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INVESTIGATING THE CO-OCCURRENCE
OF PARENT AND CHILD PROLONGED GRIEF SYMPTOMS:
THE EFFECT ON PARENT-CHILD INTERACTIONS

by

Laura Elizabeth Schwartz, M.S.

A Dissertation

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Doctorate of Philosophy

Major: Clinical Psychology

The University of Memphis

December 2021

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Dedication

To my advisor, Dr. Kathryn Howell, who provided endless support and encouragement through my graduate training. I appreciate you immensely, Dr. Howell, for always providing excellent guidance, backing my research interests, and fostering my confidence and hope as I worked toward my degree.

To my dissertation committee, thank you for your advice and immediate willingness to meet to discuss this project. Thank you, Drs. Berlin and Harrell-Williams for your statistical expertise and teaching me skills that will be invaluable to my future endeavors. Dr. Gerhardt, I am extremely grateful that you welcomed me into your pediatric psychology lab as an undergraduate and introduced me to the field. Thank you for believing in me, encouraging me to pursue a doctorate, and contributing your vital thanatology knowledge to this work.

Finally, to my family, for your unconditional love and support throughout my life and education. You are the reason I have made it this far and I could not have done this without each one of you.

Acknowledgements

I owe a deep sense of thanks and gratitude to Dr. Kathryn Howell, the University of Memphis, and the Memphis Research Consortium. Without their enthusiasm and financial support for this research study, this work would not have been possible (Funding source: Memphis Research Consortium [PI: Howell] and The University of Memphis Research Fund [PI: Howell]).

Thank you to all the families that gave their time and energy to participate in this research. Their support and willingness to share their experiences was humbling and I will forever think of their insightful words as I further my work in this area.

I am extremely thankful to The Baptist Centers for Good Grief for helping recruit and reach this important population of bereaved individuals. Their support throughout this project was enduring and their ideas for strengthening the project were instrumental.

A huge thank you also goes out the Resilience Emerging Amidst Childhood Hardships (REACH) Lab. Their perseverance and dedication throughout this project was apparent as they drove long ways to visit participants, spent hours interviewing, entering data, and managing the project, and never complained about the effort this project required.

Abstract

Previous research highlights the importance of positive parenting and communication after the death of a loved one. Little is known, however, about how these constructs vary depending on the amount of prolonged grief symptoms children and their parents concurrently display. Using latent variable mixture modeling, the current study assessed patterns of parent and child grief in a sample of 107 parent-child dyads. Children averaged 12.6 years old and were majority female (55%). The most frequently reported race was Black or African American (48% of parents and 47% of children). Eighty percent of caregivers within the sample reported that they were the biological parent of the child and 86% of caregivers were female. Differences were examined between derived profiles on parent- and child-reported communication and parenting. A 3-profile solution emerged from the data: 1) Grieving Child Dyad, 2) Subthreshold Grief Dyad, and 3) Grieving Dyad. Next, predictors of group membership (i.e., time since death, type of death, relationship to deceased, child age, and child gender) were analyzed. Child age was a significant predictor and thus retained in the model. Differences were observed between the Grieving Child Dyad and the Grieving Dyad on parent-reported positive and negative parenting, as well as between the Grieving Dyad and the Subthreshold Dyad on parent-reported positive parenting and parent communication. The Subthreshold Dyad and Grieving Child Dyad also differed on parent-reported negative parenting and parent-restricted topics. No profile differences were found on any of the child-reported parenting and communication variables. These results underscore that high grief experienced in tandem by parents and children may positively influence parent-child interactions, whereas parents and children grieving at low rates may be more likely to have poorer parenting and communication. These findings inform future research on bidirectional parent and child grief, grief interventions within the family system, and assessment within the field of thanatology.

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Investigating the Co-Occurrence of Parent and Child Prolonged Grief Symptoms: The Effect on Parent-Child Interactions

More than 100 people die every minute worldwide, which makes bereavement a universal phenomenon for children and adults (Central Intelligence Agency, 2016). The ubiquity of grief helps to explain how bereavement differs from other adverse life events in that it is a period of strong emotions and functional impairment that is accepted and expected following this type of adversity (Moskowitz et al., 2003; Zisook & Shear, 2009). Therefore, grief, commonly termed acute grief, is viewed as the natural response of thoughts, feelings, behaviors, and physiologic reactions to a death (Simon, 2013; Zisook & Shear, 2009). The natural pattern of acute grief varies over time, lasting weeks to months, and is unique depending on the person and the loss (Simon, 2013). Researchers are beginning to disentangle what differentiates acute grief from Prolonged Grief Disorder (PGD; Prigerson et al., 2009), also called complicated grief (Shear et al., 2011), or Persistent-Complex Bereavement Disorder (PCBD; American Psychiatric Association, 2013).

Prolonged grief is typically defined as the disabling condition in which maladaptive thoughts, feelings, and behaviors interrupt the grief process and acute grief symptoms are intensified or prolonged (Prigerson et al., 2009). It is estimated that 7% of bereaved adults will experience prolonged grief (Kersting et al., 2011), as well as 5-10% of bereaved children (Melhem et al., 2007; Melhem et al., 2011). Taking these statistics into account, both parents and children may experience lasting and severe grief after the death of a loved one; however, little is known about the rate at which prolonged grief symptoms in caregivers and their children co-occur, what predicts parent and child grief, and how co-occurring grief affects dyadic interactions (i.e., parenting and communication). Of note, primary caregivers acted as reporters

in the current study, and will henceforth be referred to as parents.

Associations between Parent and Child Grief

Research shows that when a parent is experiencing psychopathology, such as depression and anxiety, their child is up to seven times more likely to also experience maladaptive functioning (Beidel & Turner, 1997). This phenomenon, commonly termed “transmission of distress,” has been demonstrated in the literature by a direct association between various types of parent- and child-reported psychopathology, including depression (Aunola et al., 2015; Biederman et al., 2006; Okado et al., 2014), anxiety (Biederman et al., 2006; Okado et al., 2014), and posttraumatic stress symptoms (Landolt et al., 2012; Okado et al., 2014). In the context of grief specifically, a study of 60 parent-child dyads in which the family experienced the death of a child found that maternal, though not paternal, prolonged grief symptoms predicted more prolonged grief symptoms in bereaved children (Morris et al., 2016). Similarly, in a sample of 214 parentally bereaved children, Kwok et al. (2005) found a direct relation between parent psychological distress and child mental health problems. As demonstrated by the transmission of distress literature, parents are often implicated as the drivers of their children’s development and functioning (Moyer & Sandoz, 2015); however, less is known about how children’s functioning may also play a role in parent’s functioning, and further, how this interplay may influence dyadic outcomes.

Research demonstrating direct associations between parents’ maladaptive functioning and children’s distress is robust; nonetheless, it is difficult to know the directionality of parent and child symptoms, as both experiences are occurring simultaneously, and likely influencing one another. For example, numerous studies have shown that parents and children mutually impact parenting behaviors, mental health, relationship quality and communication (Pardini et al., 2008;

Sameroff & MacKenzie, 2003), suggesting that the mechanisms by which these variables interact are bidirectional. This bidirectionality framework may be especially relevant in the context of bereavement, as the death of a loved one is often an event happening to the parent and child in tandem. Yet, limited (if any) studies have been done on the bidirectionality of grief symptoms within families.

Examining the literature on depression, bidirectional associations between maternal depression and child internalizing psychopathology have been demonstrated (Kuckertz, Mitchell, & Wiggins, 2018; Nicholson et al., 2011). Nicholson and colleagues (2011) suggested that their findings of bidirectional maternal depression and child internalizing symptoms may be due to mothers with depressive symptoms evidencing higher rates of irritability and aggression, which in turn may have induced distress, anger, and behavior problems in their children. Due to the impairing nature of experiencing a death, an interplay between parent and child grief symptoms may exist that simulates a similar model as bidirectional parent-child depression; however, to our knowledge no work has been done in this area, and there is currently little empirical evidence to illustrate that prolonged grief occurs in both parents and children at high rates. By developing a better understanding of the co-occurrence of prolonged grief, we can begin to unpack how parent and child grief may impact one another's functioning and familial interactions.

Based on the literature, it is clear that an association exists between parent psychopathology and child psychopathology. Yet, only some families exhibit this pattern of high distress begetting high distress, and within those families there is considerable variation between family members (Moyer & Sandoz, 2015). Taking this into account in the context of grief, it is widely cited within the literature that everyone grieves differently (Meisenhelder & Gibson, 2015) and there are distinctions between how children and adults grieve (Corr & Balk, 2010).

Children's ability to process the loss depends on many factors, including their age and comprehension of the concept of death (Heath & Cole, 2011). For example, younger children may view death as a temporary state that is reversible (Corr & Balk, 2010; Nagy, 1948). It has been shown that children often manifest their grief through somatic (e.g., stomachaches, loss of appetite, etc.), cognitive (e.g., concern about their or other family members' health, worry about separation from caregiver, etc.), emotional (e.g., sadness, fear, etc.), and behavioral (e.g., withdrawal, restlessness, acting out, etc.) reactions (Birenbaum, 2000; Dowdney, 2000; Sood et al., 2006). In addition to behavioral and emotional changes, or more physical manifestations of grief in children than in adults, children may also grieve in spurts and may be more likely to re-grieve at different developmental stages (Himebauch et al., 2008). While researchers are aware of variable reactions to death, to our knowledge no study has investigated how differing amounts of prolonged grief reactions (e.g., parent shows high grief while child shows low grief) may be present in children and their parents, as well as how this variability may be linked to specific types of dyadic interactions, such as parenting and communication.

Parent-Child Dyadic Interactions and Grief

Parent and child grief symptoms may influence the ability for both members of the dyad to actively participate in healthy dyadic interactions, such as positive parenting. For instance, a reduction in parenting effectiveness is evident if the surviving parent is struggling emotionally (Hagan et al., 2012; Nickerson et al., 2013; Wolchik et al., 2008). They may be less consistent, structured, and organized and it has been suggested that bereaved parents who are severely grieving may be less cognizant of grief symptoms in their children (Hung & Rabin, 2009; Werner-Lin & Biank, 2013). The construct of parenting is often divided into positive and negative aspects. Positive parenting reflects the caregiver's creation of a supportive, stable, and

structured environment. Two examples of positive parenting include a warm relationship (e.g., responsiveness, understanding, positive affect) and consistent discipline (e.g., clear expectations, follow-through; Baumrind, 1991; Maccoby & Martin, 1983). Negative parenting includes inconsistent discipline (i.e., not following through with proposed punishments), corporal punishment (i.e., frequent hitting, spanking, grabbing), poor monitoring (i.e., lack of involvement), as well as infrequent use of positive reinforcement (Barkley, 1997; Forehand & Long, 2001).

Research on the parenting style of parents who have lost a loved one is limited; however, it has been demonstrated that parents who are able to positively parent after the death of a loved one have children with better outcomes (Haine et al., 2006; Saldinger et al., 2004). Kwok and colleagues (2005) found that positive parenting significantly mediated the relationship between parental psychological distress and both child and parent reports of child mental health problems after the death of a child/sibling. Results from this study indicate that increased mental health problems negatively impact parent's positive parenting, and, therefore, increase mental health problems in their child. Similarly, in a more recent study with bereaved parents and siblings, positive parenting served as an intermediary variable in the relationship between paternal and sibling symptoms, such as those associated with prolonged grief disorder (Morris et al, 2016). Although associations between parent and child prolonged grief and positive parenting exist, little is known about how positive parenting may differ based on the amount of overlap between parent and child prolonged grief symptoms.

Considering negative parenting styles, research has found that parents who have lost a child are often overprotective of their surviving children, rapidly responding to any sign of trouble or danger (Rosenblatt, 2000). Further, some surviving caregivers use less consistent

discipline following the death of a spouse, which was in turn related to children's mental health (Brown et al., 2007). Negative parenting has been investigated heavily in relation to parental and child psychopathology (Benson et al., 2008; Cummings et al., 2005; Gruhn et al., 2015). Mothers with depression, in general, have been found to use a more negative, or detached, parenting style than nondepressed mothers, which can result in more emotional concerns in their children (Dietz et al., 2009). Additionally, parent depression relates to children's externalizing problems indirectly through effects on parenting style (i.e., use of psychological control, more punitive interactions, less consistency and guidance; Leinonen et al., 2003; Cummings et al., 2005). Taking these studies into account, the research on negative parenting practices within the context of grief is limited, as well as research including both child and parent perspectives of parenting. Filling in these gaps will help determine whether negative parenting practices, as well as positive parenting, are associated with grief-related symptoms in both children and their parents.

In addition to parenting practices, positive and open communication (i.e., attentiveness and sensitivity) between children and their caregivers has been linked to better adjustment after a death (Howell et al., 2016; Kaplow et al., 2012; Lin et al., 2004; Saldinger et al., 2004). However, studies suggest that open communication is difficult for bereaved families, even when bereaved parents are mindful of the positive effects that open communication with their children can produce (Saldinger et al., 2004). It has been proposed that open communication is difficult for families dealing with a death because parents may be unsure of how to talk with their children about the death and may struggle with understanding developmentally appropriate terms to use to ensure their children comprehend the death (Kaplow et al., 2012). Scholars have also noted that common manifestations of grief, including behavioral issues and difficulties with communication between family members, may result in strain on the parent-child relationship

(Barrera et al., 2013; Dowdney, 2005; Lancaster, 2011; Wender, 2012). Literature suggests that the tendency to avoid communication may be a commonly used strategy within bereaved families, and unspoken rules concerning the frequency and length at which to talk about the deceased are sometimes assumed; these reactions may be due to the surviving child or parent believing the other individual will be overwhelmed by the grief the conversation elicits (Barrera et al., 2013; Dowdney, 2005; Ellis et al., 2013). Although such problems in communication may arise in bereaved families, less, in general, is known about problematic communication within bereaved families as compared to positive communication. Previous research does show that when children and their parents can surpass the barriers preventing open communication, bereaved children who notice sharing and expression through talking and grieving with their caregivers display less maladaptive grief reactions and better coping (Raveis et al., 1999; Saldinger et al. 2004; Sveen et al., 2015). However, more research is needed to understand what problematic communication looks like in a bereaved sample, and how parent and child grieving may impact a child and parent's ability to openly communicate with one another.

Family Systems Theory

When investigating co-occurring parent and child grief, along with dyadic interactions between the parent and child, a family systems approach may be the optimal theoretical foundation for this research. Family systems theory suggests that individual family members are part of an interdependent, hierarchically organized system, with specific rules of interaction and boundaries present among subsystems to ensure equilibrium or homeostasis within the system (Cox & Paley, 1997; Minuchin, 1974). According to this theory, functioning at the individual level is regulated by properties of relationships in other family subsystems. Thus, individual functioning is suggested to bring about changes in the parent-child subsystem, while parent-

child relations are also proposed to impact the quality of others functioning in the system (Cox et al., 2001). Central to the framework is the spillover hypothesis, which suggests that poor functioning and stress of a parent, and/or the child, is carried into the parent-child relationship and ultimately affects parent-child interactions and the functioning of members of the system (Engfer, 1988).

The theory's concepts of interdependence and mutual influence (Minuchin, 1974) have been used in the bereavement literature, such as with suicide, to help explain how a death affects the entire family system (Cerel et al., 2016). Boundaries within the family systems framework define subsystems within the larger system, and boundary permeability regulates the flow of information between subsystems. Within the boundaries of the system, patterns develop as certain family member's behavior is caused by and causes other family member's behaviors in predictable ways. Maintaining the same pattern of behaviors within a system may lead to balance in the family system, but also to dysfunction (Cerel et al., 2016). For example, if a bereaved mother is extremely distraught after the death of her child, the surviving child may feel the need to take up more responsibilities within the household to maintain a type of equilibrium of the system. The change in roles may maintain the stability in the relationship, but it may also push the family towards a different equilibrium. This new equilibrium may lead to dysfunction in the parent-child relationship as the new role may be taxing on the child.

Circumstances Surrounding the Loss

Time Since Loss. Circumstances of the loss can also impact parent and child grief, as well as parent-child dyadic interactions. Although researchers have not come to a consensus around a specific time frame for the dissolution of acute grief, it is often deemed a time-limited construct (Bonanno et al., 2005). Studies have shown that acute grief normally dissipates within

6 months of the death and is the cut-off commonly used to diagnose prolonged grief disorder (Pohlkamp et al., 2018); however, it can take up to twelve months (Maciejewski et al., 2007), or as little as a few weeks (Mancini et al., 2012). As time goes on, and the bereaved person adapts to the loss, grief becomes more subdued, and thoughts and memories of the deceased recede (Shear et al., 2018). Throughout the grieving period, individuals are typically working towards coming to terms with the reality of the loss and planning their own goals and next steps; therefore, greater time since the loss is often associated with better grief outcomes (Ott et al., 2007). Although there are numerous studies that suggest longer time since loss predicts better outcomes in both children (Andriessen et al. 2018) and adults (Feigelman et al., 2017), a recent meta-analytic study of violent loss demonstrated that time since loss was not associated with more prolonged grief symptoms (Heeke et al., 2017). However, this meta-analysis did not include studies with children in their sample, so more investigation into this area is warranted.

Type of Loss. Type of loss, specifically violent versus non-violent deaths, has been investigated within numerous research studies (Heeke et al., 2017). Violent deaths are classified as deaths due to homicide, suicide, or accident (Kessler et al., 2005) and have been shown to result in a higher risk of prolonged grief disorder among bereaved adults, as studies have shown a higher percentage of PGD for those violently bereaved (30-70%; McDevitt-Murphy et al., 2012; Mitchell et al., 2004; Shear et al., 2006) than those non-violently bereaved (10-15%; Lundorff et al., 2017; Prigerson et al., 2009). Furthermore, poorer adjustment has also been observed for individuals who are violently bereaved, as individuals experiencing the death of a loved one by homicide or suicide exhibit an increased risk of other mental health disorders, including depression, posttraumatic stress disorder, and substance use disorders (van Denderen et al., 2015). It has been theorized that violent deaths result in less ability to comprehend the loss

and meaning make in its aftermath (Holland et al., 2006; Rozalski et al., 2017), whereas when individuals experience a non-violent death (i.e., illness, natural death), they may have time to prepare for the death, and to begin the grieving process (Shear et al., 2018).

Relationship to the Deceased. One's relationship to the deceased is also related to the expression of grief symptoms. Previous research indicates that relationships with the deceased that were close and supportive are associated with an increased risk of prolonged grief symptoms (Eckerd et al., 2016; Smigelsky et al., 2009). Further, adults bereaved by the suicide of an immediate family member experienced nearly twice the level of problematic grief symptoms as distantly related survivors (Lobb et al., 2010). When considering the death of a parent, it is possible that the family system may be impacted by decreased economic resources, change in residence, less contact with friends and neighbors, increased responsibilities, and less time with the surviving parent who may be personally grieving (Wolchik et al., 2009). Managing these loss-related stressors can lead surviving parents to have increased grief symptoms, and a more negative parent-child relationship as the parent has less time to support their child (Wolchik et al., 2008). Beyond parental death, youth who have lost a sibling may experience a "double loss" due to the death of their brother or sister, coupled with the unavailability of parents who are overwhelmed with grieving their child (Sood et al., 2006). By accounting for these circumstances of the loss when investigating grief symptoms, it can be ensured that differences in the time since loss, type of loss, and relationship to deceased are not guiding the co-occurrence of grief in children and parents.

Current Study

The current study aimed to address a variety of gaps in the parent-child bereavement literature by investigating a) how parent and child prolonged grief symptoms may occur in

tandem, b) how co-occurring, or differing, levels of prolonged grief in parents and children may be associated with parent and child reports of dyadic interactions, and c) how various circumstances of the death may impact groupings of parent and child grief symptomatology, as well as dyadic interactions. Using family systems theory and the spillover hypothesis (Cox & Paley, 1997; Engfer, 1988; Minuchin, 1974) as a framework, the effects of tandem parent and child prolonged grief were investigated using a person-centered, data driven approach. This approach allowed for groups of participants who function in a similar way at the individual level to be identified, and the determination of how these groups differ relative to other individuals at the same level (Magnusson, 2003). To accomplish this, parent and child prolonged grief was included in a latent profile analysis to determine empirically derived patterns of parent and child prolonged grief symptoms. According to family systems theory and the spillover hypothesis, poor functioning and stress of one individual may be carried over into the parent-child relationship, thus affecting another individual in the family system (Cox et al., 2001). Taking this into account, along with previous literature citing direct associations between parent and child prolonged grief (Kwok et al., 2005; Morris et al., 2016) and bi-directional associations between parent and child distress (Kuckertz et al., 2018; Nicholson et al., 2011), a high parent prolonged grief and high child prolonged grief group was expected to emerge. Just as prolonged grief exhibited by the parent or the child may spillover into the parent-child system, parents or children not exhibiting prolonged grief symptoms may be more likely to influence the absence of prolonged grief in the other dyad member; therefore, a low parent prolonged grief and low child prolonged grief group is also expected. Considering literature suggesting that children may grieve differently than adults (Meisenhelder & Gibson, 2015), and also taking a systems approach that prolonged grief may be a threat to the parent-child system and therefore cause the

other member of the dyad to compensate to restore equilibrium (Cerel et al., 2016), more exploratory third and fourth groupings were hypothesized to potentially emerge, demonstrating disparate levels of prolonged grief in parent-child dyads (i.e., high parent/low child and low parent/high child grief). Understanding these differing groupings will further the field's knowledge of the rate at which child and parent prolonged grief co-occur, and offer a narrative that differs from the commonly cited literature surrounding parent and child maladaptive functioning.

The various combinations of prolonged grief presenting in both parents and children are hypothesized to influence parenting and communication constructs to varying degrees. Based on research suggesting that parents who are emotionally taxed demonstrate a reduction in positive parenting and less open communication (e.g., Barrera et al., 2013; Brown et al, 2007; Dowdney, 2005), the high parent and child prolonged grief group was expected to show the least amount of open communication and positive parenting, and most amount of problematic communication and negative parenting. The low parent and child prolonged grief group was expected to show the most open communication and positive parenting, and least amount of problematic communication and negative parenting. Due to the exploratory nature of the third and fourth potential groupings, a priori hypotheses on the influence of differing parent and child prolonged grief on parenting and communication were not identified.

Considering that many variables of the loss can impact both parent and child grief, time since the death, relationship to the deceased, and type of death were considered as potential covariates within the present study and investigated to understand each variable's influence on grief group membership. It was suspected that greater time since loss, non-violent losses, and relationships to the deceased that include relationships other than immediate family will be more

likely to predict the low parent-child prolonged grief group. Similarly, less time since loss, violent losses, and immediate family deaths were expected to more likely predict to the high parent-child prolonged grief group.

Age and gender of the child were also considered as prospective covariates. Inconclusive results from previous studies prevent hypotheses regarding child age and gender variables, as some studies have found that females are more susceptible to the negative effects of parental distress than males (e.g., Burt et al., 2005; Davies & Windle, 1997; Fergusson et al., 1995), whereas other studies have found that the effects are stronger for boys than for girls, particularly among younger children (Carter et al., 2001; Weinberg et al., 2006). This result for age is contrary to findings suggesting that older children show more prolonged grief symptoms as they develop more understanding of the death (Himebauch et al., 2008).

Methods

Participants

Participants included 107 child-parent dyads. In order to be eligible for the study, children must have spoken English, been between the ages of 8 and 17, not been pregnant at the time of the study, nor had severe sensory or cognitive impairments. Age and cognitive ability eligibility criteria were chosen due to these variables potentially impacting children's ability to reliably report on parenting, grief, and communication. Similarly, current pregnancy may have affected parenting and parent-child communication. In order to capture variability in the time since loss, children must have experienced the death of a loved one in the past 5 years.

Caregivers must have been English-speakers, 18 years of age or older, and the primary guardian to the child participating in the study. All eligible children within the home were asked to participate and caregivers filled out questionnaires about each child; however, only the oldest

child was included in the current study's analyses. See Table 1 for demographics of the children and caregivers, and Table 2 for characteristics of the child's most distressing loss (i.e., the death that children specified as the most upsetting in the past month and subsequently answered grief-related questions regarding).

Table 1. Descriptive Statistics for Demographic Variables

		Child (n = 107)	Parent (n = 107)
Age (years)		<i>M</i> = 12.6 (<i>SD</i> = 2.6)	<i>M</i> = 44.4 (<i>SD</i> = 6.6)
Gender			
	Male	48 (44.9%)	15 (14.0%)
	Female	59 (55.1%)	92 (86.0%)
Race			
	Black or African American	50 (46.7%)	51 (47.7%)
	White or European	48 (44.9%)	49 (45.8%)
	American Indian/Alaska Native	1 (.9%)	1 (0.9%)
	Asian/Pacific Islander	3 (2.8%)	2 (1.9%)
	Biracial	5 (4.7%)	4 (3.7%)
Family Income			
	< \$10,000	--	4 (3.7%)
	\$10,000-20,000	--	6 (5.6%)
	\$20,001-40,000	--	22 (20.6%)
	\$40,001-60,000	--	21 (19.6%)
	\$60,001-80,000	--	15 (14.0%)
	\$80,001-100,000	--	14 (13.1%)
	> \$100,000	--	25 (23.4%)
Child's Relationship to Caregiver			
	Biological mother or father	--	86 (80.4%)
	Adoptive mother or father	--	4 (3.7%)
	Stepmother or stepfather	--	2 (1.9%)
	Grandmother or grandfather	--	7 (6.5%)
	Aunt or uncle	--	7 (6.5%)
	Sibling	--	1 (0.9%)

Table 2. Descriptive Statistics for Characteristics of the Death

Time since Loss (months)	$M = 11.48$ ($SD = 11.16$)
Child's Relationship to Deceased	
Biological father	37 (34.6%)
Step-father	3 (2.8%)
Adoptive father	2 (1.9%)
Biological mother	19 (17.7%)
Adoptive mother	3 (2.8%)
Grandfather	14 (13.1%)
Grandmother	7 (6.5%)
Sister/Stepsister	5 (4.7%)
Brother/Stepbrother	6 (5.6%)
Uncle	3 (2.8%)
Aunt	2 (1.9%)
Cousin	2 (1.9%)
Friend	4 (3.7%)
Type of Death	
Illness	68 (63.6%)
Accident	8 (7.5%)
Murder	7 (6.5%)
Suicide	16 (14.9%)
Overdose	6 (5.6%)
Old Age	2 (1.9%)

Note. N = 107.

Procedures

The majority of the data (93%) was collected through a hospital-affiliated organization that provides no-cost grief therapy to families in Shelby County, Tennessee. The remaining 7% were recruited through general recruitment strategies (i.e., flyering, word of mouth) within the Shelby County community. Prior to recruitment, the project received approval from both university and hospital institutional review boards. Study staff members and employees of the community organizations recruited families and screened for eligibility. Once eligibility was established, project personnel contacted and scheduled families to participate in the study.

Trained interviewers administered paper or computer-based questionnaires simultaneously to the caregiver and child in separate private areas within the family's home, a community center (i.e., library, center they were referred from, etc.), research lab on the University of Memphis' campus, or remotely through a secure teleconferencing platform. Parents reviewed and signed consent and parent permission forms, while children provided their assent prior to data collection. Interviewers read all items aloud to caregivers and children, which took approximately an hour and a half for children, and two hours for caregivers to complete. Confidentiality was emphasized by the interviewers who were available to respond to participants' questions throughout the process. Compensation for children included a \$15 gift card and parents received a \$25 gift card.

Measures

Demographics. A demographics questionnaire was administered to each parent and child participant to ascertain basic background information, such as age, race, and gender, as well as relationship to the child in the study. Children's ages and genders were used in current analyses as covariates.

Inventory of Complicated Grief Revised for Children (ICG-RC). The ICG-RC (Melhem et al, 2007) is a 28-item measure that assesses prolonged grief reactions in children. Children answered grief symptom questions based on the person's death that has been most distressing in the past month. Sample items included "The death feels upsetting, overwhelming or devastating" and "Ever since the death, it is hard for me to trust people." Children rated the frequency they experienced each item on a 5-point Likert scale ranging from 1=Almost never (less than once a month) to 5=Always (several times). The items were summed to create an overall score, with higher scores indicating more grief symptoms (Melhem et al., 2013). Scores

range from 28 to 140 for this measure. For reference, clinical cut-off scores indicating clinically significant prolonged grief scores have been cited as greater than 68 (Melhem et al., 2013). The measure's scores have been shown to have high internal consistency ($\alpha = .82$), and high sensitivity and specificity up to 33 months based on a sample of 182 bereaved children who lost a parent to suicide, accident, or sudden natural death (Melhem et al., 2013). Cronbach's alpha for the present study was .93.

Prolonged Grief-13 (PG-13). The PG-13 (Prigerson et al., 2009) is a 13-item measure that assesses the extent and severity of grief symptoms (e.g., yearning for the deceased, feelings of emotional numbness/detachment from others, feeling that a part of oneself died along with the deceased). Caregivers answered grief symptom questions based on the person's death that has been most distressing in the past month. Sample items included "In the past month, how often have you had intense feelings of emotional pain, sorrow, or pangs of grief related to the lost relationship?" and "In the past month, how often have you felt stunned, shocked, or dazed by your loss?" Respondents rated the frequency with which they experienced each item on a 5-point Likert scale, ranging from "not at all" to "several times/day," or, "not at all" to "overwhelmingly." The total score is a sum of 11 of the 13 item responses, with higher totals indicating more maladaptive grief reactions. Total scores range from 11 to 55. Of note, although an official clinical cut-off score has yet to be established, a preliminary cut-off score of 35 or more was proposed by Pohlkamp et al. (2018) indicating clinically significant prolonged grief symptoms in their sample of bereaved Swedish parents. Measure developers have found that the PG-13's items have high internal consistency (Cronbach's $\alpha = .94$) as well as test-retest reliabilities (.80) and the measure has demonstrated adequate internal consistency and convergent and criterion validity. These psychometric properties were evaluated based on a

sample of 317 adults, the majority of which were white females who lost a spouse (Prigerson et al., 2009). Cronbach's alpha for the present study was .89.

Circumstances of the Loss. Before receiving the PG-13 or ICG-RC, caregivers and children were asked to report on the death that has been most distressing for them in the past month and indicate their relationship to this person, the year the death occurred, how old they were when the death occurred, how old the deceased was when they died, how they died, and whether their death was sudden or anticipated. Time since death, child's relationship to the deceased, and child-reported type of death (i.e., violent or non-violent) were used in the present study. Time since death was scored by subtracting the child's reported age when the death occurred from their age at administration; this value was converted to months since the death for analyses. Child's relationship to the deceased was coded into immediate family (parent, sibling) vs. extended family and friends (grandparent, aunt, uncle, cousin, niece, nephew, and other [friend, boyfriend, neighbor, teacher]).

Alabama Parenting Questionnaire (APQ). Caregivers and children completed the APQ (Frick, 1991), a 42-item measure assessing five parenting constructs. Children answered these items based on the caregiver participating in the study and caregivers answered the items in reference to their child who was participating in the study. Subscales included: Parental Involvement (10 items; e.g. "You volunteer to help with special activities your child is involved in"), Positive Parenting (6 items; e.g. "You reward or give something extra to your child for obeying you or behaving well"), Poor Monitoring/Supervision (10 items; e.g. "Your child stays out in the evening past the time he/she is supposed to be home"), Inconsistent Discipline (6 items; e.g. "You let your child get out of a punishment early"), and Corporal Punishment (3 items; e.g. "You slap your child when he/she is misbehaving"). The APQ includes seven

additional items measuring discipline other than corporal punishment (e.g., yelling/screaming, ignoring, calmly explaining, implementing time-out, taking away privileges) that will not be included in this study due to the variability between these items. The Positive Parenting Practices subscale is created by summing Parental Involvement and Positive Parenting, while the Negative Parenting Practices subscale is created by summing Poor Monitoring, Inconsistent Discipline, and Corporal Punishment, with higher scores indicating greater frequency of positive and negative parenting practices. Participants rated the frequency of items on a 5-point Likert scale ranging from 1 (never) to 5 (always). Scores for Positive Parenting range from 16 to 80, while scores for Negative Parenting range from 19 to 45. The APQ has good internal consistency reliability, with average alpha coefficients of .68 (Dadds et al., 2003). The measure also demonstrates adequate criterion validity in differentiating clinical and nonclinical groups (Frick et al., 1999). Cronbach's alpha for the present study was for .89 for child-reported positive parenting; .81 for child-reported negative parenting; .86 for parent-reported positive parenting; and .73 for parent-reported negative parenting.

Parent-Child Communication Scale (PCCS)– Parent Caregiver Form. Caregivers completed the PCCS (McCarty & Doyle, 2001), a 20-item measure assessing caregivers' perceptions of their openness to communication and their children's communication skills. The scale was adapted from the Revised Parent-Adolescent Communication Form of the Pittsburgh Youth Study (see Loeber et al., 1998) and consists of four subscales, Parent Communication (6 items; e.g., "Are you very satisfied with how you and your child talk together?"), Parent Restricted Topics (2 items; e.g., "Are there things you avoid discussing with your child?"), Child Empathy/Listening (3 items; e.g., "Is your child a good listener?"), and Child Emotional Expression (5 items; e.g., "Does your child tell you about their personal problems?"). The items

are rated on a 5-point Likert scale, ranging from 1 (almost never) to 5 (almost always). Scores for Parent Communication range between 6 to 30. Scores for Parent-Restricted Topics range between 2 to 10. Alphas for the subscales varied from poor to adequate in separate samples of normative families and high-risk controls (Parent Communication ($\alpha = .72, .71$), Parent Restricted Topics ($\alpha = .55, .33$); Child Empathy/Listening ($\alpha = .72, .78$), and Child Emotional Expression ($\alpha = .76, .78$) (McCarty & Doyle, 2001). Based on the current study's goals to investigate parent-child interactions, only the Parent Communication and Parent-Restricted Topics subscales were used in the analyses. Cronbach's alpha for the present study was for .76 for Parent Communication and .30 for Parent Restricted Topics.

Parent-Adolescent Communication Scale (PACS). Children completed the PACS (Barnes & Olsen, 2001), a 20-item measure that assesses two forms of communication within the parent-child relationship. Children based these questions on their communication with the caregiver participating in the study. The two forms of communication assessed were Open Family Communication (10 items; e.g., "I am very satisfied with how my (caregiver) and I talk together") and Problems in Family Communication (10 items; e.g., "I don't think I can tell my (caregiver) how I really feel about some things"). The items are rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Eight of the ten items on the Problems in Family Communication scale are reverse scored. Items on each subscale were summed to create a total score. Both Open Family Communication and Problems in Family Communication scores range from 10 to 50. A total score of communication can also be created by summing the Open Family Communication and Problems in Family Communication subscales. Total PACS scores have been investigated as scores of 20–69 indicating low communication, 70–79 indicating normal communication, and 80–100 indicating high communication within grieving

populations (Angelhoff et al., 2021; Weber Falk, 2020). Internal consistency for Open Family Communication ($\alpha = .87$) and Problems in Family Communication ($\alpha = .78$) has been shown to be acceptable (Barnes & Olsen, 2001). Cronbach's alpha for the present study was .88 for Open Family Communication and .77 for Problems in Family Communication.

Analytic Plan

Preliminary analyses included assessing skewness, kurtosis, and outliers to determine whether the primary variables met the assumptions of normality. All variables met assumptions for normality and no outliers were found within the data. Additionally, missingness patterns were analyzed to ensure missing-at-random (MAR), and that patterns were appropriate for full-information maximum likelihood (FIML). FIML provides unbiased parameter estimates as long as data are MAR (Muthén & Muthén, 1998–2017). Upon analyzing the missingness of the data, one hundred percent ($n = 107$) of the cases had no missing observations. Therefore, FIML was not employed.

To derive dyadic patterns of parent and child grief symptoms, Latent Variable Mixture Modeling (LVMM) was conducted with *Mplus* version 8.4 (Muthén & Muthén, 1998-2019). LVMM places individuals into subgroups (i.e., latent profiles based on similar response patterns) and reduces heterogeneity within each profile by probabilistically assigning individuals into more homogeneous subgroups (Berlin et al., 2014). The optimal number of profiles based on two continuous indicators (child- and parent-reported grief symptoms) was assessed using model fit. The Lo-Mendell-Rubin Test (LMR; Lo, Mendell, & Rubin, 2001) compares improvement between sequential models (e.g., 3- vs. 4-class model). When LMR does not reveal a clear profile solution, goodness-of-fit measures, such as Bayesian Information Criterion (BIC; Schwarz, 1978) and Akaike Information Criteria (AIC; Akaike, 1998) values are then

considered. Lower AIC and BIC values are indicative of more parsimonious explanations of the data. A difference of 10+ points on the BIC indicates superior fit of one model over another (Kass & Raftery, 1995). Entropy values are used to determine how each indicator contributes to classification and the accuracy of the classification into profiles (Clark & Muthén, 2009). Higher entropy values signify improved classification certainty, with a value of .80 or larger indicating a better class solution (Clark & Muthén, 2009). Number of observations per profile is also considered, as profiles including less than 5% of the sample are viewed as insufficient to detect differences between the profiles (Andruff et al., 2009). As mentioned by Berlin and colleagues (2018), a common challenge with LVMM is conflicting fit indices and confirmation bias. To reduce these limitations a consensus model was taken to determine the best model fit. One doctoral level researcher and one doctoral student, both with no affiliation to the current study, reviewed the fit indices and class means independently and determined the best model fit. Their choices and rationale were discussed in a consensus meeting until the best profile solution was decided.

After determining which number of profiles produces the best model fit, covariates, including time since death, relationship to the deceased, type of death, child age and child gender, were examined as predictors of profile membership, as well as the outcomes, i.e., child- and parent-reported parenting and communication variables. Predictor variables were mean-centered. A 3-step method for latent profile predictors was employed and significant predictors of profile membership and outcomes were retained in the next step of analysis (Asparouhov & Muthén, 2013; Vermunt, 2010).

While allowing predictors to vary across profiles, a manual Bolck-Croon-Hagenaars (BCH; Asparouhov & Muthén, 2014; Bakk & Vermunt, 2014) method was utilized to determine

how the established profiles related to child- and parent-reported positive and negative parenting, child-reported open communication and problems in communication, and parent-reported communication and parent-restricted topics. The BCH method evaluates measurement error weighted intercepts across profiles and allows for covariates. The BCH weighted class intercepts that are produced reflect the predicted values of the outcome at the average values of the significant covariates, which were mean-centered. Wald's tests were used to examine significant differences in the intercepts of these outcomes across profiles, while adjusting for significant covariates (see Figure 1 for full conceptual model).

Regarding sample size, Nylund-Gibson and Choi (2018) suggested that 300 or more cases is desirable when conducting latent profile analysis; however, the authors also highlight that smaller samples may be adequate when there are fewer indicators and “well-separated” classes. To this latter point, it has also been indicated that the sample size needed for LVMM utilization “depends on many factors, including the size of the model, distribution of the variables, amount of missing data, reliability of the variables, and strength of the relations among the variables” (Muthén & Muthén, 2002, pp. 599–600). For the current sample, variability among indicator variables (e.g., parent and child grief symptoms) and sample sizes among each profile were analyzed to determine whether the study sample size was adequate for LVMM. Although the sample size of 107 is small for LVMM, the spread of profiles, limited indicators (i.e., 2), and exploratory nature of the current study deemed the sample size adequate for LVMM.

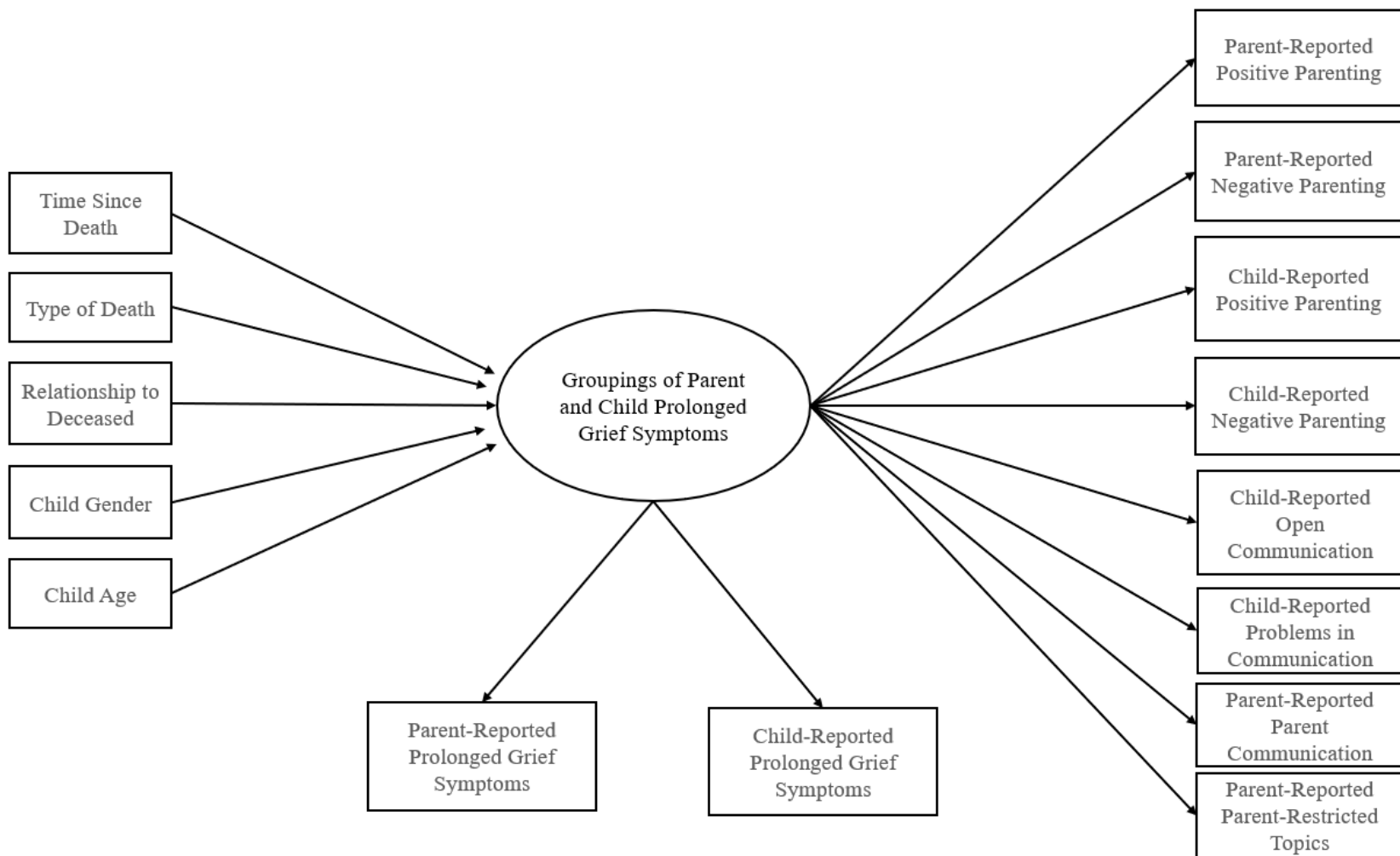


Figure 1. Conceptual model of empirically derived patterns of parent and child prolonged grief symptoms with predictors and distal outcomes

Table 3. Means, Standard Deviations, and Bivariate Correlations among Continuous Model Variables

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1. Child Age	12.55	2.62	1										
2. Time Since Loss	11.48	11.16	-0.06	1									
3. Parent- Prolonged Grief Symptoms	28.29	10.39	0.16	-0.08	1								
4. Child- Prolonged Grief Symptoms	67.85	22.40	0.07	0.04	0.13	1							
5. Child- Positive Parenting	58.91	11.50	-.22*	0.17	-0.06	0.06	1						
6. Parent- Positive Parenting	67.58	8.00	-.23*	0.02	0.17	0.13	.42**	1					
7. Child- Negative Parenting	35.18	9.68	.36**	-0.02	0.15	0.16	-.24*	-0.15	1				
8. Parent- Negative Parenting	31.30	6.50	.30**	0.02	.32**	-0.03	-.23*	-.28**	.50**	1			
9. Child- Openness in Family Communication	38.66	7.86	-0.19	0.09	-0.08	-0.03	.66**	.30**	-.33**	-.25**	1		
10. Parent- Parent Communication	26.05	3.40	-.21*	-0.10	-0.02	0.12	.40**	.60**	-.29**	-.36**	.43**	1	
11. Child- Problems in Family Communication	32.11	7.59	-.29**	-0.06	-0.08	-.20*	.34**	.12	-.50**	-.30**	.48**	.24*	1
12. Parent- Parent Restricted Topics	3.69	1.51	0.03	0.18	0.15	-0.07	-.18	.03	0.14	.27**	-.20*	-.29**	-.20*

Note. N = 107. ** $p < .01$, * $p < .05$ (two-tailed).

Results

Descriptives

Means and bivariate correlations among study variables can be found in Table 3. Overall, mean parent grief symptoms ($M = 28.29$, $SD = 19.39$) were below the clinical cut-off of 36 specified by Pohlkamp et al. (2018) for significant prolonged grief, while mean child grief scores ($M = 67.85$, $SD = 22.40$) were approaching the clinical cut-off of 69 (Melhem et al., 2013). Regarding parenting scores, normative data based on the positive and negative parenting subscales are not available; however, positive ($M = 67.58$, $SD = 8.00$) and negative ($M = 31.30$, $SD = 6.50$) parenting scores were similar to other published studies with families who have experienced trauma (Decker et al., 2021; Hasselle et al., 2020). Mean total parent-child communication as reported by children was 70.78 ($SD = 13.28$), falling on the low end of the “normal communication” range specified by Angelhoff et al. (2021) and Weber Falk (2020). Mean scores on the PCCS could not be ascertained from previous studies. That being said, considering the range of 6-30 on the communication scale of the PCCS, parents are reporting relatively high communication with their children ($M = 26.05$, $SD = 3.40$).

Considering circumstances of the loss, mean time since the death for the sample was approximately one year ($M = 11.48$ months, $SD = 11.16$). The majority of the sample lost an immediate family member (69%), as opposed to an extended family member or friend (31%). Regarding type of death, 65% of the sample lost their loved one to a non-violent death compared to a violent death (35%). See Table 2 for further breakdown of the characteristics of the death.

Independent samples t-tests and chi-square tests of independence were run to determine whether study variables differed on recruitment strategy (i.e., recruited at grief organization versus general community recruitment). Differences did not emerge for any of the

communication, parenting, or circumstances of the loss variables, except for the time since loss variable. Participants recruited from the grief organization had a shorter time since the loss ($M = 10.51$ months, $SD = 9.63$), than participants recruited from the general community ($M = 25.29$ months, $SD = 20.72$); $t(105) = 3.57, p < .001$).

Profile Selection

Bereaved youth and their caregivers were assigned to groups, or profiles, based on empirically derived patterns of grief symptomatology. Comparative fit statistics (see Table 4) for the various sized profiles were mixed, suggesting that two, three, and four profile models were potentially viable and required further consideration. Given that less than 5% of the sample was in one of the profiles of the 5-class model, it was deemed insufficient compared to the other profile sizes and therefore was dropped from consideration.

Table 4. Goodness of Fit Statistics for all Tested Models: Information Criteria, Entropy, Likelihood Ratio Tests for LVMMs

Number of Profiles	Loglikelihood	AIC	BIC	Entropy	LMR	LMR p	n of smallest class
1	-885.793	1779.59	1790.28	NA	NA	NA	107
2	-870.127	1758.26	1782.32	0.90	30.05	<.001	42
3	-858.59	1745.18	1782.60	0.74	23.08	0.02	28
4	-851.629	1741.26	1792.04	0.77	13.35	0.04	12
5	-846.654	1741.31	1805.46	0.81	9.95	0.41	4

Note. AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; LMR = Lo Mendell-Rubin Test; LMR p = Lo-Mendell-Rubin Test p -value. Bolded row indicates optimal model.

The two-profile model demonstrated a comparatively lower BIC value than the other profiles, with a significant LMR p -value suggesting that a 2-profile model is superior to a 1-profile model. When investigating the class characteristics of the two-profile model, a mean

child grief score of 65.37 was observed for the first profile, which was slightly below the clinically meaningful cut-off for significant grief symptoms cited by measure developers (>68; Melhem et al., 2013), as well as a mean parent grief score of 20.95, which is considerably below the cited cut-off for the PG-13 (>35; Pohlkamp et al., 2018). Comparatively, the second profile had a mean child grief score of 71.67, slightly above cut-off, as well as a mean score of 39.53 for parent grief, just above the clinically meaningful cut-off. Overall, it was determined that differentiation between child grief scores within the two profiles was lacking, so the two-class model was dropped from consideration.

The four-profile model demonstrated a comparatively lower AIC value than the other profiles, with a significant LMR p-value that suggested a 4-profile model is superior to a 3-profile model. Profile characteristics of the 4-profile model demonstrated low sample sizes, with one group accounting for only 9% of the sample. Mean child grief scores were as follows for the four profiles: profile 1: 70.60, profile 2: 83.43, profile 3: 51.74, and profile 4: 92.85. While mean parent grief scores were 19.93 for profile 1, 41.99 for profile 2, 30.25 for profile 3, and 36.17 for profile 4. The scores indicated little differentiation between the 2nd and 4th profiles for both parent and child grief scores. This conclusion, combined with the low sample size of one of the groups, made it less optimal compared to the three-profile model, which is highlighted below.

The 3-profile model was determined to be the optimal model. This model was also chosen as the best profile solution by two independent reviewers. The 3-profile model resulted in a BIC value with a negligible difference from the two-profile, and a significant LMR p-value that suggested a 3-profile model is statistically preferable over a 2-profile model. While considering profile characteristics, three distinct profiles of child and parent-reported grief symptomatology were identified by the three-profile model (see Figure 2). The *Grieving Child Dyad* (n = 49,

46%) profile was characterized by child grief symptoms slightly above cut-off for clinically significant prolonged grief ($M = 70.49, SE = 4.13$) and parent grief symptoms substantially lower than cut-off for clinically significant prolonged grief symptoms ($M = 20.57, SE = 0.86$). The *Subthreshold Grief Dyad* ($n = 30, 28\%$) was characterized by substantially below cut-off child prolonged grief ($M = 49.67, SE = 2.54$) and below cut-off parent prolonged grief ($M = 29.12, SE = 2.79$). The final class, the *Grieving Dyad* ($n = 28; 26\%$), was defined by clinically significant prolonged grief symptoms experienced by both children ($M = 40.13, SE = 1.04$) and parents ($M = 81.65, SE = 6.50$). Considering LMR significance, profile characteristics, and the potential for contribution to the field, the 3-profile model was reasoned to be optimal. Univariate entropy indicated that parent grief symptoms (.49) contributed more to class formation as compared to child grief symptoms (.33).

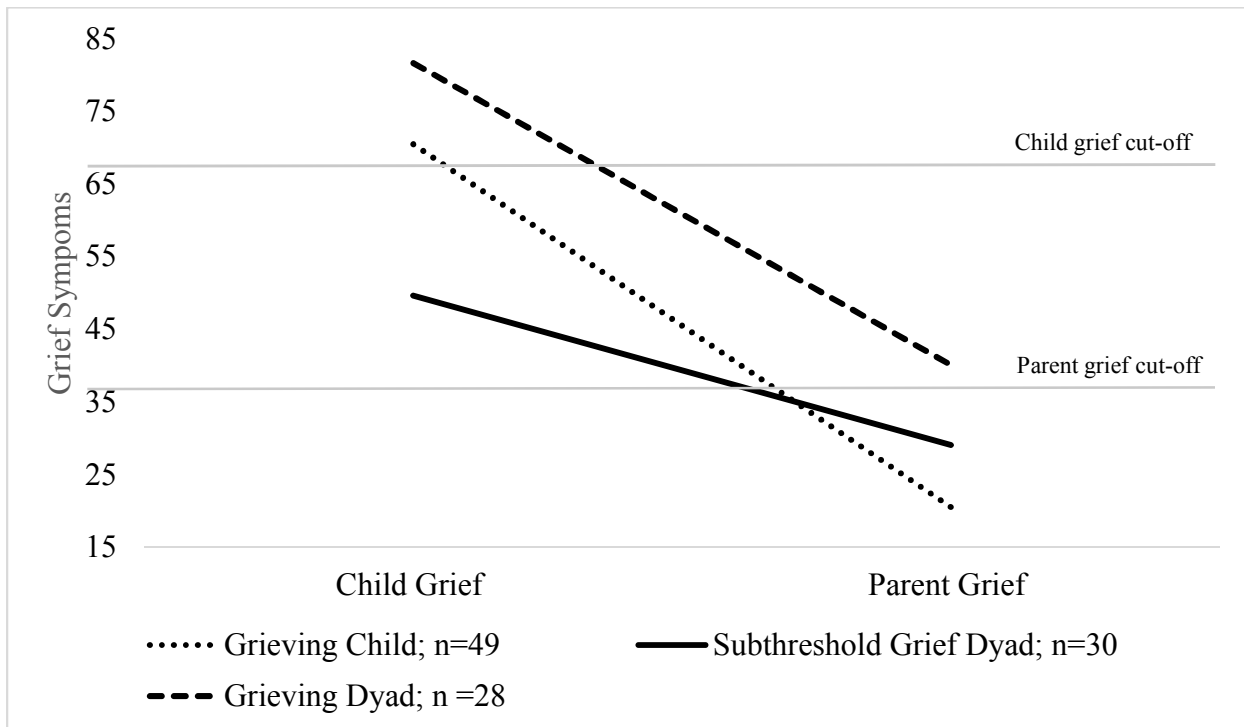


Figure 2. Three-profile model of parent and child grief symptomatology.
Note. Child Grief based on ICG-RC (range = 28-140; clinical cut-off >68; Melhem et al., 2013). Parent Grief based on PG-13 (range = 11-55; clinical cut-off >35; Pohlkamp et al., 2018)

Predictors of Profile Membership

Time since death, relationship to deceased, type of loss, and child gender did not predict profile membership; however, child age was a significant predictor (See Table 5). Younger children were more likely to be in the Grieving Child Dyad group versus the Grieving Dyad group ($p = .03$; OR = 0.71). Thus, child age was controlled for in subsequent analyses.

Profile Differences on Dyadic Interaction Variables

While controlling for child age, differences between the profiles on child- and parent-reported parenting and communication variables were analyzed (see Table 6 for full statistical results and Figures 3 and 4 for graphical representations of estimate differences on outcome variables between the profiles). Regarding child-reported parenting (i.e., positive and negative parenting practices) and communication (i.e., open family communication and problems in family communication), significant differences were not found. Differences were evident on parent-reported parenting and communication variables, which are described below.

For parent-reported parenting practices, the Grieving Dyad group reported significantly more positive parenting practices than the Grieving Child Dyad ($M = 72.08$ vs. $M = 66.33$; $p = .004$; $g = .23$) and the Subthreshold Grief Dyad ($M = 72.08$ vs. $M = 65.12$; $p = .01$; $g = .28$) groups. A significant difference on positive parenting scores between the Grieving Child Dyad and the Subthreshold Grief Dyad was not found. The Grieving Dyad and Subthreshold Grief Dyad groups reported significantly more negative parenting practices than the Grieving Child Dyad group ($M = 32.92$ vs. $M = 29.23$; $p = .03$; $g = .20$; $M = 33.07$ vs. $M = 29.23$; $p = .04$; $g = .21$). A significant difference on negative parenting practices was not found between the Subthreshold Grief Dyad and the Grieving Dyad groups.

Table 5. Multinomial logistical regression using R3Step procedure

	<i>Profile 3 (ref) vs. Profile 1</i>				<i>Profile 3 (ref) vs. Profile 2</i>				<i>Profile 1 (ref) vs. Profile 2</i>			
	<i>B</i>	<i>SE</i>	<i>p-value</i>	<i>OR</i>	<i>B</i>	<i>SE</i>	<i>p-value</i>	<i>OR</i>	<i>B</i>	<i>SE</i>	<i>p-value</i>	<i>OR</i>
Time Since Loss (months)	0.03	0.06	0.62	1.03	.04	.07	.55	1.04	0.01	0.03	0.73	1.01
Child Age (years)	-0.34	0.16	0.03	0.73	-0.03	.29	.91	0.97	0.31	0.33	0.35	1.36
Relationship to Deceased	-0.43	1.15	0.71	0.65	1.45	1.02	.16	4.24	1.87	1.59	0.24	6.50
Type of Loss	-1.03	0.76	0.18	0.36	-0.88	1.14	.44	0.42	0.15	1.29	0.91	1.16
Gender	0.12	0.84	0.13	1.11	-1.42	.97	.14	0.24	-1.53	0.93	0.10	0.22

Note. OR = adjusted odds ratio. Bold text indicates significant finding.

Table 6. Intercepts, Standard Errors, and Comparisons Across Child- and Parent-Reported Communication and Parenting Measures for each Latent Profile

Subscale	Reporter	<i>Profile 1: Grieving Child Dyad</i> Estimate (S.E.)	<i>Profile 2: Sub-threshold Grief Dyad</i> Estimate (S.E.)	<i>Profile 3: Grieving Dyad</i> Estimate (S.E.)	Class Comparisons	<i>p</i> - value	Effect Size (<i>g</i>)
Positive Parenting Practices	Child	59.33 (1.75)	57.37 (2.75)	59.75 (2.46)	<i>1v2</i>	.56	.05
					<i>1v3</i>	.78	.01
					<i>2v3</i>	.73	.08
	Parent	66.33 (1.17)	65.12 (2.03)	72.08 (1.59)	<i>1v2</i>	.64	.05
					<i>1v3</i>	.004	.23
					<i>2v3</i>	.01	.28
Negative Parenting Practices	Child	34.49 (1.62)	36.28 (2.16)	35.22 (1.90)	<i>1v2</i>	.59	.07
					<i>1v3</i>	.89	.03
					<i>2v3</i>	.55	.04
	Parent	29.23 (0.91)	33.07 (1.57)	32.92 (1.41)	<i>1v2</i>	.04	.21
					<i>1v3</i>	.03	.20
					<i>2v3</i>	.95	.01
Open Family Communication	Child	38.74 (1.17)	39.02 (1.88)	38.19 (1.87)	<i>1v2</i>	.91	.01
					<i>1v3</i>	.81	.02
					<i>2v3</i>	.77	.04
	Parent	26.54 (0.49)	24.27 (0.98)	27.02 (0.63)	<i>1v2</i>	.06	.21
					<i>1v3</i>	.56	.04
					<i>2v3</i>	.03	.28
Problems in Family Communication	Child	32.12 (1.23)	32.91 (1.66)	31.31 (1.57)	<i>1v2</i>	.73	.04
					<i>1v3</i>	.69	.04
					<i>2v3</i>	.52	.08
Parent Restricted Topics	Parent	3.21 (0.24)	4.45 (0.40)	3.73 (0.31)	<i>1v2</i>	.02	.26
					<i>1v3</i>	.19	.10
					<i>2v3</i>	.18	.16

Note. Hedge's *g* of 0.2 = small effect; 0.5 = medium effect; 0.8 = large effect

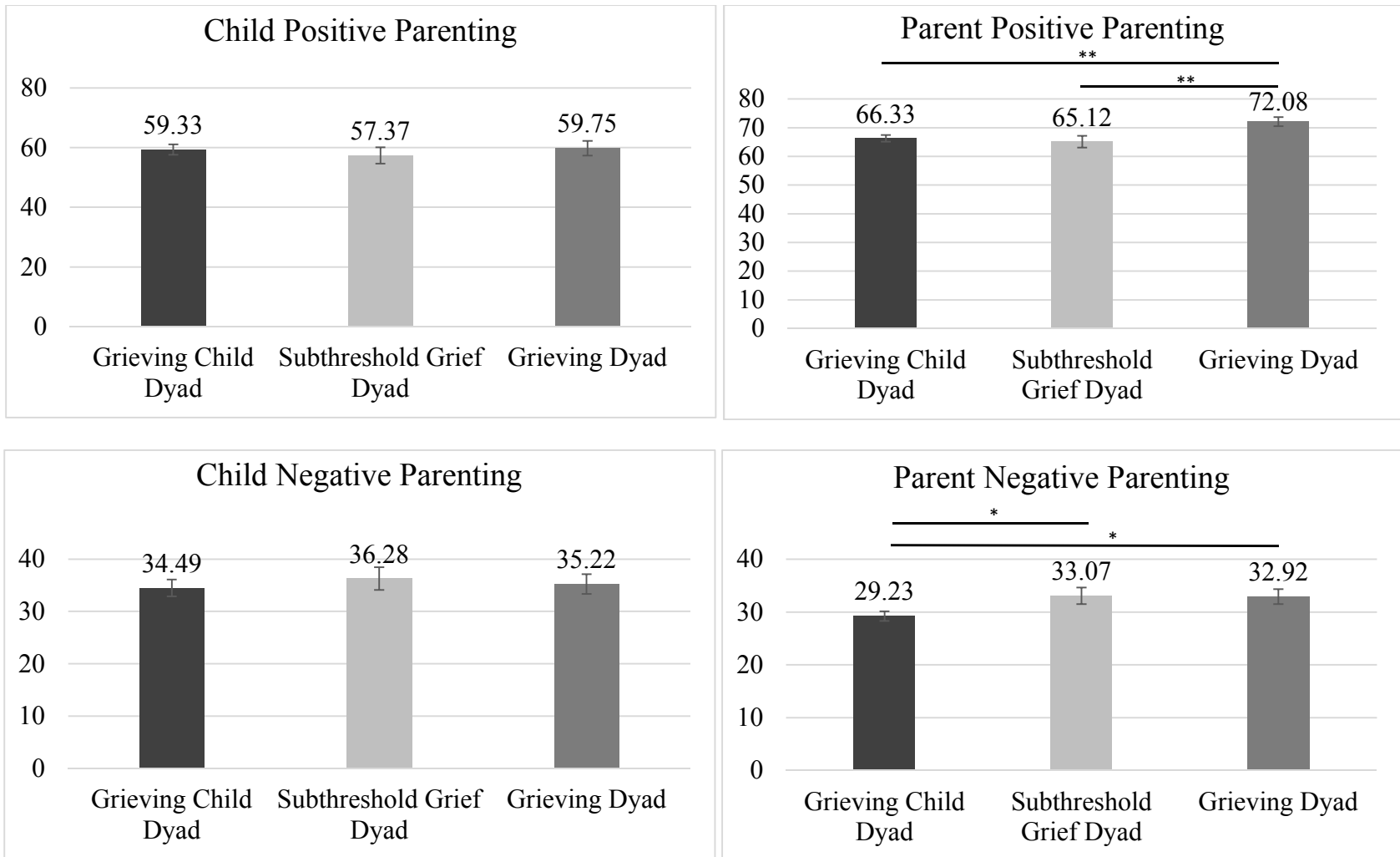


Figure 3. Graphical representation of differences in estimates of child- and parent-reported negative and positive parenting practices between latent profiles. * $p < .05$

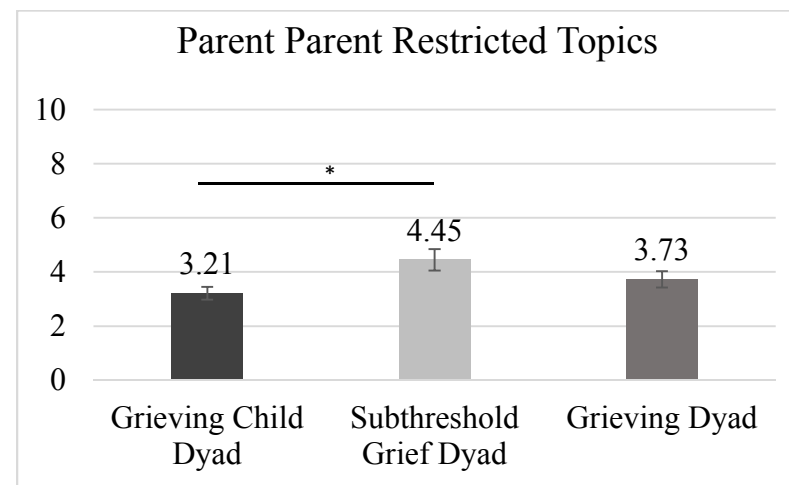
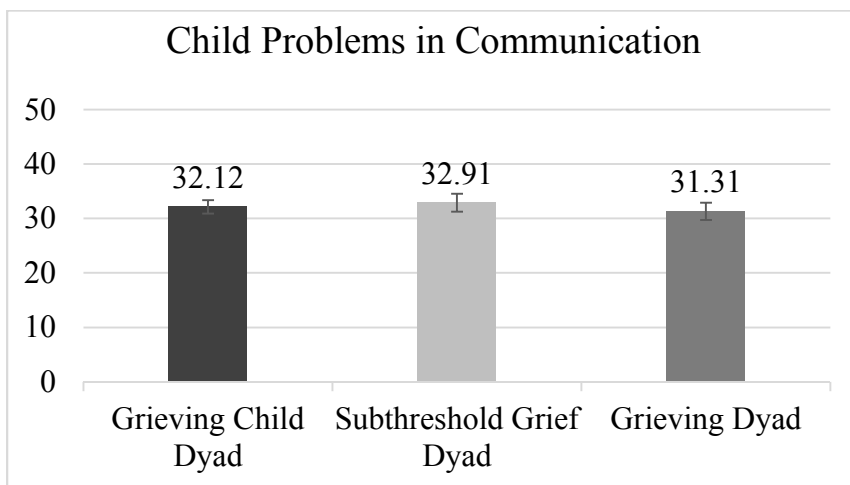
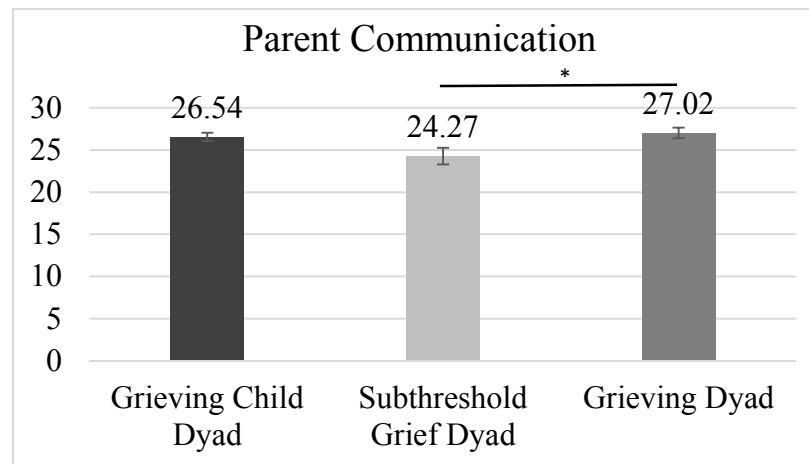
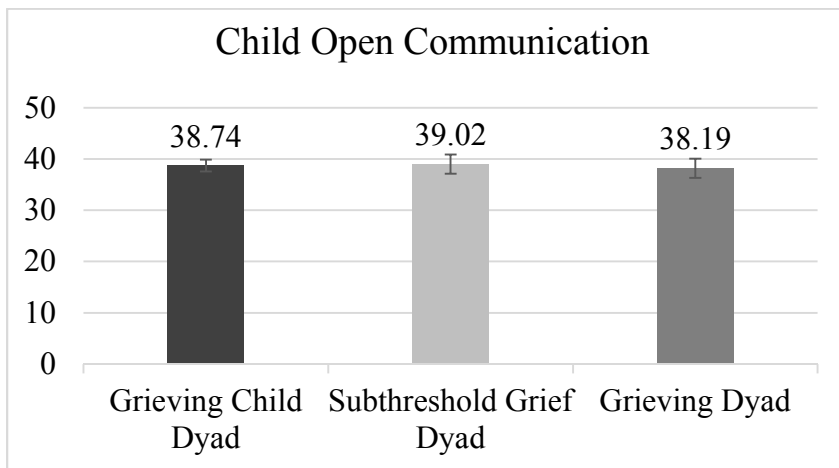


Figure 4. Graphical representation of differences in estimates of child- and parent-reported communication between latent profiles. * $p < .05$

Differences on parent-reported communication were also found. Specifically, the Grieving Dyad group reported significantly more parent communication than the Subthreshold Grief Dyad group ($M = 27.02$ vs. $M = 24.27$; $p = .03$; $g = .28$), while the Grieving Child group reported significantly less parent restricted topics than the Subthreshold Grief Dyad group ($M = 3.21$ vs. $M = 4.45$; $p = .02$; $g = .26$). The difference on parent communication between the Grieving Child Dyad and Subthreshold Grief Dyad ($M = 26.54$ vs. $M = 24.27$; $p = .06$) was not significant; however, the effect size ($g = .21$) indicated a small effect. No significant differences were observed on parent communication, nor parent-restricted topics, between the Grieving Child Dyad and the Grieving Dyad. A significant difference was not found between the Subthreshold Grief Dyad and Grieving Dyad on parent-restricted topics.

Discussion

The current study sought to identify distinct subgroups of similar and differing prolonged grief symptoms in bereaved children and their parents. Using these subgroups, we explored how parent and child grief symptoms related to parenting practices and parent-child communication after a death. Furthermore, we examined whether circumstances of the death and child demographic factors predicted the subgroups of parent and child grief symptomology. To our knowledge, this study is the first to utilize both parent and child report of grief symptoms and dyadic interactions using a person-centered statistical approach. By studying parent and child grief variables in tandem, this study informs bi-directional parent and child grief research, while untangling how interactional parent and child grief symptoms may be associated with adaptive or maladaptive parenting and communication. Furthermore, it highlights the importance of considering circumstances of the loss and demographics of the child when studying parent and child prolonged grief.

Using latent variable mixture modeling, three profiles, or subgroups, emerged from the data: 1) a Grieving Child Dyad group that included children with high grief symptoms and parents with subthreshold grief symptoms, 2) a Subthreshold Grief Dyad group that included both children and parents with subthreshold grief symptoms, and 3) a Grieving Dyad group that included both children and parents with high grief symptoms. Based on study hypotheses and previous literature, these three groups were expected to emerge; however, the fourth hypothesized group containing high parent grief and low child grief was not substantiated from this data.

When considering family systems theory and the spillover hypothesis (Cox & Paley, 1997; Engfer, 1988; Minuchin, 1974), together with studies demonstrating direct associations between parent and child prolonged grief (Kwok et al, 2005; Morris et al., 2016), the Grieving Dyad group provides additional evidence that parent and child grief occur simultaneously. Nearly a fourth of the sample exhibited this high parent and child grief response, which was larger than anticipated given statistics that show 7% of adults and 5-10% of children experience prolonged symptoms of grief (Kersting et al., 2011; Melhem et al., 2007; Melhem et al., 2011). However, when considering the help-seeking nature of the sample, it may be that individuals who seek out grief services have a higher likelihood of showing prolonged grief. Although acute grief (less than six months since death) was included in the sample, time since loss was not shown to be a predictor of group membership. Similarly, other characteristics of the death, including type and relationship to the deceased, were not significant predictors of group membership and therefore these variables are not the contributing factors to the high levels of co-occurring grief shown in this parent-child group. Of note, it cannot be concluded how much influence parents' grief has on children's grief and vice-versa, but the rates at which these high

grief symptoms are occurring together warrant further investigation into whether interactions within the family system are associated with higher grief among family members.

Similar to the Grieving Dyad, when considering the influence that one member of the family system has on another (Cox et al., 2001), the appearance of the Subthreshold Grief Dyad provides support that lack of grief symptoms also concurrently occur among parents and children. Again, over a fourth of the sample exhibited this pattern, thus over half of the sample showed similar grief levels for parents and children (either both high or both low). Research has shown that low grief is not uncommon as 45-60% of bereaved individuals show a resilient response after a death (Bonanno et al., 2005; Galatzer-Levy et al., 2018). Studies have also found that factors such as relationship to the deceased, type of loss, social support, time since loss, and cumulative loss predict this resilient trajectory (Bonanno et al., 2005; Tomarken et al., 2008; Lobb et al., 2010). Although the current study did not replicate these findings, research points to other predictors that should be considered in future research. For example, studies have shown that coping strategies are modeled by caregivers, with those exhibiting certain types of coping being more likely to have children exhibiting similar coping mechanisms (Liga et al., 2020). Considering this, it may be that parents and children are using similar coping strategies that are contributing to their low grief symptoms. Thus, it will be important for future studies to delve into the relationship between coping and grief in parent-child dyads.

Although the rates of parallel high and low grief within dyads in this study are noteworthy, the other half of the sample displayed differing levels of grief symptomatology, which is equally striking. More specifically, the Grieving Child Dyad, the group high in child grief and low in parent grief, made up a majority of the sample. This finding gives some weight to theories within thanatology that suggest grief is an individual process, and how one person

experiences loss does not predict how another individual will experience loss (Bergstraesser et al., 2015; Hayslip & Page, 2013). Furthermore, some studies add that children may grieve differently than adults (Meisenhelder & Gibson, 2015). Therefore, it is possible that the parent-child system is not influencing one another's grieving within this profile. Considering a systems approach, it may also be that children's maladaptive grief patterns produce a threat to the parent-child system and therefore cause the other member of the dyad to compensate to restore equilibrium (Cerel et al., 2016), or be less likely to report high grief symptoms.

Contrary to what was hypothesized, a group with high parent grief and low child grief did not emerge from the data. One possible reason is the small sample size; although the 4-profile model did not show evidence of this group, the 4-profile group had a small sample in one of the profiles and it is unknown what would have emerged within this profile with a larger sample. Another potential explanation is that this was a help-seeking sample in which most families were seeking services for their children. Thus, by nature of the sample, children in this study may have shown higher grief symptoms since they were the target individual needing care at a grief center. Although many of the parents within the sample were also receiving grief therapy, it was at a lower rate than their children. Therefore, another possibility given the present sample, and studies noting that parents with high grief may be less likely to observe grief in their children (Hung & Rabin, 2009; Werner-Lin & Biank, 2013), is that parents with high grief symptoms are less likely to seek out mental health services for their children. Additionally, parents with children showing few grief symptoms may be less inclined to seek out care in general because of a lack of functional impairment evidenced by the child.

When investigating predictors of profile membership, the only significant variable was the age of the child. Specifically, it was found that younger children were more likely to be in the

Grieving Child Dyad than in the Grieving Dyad. Considering the aforementioned family systems perspective, it may be that parents of younger children feel more of a responsibility to protect them from their own maladaptive grief symptoms and may be less willing to acknowledge grief symptoms as a way to restore equilibrium within the family system. Another possibility is that parents of younger children display more resilience after a loss in hopes of modeling more adaptive grief to their children who are having heightened grief responses. Longitudinal research with these variables is needed to better tease apart the associations between child age and parent and child grief. Unlike child age, child gender was not found to be a significant predictor of group membership. Given the variable findings regarding gender within the literature on parent-influenced child distress (Burt et al., 2005; Weinberg et al., 2006), gender was included as an exploratory variable. While a child's gender does not influence which profile they are in, parent gender or the match between parent and child genders may play a role. Future research that includes caregivers who show more gender diversity is needed to further investigate these potential covariates. Additionally, race and ethnicity variables were not included as potential covariates in the present study and may have influenced profile membership.

Results demonstrating that circumstances of the loss were not predictors of profile membership were surprising. Based on previous literature, it was expected that less time since loss would be evident in the Grieving Dyad and the Grieving Child Dyad based on numerous studies showing that longer time since loss is predictive of better outcomes (Andriessen et al., 2018). Current results are consistent with a recent meta-analysis of violent death that showed time since loss was not associated with more prolonged grief symptoms (Heeke et al., 2017), along with literature suggesting that "re-grieving" later in time from the death is not uncommon for children (Himebauch et al., 2008) and adults (Stroebe & Schut, 2010). Additionally, the

current sample included participants in the acute grief phase. Although time since death was not a significant predictor of group membership, results may have differed if these individuals were not included in the sample.

Similar to time since loss, relationship to the deceased was not found to be a predictor of profile membership despite literature largely agreeing that relationships with the deceased that were closer produce greater grief symptoms (Eckerd et al., 2016). Of note, the current study allowed children to choose their most distressing loss rather than apriori assign them a certain loss to report on (i.e., parent loss, sibling loss). It may be that children in the current study deemed their deceased loved ones as an extremely close person in their life and therefore a distinction of “immediate” versus “extended” had little bearing on their grief symptoms. Findings may have differed if eligibility criteria based on the relationship to the deceased was enforced (e.g., assessing only parent losses). Some studies have investigated relationship quality rather than relationship labels as an alternative way to evaluate relationship to the deceased and combat this potential confound (Smigelsky et al., 2009). Furthermore, it is possible that with more separation between the types of relationships (i.e., mother vs. father, sibling vs grandparent, etc.) and more variability within the types, differences may have emerged.

Null findings for type of loss were also unexpected and suggest that experiencing violent deaths versus nonviolent deaths has little impact on parent and child grief groupings. Although this was contrary to study hypotheses, literature has been varied on the association between type of loss and prolonged grief symptoms. For example, while some research has shown that violent deaths produce higher grief symptoms than nonviolent deaths (van Denderen, et al., 2015), other studies have revealed that prolonged illness can be equally distressing for children (Kaplow et al., 2014). Moreover, significant debate exists within the thanatology field about the impact of

sudden illness and prolonged illness, and whether illness is as distressing as sudden violent deaths (Frumkin & Robinaugh, 2018). Given this, results may have differed if sudden versus unexpected loss was investigated as opposed to the current dichotomization of type of loss into violent and non-violent death.

When considering parent-reported positive parenting and communication, it was expected that those in the Grieving Dyad group would exhibit significantly less positive parenting and less communication than the other groups. Interestingly, the inverse occurred, the Grieving Dyad group experienced the highest amounts of positive parenting when compared to the Grieving Child and Subthreshold Grief Dyad groups and the highest amounts of communication when compared to the Subthreshold Grief Dyad group. These findings contrast with studies indicating that parenting mediates the relationship between parent and child distress and prolonged grief (Kwok et al., 2005; Morris et al, 2016) and suggest that parenting through grief may strengthen the relationship and interactions between children and their parents. Research by Sharma and Natrajan-Tyafi (2018), as well as Yang (2012) found similar evidence for closer parent–child bonding following the loss of a parent. It is possible that the parent and child’s shared adversity increases positive interactions between dyads. Further, given the racially diverse sample, cultural factors may have played a role in heightened positive parenting, as parenting practices have been shown to differ based on cultural factors and experiences of racial discrimination, such as increased parenting involvement after experiencing racism (Rowley et al., 2010).

Although differences were found on parent-reported parenting between the Grieving Dyad Group and the Grieving Child Dyad, they were not found on communication. In fact, a small effect on parent-reported communication was instead found between the Grieving Child Dyad and the Subthreshold Grief Dyad, with the Grieving Child Dyad exhibiting more

communication than the Subthreshold Grief Dyad. This finding may indicate that children in the Grieving Child Dyad, as well as the Grieving Dyad, are expressing their grief more, requiring more positive communication to be exhibited by the parent. Another possibility is that children feel more comfortable expressing their grief when they have a relationship with a parent that includes higher rates of open and warm communication.

As opposed to higher levels of positive parenting and open communication, it was hypothesized that the Grieving Dyad would report higher levels of parent-reported negative parenting and parent-restricted topics than the other groups and the Subthreshold Grief Dyad would report significantly lower scores on these maladaptive variables. While the Grieving Dyad reported significantly more negative parenting than the Grieving Child Dyad, the group did not show differences on parent-restricted topics. This result may indicate that the high grief group is more taxed, and therefore responding more negatively to their child than those not burdened by continued grief symptoms, which has been suggested in other bereavement studies (Barrera et al., 2013; Brown et al, 2007; Dowdney, 2005). However, just as they may not be holding their grief back, they also are not withholding certain topics of communication from their children, suggesting parents in this group may be communicating more in general with their child, whether that be positive or negative. Results showing that the Subthreshold Grief Dyad reported significantly higher negative parenting and parent-restricted topics than the Grieving Child Dyad were unanticipated. However, it is consistent with previously discussed results showing lessened positive parenting and communication within this group. There is a potential that individuals in this group are less likely to feel as supported within their dyad and therefore may be less likely to feel comfortable expressing, or reporting on, their grief.

Also contrary to study hypotheses were the non-significant results on all child-reported parenting and communication variables. Regarding parenting variables, the results suggest that the interaction between parent and child grief may be less associated with children's perception of their caregiver's parenting. Interestingly, children reported lower levels of positive parenting and higher levels of negative parenting than their parents, which is consistent with previous literature (De Los Reyes & Kazdin, 2005). The values, however, remained relatively similar across the three profiles; nonetheless, the Subthreshold Grief Dyad displayed the lowest positive parenting and the highest negative parenting of the three groups, which is consistent to the pattern of differences seen for parent-reported parenting and suggest that with a larger sample size, differences may have been detected.

Similar to child-reported parenting, significant differences on child reported communication between the groups did not emerge. Overall, children are expressing normative levels of communication based on the cut-offs cited by previous studies (Angelhoff et al., 2021; Weber Falk, 2020) and children in all three profiles reported very similar scores on communication. This finding again suggests that children's perception of their parent's communication style has little association with the grief they are exhibiting, nor does their grief seem to differ based on their perception of parent-child communication. Considering research that suggests that children's perceptions of their caregiver's parenting behaviors and communication are highly related to children's mental health (Allen et al. 2007; Steinberg, 2001), these findings imply that grief symptoms, as compared to depressive symptoms, may be less likely to produce the same susceptibility to lower reporting on these measures. It should also be noted that children within this sample were receiving grief therapy services at the time of participation, which may have influenced their parenting and communication skills. In therapy,

parents likely learned effective communication and parenting strategies that are especially helpful with a grieving child, while children likely learned how to seek out support and be more open with their emotions. Additionally, study results found more substantial differences on parenting and communication for parents rather than children, and highlighted that parents often rate their parenting practices in a more desirable light than their children. Therefore, the present results demonstrate the importance of multiple informant data when investigating social constructs.

Clinical Implications

The results of this study highlight important clinical implications for bereaved families. Given that 25% of the sample had parents and children with high levels of grief, it is important to consider treatment options for both the individual and the family system after the death of a loved one. To do this, clinicians can take a family-focused approach while integrating individual processing with children and parents (Kissane & Parnes, 2014). Through family therapy, strategies that increase parents' use of warm and positive communication with their child can be reinforced, as well as open communication about the death and the emotions associated with the loss. As findings from the current study suggest that parents and children displaying high amounts of grief may have protective factors including positive communication and parenting, this is a potential area to bolster via therapy while parents further strengthen the bond with their child through the shared hardship of loss. One evidence-based family grief therapy program, The Family Bereavement Program (FBP; Sandler et al., 2013), combines parent- and child-focused sessions to teach coping skills (e.g., coping thoughts, problem solving, pleasurable activities), acceptance and normalization of distress, emotional expression, communication and relationship skills (e.g., effective listening, positive exchanges, one-on-one time), and cognitive behavioral

techniques (e.g., positive self-talk, addressing cognitive distortions). Highlighting the importance of including parents and children in therapy, FBP has been shown to increase positive parenting and parent-child communication, and reduce immediate and long-term emotional distress in children and parents experiencing parental/spousal loss (Hagen et al., 2012; Sandler et al., 2013; Sandler et al., 2010).

Findings indicated that parents reported less positive parenting and communication even when exhibiting low levels of grief. These results suggest that effective communication strategies surrounding death may be helpful to anyone experiencing a loss, even those who are not highly distressed. Therefore, clinical assessment is important to understand parenting and communication after a death, regardless of the prolonged grief children and parents are experiencing. Since parents' and children's perspectives on these topics may differ, results also demonstrate the importance of assessing parents and children separately. Lastly, lack of findings on circumstances of the loss indicate that anyone, at any time, experiencing any type of loss may need extra therapeutic support and assessment of their grief symptoms, regardless of the length of time it has been since the death occurred.

Limitations

The findings of this study should be considered in light of certain limitations, many of which inform directions for future research. First, the sample was relatively small for the LVMM analyses, which may have impacted power. With a larger sample, it is possible that another group may have emerged from the data. Sample size restrictions also imposed conservative approaches to coding circumstances of the death and relationship to the deceased into dichotomous variables; results may have differed with a wider coding scheme. Additionally, the cross-sectional design precludes any conclusions about the directionality of study variables and

causality of study findings; therefore, it cannot be determined whether parent and child grief directly impact parent-child interactions or vice-versa. Findings from the current study also cannot be generalized to the wider population as the sample largely included help-seeking families who were in the process of receiving grief therapy. Further limiting generalizability, female caregivers comprised the majority of the sample of parents; therefore, the perspectives of fathers and father-figures were largely unaccounted for within this data. Due to the lack of variability in caregiver gender, this variable was not included in the analyses, but may have played a role in communication and parenting styles.

Limitations should also be considered regarding measurement. The Parent Restricted Topics subscale on the PCCS had very low reliability, indicating that results on this subscale should be interpreted with caution. Additionally, there are potential shortcomings related to the current methodology available to measure prolonged grief. For the current study, both complicated grief and prolonged grief paradigms were used. Although similar, it has been argued that measures of complicated grief, such as the ICG-RC, produces more false positives for disordered grief and may be pathologizing normal grief (Maciejewski et al., 2016). Complicated grief supporters purport that although grief is a normal process, there are complications that can occur after bereavement that may require clinical attention (Zisook et al., 2012). For prolonged grief disorder, the time span of the grief-related symptoms is especially important (Prigerson et al., 2009). Therefore, including acute grief participants within this sample may have caused the current study to capture “normal grieving.” However, more research and consensus within the area of grief is needed to better conceptualize what “normal” grief is and at what point grief becomes “abnormal.”

Future Research Directions

To address study limitations, future research should utilize a longitudinal approach to tease apart the interplay of parent and child grief. Larger samples with children who are not currently seeking treatment and more gender diverse caregivers will aid in the evaluation of parenting, communication and functioning among bereaved individuals. As numerous studies have demonstrated that prolonged grief is a distinct construct from other forms of mental illness (Boelen & van den Bout, 2005; Lichtenthal et al., 2004), future research should investigate profiles of depression and posttraumatic stress within a bereaved sample to assess whether differences on parent-child interactions are found across other forms of psychopathology. Past research has also shown cultural factors impact the grieving process (Schoulte, 2011), and that religion/spirituality and community organizations positively affect the grieving process of African Americans, specifically (Chapman & Steger, 2010, Rosenblatt & Wallace, 2005). Furthermore, discrimination and racism, including systematic racism that has led to increased poverty rates, healthcare disparities, and lower life expectancy for African American populations when compared to White populations, compound the grieving experience (Rosenblatt & Wallace, 2005). Therefore, consideration of race and ethnicity variables is critical when conducting future grief related research.

In addition, future studies should use measures that include communication explicitly about the death, rather than general measures of communication, as conversations specifically related to bereavement may differ from general topics. Mixed methods research with qualitative components examining parenting, family changes, and strengths after a death will also be beneficial in ensuring that the nuances of parenting and communication after a loss are captured.

To expand on findings from the present study, researchers should include additional predictor and outcome measures to determine whether other circumstances of the loss, such as total

number of lifetimes losses, as well as protective factors, such as social support and spirituality, are associated with profiles. Although losing a loved one is a significant stressor, other contextual factors and potential life stressors should also be considered in future work, as these events may also be playing a role in grief and familial variables. Finally, future researchers could utilize similar profiles of prolonged grief to investigate differences on positive psychology variables, such as resilience, growth, and coping, as well as psychopathology variables such as anxiety and depressive symptoms. This research will help to disentangle whether being a member of one profile over the others enhances benefits or risks after the death of a loved one.

Conclusion

The current study examined how the presentation of parent and child grief may co-occur, and how dyadic grief relates to parent-child interactions. Three profiles based on parent- and child-reported grief symptoms emerged: 1) Grieving Child Dyad (high child/subthreshold parent grief), 2) Subthreshold Grief Dyad (low parent/low child grief), and 3) Grieving Dyad (high parent/high child grief). Based on these findings, family systems theory may play a role in understanding co-occurring grief symptoms, as parent grief may heighten child grief and vice-versa; however, co-occurring grief among parents and children does not transpire in all cases based on differing grief scores in the Grieving Child Dyad. Differences between the three profiles on parenting and communication variables were found such that parents in the Grieving Dyad reported more positive parenting than the other two groups. The Grieving Dyad also showed more parent-reported communication than the Subthreshold Grief Dyad. These findings suggest that grief may play a protective role in the parent-child relationship, strengthening their bond through the shared tragedy of loss. In the Subthreshold Grief Dyad, parents reported higher negative parenting and parent-restricted topics than the Grieving Child Dyad with the possibility

that parents and children experiencing low levels of grief at the same time may feel more limited in their comfort to report on grief-related symptoms due to their parent-child interactions. Results highlight the need for more longitudinal, multi-informant research on the connections between parent and child grief. These findings underscore the importance of family systems research and clinical work to help strengthen family interactions after a death, especially in families that report lower levels of grief and regardless of the type of death, time since the death, and the relationship to the deceased.

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