 0 to 60. This measure has excellent psychometric properties in studies of midlife and older adults (Gatz & Hurwicz, 1990), and was sensitive to long term bereavement effects at both midlife (Rogers et al., 2007) and early old age (Song et al., 2010). Alpha = .87 for the present sample.

History of depression episode—At each time period a 79% random sample of WLS participants completed an interview module about depression history, and reported whether in their lifetime they had ever felt sad, blue, or depressed daily for two weeks or longer, or lost interest in work, hobbies, or other enjoyable activities.

Timing and cause of death—In the phone interviews at each wave, parents completed and updated a roster of their children that included the birth dates for all children and the date of death for any deceased children, which was used to identify the time since the death at the post-bereavement point of data collection. They also reported the cause of death and indicated whether the death was due to a long term illness. Overall, 78% of the parent reports exactly matched cause of death data in a subsample verified against the National Death Index. We used these reports to classify the causes as due to suicide, an accident (e.g., motor vehicle, fall, drowning), a sudden illness (e.g., acute myocardial infarction, aneurysm, malignant neoplasm/not long term), or a long term illness (e.g., muscular dystrophy, spina bifida, malignant neoplasm/long term). The numbers of fathers and mothers for each cause are given in Table 2.

Purpose in life—Participants completed an abbreviated version of Ryff's Psychological Well-Being Scale (Schmutte & Ryff, 1997), which includes a purpose in life subscale that measures the belief that one lives in a purposeful way. The purpose in life subscale has been associated with factors such as positive affect, optimism, and perception of control in older adults (e.g., Ferguson & Goodwin, 2010). The abbreviated version consisted of three items that were included in both the 1992/94 and 2004/06 WLS mail surveys (i.e., "I have a good sense of what it is I'm trying to accomplish in life", "I am an active person in carrying out the plans I set for myself", "I used to set goals for myself but that now seems like a waste (reversed)"). The scores for the abbreviated scale correlated $r = .85$ with the longer version administered in 1992/94 and used in the Rogers et al. (2008) study. Although the brevity of the scale reduced internal consistency somewhat (α 1992/94 = .67, α 2004/06 = .70), the average inter-item correlations were acceptable ($r = .41$ in 1992/94 and $r = .43$ in 2004/06).

Agreeableness—A brief measure of Big Five personality characteristics, the Big Five Personality Inventory developed by John, Donahue, and Kentle (1991), was completed by the participants at both waves. The structural validity of the brief scale has been well-established, and scores on this inventory show convergent and discriminant validity with longer Big Five measures (e.g., Soto & John, 2009). For the present study, we used scores on the agreeableness subscale of this measure, which consisted of 6 items that assessed the degree to which respondents are friendly and helpful versus antagonistic, including ratings of being trusting and considerate versus cold, aloof, and rude. Items were rated on a 6-point scale, and all items were scored to indicate greater agreeableness, 1 = "disagree strongly" to 6 = "agree strongly", so that total scores could range from 6 to 36 ($\alpha = .70$ at both waves).

Analytical framework

Changes in depression symptoms over time were evaluated with 3-way ANOVAs ($2 \times 2 \times 5$) in which time was a within-subjects factor (1992/94 pre-bereavement, 2004/06 post-bereavement), and sex (father, mother) and bereavement group were between-subjects factors. In order to evaluate if the effects of bereavement differed depending on whether the child's death was due to sudden and violent causes, the bereaved parents were divided into four subgroups based on cause of the death as suicide, an accident, a sudden illness, or a long term illness. Thus, there were five levels of the group factor; i.e., the four bereavement subgroups and the comparison group.

Hierarchical regression analyses were used to test the hypothesis that intrapersonal resources would mitigate bereavement effects on emotional distress, as indicated by changes in depression symptoms over time. In all analyses, the criterion variable was CES-D scores for depression symptoms at the second wave in 2004/06, and the first predictor entered at step 1 was the baseline CES-D scores in 1992/94. This procedure controlled for initial levels of depression symptoms so that all subsequent predictors accounted for residualized change in depression symptoms from baseline to post-bereavement. The main effects of bereavement were evaluated using four dummy-coded vectors that contrasted each of the cause of death subgroups (suicide, accident, sudden illness, long term illness) with the comparison group. These vectors, along with a dummy-coded vector for sex (1 = female), were included at step 1 to control for the main effects at subsequent steps, and age in 1992/94 was entered to control for variation among the participants.

Two models were examined. For Model 1, the baseline measures of the pre-bereavement (1992/94) intrapersonal variables were entered at step 2 to evaluate whether the pre-existing characteristics predicted change in depression symptoms for the entire sample. At step 3, each of the cross-product interactions of Bereavement Subgroup X Baseline predictor was tested for entry individually, and interactions that significantly improved the prediction were added to the model. These predictors evaluated whether the effects of the pre-bereavement intrapersonal variables on change in depression were relatively stronger for the bereaved than the non-bereaved parents. Model 2 followed the same design as Model 1, but used the post-bereavement measures of the intrapersonal variables as predictors of change in depressive symptoms. This model tested the hypothesis that intrapersonal resources following the death would mitigate depression symptoms particularly for the bereaved parents. In addition, we evaluated the three-way interactions of Sex X Group X Predictor to assess whether the bereavement-related interaction effects differed for fathers and mothers. We also assessed whether the sex of the child and the age at the time of death were associated with parents' depression symptoms. However, none of these effects was significant so they are not presented in the results.

Results

Depression Symptoms over Time

The 3-way ANOVA that evaluated bereavement effects on current depression symptoms over time revealed a significant effect of time, $F(1, 342) = 9.45, p < .01$, but there was no significant main effect for group, $F(4, 342) = 0.42, ns$, and the predicted Time X Group interaction also was not significant, $F(4, 342) = 0.41, ns$. There was, however, a significant two-way Group X Sex interaction, $F(4, 342) = 2.63, p < .05$. The relevant group means are displayed in Table 2. The time effect occurred because, overall, the participants reported decreases in depression symptoms from the 1992/94 assessment to the 2004/06 assessment (see Table 2), and these decreases occurred even for the parents whose child died during this period. For the Group X Sex interaction, post hoc Duncan tests ($p < .05$) indicated that the interaction was accounted for by different patterns of functioning for fathers and mothers across the bereavement subgroups at both time periods. Most notably, as shown in Table 2, the greatest numbers of current depression symptoms were reported by the mothers with a child who died of a long term illness and the fathers with a child who committed suicide. Furthermore, the relatively greater depression symptoms for these parents occurred both in 1992/94, before the children had died, and again in 2004/06, post-bereavement. As shown in the table, the post hoc tests indicated that at pre-bereavement, the mothers whose children later died from a long term illness reported significantly more depression symptoms than the fathers of children who later died from either a sudden illness or a long-term illness. These mothers also reported significantly more depression symptoms at post-bereavement than the fathers in the long-term illness subgroup. Similarly, the fathers whose child committed

suicide reported significantly more depression symptoms at both pre- and post-bereavement than the fathers in the long-term illness subgroup (see Table 2). At both time periods, the means for the comparison parents were intermediate between the high and low subgroups.

Although the CES-D scores failed to show greater increases in depression symptoms over time for the bereaved than the non-bereaved parents, the data on depression *episodes* did demonstrate group differences consistent with the occurrence of acute grief reactions during this time period among the bereaved parents. Among the 79% sample who completed reports about 2-week long episodes of depression, there were no differences between the bereaved and comparison parents in 1992/94, prior to bereavement, $X^2(df=1, N=265) = 0.50, ns$, with 22.3% of all parents reporting ever having experienced a prior episode. However, in 2004/06, post-bereavement, the bereaved parents were more likely to have experienced a depression episode, 32.8%, than the comparison parents, 22.4%, $X^2(df=1, N=271) = 3.70, p < .05$. Follow-up tests with the separate bereavement subgroups indicated that the difference was accounted for by high rates of depression episodes among the two groups of parents whose children died unexpectedly from accidents, 38.1%, and sudden illnesses, 39.1%, with both rates significantly greater than the rate for the comparison group, $X^2(df=1, N=176 \& 167) = 4.09$ and $4.01, p < .05$. The rates in the suicide group, 23.5%, and the long term illness group, 26.7%, were not significantly different from the comparison parents. Small cell sizes precluded analyzing sex differences, but the subgroup patterns were similar for men and women. Also, among individuals who had experience a depression episode, 55.4% had experienced only one episode, 17.9% reported two episodes, and 26.7% reported more than two episodes.

In order to explore whether acute grief reactions that were relatively recent might have influenced changes in the levels of depression symptoms reported on the CES-D, we examined patterns of change in symptoms depending on the length of time between the death and the post-bereavement assessment. Fifteen parents had experienced the death within 18 months prior to the post-bereavement assessment, 69 had experienced the death 18 months – 5 years earlier, and 91 had experienced the death 6–12 years earlier. A three-way ANOVA with time since death (< 18 months, 18 months–5 years, 6–12 years), time period (pre- and post-bereavement) and sex (father, mother), revealed a significant Time since death X Time period interaction, $F(2, 169) = 3.33, p < .05$. Consistent with acute grief reactions, post hoc Duncan tests ($p < .05$) of pre- to post-bereavement change scores indicated that the parents whose child died within 18 months before the 2004/06 assessment showed an average increase in depression symptoms, $M_{\text{change}} = 2.56 (4.90)$, which significantly differed from the average decreases in depression symptoms for those whose child died 18 months–5 years earlier, $M_{\text{change}} = -1.48 (5.83)$, and 6–12 years earlier, $M_{\text{change}} = -1.69 (6.16)$. Importantly, recent deaths had occurred in all four of the bereavement subgroups. Furthermore, we repeated the initial 3-way analysis (Time period X Sex X Bereavement Group) with only the subgroups of bereaved parents and included covariates to control for the period of time since the death. This ANCOVA produced the same significant Group X Sex interaction, $F(3, 167) = 2.85, p < .05$, found in the initial ANOVA. Thus, although there was evidence of acute grief for the parents whose child died within 18 months of the 2004/06 follow-up, this effect did not influence the findings about subgroup differences in CES-D scores.

Intrapersonal Variables over Time

In contrast to depression symptoms, the intrapersonal variables were highly stable over time and did not differ across the groups. Three-way ANOVAs (Time X Group X Sex) found no significant effects of time on either purpose in life, $F(1, 342) = 1.07, ns$, or agreeableness, $F(1, 342) = 1.36, ns$, and no significant group differences for either purpose in life, $F(4, 342) = 0.30, ns$, or agreeableness, $F(4, 342) = 0.81, ns$. There also were no significant interactions

involving time, group, or sex, all F 's < 1.03, *ns*. The mean scores for purpose in life were $M = 14.57$ ($SD = 2.79$) in 1992/94 and $M = 14.44$ ($SD = 2.80$) in 2004/06. The mean scores for agreeableness were $M = 28.61$ ($SD = 4.39$) in 1992/94 and $M = 28.97$ ($SD = 4.11$) in 2004/06. The correlations across time were $r(348) = .61$, $p < .001$, for purpose in life, and $r(348) = .69$, $p < .001$, for agreeableness.

Intrapersonal Prediction of Pre- to Post-Bereavement Changes in Depression Symptoms

The results for the regression models that tested whether purpose in life and agreeableness are intrapersonal resources for coping with bereavement are given in Table 3.

Model 1: Pre-bereavement Predictors—At step 1, depression symptoms at baseline in 1992/94, along with the bereavement subgroup contrast vectors and sex and age of parent, accounted for 43% of the variance in depression symptoms twelve years later, in 2004/06, $F(6, 345) = 38.80$, $p < .001$. At step 2, the addition of the baseline measures of intrapersonal resources, purpose in life and agreeableness in 1992/94, contributed significantly to the prediction of change in depression symptoms, $F(2, 343) = 5.22$, $p < .01$. As shown in Table 3, only the beta weight for agreeableness was significant, and the negative value indicated that higher scores on agreeableness at baseline predicted greater decreases in depression symptoms over time for the total sample of bereaved and comparison parents. At step 3, none of the interactions between purpose in life or agreeableness and the bereavement subgroups reached significance, but there were two nonsignificant trends that involved the subgroup of parents whose child died from an accident (see Table 3). Because the trends occurred for the same variables that reached significance in the analysis of 2004/06 post-bereavement predictors (see below), we explored the simple effects to see if they were consistent across time periods. The simple effects of the pre-bereavement predictors for all subgroups of bereaved and comparison parents are plotted in Figures 1a and 1b. As shown in the figures, the strongest associations between pre-bereavement intrapersonal resources and greater decreases in depression symptoms occurred for the parents whose child died in an accident. The simple effects for this subgroup were significant for both purpose in life, $Beta = -.31$, $p < .05$, and agreeableness, $Beta = -.34$, $p < .01$. None of the simple effects for other subgroups were significant, though as shown in Table 3, the overall main effect of agreeableness remained significant after accounting for the interaction involving the accident subgroup. Thus, the main effects revealed a general tendency for midlife levels of agreeableness to predict greater improvements in depression symptoms by early old age, irrespective of bereavement. However, the interactions indicated that the effect for agreeableness, as well as a similar pattern for purpose in life, was most evident for the bereaved parents whose child died in an accident. Thus, there is some support, albeit trend-level in the overall model, for the bereavement-specific effects of these intrapersonal resources.

Model 2: Post-bereavement predictors—For the model with the 2004/06 post-bereavement predictors, similar effects occurred, but were generally stronger and significant. First, similar to the baseline model, the addition of the post-bereavement psychological variables at step 2 contributed significantly to the prediction of change in depression symptoms, $F(2, 343) = 20.48$, $p < .001$. As shown in Table 3, in this case both of the intrapersonal predictors were significant in the direction indicating that higher scores for purpose in life and agreeableness in early old age (post-bereavement) were associated with greater decreases in depression symptoms over time for the total sample. At step 3, the interactions of these factors with the subgroup vectors were significant for the subgroup whose child died in an accident (see Table 3), indicating bereavement-specific effects. The simple effects are plotted in Figures 2a and 2b. Similar to the pre-bereavement patterns, the simple effects for the accident subgroup were significant for both purpose in life, $Beta = -$.

52, $p < .001$, and agreeableness, $Beta = -.54$, $p < .001$. The simple effects at post-bereavement also were significant for the subgroup of parents whose child died of a sudden illness, with $Beta = -.37$, $p < .05$, for purpose in life and $Beta = -.45$, $p < .01$, for agreeableness. The simple effects for other subgroups, including the comparison group were not significant. As shown in Table 3, the main effects of both purpose in life and agreeableness remained significant after accounting for the significant interaction terms. Thus, as with the pre-bereavement predictors, the main effects revealed a general tendency for later life levels of purpose in life and agreeableness to predict greater improvements in depression symptoms from midlife, irrespective of bereavement. However, the interactions indicated that the effects were most pronounced for the bereaved parents whose child died in an accident and also those whose child died from a sudden illness.

Discussion

The death of a child is a traumatic experience for parents at any stage of the life course, and the current findings extend our understanding of this experience to parents bereaved in mid- to late-life. Whereas relatively poor functioning in the form of more depression symptoms was evident for some subgroups of bereaved mothers and fathers, the lack of a group-by-time interaction indicated that these differences were present before the death and persisted 12 years later, consistent with a picture of chronic strains rather than a response to the event of the death per se. Nevertheless, the parents whose child had died within the past 18 months reported relatively high levels of depression symptoms, which likely reflect their acute grief responses to the death. Also, the subgroup differences for experiencing episodes of depression were consistent with expectations about bereavement effects, where parents who experienced unexpected deaths due to accidents and sudden illnesses were nearly twice as likely as other parents to report depression episodes during the period between the pre- and post-bereavement assessments. In addition, intrapersonal resources in the form of agreeableness and a sense of purpose in life present before the death and maintained over time were associated with greater improvements in functioning for the entire sample, but most notably for the parents whose children died unexpectedly from accidents and sudden illnesses. Thus, consistent with the stress process and integrative risk factor models (Hanson & Stroebe, 2007; Pearlin et al., 1981), parental bereavement is associated with chronic life strains as well as acute stress late in life, and although most parents adapt well, the mobilization of personal resources is an important contributor to adaptive functioning, particularly under the circumstances of unexpected deaths.

The findings contrast with evidence of lasting grief responses in the form of persistent low levels of depression symptoms among parents in the WLS who had children die earlier in their life course (Rogers et al., 2008; Song et al., 2010). The integrative risk factor framework (Hanson & Stroebe, 2007), suggests that bereavement might be relatively less disruptive for later-life parents because it has more limited secondary effects on altering the developmental course of other life domains. For example, grief-related disrupted work functioning might be less relevant for older parents who, compared to younger parents, are likely to have already achieved seniority at work or have retired. Also, the death of a child earlier in the life course is associated with having additional children (Najman et al., 1993), so that the period of active parenting is prolonged for these younger parents. In addition, many younger parents in the WLS had experienced the death of an infant, which placed particular strains on marital closeness (Song et al., 2010). Younger bereaved parents also were at risk for marital disruption (Rogers et al., 2008), which did not occur in the current sample, consistent with a pattern of less secondary disruption for the older parents. Finally, older bereaved parents might have more effective coping skills than younger parents for managing the strain of a child death, based on improved skills in reframing negative events, managing negative affect, and accessing emotional support that are associated with aging

(Charles & Carstensen, 2009). Because there were no data on pre-bereavement psychological functioning for parents bereaved at early points in the life course, the current findings about pre-post change could not be directly compared with the younger bereaved parents in the WLS. Therefore, these possibilities about reduced secondary disruption and improved coping skills with aging need to be examined directly in comparative studies that examine bereavement at various points in the life course, and that include psychological measures prior to and after the child death.

There was support for the hypotheses about the importance of inner resources for coping with bereavement. Regarding purpose in life, the current results were consistent with earlier findings showing that parents who had or could find a sense of purpose in their own lives were better adjusted following a child's death (Rogers et al., 2007). It is possible that a sense of purpose in life is part of a broader process of finding meaning following the death (Janoff-Bulman & Franz, 1997). The process includes making sense of and finding meaning in the child's death itself (e.g., Keese et al., 2008; Neimeyer, 2001), but also reflects generativity in the form of having and maintaining life goals, which is highly relevant for individuals in mid-to-later life. It is important to note that the other intrapersonal resource, agreeableness, made an independent contribution to predicting change in depression, suggesting that it reflects a different mechanism for mitigating negative bereavement effects. It is possible that agreeableness works thorough negative affect regulation, wherein highly agreeable people can regulate negative affect both intentionally and automatically, consistent with research linking agreeableness with activation of neural substrates related to emotion regulation (Haas, Omura, Constable, & Canli, 2006). Agreeableness and affect regulation might also be associated with coping in the form of positive reframing (Carver & Connor-Smith, 2010), which might help to increase positive affect, as well as maintaining positive, supportive relationships.

An interesting feature of the predictive findings is that the intrapersonal resources interacted with cause of death such that their effects were most pronounced for the parents whose children's deaths were unexpected, from accidents and sudden illnesses. That is, although sudden unexpected deaths did not generally increase depression symptoms over time, they appeared to create a context in which the parents' coping resources were most salient. In a sense, the failure to obtain a main effect on depression symptoms for the accident subgroup would seem to contrast with a large body of research showing robust predictions of complicated grief by sudden and violent deaths as opposed to other causes (see Lobb et al., 2010). However, it is important to distinguish complicated grief, which is characterized by yearning for the deceased and an inability to accept the death, from persistent symptoms of depression, which emerge from different stages of grief and have different risk predictors (Zhang, El-Jawahri, & Prigerson, 2006). A relevant study of parents by Wijngaards-de Meij et al. (2005) separated symptoms of complicated grief from depressive symptoms, both measured up to 20 months post-loss. In multivariate models with multiple predictors of each outcome, violent cause of death was predictive of higher levels of complicated grief symptoms, but was not associated with higher levels of depression. Instead, depression symptoms were most strongly associated with individual parent factors suggestive of coping with the loss (i.e., religious affiliation, receiving counseling). In regards to the present findings, the greater likelihood of depression episodes among parents who experienced an unexpected child death suggests that unexpected deaths might have elicited the most intense grief reactions in the period immediately following the death for the parents in this study as well. Then, in the context of heightened grief-related symptomatology, the coping resources of purpose in life and agreeableness were particularly important for promoting resolution as opposed to experiencing persistent depression symptoms.

Regarding the subgroup differences in persistent depression symptoms that did emerge, the poorer levels of functioning for mothers of children who died from long term illness and fathers of children who committed suicide were most pronounced before the death, suggesting that chronic strains preceded the death for these parents. Lichtenstein, Gatz, Pederson, Berg, and McClearn (1996) found a similar “anticipation effect” when widowhood followed a period of caring for an ill spouse. Indeed, both the chronic medical needs associated with terminal illness and the chronic and severe psychological problems usually associated with suicide can produce extensive care demands and worries about the child’s well-being for parents. Thoits (1995) noted that the presence of diffuse, ongoing, chronic stress may be more relevant to individuals than the effects of discrete stressful events. Although the occurrence of the death might reduce caregiving stress, it also might be associated with role-loss for the caregiver, thus prolonging strain. The persistent depression for these parents also might emerge from the intergenerational ambivalence that is associated with significant health and emotional problems for adult offspring (Birditt et al., 2010). The gender difference also adds complexity to these findings. We speculated that the long term illness of an adult child might place greater caregiving demands and strains on mothers than fathers, and the findings showing relatively more depression symptoms for mothers both before and following the death are consistent with this expectation about strain as well as the notion of persisting consequences. However, the poorer functioning for the fathers in the suicide subgroup suggests that the impact of severe psychological problems for an adult child might be less direct. Murphy (2008) proposed that the suicide of an adult child might be less devastating for some parents because they come to terms with the child’s depression and their inability to help. In this way, they may be able to resolve regrets about their own actions, which is associated with less negative initial grief responses and better long term adjustment to bereavement (Torges et al., 2008). If mothers are most actively involved with their children, perhaps they are more likely to have gone through this process and, thus, are less distressed than fathers. The current findings should be considered cautiously in light of potential instability of the findings for the relatively small subgroups of parents whose children committed suicide. More generally, however, the findings illustrate how the death of an adult child might fit into a broader picture of chronic stress and poor adjustment for at least some families. Furthermore, by identifying differences before the death, the study illustrates the importance of having data on pre-bereavement functioning from which to evaluate bereavement effects.

Consistent with the larger WLS sample, the parents in this study had somewhat higher levels of education and income than the general population of adults in this age range. Lower levels of SES might be associated with factors such as economic adversity, disease risk, and environmental hazards that might have predicted higher rates of mortality for children. Although there was some variability in ages among the participants who were recruited for the WLS sibling sample, the findings generally reflect the experiences of one cohort of adults and might not anticipate the experiences of future aging cohorts, particularly findings regarding gender differences. The lack of racial/ethnic diversity within the sample places limitations on the generalizability of the findings to other cultural contexts. Clearly, grief is experienced and expressed differently among cultures (Rosenblatt, 2008), and the impact of various forms of chronic strains and coping resources likely differ as well. The study is also limited by the relatively lengthy 12-year period between assessments, which cannot precisely chart the course of depression symptoms for all parents. In addition, although attrition in the sample as a whole was remarkably low (approximately 80% of survivors continue to participate), we studied only parents who were still living in 2004/06 and, thus, might have underestimated effects due to mortality among the most severely affected parents.

An important implication for intervention with bereaved parents at this stage of life is to focus attention on the intrapersonal resources individuals can bring to bear on coping with this traumatic event. The present findings confirm early results (Rogers et al. 2007) suggesting that the ability to find and maintain a sense of meaning in one's life is associated with less negative adaptation. Accordingly, interventions with bereaved adults have focused on finding meaning and restoring one's life in order to reduce complicated grief (Parkes & Prigerson, 2010). However, more controlled intervention studies are needed, and the potential unique complexities of finding meaning in life following a child's death in the stage of mid-to-later life needs greater attention. As a personality characteristic, agreeableness would not be amenable to intervention. However, the characteristic coping mechanisms used by highly agreeable people, such as methods for regulating anger and maintaining relationships, might be promoted more generally for individuals lower in agreeableness. The presence of depression symptoms for parents prior to the child deaths by suicide and chronic illness suggest the need for earlier interventions to support parents of troubled and ill children, particularly in severe cases where the child's death might be anticipated. Finally, parental bereavement at this stage of life might produce unique alterations in daily activities, roles and routines, such as increases in grandparent care or separation from grandchildren. Research to identify these changes might further help to specify targets and goals for intervention.

Overall, the current findings are encouraging in suggesting that bereaved parents in mid-to-later life might be as capable of coping with grief as the majority of the population (Bonanno, et al., 2005). They also alert us to the importance of pre- and post-bereavement circumstances that might make parents relatively more vulnerable to negative adaptation, as well as the intrapersonal strengths that individuals can access in adapting to this trauma.

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Figure 1.
Figure 1a, 1b

Figure 2.
Figure 2a, 2b

Table 1

Sample Characteristics

	Comparison		Bereaved		Group Effect ^a
	Fathers	Mothers	Fathers	Mothers	
Age 1992/94 (yrs.)	53.48 (3.20)	53.93 (2.20)	54.64 (3.33)	54.12 (4.76)	2.89
Education (yrs.)	14.45 (2.83)	13.23 (1.88)	14.45 (2.78)	13.20 (2.08)	0.05
Income 1992/94 (\$)	78,290 (45,824)	62,260 (44,630)	85,003 (65,186)	64,981 (52,471)	0.64
Duncan Socioeconomic Index 1992/94	44.13 (20.69)	38.30 (17.20)	47.29 (19.65)	38.67 (18.88)	0.71
Retired 2004/06 (%)	48	51	44	53	1.97
Number of Children 1992/94	3.58 (1.64)	3.51 (1.49)	3.65 (1.58)	4.09 (2.04)	8.13
Married 1992/94 (%)	99	84	92	79	3.34
Married 2004/06 (%)	95	79	95	68	2.11

Note: Values are means (SD), or percentages where indicated.

^a All effects are *ns* at $\alpha = .95$.

Table 2

Mean CES-D Scores (SD) for Depression Symptoms in 1992/94 and 2004/06

Comparison		Bereaved Suicide		Bereaved Accident		Bereaved Sudden Illness		Bereaved Long Term Illness		Significant Contrasts ($p < .05$)
a	b	c	d	e	f	g	h	i	j	
Fathers n = 85	Mothers n = 90	Fathers n = 12	Mothers n = 10	Fathers n = 27	Mothers n = 29	Fathers n = 19	Mothers n = 24	Fathers n = 27	Mothers n = 27	
8.42 (7.65)	8.90 (8.86)	11.25 (12.23)	8.90 (7.13)	6.99 (5.87)	8.04 (8.32)	6.75 (6.36)	8.61 (7.78)	5.53 (3.82)	12.32 (10.22)	j > g,i; c > i
				1992/94						
				6.99 (5.87)	8.04 (8.32)	6.75 (6.36)	8.61 (7.78)	5.53 (3.82)	12.32 (10.22)	
				2004/06						
6.84 (6.36)	7.47 (7.52)	9.45 (7.72)	6.99 (4.18)	6.30 (5.90)	7.79 (8.71)	5.89 (4.75)	7.29 (7.08)	3.74 (2.86)	10.31 (9.68)	j,c > i

Note: CES-D = Center for Epidemiological Studies – Depression scale.

Table 3

Prediction of Post-Bereavement Depression Symptoms (CES-D)

	<i>B</i> (<i>SE</i>)	β	<i>B</i> (<i>SE</i>)	β	<i>B</i> (<i>SE</i>)	β
Model 1: Pre-Bereavement 1992/94 predictors						
Step1:						
Constant	1.69 (4.23)		1.54 (4.17)		1.16 (4.17)	
CES-D 1992	.56 (.04)	.65***	.52 (.04)	.60***	.52 (.04)	.60***
Suicide	.58 (1.19)	.02	.66 (1.18)	.02	.64 (1.17)	.02
Accident	.82 (.81)	.04	.92 (.80)	.05	1.01 (.80)	.05
Sudden illness	.20 (.90)	.01	.54 (.89)	.03	.45 (.89)	.02
Long term illness	-.05 (.83)	-.01	.03 (.82)	.01	.01 (.81)	.01
Sex	.50 (.57)	.04	.88 (.57)	.06	.79 (.57)	.06
Age	.01 (.08)	.01	.01 (.08)	.04	.02 (.08)	.01
R^2		.43***				
Step 2:						
Purpose in life 1992			-.11 (.12)	-.04	-.06 (.12)	-.02
Agreeableness 1992			-.21 (.07)	-.14**	-.17 (.07)	-.11*
ΔR^2				.02**		
Step 3:						
Purpose 1992 X Accident					-.55 (.31)	-.08 ^a
Agreeable 1992 X Accident					-.29 (.17)	-.08 ^a
ΔR^2						.01
Model 2: Post-Bereavement 2004/06 predictors						
Step1:						
Constant	1.69 (4.23)		3.37 (4.05)		3.43 (4.04)	
CES-D 1992	.56 (.04)	.65***	.48 (.04)	.56***	.49 (.04)	.56***
Suicide	.58 (1.19)	.02	.78 (1.13)	.03	.77 (1.12)	.03
Accident	.82 (.81)	.04	.49 (.77)	.03	.41 (.76)	.02
Sudden illness	.20 (.90)	.01	.41 (.85)	.02	.36 (.85)	.02
Long term illness	-.05 (.83)	-.01	.15 (.79)	.01	.12 (.78)	.01

	<i>B</i> (<i>SE</i>)	β	<i>B</i> (<i>SE</i>)	β	<i>B</i> (<i>SE</i>)	β
Sex	.50 (.57)	.04	1.14 (.55)	.08	1.05 (.55)	.08
Age	.01 (.08)	.01	-.02 (.07)	-.01	-.02 (.07)	-.01
<i>R</i> ²		.43 ***				
Step 2:						
Purpose in life 2004			-.42 (.11)	-.17 ***	-.34 (.12)	-.14 **
Agreeableness 2004			-.26 (.07)	-.16 ***	-.20 (.08)	-.12 **
ΔR^2				.06 ***		
Step 3:						
Purpose 2004 X Accident					-.57 (.26)	-.10 *
Agreeable 2004 X Accident					-.42 (.17)	-.11 *
ΔR^2						.01 *

^a $p < .10$,

* $p < .05$,

** $p < .01$,

*** $p < .001$

Note: CES-D = Center for Epidemiologic Studies Depression Scale. Interactions were tested for entry individually after all main effects.