

Individual and Environmental Correlates of Anxiety in Parentally Bereaved Children

by

Damia December

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Advisor: Dr. Julie Kaplow

Abstract

Although a common aspect of life, bereavement has been associated with a variety of negative social, physical, and mental health outcomes, particularly anxiety. The stress of losing a loved one can be particularly difficult for bereaved children, especially those who have experienced the death of a parent. Most bereaved children experience low levels of anxiety, but a subset may experience very high levels of anxiety, which, if left untreated, can be risk marker for the development of future psychopathology. Unfortunately, there is a dearth of research examining potential predictors of anxiety among parentally bereaved children. This study examined the relations between individual (e.g., child coping, child religiosity) and environmental factors (parent coping style, parent religiosity), and level of child anxiety measured by child self-report. The sample consisted of 45 children ages 7 to 12 who experienced the death of a parent within 6 months of beginning the study and 35 of their surviving caregivers. Secondary data analysis utilized a linear mixed model to control for family effects. Results indicated that child age, child gender, child coping, child religiosity, and parent religiosity were all significantly related to child self-reported anxiety levels. These findings suggest the importance of both the parent's and the child's religiosity and coping in relation to child anxiety, and if replicated in a larger sample, may have critical implications for intervention efforts with bereaved youth.

Keywords: bereaved children, parental loss, anxiety, coping, religiosity, spirituality

Individual and Environmental Correlates of Anxiety in Parentally Bereaved Children

Death is a universal aspect of humanity, yet the loss of a loved one may be one of the most difficult and stressful events that one can experience in life. In fact, studies of grief among adult populations have found bereavement to be associated with a variety of serious negative health outcomes such as depression, suicidal ideation, mortality, overall lower quality of life, and anxiety problems (Byrne & Raphael, 1999; Grimby, 1993; Lichtenstein, Gatz, & Berg, 1998; Szanto et al., 2006). Given these findings, it is of particular concern that 3.4% of children in the United States experience the death of one or both parents before the age of 18 (U.S. Bureau of the Census, 2011). Although far fewer studies of bereaved children exist, the limited empirical research has found negative health outcomes similar to adults. For example, bereaved children have been shown to have higher levels of anxiety, depression, delinquency, dysphoria, and substance abuse compared to non-bereaved youth (Cerel, Fristad, Verducci, Weller, & Weller, 2006; Dowdney, 2000; Draper & Hancock, 2011; Kaplow, Saunders, Angold, & Costello, 2010; Weller, Weller, Fristad, & Bowes, 1991). In fact, one study found that one in five parentally bereaved children develops a psychiatric disorder (Dowdney, 2000). However, these findings are primarily among clinical samples (Cerel et al., 2006; Dowdney, 2000).

In contrast, some studies have reported that most bereaved children are not at higher risk for psychopathology when solely examining bereavement as an independent variable in the general population (Fristad, Jedel, Weller, & Weller, 1993; Oltjenbruns, 2001). Therefore, it may be that other risk factors involving the family, the child himself/herself, and/or circumstances surrounding the death increase the rates of negative outcomes, including anxiety and anxiety-related disorders, among children (Elizur & Kaffman, 1983). Discrepancies in the reported rates of negative outcomes among bereaved children may also be due to significant limitations within

the studies themselves (Dopp & Cain, 2012; Kaplow, Layne, Pynoos, Cohen, & Lieberman, 2012). Specifically, very few studies have examined the relationship between adjustment, defined as successfully adapting to challenges posed by stressors (Ebata & Moos, 1991), and bereavement or potential mediating and moderating variables involved in the association between bereavement and negative outcomes. While some studies have found the circumstances of a parent's death, the quality of the surviving caregiver-child relationship, and the characteristics of the surviving family members to be factors influencing child adjustment (Cerel et al., 2006; Saldinger, Porterfield, & Cain, 2004; Silverman & Worden, 1992; Wolchik, Ma, Tein, Sandler, & Ayers, 2008), parent and child coping styles and religiosity may also be important potential mediating factors that are noticeably absent from the research.

Anxiety is a very common grief response among both adult and child populations. In fact, both surviving caregivers and children report higher levels of child anxiety after the death of a parent (Dowdney, 2000). Most parentally bereaved children report having anxiety about separation from surviving caregivers and fear of death of surviving family members (Kaplow et al., 2012; Sanchez et al., 1994). However, the anxiety they experience generally does not meet diagnostic cut-offs (Dowdney, 2000). Given this, the current study is chiefly interested in examining sub-clinical levels of anxiety rather than actual anxiety disorders.

Furthermore, very few studies have examined anxiety as an important negative outcome for parentally bereaved children in spite of the fact that anxiety levels may be a predictor of future psychopathology (Sanchez et al., 1994). In addition, stressful events, persistent stress, or trauma experienced in childhood (including the loss of a parent) increases risk of the development of anxiety disorders later in life (Heim & Nemeroff, 2001). Therefore, it is apparent that further research should be conducted examining potential factors that influence anxiety

levels, particularly those that have thus far been ignored in the literature so that resilience to potential future negative outcomes can be promoted in bereaved children.

Potential Risk and Protective Correlates

Child demographics. Both age and gender have been shown to be significantly related to anxiety among child samples. One study of children ages 6-17 found that age was a significant predictor of the type of anxiety symptoms experienced; children ages 6-9 predominantly experienced separation anxiety, fear of death was common among 10-13 year olds, and social anxiety was most prevalent among those aged 14-17 (Weems & Costa, 2005). Similar findings were reported by Elizur & Kaffman (1983) who found that younger parentally bereaved children were particularly likely to experience separation anxiety. Rates for separation anxiety and Overanxious Disorder have been shown to decline drastically after the age of 10 (Cohen et al., 1993).

Among both bereaved and non-bereaved children, most studies have not found a significant relationship between gender and sub-clinical levels of anxiety (Kranzler, Shaffer, Wassermann, & Davies, 1990; Lewinsohn, Gotlib, Lewinsohn, Seeley, & Allen, 1998). However, two studies conducted during the creation and validation of the Multidimensional Anxiety Scale for Children found that, among two separate non-clinical school-based samples, females showed greater levels of anxiety on all factors of the anxiety scale (March, Parker, Sullivan, Stallings, & Conners, 1997). In addition, beginning at age 6, females are twice as likely as males to be diagnosed with an anxiety disorder, and this disparity steadily increases over time (Lewinsohn et al., 1998).

Moreover, in a study of young and old adults, age was found to be a significantly related to coping style with older adults utilizing less approach-oriented coping and more avoidance-

oriented coping than younger adults (Folkman, Lazarus, Pimley, & Novacek, 1987). In contrast, a study of elderly adults determined that age was negatively related to the use of escapist strategies (Aldwin, 1991). Among a sample of school-aged children with cancer, avoidant coping was found to be used significantly more often by younger children, a finding that prompted the authors to suggest controlling for age effects in future studies (Phipps, Fairclough, & Mulhern, 1995). Some studies have also found gender differences in choice of coping style. Specifically, one study determined that adult women utilize social support and emotion-based coping more often than men while men tend to use problem-focused coping (Ptacek, Smith, & Dodge, 1994). Furthermore, in a study of sexually abused children, boys were more likely to utilize avoidant coping strategies than girls (Kaplow, Dodge, Amaya-Jackson, Lisa, & Saxe, Glenn N., 2005).

Child coping strategies. Research has determined that both adults and children utilize a variety of coping strategies to successfully adjust after experiencing traumatic events. Several theoretical models of coping have been developed to explain these responses. The current study specifically focuses on the Approach/Avoidance-Coping model which classifies coping strategies into two categories: cognitive or behavioral attempts to actively resolve a situation (approach-oriented) or attempts to deny or minimize a situation (avoidance-oriented) (Roth & Cohen, 1986). In a study of adolescents' responses to life stressors, Ebata and Moos (2001) found that those who used less avoidance-oriented strategies and more approach-oriented strategies, were better adjusted than those who did not. Another study of adolescents determined that avoidant coping predicted more depressive symptoms over a period of 2 years, while approach-oriented coping was associated with fewer depressive symptoms (Seiffge-Krenke & Klessinger, 2000). In studies of children who have experienced sexual abuse, avoidant coping has been related to the development and severity of PTSD symptoms (Kaplow, Dodge, Amaya-

Jackson, & Saxe, 2005). In fact, an empirical review of research on child sexual abuse victims determined that avoidant coping posed the highest risk for the development of psychopathology of any coping strategy (Spaccarelli, 1994). Among parentally bereaved preschool children, the active reporting of grieving emotions was significantly correlated with improved functioning (Kranzler et al., 1990). Research has yet to determine the relationship between avoidant coping and anxiety levels among parentally bereaved children.

Child religiosity. Although, anecdotally, it is thought that religion helps people cope with the stress of loss and grief, relatively little consistent literature exists on the topic, particularly among child samples. However, literature reviews of the effects of religiosity among bereaved adults indicate that religiosity is predictive of healthy adjustment (Wortmann & Park, 2008). One study of bereaved adolescents determined that level of religiosity was significantly, although weakly, associated with lower death anxiety (Ens & Bond, 2007).

Parental coping strategies. Similar to the research on children and adolescents, the use of an avoidant coping style in response to stress or trauma is a significant predictor of negative outcomes and maladjustment among adult populations (Amir, Kaplan, Efroni, & Kotler, 1999; Felton, Revenson, & Hinrichsen, 1984; Krause, Kaltman, Goodman, & Dutton, 2008). Specifically, one study of chronically ill adults determined that avoidant coping was related to lower self-esteem, negative affect, and poor adjustment (Felton et al., 1984). Examples of avoidant coping strategies include behavioral disengagement (e.g., giving up trying to solve a problem), denial (e.g., refusing to believe the problem exists), mental disengagement (e.g., trying to avoid thinking about the problem), and substance use (e.g., using drugs to reduce stress) (Litman, 2006). Examples of approach coping strategies among adults include acceptance (e.g., acknowledging the problem), active coping (e.g., attempting to solve the problem), emotional

social support (e.g., seeking sympathy from others), instrumental social support (e.g., seeking advice from others), planning (e.g., thinking about how to solve the problem), positive reinterpretation (e.g., reframing the problem), religious coping (e.g., using faith for support), and suppression of competing activities (focusing only on the problem) (Litman, 2006). Among a sample of 357 adult students between the ages of 18 and 53, the use of approach-oriented coping strategies in response to stressful events was significantly and negatively related to sub-clinical anxiety levels while avoidant strategies were significantly positively related with sub-clinical anxiety levels (Litman, 2006). Another study specifically found that active coping and positive reinterpretation were negatively correlated with trait anxiety in contrast to denial and behavioral disengagement which were positively correlated with trait anxiety (Carver, Scheier, & Weintraub, 1989).

Given that parent coping style significantly influences overall parent adjustment (Krause et al., 2008), particularly parent levels of anxiety, parent coping may have an indirect impact on child adjustment and anxiety levels. In fact, research by Kalter et al. (2002) indicates that among a parentally bereaved sample of children ages 6-16 assessed at 18-months post-death, parental adjustment was the strongest predictor of child adjustment among the variables studied. Parental adjustment is significantly related to positive parenting strategies which is, in turn, a significant predictor of adjustment among parentally bereaved children (Saldinger, Porterfield, & Cain, 2004; Shapiro, Howell, & Kaplow, in press). Parental psychological distress was also found to be a significant predictor of child anxiety among children who lost a parent due to suicide (Pfeffer et al., 1997). In addition, although few studies have examined this relationship, parent coping style may also directly influence child adjustment, outcomes, and anxiety in response to trauma. Specifically, one study of coping interventions intended to decrease anxiety among hospitalized

children found that children who were exposed to both individual coping training and modeling of appropriate coping from their parents experienced significantly less anxiety than those who were not exposed to parent coping modeling (Peterson & Shigetomi, 1981).

Parental religiosity. A meta-analysis conducted by Wortmann & Park (2008) reviewed 73 studies of religiosity and coping and found that there is a positive relationship between religion and healthy adjustment to bereavement in adults. Specific factors such as religious attendance and a belief in an afterlife were shown to decrease levels of depression among bereaved adults (Higgins, 2002). Moreover, a study of family caregivers bereaved by cancer indicated that use of religious support groups and overall greater religiousness were significantly related to lower depressive symptoms 13 months post-loss. Currently, no published studies examining the relationship between parental religiosity and child anxiety among bereaved samples were found for review. However, given that religiosity influences parental adjustment, and parental adjustment is related to child adjustment (Kalter et al., 2002), it is possible that parent religiosity may have an effect on child adjustment.

Overview of Present Research

The literature, as recounted above, is lacking analysis of individual and environmental factors that may influence levels of anxiety among parentally bereaved children. Such research is all the more necessary when considering the significant impact that bereavement has on the lives of U.S. children. Using the existing empirical literature as a foundation, this project aims to identify individual and environmental factors associated with self-reported anxiety among a sample of parentally bereaved children. Specifically, this project will examine relations among child anxiety and 1) child age; 2) child gender; 3) child coping; 4) child religiosity; 5) parental coping; and 6) parental religiosity. Given the previously presented evidence, it is hypothesized

that both child and parent avoidant coping will be associated with higher levels of child anxiety. Moreover, it is predicted that both child and parental religiosity will be significantly related to lower levels of child anxiety. Child age and gender are also expected to be related to child anxiety; younger and female children are expected to experience higher levels of anxiety. This work may have important implications for prevention and intervention efforts for youth at risk for maladaptive grief reactions.

Method

Participants

The current study examined data collected from a larger, ongoing study known as the Coping in Response to Childhood Loss Experiences (CIRCLE) Project, which received IRB approval in November 2008. The CIRCLE Project gathers data from parentally bereaved children and their surviving parents in order to examine physiological, behavioral, and psychological responses to loss, in addition to factors that may improve post-loss adjustment. Inclusion criteria for the CIRCLE Project were (1) the child was between the ages of 3 and 12 at the time of the parent's death; and (2) the child experienced the death of a primary caregiver within the previous six months. Exclusion criteria for the CIRCLE project were (1) the family did not speak English; and 2) the child was unable to understand questions due to cognitive impairments. Multiple children from the same family were allowed to participate if all inclusion criteria were met. In total, the CIRCLE Project has obtained initial interview data from 67 children (42 families) to date. Only data from children between the ages of 7 and 12 ($n = 45$) and their caregivers ($n = 34$) were included for analysis in the current study, as children under the age of 7 did not receive the standardized questionnaires.

Table 1 presents demographic data of the current study sample. Participant caregivers were 82.4% female, and children were 46.7% female. Caregivers identified as Caucasian (82.4%), African American (8.8%), Asian (5.9%), and Hispanic (2.9%). 73.3% of children identified as Caucasian, 11.1% as African American, 8.9% Asian, 2.2% as Hispanic, and 4.4% as Other. Of the surviving caregivers, 68.9% were biological mothers, 17.9% were biological fathers, and 13.2% were other relatives of the bereaved children (e.g., adoptive parents, grandparents, aunts or uncles). The mean age of caregivers was 42.6 years ($SD = 8.8$, age range = 28-64 years), and the mean age of children was 9.4 years ($SD = 1.9$). Of the 34 families included in the current study, the average number of child study participants per family was 1.32 (range = 1-5) with 75.6% being single child families. Most participants experienced the loss of a biological father (71.1%), but 28.8% experienced the death of other caregivers (e.g., biological mothers, adoptive parents, grandparents).

Procedure

Participating families in the CIRCLE Project were recruited through community advertisements and local grief support organizations. Informed consent was collected from caregivers, verbal and written assent was obtained from child participants, and all families were provided monetary compensation for their participation in the study. Enrolled subjects participated in 2 to 3 hour long semi-structured interviews administered by Masters-level clinicians at 3 time periods (initial intake interview, 6 months, and 1 year) during which they completed a battery of psychological assessments and questionnaires. The average time between parental death and initial interview was 80.11 days, ($SD = 44.19$; range= 26 days to 180 days). Parent and child interviews were conducted separately. Child interviews were videotaped with child assent and all questions were read to child participants and visual aids were provided in

order to ensure understanding of all measure items. The current study only examined data from the initial interview given the small sample sizes available at the 6-month and 1-year follow-up interviews.

Measures

The CIRCLE Project obtained data from a number of standardized questionnaires (6 parent measures and 15 child measures), saliva samples, videotaped sessions, and demographics collected during semi-structured clinical interviews conducted by trained research assistants. The current study only examined demographic data and 5 measures relevant to the study hypotheses.

Child anxiety. The current study utilized the Multidimensional Anxiety Scale for Children (MASC), a self-report measure which determines total child anxiety levels by combining scores on 5 scales: (1) anxiety disorder index, (2) harm avoidance, (3) physical symptoms, (4) separation anxiety and panic, and (5) social anxiety (March et al., 1997). These scales determine the characteristics of child anxiety; physical symptoms refer to tenseness, restlessness, somatic, and autonomic fear responses; harm avoidance indicate perfectionism and anxious coping; social anxiety corresponds to fear of public performance, rejection, or humiliation. The MASC consists of 39 items such as “I get scared when my parents go away”. Child responses are rated on a 4-point Likert scale (0 = “never true about me”; 4 = “always true about me”) with higher scores reflecting more severe anxiety. Construct validity is adequate and test-retest reliability is satisfactory to excellent (March et al., 1997; March, Sullivan, & Parker, 1999).

Child coping. The How I Handle Feelings (HF) Scale, originally called the Active Inhibition Scale, is an 11-item self-report measure developed to assess the use of avoidant coping and emotional suppression among bereaved children and was used in the current study to

determine child level of avoidant coping (Sandler et al., 2003; see Appendix A for items). The scale consists of 11 Likert-like items ($0 = \text{“never”}$; $4 = \text{“a lot”}$), and higher scores reflect more use of avoidant coping strategies. A sample item is “You’ve tried to hide it when you’ve felt sad”. Internal reliability for the HF Scale in the present study was excellent ($\alpha = .90$).

Child spirituality/religiosity. The Children’s List of Beliefs (CLB) is a self-report measure examining spiritual/religious beliefs in children. The list is composed of items taken from the Brief Multidimensional Measure of Religiousness/Spirituality which were modified to be appropriate for children ages 7 to 12 (Fetzer Institute, 1999; see Appendix B for items). The CLB consists of 18 items ($0 = \text{“no”}$; $1 = \text{“yes”}$) such as “I believe in God” and one Likert-like item, (“How often do you go to religious services?”), rated from 0 (“never”) to 4 (“more than once a week”). Individual item scores were totaled, and higher totals reflect greater spiritual/religious beliefs.

Parent coping. The COPE Inventory (COPE) is a 60-item measure that assesses the level of use of 10 coping strategies by adults: acceptance, active coping, behavioral disengagement, denial, emotional social support, instrumental social support, mental disengagement, planning, positive reinterpretation, and religious coping (Carver et al., 1989). Item responses consist of a 4-point scale ($1 = \text{“I usually do not do this at all”}$; $3 = \text{“I usually do this a lot”}$) with higher scores reflecting more frequent use of a coping strategy. A sample item is “I take direct action to get rid of the problem.” Construct validity, internal reliability, and test-retest reliability were determined to be acceptable in past studies (Carver et al., 1989).

Parent spirituality/religiosity. The Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS) is a 50-item scale measuring 10 dimensions of spirituality/religiosity in adults: continuing bonds, daily spiritual experiences, forgiveness,

organizational religiousness, overall self-ranking, private religious practices, religious and spiritual coping, religious and spiritual history, religious support, and values and beliefs (Fetzer Institute, 1999). Given the many dimensions measured by the BMMRS, the scale contains a variety of items and response types (e.g., yes or no, 4 to 8-point Likert). A sample item is “I believe in God” and sample responses range from 1 (“strongly agree”) to 4 (“strongly disagree”). Some items were reversed coded so that higher totals reflect higher levels of religiosity. Construct validity, internal reliability, and test-retest reliability have been established among non-clinical and clinical adult samples (Stewart & Koeske, 2006).

Data Analysis

Linear mixed-modeling was utilized to examine all continuous variable relationships. Due to the inclusion of multiple children from the same participant family, child data was clustered by family and specified as non-independent observations within the model in order to adjust for potential similarities among same-family children. As a result, the model included fixed-effects parameters of covariates (e.g., parent and child coping strategies, religiosity), as well as random effects (e.g., within-family effects). Moreover, age and gender were also included in the model in order to control for potential mediating effects. Independent-samples *t*-tests were used to examine the relationship between child gender and dependent variables as well as between categorical CLB item responses and dependent variables. Dependent variables were MASC Total Score and totals for the 5 MASC subscales (i.e., physical symptoms; harm avoidance; social anxiety; separation anxiety and panic; anxiety disorder index). Independent variables included demographics (i.e., child age; child gender) totals on all other measures (i.e., HF; CLB; COPE; BMMRS), totals for all measure subscales (i.e., COPE acceptance; COPE active coping; COPE behavioral disengagement; COPE denial; COPE emotional social support;

COPE instrumental social support; COPE mental disengagement; COPE planning; COPE positive reinterpretation; COPE religious coping; BMMRS continuing bonds; BMMRS daily spiritual experiences; BMMRS forgiveness; BMMRS organizational religiousness; BMMRS overall self-ranking; BMMRS private religious practices; BMMRS religious and spiritual coping; BMMRS religious and spiritual history; BMMRS religious support; BMMRS values and beliefs), and individual question items for the CLB. Significance level was predetermined at $p < .05$.

Results

Individual Correlates of Anxiety

Table 2 presents descriptive statistics for all child measures.

Child demographics and anxiety levels. Results of linear mixed model analysis determined that younger children experience significantly higher total levels of anxiety compared to older children, $F(1, 21.7) = 11, p < .01$. Analysis also revealed that younger children experience significantly higher levels of physical symptoms, social anxiety, separation anxiety, and anxiety disorder index scores (see Table 3 for linear mixed model analysis). No relationship was found between child age and levels of harm avoidance, $F(1, 19.5) = 7.70, p > .05$). Independent samples t -tests revealed that females experience significantly higher total anxiety levels than males, $t(38) = 2.18, p = .036$. Furthermore, t -tests suggested a general trend between female gender and higher levels of physical symptoms, social anxiety, separation anxiety, and anxiety disorder index scores, but relations did not reach significance (see Table 4 for t -test analysis). Additionally, no relationship was found between child gender and levels of harm avoidance, $t(38) = 1.36, p > .10$, or between child gender and anxiety disorder index scores, $t(38) = 1.65, p > .10$.

Child avoidant coping and anxiety levels. Linear mixed model analysis revealed that higher levels of avoidant coping significantly predicted higher total child anxiety levels, $F(1, 29.6) = 16.4, p < .01$. Analysis also revealed a significant positive relation between levels of avoidant coping and levels of physical symptoms, social anxiety, separation anxiety, and anxiety disorder index scores. Notably, no relationship was found between levels of avoidant coping and levels of harm avoidance, $F(1, 33.7) = .083, p = ns$. Table 3 presents the results of linear mixed model analysis of all individual factor relationships with all measures of child anxiety.

Child spirituality/religiosity and anxiety levels. No significant relations were found between total child spirituality/religiosity and total anxiety levels $F(1, 21.4) = .10, p > .05$; see Table 3). However, linear mixed model analysis determined that higher levels of total spirituality/religiosity were significantly associated with higher levels of harm avoidance, $F(1, 12.2) = 10.3, p < .01$. Linear mixed model analysis further determined that affirmative responses for two CLB question items (i.e., item 15 “I pray to my deceased parent”, $F(1, 20.3) = 8.66, p < .01$; item 18 “Do you have a religious preference”, $F(1, 34.3) = 9.81, p < .01$) were also strongly and significantly related to higher levels of harm avoidance.

Environmental Correlates of Anxiety

Table 5 presents descriptive statistics for all caregiver measures and variables.

Parent coping and anxiety levels. No significant relations were found between any of the measured parent coping strategies and total child anxiety levels ($p > .05$; see Table 6). However, linear mixed model analysis indicated a significant negative relationship between more parent use of denial and higher levels of child physical symptoms, $F(1, 25.5) = 4.54, p = .043$. Moreover, although not statistically significant, analysis suggested a general trend between more parent use of denial and higher child total anxiety levels, $F(1, 20.8) = 4.2, p = .053$. A general

trend was also suggested between more parent use of acceptance and lower levels of total child anxiety, $F(1, 23.3) = 3.74, p = .065$, and another trend was suggested between more use of acceptance and lower levels of child social anxiety, $F(1, 22.9) = 3.1, p = .092$. Relations between COPE scales and MASC separation and anxiety were unable to be calculated with validity due to small sample size. Table 6 presents the results of linear mixed model analysis for the relations between parent coping strategies and measures of child anxiety.

Parent spirituality/religiosity and anxiety levels. Linear mixed model analysis determined that higher levels of parent continuing bonds with the deceased were significantly related to lower total child anxiety levels, $F(1, 21.6) = 6.39, p = .02$. Higher levels of parent daily spiritual experiences were significantly related to higher levels of child social anxiety, $F(1, 26) = 6.24, p = .019$. Moreover, higher parent overall self-ranking of religiosity (i.e., the parent's own perception of their level of spirituality/religiosity) was also significantly related to higher child anxiety disorder index scores, $F(1, 27.3) = 5.84, p = .023$. A general trend was found which suggested that higher scores on the BMRRS religious values and beliefs subscale were related to higher anxiety disorder index scores, $F(1, 26.8) = 4.14, p = .052$. Linear mixed model analysis further suggested general trends between higher scores on the BMMRS subscales of daily spiritual experiences, religious and spiritual coping, and overall self-ranking, and higher total child anxiety levels. Relations between BMRRS scales and MASC separation and anxiety were unable to be calculated with validity due to small sample size. Table 7 presents the results of linear mixed model analysis for the relations between parent spirituality/religiosity and child anxiety.

Discussion

Overall, the results of the current study suggest that child demographics, child and parent

coping strategies, and child and parent religiosity significantly influence post-death self-reported anxiety levels among parentally bereaved children. Specifically, these results suggest that young age, female gender, parent and child avoidant coping, and specific aspects of child and parent religiosity may be risk markers for anxiety among bereaved children. Given that few of these relationships have been thoroughly examined in the existing literature, the findings of the current study, if replicated in a larger sample, may have important implications for future research and clinical practice.

Child Demographics

In line with past research, the results of the current study supported the hypotheses that younger age and female gender would be related to higher child anxiety levels among bereaved populations (Elizur & Kaffman, 1983; March et al., 1997). These results suggest that younger and female children may be at higher risk for bereavement-related anxiety problems. It may be that older children and males are less likely to report experiencing anxiety symptoms due to social pressures surrounding the importance of being “brave” (if male) and not exhibiting anxiety as an older child. It is important to note that many studies, which have not used the MASC to measure child anxiety, have found that gender is not related to anxiety levels (Kranzler et al., 1990; Lewinsohn et al., 1998). Thus, the disparities in findings concerning the relationship between gender and anxiety may be due, in part, to differences in the quality of measures used to examine anxiety.

Avoidant Coping among Children and Surviving Parents

The current study results supported the hypothesis that higher levels of child avoidant coping would be associated with higher total child anxiety levels, suggesting that avoidant coping may serve as a risk marker for anxiety among parentally-bereaved children. This finding

is in line with previous research which has determined that avoidant coping predicts negative outcomes among children and adolescents who have experienced sexual trauma (Kaplow et al., 2005; Spaccarelli, 1994) or other adverse life experiences (Kaplow, Gipson, Horwitz, Burch, and King, in press).

Moreover, although the hypothesis that parent coping strategies would be significantly associated with total child anxiety was not supported by the study findings, results did indicate that the use of denial as a parent coping strategy is significantly related to child physical anxiety symptoms. Also, it is important to note that parent denial was marginally related to total child anxiety and may have achieved significance in a larger sample. Thus, these findings suggest that the use of denial as a coping strategy by surviving parents may lead to higher anxiety and particularly somatic complaints among bereaved children. Perhaps a surviving caregiver's denial of the death or the circumstances surrounding it may cause a bereaved child to be confused and anxious about the reality of their parent's death. Moreover, surviving caregiver denial might model to a child that talking or thinking about the death is unacceptable. As a result, a child may express their anxieties through somatic complaints to avoid speaking or thinking about them. Furthermore, the relation between acceptance and lower total child anxiety was marginally significant, as was the relation between acceptance and lower child social anxiety. This suggests that the open acceptance of the death of a parent by a surviving caregiver may ease a child's overall anxiety and their anxieties about interacting with others. Perhaps this is because children would be more comfortable accepting the death themselves or discussing the death with peers after having similar behavior modeled by their parents. The significance of these findings may have been limited by the study sample size.

These findings support the Approach-Avoidant Coping model which states that approach-

oriented coping (e.g., active coping) is associated with positive adjustment while avoidant-oriented coping (e.g., denial) is associated with negative adjustment (Ebata & Moos, 1991). The current study is the first to directly examine the relationship between avoidant coping style and anxiety levels among a sample of parentally bereaved children. In addition, it is the first to identify the potential role of parent avoidant coping (denial in particular) on child anxiety levels in a bereaved sample.

Religiosity

Contrary to the study hypotheses, the results indicated that both child and parent spirituality/religiosity were significantly associated with *higher* levels of child anxiety. Specifically, child spirituality/religiosity was related to harm avoidance, which includes perfectionism and anxious coping. Further analyses revealed that two individual religiosity items in particular were significantly related to harm avoidance. These include having a religious preference and praying to a deceased parent. Due to the fact that this is a cross-sectional study, we cannot determine causality. It may be that children who are more “harm avoidant” tend to be more religious and pray more frequently. On the other hand, it is possible that being more religious and praying to the deceased parent can make children more anxious about living the kind of life that the deceased parent would expect of him/her (e.g., potentially leading to more perfectionistic behavior). Higher levels of daily spiritual experiences, religious values and beliefs, and overall self-ranking (e.g., the participant’s own perception of their own level of spirituality/religiosity) in surviving parents were also associated with higher levels of child social anxiety and anxiety disorder index scores. Given that causality cannot be determined, it may be that children with religious parents may already experience more social anxiety. However, it is also possible that after the loss of a parent, children with more religious parents become more

anxious about the world around them and whether or not God will continue to protect them or their family from harm.

Only one finding supported the original study hypothesis: parent use of continuing bonds was significantly related to lower total levels of child anxiety. Continuing bonds refers to the coping strategy of maintaining attachment with the deceased rather than abandoning the relationship altogether (Neimeyer, Baldwin, & Gillies, 2006). The utility of continuing bonds as a coping strategy is highly contested in the literature (Stroebe & Schut, 2005). In fact, the use of continuing bonds has been shown to both promote and obstruct healthy adjustment to bereavement depending on the type, purpose, and timing of the bond with the deceased (Stroebe & Schut, 2005). For example, a study of parentally bereaved children ages 6 to 17 found that parentally bereaved children used five distinct strategies to maintain bonds with their deceased parent: locating the deceased, experiencing the continued presence of the deceased, reaching out to the deceased, remembering the deceased, keeping objects of the deceased (Silverman & Nickman, 1996). In general, these strategies promoted healthy adjustment among bereaved children, but some children experienced increased fear when experiencing the continued presence of the deceased parent (Silverman & Nickman, 1996). As a result, it is argued that the characteristics of the bonds are more influential to adjustment than their presence or absence (Stroebe & Schut, 2005). As a result, the current study findings should be further explored to determine the type of continuing bonds that surviving caregivers employed as well as the context in which they were used in order to better understand the relationship between parent use continuing bonds and lower levels of child anxiety.

Moreover, past research has determined that surviving parents play an integral role in creating and maintaining continuing bonds between the bereaved child and the deceased parent

(Silverman & Nickman, 1996). Thus, the finding that parent use of continuing bonds was significantly related to lower total levels of child anxiety fits in well with past research theory. It may be that parents who demonstrate ways in which they are able to maintain an ongoing relationship with the deceased (although in a different form), are better able to help their children also maintain a connection to the deceased parent, thereby alleviating some of their separation distress and/or anxiety. Continuing bonds may also foster more open communication about the death with the child and co-facilitation of the child's grief, both of which have been found to be protective (Kaplow et al., 2012). Overall, these results contribute to a highly contested and ambiguous body of literature on religiosity which suggests that the influence of religiosity on outcomes is highly context dependent (Wortmann & Park, 2008). This is partly due to a lack of a strong theoretical base for the study of religiosity, particularly in children, and the absence of valid, reliable, and generalizable measures of religiosity.

Limitations

Although the current study does fill a noticeable gap in the bereavement literature, it is important to note several study limitations. Specifically, the sample was relatively small which limited the power of the statistical analysis. The sample was also racially and religiously homogenous which limits the generalizability of the study findings. Moreover, a majority of the surviving caregivers were female and deceased parents were male which may have influenced the study findings. Past studies have determined that the gender of the surviving parent significantly influences child outcomes (Silverman & Worden, 1992). In addition, the cross-sectional study design limits the ability to infer causality between variables. Furthermore, the limited validity and reliability of the CLB measure is also a major limitation to the current study.

Clinical Implications and Future Research Directions

In spite of the study limitations, the current study does have important implications for the clinical practice and future research. Given the influence of avoidant coping on anxiety as determined by this study, intervention efforts that focus on reducing avoidant coping in bereaved youth may be beneficial (e.g., Trauma and Grief Component Therapy; Layne, Saltzman, Kaplow et al., 2013). In addition, the parent's use of continuing bonds may be another target for intervention if the underlying mechanism linking this spiritual practice with reductions in child anxiety can be better understood.

Future studies should examine factors related to the use of avoidant coping by both bereaved children and their surviving caregivers. Also, the surprising findings that some forms of child and parent spirituality/religiosity may actually serve as markers of risk for anxiety among parentally bereaved children suggest that religiosity be further examined among this population. The lack of empirical support for the influence of religiosity on bereavement outcomes, particularly among child populations, indicates that future studies should attempt to establish a theoretical framework for understanding spirituality/religiosity in children. Lastly, these future studies should be conducted with larger representative samples, using longitudinal designs and well established measures in order to address limitations of generalizability, statistical power, and stability of findings. Such studies may have significant clinical implications in that they could help to identify those youth who may be most at risk following parental loss while simultaneously pointing to potential protective factors that may help to promote adaptive grieving among parentally bereaved children.

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Author Note

Damia December, Department of Psychology, University of Michigan, Ann Arbor

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Address for correspondence: Department of Psychology, University of Michigan, 530 Church Street, 1343 East Hall, 48109.

Table 1

Sample Demographics

Variable	Mean (SD) or %
Child Age	7.8 (2.9)
Child Gender (% female)	46.7%
Child Race	-
Caucasian	73.3%
African American	11.1%
Asian	8.9%
Hispanic	2.2%
Other	4.4%
Surviving Caregiver Age	42.6 (8.8)
Surviving Caregiver Gender (% female)	82.4%
Surviving Caregiver Relationship	-
Biological Mothers	68.9%
Biological Fathers	17.9%
Other Relatives	13.2%
Deceased Caregiver Relationship	-
Biological Mothers	24.4%
Biological Fathers	71.1%
Other Relatives	4.4%

Note. N = 41 bereaved children aged 7 or older; 34 surviving caregivers.

Table 2

Descriptives of Child Measure Variables

Child Measures (N = 45)	Mean	SD	Range
MASC	-	-	-
Total	50.4	20.7	16-91
Anxiety Disorder Index	13.9	4.8	2-25
Harm Avoidance	18.5	4.8	6-26
Physical Symptoms	11.3	8.9	0-30
Separation and Panic	11.4	5.3	2-23
Social Anxiety	9.3	6.7	0-23
HF Total	17.9	11	1-42
CLB Total	17	4.2	7-22

Note. N = 45 bereaved children aged 7 or older; MASC = Multidimensional Anxiety Scale for Children; HF= How I Handle Feelings Scale; CLB = Children's List of Beliefs.

Table 3									
<i>Linear Mixed Model Results: Individual Correlates of Anxiety</i>									
	MASC Total			MASC Anxiety Disorder Index			MASC Harm Avoidance		
Source	(Ndf) df	<i>F</i>	<i>p</i>	(Ndf) df	<i>F</i>	<i>p</i>	(Ndf) df	<i>F</i>	<i>p</i>
Age	(1) 21.7	11	.003**	(1) 17.8	21	.000***	(1) 19.5	2.7	.116
HF Total	(1) 29.6	16.4	.000***	(1) 26.6	4.85	.036*	(1) 33.7	.08	.775
CLB Total	(1) 14.1	.20	.662	(1) 12.3	1.12	.31	(1) 12.2	10.3	.007**
	MASC Physical Symptoms			MASC Separation and Panic			MASC Social Anxiety		
Source	(Ndf) df	<i>F</i>	<i>p</i>	(Ndf) df	<i>F</i>	<i>p</i>	(Ndf) df	<i>F</i>	<i>p</i>
Age	(1) 27.7	8.21	.008**	(1) 33.5	9.54	.004**	(1) 32.2	4.54	.041*
HF Total	(1) 34.8	10.6	.002**	(1) 36	6.82	.013*	(1) 31.7	21	.000***
CLB Total	(1) 18.2	1.69	.21	(1) 36	.41	.528	(1) 24.5	3.16	.088 ⁺

Note. N = 45 bereaved children aged 7 or older; Ndf = numerator degrees of freedom; MASC = Multidimensional Anxiety Scale for Children; HF = How I Handle Feelings Scale; ⁺ = $p < .10$; * = $p < .05$; ** = $p < .01$; *** = $p < .001$.

Table 4

Independent Samples t-Test Results: Relationship between Child Gender and Anxiety

Gender (n)	MASC Total			MASC Anxiety Disorder Index			MASC Harm Avoidance		
	M (SD)	<i>t</i> (df)	<i>p</i>	M (SD)	<i>t</i> (df)	<i>p</i>	M (SD)	<i>t</i> (df)	<i>p</i>
Female (20)	57.2 (19.3)	2.18 (38)	.036*	15.1 (5.09)	1.65 (38)	.107	19.5 (5.39)	1.35 (38)	1.85
Male (20)	43.6 (20.3)	-	-	12.7 (4.22)	-	-	19.5	-	-

	MASC Physical Symptoms			MASC Separation and Panic			MASC Social Anxiety		
	M (SD)	<i>t</i> (df)	<i>p</i>	M (SD)	<i>t</i> (df)	<i>p</i>	M (SD)	<i>t</i> (df)	<i>p</i>
Female (20)	13.6 (8.79)	1.71 (38)	.095 ⁺	12.8 (5.51)	1.71 (38)	.095 ⁺	11.4 (6.82)	1.98 (38)	.055 ⁺
Male (20)	8.9 (8.58)	-	-	9.95 (4.82)	-	-	7.3 (6.11)	-	-

Note. N = 45 bereaved children aged 7 or older; MASC = Multidimensional Anxiety Scale for Children; ⁺ = $p < .10$; * = $p < .05$.

Table 5

Descriptives of Surviving Caregiver Measure Variables

Parent Measures (N = 34)	Mean	SD	Range
COPE Inventory	-	-	-
Acceptance	13	2.4	8-16
Active Coping	10.6	1.9	8-14
Behavioral Disengagement	5.9	1.8	4-9
Denial	6.4	2.3	4-13
Emotional Social Support	13	2.8	7-16
Instrumental Social Support	10.5	2.6	5-16
Mental Disengagement	7.7	2.5	4-14
Planning	12.5	2.9	5-16
Positive Reinterpretation	11.5	3.3	4-16
Religious Coping	11.7	3.8	4-16
BMMRS	-	-	-
Continuing Bonds	29.1	6.6	19-44
Daily Spiritual Experiences	17.1	7.5	6-36
Forgiveness	4.6	1.8	3-12
Organizational Religiousness	7.1	2	3-12
Overall Self-Ranking	10.3	2.2	7-17
Private Religious Practices	20.8	8.1	8-37
Religious and Spiritual Coping	18.9	2.5	15-28
Religious and Spiritual History	1.6	.9	0-3
Religious Support	11.3	2.7	8-19
Values and Beliefs	4.6	1.5	3-10

Note. N = 34 surviving caregivers; BMMRS = Brief Multidimensional Measure of Religiousness/Spirituality.

Table 6

Linear Mixed Model Results: Caregiver Coping and Child Anxiety

Source	MASC Total			MASC Anxiety Disorder Index			MASC Harm Avoidance		
	(Ndf)	<i>F</i>	<i>p</i>	(Ndf)	<i>F</i>	<i>p</i>	(Ndf)	<i>F</i>	<i>p</i>
	df			df			df		
COPEd	(1)	4.2	.053 ⁺	(1)	2.5	.127	(1)	.508	.484
	20.8			24.9			21		
COPEa	(1)	3.7	.065 ⁺	(1)	2.05	.165	(1)	1.02	.324
	23.3	4		25.1			19.6		

Source	MASC Physical Symptoms			MASC Social Anxiety		
	(Ndf)	<i>F</i>	<i>p</i>	(Ndf)	<i>F</i>	<i>p</i>
	df			df		
COPEd	(1)	4.54	.043*	(1)	1.6	.206
	25.5			27.2	8	
COPEa	(1)	2	.169	(1)	3.1	.092 ⁺
	25			22.9		

Note. N = 45 bereaved children aged 7 or older, 34 surviving caregivers; Ndf = numerator degrees of freedom; COPEd = denial; COPEa = acceptance; - = could not be computed with validity due to small sample size; ⁺ = $p < .10$; * = $p < .05$.

Table 7

Linear Mixed Model Results: Parent Spirituality/Religiosity and Child Anxiety

Source	MASC Total			MASC Anxiety Disorder Index			MASC Harm Avoidance		
	(Ndf) df	F	p	(Ndf) df	F	p	(Ndf) df	F	p
BMMRScb	(1) 21.6	6.29	.02*	(1) 24	1.62	.215	(1) 23.9	3.86	.061 ⁺
BMMRSds	-	-	-	(1) 25.5	1.96	.173	(1) 19.7	.07	.793
BMMRSosr	(1) 22	4.02	.057 ⁺	(1) 27.3	5.84	.023*	-	-	-
BMMRSrsc	-	-	-	(1) 30.6	4.03	.056 ⁺	(1) 24.2	.59	.454
BMMRSvb	-	-	-	(1) 26.8	4.14	.052 ⁺	(1) 18.2	.35	.562

Source	MASC Physical Symptoms			MASC Social Anxiety		
	(Ndf) df	F	p	(Ndf) df	F	p
BMMRScb	(1) 25.2	3.16	.088 ⁺	(1) 16.7	3.93	.064 ⁺
BMMRSds	(1) 22.9	1.93	.179	(1) 26	6.24	.019*
BMMRSosr	(1) 27	1.05	.315	(1) 29.3	3.22	.083 ⁺
BMMRSrsc	(1) 29	1.28	.267	(1) 31.3	1.41	.244
BMMRSvb	(1) 20.4	2.01	.171	(1) 27.2	2.98	.096 ⁺

Note. N = 45 bereaved children aged 7 or older, 34 surviving caregivers; Ndf = numerator degrees of freedom; BMMRS = Brief Multidimensional Measure of Religiosity/Spirituality; BMMRScb = continuing bonds; BMMRSds = daily spiritual experiences; BMMRSosr = overall self-ranking; BMMRSrsc = religious and spiritual coping; BMMRSvb = values and beliefs; - = could not be computed with validity due to small sample size; ⁺ = $p < .10$; * = $p < .05$.

Appendix A

How I Handle Feelings Scale (HF)

<u>Variable Name</u>	<u>Item Number</u>	<u>Item</u>
HF1	1	You've tried to hide any bad feelings that you've had.
HF2	2	You've tried to pretend to look happy even when you've felt sad.
HF3	3	When you've felt afraid, you've kept it inside.
HF4	4	When you've felt upset, you've pretended that you're not.
HF5	5	You've tried not to feel sad.
HF6	6	You've tried to pretend you were happy even when you've felt sad. (Remember we are talking about the time since your _____ died).
HF7	7	When you've felt angry, you've kept it to yourself.
HF8	8	When you've felt sad, you tried not to let anybody know.
HF9	9	When you've felt afraid, you've tried not to think about it.
HF10	10	When you've been upset, you've acted like nothing was wrong.
HF11	11	You've tried to hide it when you've felt sad.

ANSWER SET

Response set for HF1-HF11

<u>Measure Value</u>	<u>Item</u>	<u>SPSS Value</u>
A	Never	0
B	A Little	1
C	Sometimes	2
D	Pretty Much	3
E	A Lot	4

Appendix B

Children's List of Beliefs (CLB)

<u>Variable Name</u>	<u>Item Number</u>	<u>Item</u>
CLB1	1	I believe in God.
CLB2	2	I believe that God watches over me and protects me.
CLB3	3	I say a prayer to God before I go to bed or when I wake up in the morning.
CLB4	4	Since the death of my parent, I am more religious or spiritual than I was before.
CLB5	5	Since the death of my parent, I am less religious or spiritual than I was before.
CLB6	6	I believe there is a reason for everything that happens, even bad things.
CLB7	7	I believe that my deceased parent talks to me.
CLB8	8	I believe that my deceased parent is still here for me if I need him/her.
CLB9	9	I see my deceased parent in my dreams.
CLB10	10	When I smell something that reminds me of my deceased parent, I feel comforted.
CLB11	11	I sometimes feel that my deceased parent is right here with me.
CLB12	12	When I am missing my deceased parent, I feel better when I look through things that I have kept that remind me of him/her.
CLB13	13	I sometimes feel that my deceased parent is watching over me.
CLB14	14	I am sometimes scared when I feel like he/she is watching me.
CLB15	15	I pray to my deceased parent.
CLB16	16	I talk to my deceased parent about things that are happening in my life.
CLB17	17	It is comforting to feel like he/she is near me.
CLB18	18	Do you have a religious preference? If so what is it?
CLB19	19	How often do you go to religious services?

CLB ANSWER SET

Response set for CLB1-CLB18

<u>Measure Value</u>	<u>SPSS Value</u>
Yes	1
No	0

Response set for CLB19

<u>Measure Value</u>	<u>Item</u>	<u>SPSS Value</u>
A	More Than Once a Week	5
B	Every Week or More Often	4
C	Once or Twice a Month	3
D	Every Month or So	2
E	Once or Twice a Year	1
F	Never	0