

Exploring the Relations Between Caregiver-Child Communication and Psychopathology Among  
Bereaved Families  
by  
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**Abstract**

Parental death is one of the most potentially traumatic events a child can experience in their lifetime, yet few studies have examined the ways in which surviving caregiver-child communication patterns can affect children's psychopathology following their loss. The current study explores the relations between caregiver-child communication, maladaptive grief, and Posttraumatic Stress Disorder (PTSD) among bereaved youth and surviving caregivers. Subjects included thirty-eight children who recently experienced the loss of a parent, as well as their thirty-eight surviving caregivers. Due to our small sample size, we focused primarily on effect size in our study to identify the direction of the relations between communication patterns and caregiver/child psychopathology. Analyses indicate that caregivers who report greater frequency of communication surrounding the deceased parent have children with greater PTSD symptoms. On average, female caregivers used more negative emotion words than male caregivers, and female youth exhibited greater PTSD symptoms than male youth.

*Keywords:* Affect, Caregiver, Child, Maladaptive Grief, PTSD, Emotional Expressivity,

Communication

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Parental death is one of the most potentially traumatic events a child can experience in their lifetime (Haine, Ayers, Sandler, & Wolchik, 2008). Several factors can contribute to children's well being following the death of a parent, including the circumstances surrounding the death and the amount of information they are told about the death itself (Kaplow, Howell, & Layne, 2014; Saldinger, Porterfield, & Cain, 2004). In particular, however, parent-child communication in bereaved families can be one of the most crucial factors in children's ability to cope following the loss of a parent (Raveis, Siegel, & Karus, 1999).

Studies have shown that open communication among family members following a loss has been associated with reduced mental health problems, such as depression and anxiety, in children (Haine et al., 2008; Raveis et al., 1999). Yet, there is little research on caregiver and child words usage that may be linked to children's mental health following a loss. Rather than clinicians simply advising families to openly communicate about the deceased parent, research is needed on the exact components of communication that may shape children's reactions to parental loss.

One type of communication, emotional expressivity, has been addressed in bereavement literature. When caregivers and children openly communicate about their emotions surrounding the deceased parent, children tend to adapt to their loss in a healthier and happier manner (Raveis et al., 1999). Children's perceptions of whether or not they are allowed to openly communicate their feelings is also a factor in their mental health outcomes (Raveis et al., 1999). The surviving parent's discouragement of children discussing feelings surrounding the death of a parent can perpetuate denial or avoidance in children, which in turn contributes to children's

psychopathology (Raveis et al., 1999). Thus, when children believe they should not be expressing emotions, and choose to adhere to this, they bypass the benefits of affective communication, and can exhibit negative mental health outcomes as a result.

In particular, research has shown that children tend to express a full range of affect when discussing deceased parents, rather than solely negative reactions, such as sadness or anhedonia (Kranzler, Schaffer, Wasserman, & Davies, 1989). Although both positive and negative affective communication occurs in children when discussing loss, little is known about whether one type of affect may be more beneficial than the other.

Pennebaker, Francis, and Mayne (1997) suggest that the use of more positive emotion words than negative words among adults writing about a traumatic event is associated with fewer negative health outcomes, while the use of more negative emotion words than positive emotion words is associated with greater negative health outcomes. This idea stems from Pennebaker and Francis's (1996) previous study findings indicating that individuals who used positive emotion words when describing deep thoughts and feelings had improved physical health outcomes. However, no research to date has examined this particular relation in children. In addition, research is needed on the mental health outcomes of affective communication in children and caregivers, rather than solely physical health. If these findings are replicated in youth, it may be clinically important to emphasize the use of more positive affect words, rather than negative, in order to facilitate their own healthy grieving process.

It is also important, however, to examine how surviving parents and caregivers' words usage may aid in children's grief reactions following a loss. Shapiro, Howell, and Kaplow (2014) suggest that mothers' own psychological functioning following the loss of their spouse can hinder their ability to effectively communicate with their children about the loss. Effective

communication exhibited by mothers, often consisting of emotional depth, parental engagement, and other related factors, is associated with fewer negative outcomes in children (Shapiro et al., 2014). Thus, when caregivers are not adjusting well to the death, healthy caregiver-child communication is hindered, and children may exhibit greater negative mental health outcomes as a result.

Within the realm of poor communication, research has shown that bereaved families tend to report lower levels of overall affective communication following a loss (Saldinger et al., 2004). Previous studies have demonstrated that parents who do not use affective communication strategies may mediate negative outcomes for their children, such as acting-out behaviors or guilt related to the child's beliefs that the death was their fault (Raveis et al., 1999). Thus, open expression of feelings about the deceased parent by caregivers promotes healthy adaptation of their children post-loss (Raveis et al., 1999). It is clear that the amount of parent-child communication, focusing on emotional expressivity in particular, can affect children's experiences of loss, but again, little is known about the exact type of affect that facilitates positive or negative outcomes in children.

### **Positive and Negative Affective Communication**

When examining bereaved families, positive parenting by the surviving parent is the single most consistently supported malleable mediator of children's adjustment after the loss of a parent (Haine et al., 2008). Positive parenting consists of creating a supportive environment for a child that promotes warmth and open communication, while still exhibiting effective disciplinary actions (Haine et al., 2008). Research on bereaved families has shown that parents who use positive parenting strategies have children with fewer mental health problems following their loss (Haine et al., 2008).

One of the key components of positive parenting is parental warmth, which involves fostering open communication, as well as providing positive physical and verbal attention (Haine et al., 2008). By using positive valence words, parents are tapping into the benefits of parental warmth and positive parenting, which in turn may make it less likely for their children to demonstrate psychopathological symptoms following a loss. These findings support the notion that the use of positive emotion words by parents and caregivers may be an important factor in facilitating children's grief processes.

In terms of negative affect, studies have demonstrated that expressing distress can be an effective coping strategy after trauma or loss, however, there are certain circumstances under which communicating negative emotions may not be beneficial (Kennedy-Moore & Watson, 2001). For example, there is a complex relationship between the expresser and receiver of negative emotions, in which interpersonal relationships could be strengthened or weakened by the sharing of negative feelings (Kennedy-Moore & Watson, 2001). If the receiver responds in a desired manner to the negative emotions of the expresser, both may experience benefits, however sometimes the receiver may feel overwhelmed, confused, or helpless about how to respond, thus making the expresser feel rejected, misunderstood, or embarrassed (Kennedy-Moore & Watson, 2001).

When examined in the context of bereaved families, it may be difficult for the child to respond to their caregiver's display of negative affect in a constructive manner given the child's younger age and own emotions surrounding the loss. This disconnect in communication could perpetuate the aforementioned poor reactions to the caregivers' use of negative emotion words and ultimately increase both the caregivers' and child's distress levels (Kennedy-Moore &

Watson, 2001). Thus, when caregivers express negative emotions to children, they could potentially fuel children's negative outcomes, rather than facilitate a healthy grieving process.

As noted earlier, the use of positive emotional attention by caregivers is associated with better child outcomes (Haine et al., 2008). In addition, the expression of negative emotions may only be beneficial if it is immediately countered with positive emotions as well (Kennedy-Moore & Watson, 2001; Pennebaker, Chung, Ireland, Gonzales, & Booth, 2007). Thus, if caregivers fail to express positive emotions in addition to negative emotions when discussing the deceased parent with their child, they may actually be overly expressing their own sadness, which in turn could also facilitate negative outcomes in their children.

It is clear that the use of both positive and negative emotions by caregivers may have an effect on children's psychopathology following a loss. Thus, further research is needed to address these specific components of communication in bereaved families in order to add to the growing literature on facilitating healthy grieving processes among bereaved children.

### **Maladaptive Grief and PTSD**

Schnider, Elhai, and Gray (2007) found that, among individuals who experienced the loss of a loved one, greater symptoms of complicated grief and Posttraumatic Stress Disorder (PTSD) were associated with greater avoidant emotional coping styles, which involves avoiding the source of emotional stress, rather than attempting to regulate it (Holahan & Moos, 1987). When one experiences a traumatic event, PTSD symptoms can result, which may include reexperiencing the traumatic event (Criterion B), avoidance and emotional numbing (Criterion C), and hyperarousal in response to the trauma (Criterion D; Schnider et al., 2007). Symptoms are usually present for at least one month (Criterion E) and cause functional impairment (Criterion F; Schnider et al., 2007).



Complicated grief, or what is more recently known as “maladaptive grief” is defined by an abnormally severe, lengthy, or symptomatic reaction to the loss of a close other, which may include symptoms of separation distress, circumstance-related stress, and/or existential distress (Kaplow, Layne, & Pynoos, 2014; Kaplow, Layne, Pynoos, Cohen, & Lieberman, 2012).

PTSD and maladaptive grief overlap significantly in relation to individuals’ uses of coping strategies (Prigerson, Frank, Kasl, Reynolds, Anderson, Zubenko, Houck, George, & Kupfer, 1995; Schnider et al., 2007). Schnider et al. (2007) demonstrate that the variance between these two outcome variables is best accounted for by avoidant emotional coping. In relation to traumatic loss, such as the death of a parent, the fact that there is literature supporting the overlap of PTSD and maladaptive grief in the context of emotional coping suggests that these two outcomes require further investigation among populations who have experienced traumatic losses.

### **Clinical Implications**

Just as clinicians could potentially help children communicate about their deceased parents using language associated with positive mental health outcomes, surviving parents and caregivers could learn how to do the same. Studying the effects of words usage among bereaved caregivers and children could reveal the types of words that may be more beneficial or detrimental to child outcomes. In doing so, clinicians would be able to not only recommend the use of open communication among caregivers and children, but also the types of emotional expressivity that should be utilized or avoided. In addition, since parents’ own experiences of loss can affect their communication with their children, equipping surviving caregivers with language-use guidelines that facilitate their own positive outcomes could benefit their children as well (Shapiro et al., 2014).

### **Current Study**

The current study attempts to address the gaps in literature surrounding the amount and types of communication utilized by bereaved caregivers and children when discussing the child's deceased parent, as well as its impact on child/caregiver mental health. In particular, we explore the relations between emotional expressivity, frequency of communication, and caregiver/child maladaptive grief and PTSD symptoms.

While several studies have examined the association between parent-child communication and adverse outcomes, few have addressed the exact words usage within the communication, or its potential role in relation to these forms of psychopathology. The purpose of the present exploratory study is to shed light on the role of emotional expressivity among bereaved families and its potential impact on caregiver and child psychopathology (as defined by symptoms of maladaptive grief and PTSD). The following hypotheses are generated based on the limited empirical literature in this domain:

1. Surviving caregiver use of affect words when discussing the deceased parent will be negatively associated with maladaptive grief and PTSD symptoms in both caregivers and children.
2. Surviving caregiver use of positive affect words when discussing the deceased parent will be negatively associated with maladaptive grief and PTSD symptoms in both caregivers and children.
3. Surviving caregiver use of negative affect words when discussing the deceased parent will be positively associated with maladaptive grief and PTSD symptoms in both caregivers and children.

4. Surviving caregiver reports of the frequency of caregiver-child communication surrounding the deceased parent will be negatively correlated with maladaptive grief and PTSD symptoms in both caregivers and children.
5. Child use of affect words when discussing the deceased parent will be negatively associated with maladaptive grief and PTSD symptoms in both children and surviving caregivers.
6. Child use of positive affect words when discussing the deceased parent will be negatively associated with maladaptive grief and PTSD symptoms in both children and surviving caregivers.
7. Child use of negative affect words when discussing the deceased parent will be positively associated with maladaptive grief and PTSD symptom in both children and surviving caregivers.
8. Child reports of the frequency of caregiver-child communication surrounding the deceased parent will be negatively correlated with maladaptive grief and PTSD symptoms in both caregivers and children.

## **Method**

### **Participants**

All data was taken from the Coping in Response to Childhood Loss Experiences (CIRCLE) Project (PI: Kaplow), an ongoing study evaluating how children respond psychologically, behaviorally, and physiologically to the death of a parent. Participants were recruited from three Michigan counties through grief support organizations or bereavement programs. Inclusion criteria were: (a) the child experienced the death of a primary caregiver within the previous six months, (b) the child was between the ages of 3 and 12, and (c) the

family spoke English. Children were excluded from the study if they were identified as having cognitive deficits severe enough to impact their understanding of study questions, based on caregiver reports during the recruitment process.

Approximately 50 caregivers participated in the study at the time of analysis. Among the 86 children who participated in the study, 63 had biological mothers as their surviving caregiver, 1 had an adopted mother, 16 had biological fathers, 2 had grandmothers, and 3 had aunts. Several families contained multiple children, therefore one child was randomly selected from each family in order to ensure statistical independence among subjects. Our final sample yielded a total of 38 caregiver-child pairs (total  $n = 76$ ) after excluding families with insufficient video footage and randomly selecting one child per family. Table 1 summarizes the descriptive statistics for all caregiver and child demographic variables in the final sample.

Caregiver age ranged from 22 to 64, with a mean age of 39.95 ( $SD = 9.00$ ). The caregiver sample was composed of 76.3% females ( $n = 29$ ) and 23.7% males ( $n = 9$ ). The racial makeup of the caregiver participants was 78.9% White ( $n = 30$ ), 10.5% Black ( $n = 4$ ), 5.3% Asian ( $n = 2$ ) and 5.3% Hispanic ( $n = 2$ ).

As reported by the surviving caregivers, the type of parental death varied, with 36.8% reporting anticipated death by illness ( $n = 14$ ), 13.2% accident ( $n = 5$ ), 23.7% sudden natural death ( $n = 9$ ), 13.2% suicide ( $n = 5$ ), 2.6% drowning ( $n = 1$ ), and 10.5% drug overdose ( $n = 4$ ), as demonstrated in Table 2. Surviving caregiver reports of the number of days between the death of the parent and the initial interview varied as well, with 42.1% reporting 0-90 days ( $n = 16$ ), 50% reporting 91-180 days ( $n = 19$ ), and 7.8% reporting 181-270 ( $n = 3$ ) since the time of the death, also shown in Table 2.

The child participant sample ranged in age from 3 to 13, with a mean age of 8.34 ( $SD = 2.73$ ). The child sample was composed of 42.1% females ( $n = 16$ ) and 57.9% males ( $n = 22$ ). The racial makeup of the child participants was 71.1% White ( $n = 27$ ), 13.2% Black ( $n = 5$ ), 5.3% Asian ( $n = 2$ ), 2.6% Hispanic ( $n = 1$ ) and 7.9% Other ( $n = 3$ ).

### **Procedures**

Adult and child subjects participated in separate semi-structured interviews regarding their recent loss experiences. In addition, all caregivers, as well as all children aged 7 years or older completed a battery of questionnaires. Of the complete sample of 38 children, 31 were aged 7 or older ( $M = 9.29$ ,  $SD = 1.99$ ), and thus completed the study questionnaires. All questionnaire items were read aloud to children in order to enhance comprehension.

Interviewers were master's level clinicians experienced in working with bereaved families, as well as undergraduate and graduate student members participating in the research lab. A licensed clinical child psychologist trained and supervised all study interviewers and, in order to ensure fidelity and appropriate administration of measures, held formal trainings on measure administration, reviewed videotapes of interviews, and provided direct feedback in meetings with study interviewers. All interviews were videotaped and appraised for quality assurance. Participants received monetary compensation.

Following the interviews, research assistants transcribed the parent-child interview, and each transcript was edited according to the LIWC 2001 Coding Manual (Pennebaker, Francis, & Booth, 2001). These transcripts were then saved as text files and run through the LIWC coding system to produce an SPSS file (Nie, Bent, & Hull, 1975) containing the proportion of specific types of words used in relation to total word count for both caregivers and children.

### **Measures**

**Caregiver-Child Communication.** The initial caregiver-child interview was conducted within the six months following the death of a parent during which an interviewer videotaped the surviving caregiver and child and asked the following questions: 1) “Can you talk together about your favorite memories of mom/dad? They could be of things you remember about mom/dad, things you did together as a family, or anything else that comes to mind,” and 2) “Can you talk together about what each of you think (child’s name) had in common with dad/mom? They could be personality traits, physical traits, behaviors, or anything else that comes to mind.” The responses to these questions were then transcribed verbatim and edited according to the LIWC 2001 Coding Manual (Pennebaker et al., 2001).

**Frequency of Communication.** The Adult Caretaker Interview (Kaplow, 2007) was administered to surviving caretakers within six months following the death of their loved one. Our study focuses on the “Communication About the Deceased” section. In order to assess how often surviving parents are communicating with their children about the deceased parent, we examined the question, “How often do you discuss \_\_\_\_\_ (deceased parent) or aspects of his/her death with (CHILD)?” Participants respond using a six-point scale ranging from (a) *more than once a day* to (e) *every other week* or (f) *other*.

We administered the Child Interview (Kaplow, 2007) to children within six months following the death of the child’s parent. Among other questions relating to the death, we asked children, “How often do you and your (surviving mom/dad) talk about your (mom/dad)’s death? Please rate on a scale from 0 – 4 (0 = not at all, 1 = a little, 2 = sometimes, 3 = a lot, 4 = almost all the time) how often you talk with your (surviving mom/dad) about your (mom/dad)’s death.” This was the only question from this particular interview that was analyzed in the current study.

**Caregiver Maladaptive Grief.** The Prolonged Grief Disorder Scale (PG-13; Prigerson & Maciejewski, 2008) was completed by surviving caregivers in regards to how often they have had certain grief-related feelings since the time of their loss, using a five-point scale ranging from (1) *Not at all* to (5) *Several times a day*. Participants also answered questions about how much they were currently feeling a certain way, using a five-point scale ranging from (1) *Not at all* to (5) *Overwhelmingly*. Finally, they were asked whether or not they had experienced a significant reduction in social, occupational, or other areas of functioning. The PG-13 has consistently demonstrated good internal consistency ( $\alpha = 0.94$ ), test-retest reliability ( $r = 0.80$ ), and construct validity (Hinton, Field, Nickerson, Bryant, & Simon, 2013; Prigerson & Maciejewski, 2008). The overall mean score was calculated and compared between caregivers.

**Caregiver Posttraumatic Stress.** Surviving caregivers completed the Posttraumatic Stress Disorder Checklist – Civilian Version (PCL-C; Weathers, Huska, & Keane, 1991) within six months following the death of their loved one in order to assess their overall level of PTSD symptoms. This 17-item self-administered measure of all DSM-IV PTSD symptoms was completed in relation to the death. Caregivers answered a series of questions about how often they have been bothered by a set of described problems since the death of their loved one, using a five-point scale ranging from (1) *Not at all* to (5) *Extremely*. The test-retest reliability of the PCL-C has been consistently good ( $r = 0.96$ ), with various accounts of high internal consistency averaging around 0.97, and good convergent validity with other PTSD scales, such as the Mississippi Scale ( $r = 0.93$ ) and the Keane PTSD scale of the Minnesota Multiphasic Personality Inventory ( $r = 0.77$ ; Andrykowski, Cordova, Studts, & Miller, 1998). The overall score was summed to create a total symptom severity score.

**Child Maladaptive Grief.** Interviewers administered the 36-item Inventory of Complicated Grief - Revised, Child Version (ICG-R; Melhem, Moritz, Walker, Shear, & Brent, 2007) to children within six months following the loss of a caregiver in order to measure child maladaptive grief. The Inventory of Complicated Grief-Revised is adapted for children from the Inventory of Complicated Grief, a test originally developed and validated with conjugally bereaved adults (Prigerson et al, 1995). Participants answered several questions regarding how they have been feeling since the time of their loss, using a five-point scale ranging from (a) *Never* to (e) *A lot*. The ICG-R has demonstrated good test-retest reliability ( $r = 0.80$ ), high internal consistency ( $\alpha = 0.94$ ), and good concurrent validity with other measures of grief-related outcomes, such as the Beck Depression Inventory ( $r = 0.67$ ), the Texas Revised Inventory of Grief ( $r = 0.87$ ), and the Grief Measurement Scale ( $r = 0.70$ ; Schnider et al., 2007). We summed all items to create a Total Maladaptive Grief score.

**Child Posttraumatic Stress.** Interviewers administered the UCLA Posttraumatic Stress Disorder Reaction Index, Child Version (UCLA – PTSD RI; Pynoos, Rodriguez, Steinberg, Stuber, & Frederick, 1998) to children within six months following their parent's death in order to assess PTSD severity. This measure is divided into three parts: Part I is a brief lifetime trauma screen, Part II evaluates objective and subjective components of traumatic exposure, and Part III assesses the frequency of occurrence of post-traumatic stress symptoms within the last month, however Part I was not completed by CIRCLE Project participants (Steinberg, Brymer, Decker, & Pynoos, 2004). The test-retest reliability of the UCLA PTSD Reaction Index has been consistently good ( $\alpha = 0.94$ ), with several reports of high internal consistency averaging around 0.90, as well as good convergent validity with other measures of PTSD, such as the PTSD Module of the Schedule for Affective Disorders and Schizophrenia in School Aged Children,



Epidemiologic Version ( $r = 0.70$ ) and the Child and Adolescent Version of the Clinician-administered PTSD Scale ( $r = 0.82$ ; Steinberg et al., 2004). For the purposes of the current study, we focused on the total PTSD symptom severity score, which is the sum of both the persistence and frequency of certain PTSD symptoms.

**Word Count.** In order to examine affective communication among bereaved families, we used the Linguistic Inquiry and Word Count (LIWC; Pennebaker, 1993), a computerized text analysis program that uses transcripts to count words related to emotions and cognitive processing. LIWC calculates the total number of words, sentences, percentages of unique words, and dictionary words, the sums of which are converted to a percentage of total words to accommodate differences in text length between participants. Specifically, we used the LIWC program to compute the proportion of words in the parent-child interviews relating to positive emotion, negative emotion, and overall affect.

### **Data Analytic Plan**

We examined relations between continuous and categorical variables using t-tests, in addition to generating a correlation matrix for all continuous variables.

## **Results**

### **Descriptive Statistics**

Table 3 presents the descriptive statistics for all communication variables in the study. Table 4 presents the descriptive statistics for all outcome measures.

### **Emotional Expressivity and Psychopathology**

Table 5 presents Pearson correlations found among the LIWC variables (caregiver and child affect, negative emotion, and positive emotion word-use) and psychopathology variables (caregiver and child maladaptive grief and PTSD). None of these variables were found to be

correlated at a statistically significant level, however post-hoc analyses reveal general trends supporting the idea that significant relations may emerge within a larger sample. Specifically, it appears that there may be a relation between the types of emotional expressivity used when discussing the deceased parent and caregiver/child PTSD and maladaptive grief outcomes. In addition, Table 5 examines the relations between reports of caregiver-child communication surrounding the deceased parent and caregiver/child psychopathology. Caregiver reports of caregiver-child communication surrounding the death were positively correlated with child PTSD symptoms ( $r = .40, p < .05$ ).

### **The Role of Gender**

Independent-samples *t*-tests were conducted to compare gender differences in caregiver and child use of LIWC variables, as well as gender differences in caregiver and child psychopathological symptoms. Female caregivers tended to use more negative emotion words on average ( $M = 0.56, SD = 0.62$ ) when discussing the deceased parent than male caregivers ( $M = 0.05, SD = 0.16$ ),  $t(36) = 2.39, p < .05$ . It should be noted, however, that there were significantly fewer male caregivers ( $n = 9$ ) than female caregivers ( $n = 29$ ) in the current study, therefore these results should be interpreted with caution.

In terms of outcome variables, female children tended to have greater PTSD symptoms on average ( $M = 30.31, SD = 16.56$ ) than male children ( $M = 17.53, SD = 11.91$ ),  $t(26) = 2.37, p < .05$ .

### **Post-Hoc Analyses: Trends in Emotional Expressivity and Psychopathology**

Although initial findings in relation to the LIWC variables were not statistically significant, post-hoc analyses, including the use of scatterplots, revealed linear relationships that suggest trends in the direction of our hypotheses, as well as some opposing. These follow-up

analyses suggest that significant relations may occur among these variables within a larger sample of caregivers and children.

Of particular note, caregiver use of affect words was negatively correlated with caregiver ( $r = -.12, p = .48$ ) and child maladaptive grief symptoms ( $r = -.06, p = .78$ ), as well as caregiver ( $r = -.06, p = .72$ ) and child PTSD symptoms ( $r = -.16, p = .41$ ), as predicted. Further, the use of positive and negative emotion words by caregivers supported our hypotheses: greater use of positive emotion words was associated with less PTSD symptoms in caregivers ( $r = -.06, p = .71$ ) and children ( $r = -.19, p = .34$ ), as well as less maladaptive grief symptoms in caregivers ( $r = -.15, p = .37$ ) and children ( $r = -.11, p = .59$ ). Greater use of negative emotion words by caregivers was associated with greater PTSD symptoms in caregivers ( $r = .04, p = .83$ ) and children ( $r = .18, p = .35$ ), as well as greater maladaptive grief symptoms in caregivers ( $r = .17, p = .30$ ) and children ( $r = .25, p = .20$ ).

As predicted, child use of affect words was negatively correlated with child ( $r = -.11, p = .56$ ) and caregiver maladaptive grief outcomes ( $r = -.17, p = .30$ ). Notably, however, child use of affect words was negatively correlated with child PTSD symptoms ( $r = -.18, p = .37$ ), but *positively* correlated with caregiver PTSD symptoms ( $r = .10, p = .55$ ). Further, when broken down by type of emotional expressivity, child use of positive affect words was negatively correlated with child maladaptive grief symptoms ( $r = -.06, p = .78$ ), child PTSD symptoms ( $r = -.09, p = .64$ ), and caregiver maladaptive grief symptoms ( $r = -.08, p = .62$ ), but *positively* correlated with caregiver PTSD symptoms ( $r = .19, p = .26$ ). In addition, child use of negative emotion words was negatively correlated with child ( $r = -.24, p = .22$ ) and caregiver PTSD symptoms ( $r = -.11, p = .53$ ), as well as child ( $r = -.16, p = .42$ ) and caregiver maladaptive grief symptoms ( $r = -.25, p = .14$ ), which is contradictory to our hypotheses. Again, however, these

results would need to be replicated with a larger sample size in order to be able to draw firm conclusions.

### **Discussion**

This study suggests that the way in which caregivers and children communicate about the child's deceased parent, primarily in terms of the frequency of discussion as reported by the surviving caregiver, is related to the child's PTSD symptoms within six months following the loss. It is important to note that given the cross-sectional nature of our data, causality cannot be determined, and other factors could influence child psychopathology following a loss. As demonstrated by our analyses, gender seems to play a role in these relations as well. Overall, however, these findings provide preliminary support for the importance of caregiver-child communication frequency in relation to child psychopathology. The specific language used when discussing a deceased parent did not appear to influence caregiver and child outcomes, but future studies using larger samples of bereaved families are needed.

#### **Frequency of Communication**

Responses on the Adult Caretaker Interview questionnaire and the UCLA Posttraumatic Stress Reaction Index suggest that the more caregivers and children communicate about the deceased parent, the greater PTSD symptoms a child will exhibit. This finding is contradictory to our hypotheses, as well as previous research that emphasizes the importance of frequent, open communication about the deceased parent in order to facilitate children's healthy adaptation to parental loss (Raveis et al., 1999). Multiple factors could have contributed to the current findings, however. In particular, it is important to note that the Adult Caretaker Interview (Kaplow, 2007) is a self-report measure that asks surviving caregivers to describe the amount they communicate with their children about the deceased parent using a Likert scale response set.

Thus, there is no way to know the exact type of communication used, or how engaged the caregiver and child are in the discussion.

Research has shown that surviving parents are most concerned about whether or not their children talk about their feelings surrounding the death because they believe it is the primary avenue for children to express their grief (Silverman & Worden, 1992). This reflects the possibility that parental expectations for grief-related communication may be too demanding on children, and children may feel too much pressure by their surviving caregivers to be emotionally expressive (Silverman & Worden, 1992; Tremblay & Israel, 1998). Thus, the frequency of communication caregivers report could actually reflect their own demands of the children to engage in discussion about the deceased parents. In combination with the negative reactions children may already have as a result of their loss, this added pressure could contribute to their heightened PTSD symptoms.

In addition, caregivers who frequently talk with their children about the deceased parent could (unintentionally) fuel the child's intrusive reexperiencing of the death, or their avoidance of people, places, and things that remind him or her of the deceased parent (Cohen, Mannarino, & Knudsen, 2004). These reactions are some of the characteristics of PTSD, therefore if children experience these symptoms post-loss, frequently talking about the deceased parent may not actually be beneficial to the child.

The lack of significance between caregiver reports of frequency of communication and caregiver PTSD symptoms could be accounted for by the fact that we only assessed PTSD total symptom severity, rather than the various criteria of PTSD (Schnider et al., 2007). Had we examined each component, perhaps caregivers would have demonstrated differences in symptomology in relation to their reports of communication. Thus, caregiver reports of

frequency of communication could be related to overall child PTSD, but not overall caregiver PTSD. Rather, the frequency of communication, as reported by the caregiver, may only be associated with certain aspects of caregiver PTSD.

In addition, the lack of significance between child reports of frequency of communication and caregiver/child PTSD and maladaptive grief could have been due to the design of the project, in which interviewers administered the child assessments of psychopathology, rather than having the children fill them out themselves. As a result, children could have exhibited a response bias in which they did not indicate the true amount of caregiver and child communication surrounding the deceased parent. Rather, they may have simply responded in a way they thought the interviewer wanted them to. This could lead to a false representation of the relations between child reports of caregiver/child frequency of communication and caregiver/child psychopathology. Further analyses are needed to evaluate any discrepancies in caregiver versus child reports of the frequency of communication surrounding the deceased parent.

### **Overall Affect**

There were no significant relations between caregivers' use of affect words and caregiver/child PTSD and maladaptive grief symptoms. In addition, there were no significant relations between children's use of affect words and maladaptive grief and PTSD symptoms in children or caregivers.

Several factors could have contributed to this lack of significance, beyond our small sample size. For example, the caregiver-child interview questions used in the current study may not have properly elicited emotional responses from the caregivers or children. The mean proportion of affect words in relation to overall word usage was relatively low in both children

and caregivers, therefore, the responses to the interview questions might not be accurate indicators of emotional expressivity in communication.

In addition, we measured overall PTSD symptoms in children and caregivers, when in reality, as noted earlier, there are multiple criteria within PTSD evaluations (Schnider et al., 2007). By examining overall PTSD symptoms, our analyses could have been masking specific components of PTSD that have greater relations with caregiver and child affect than others, such as avoidance and emotional numbing (Criterion C; Schnider et al., 2007). Similarly, by only focusing on the total score, some relations between emotional expressivity and maladaptive grief may have been overlooked.

Despite these results, further analyses revealed general trends supporting the idea that significant positive relations between affect and maladaptive grief and PTSD symptoms may emerge within a larger sample of caregivers and children.

### **Positive Affect**

There were no significant relations between caregivers' use of positive affect words when communicating about the deceased parent and caregiver/child PTSD and maladaptive grief symptoms. In addition, the relations were not significant between children's use of positive affect words and caregiver/child PTSD and maladaptive grief symptoms. Again, our small sample size could have contributed to this lack of significance, however, other factors may have contributed as well.

Of course, if caregivers and children only used a small proportion of affect words in their discussions of the deceased parents, the proportions of positive and negative affect words in relation to overall words usage were low as well. However, in relation to negative affect words, both caregivers and children used many more positive words than negative words in their

discussions. This could be attributed to the positive nature of the questions asked, which involved describing their “favorite” memories of the deceased parent, and characteristics that the child has in common with their deceased parent. This may have created a bias in responses that elicited mainly positive emotional expressivity, rather than both positive and negative. Thus, within the few overall affect words that were used, with virtually no negative words to compare to positive words, the responses given may not have been accurate depictions of the differences between positive and negative emotional expressivity. Had there been more of either type of affect word, there would be more concrete data to explore in relation to maladaptive grief and PTSD.

Despite these results, further analyses revealed general trends supporting the idea that significant positive relations between caregiver and child use of positive affect words and caregiver and child maladaptive grief may emerge within a larger sample. In addition, these post-hoc analyses suggest that within a larger sample, children’s use of positive affect words would be positively associated with children’s PTSD symptoms. Of note, however, we found evidence contradictory to our hypotheses, indicating negative relations between children’s use of positive affect words and caregivers PTSD symptoms.

This potential relation could be explained by the idea that caregivers have the unique difficulty of adjusting to life without the deceased parent while still trying to care for their child. DSM-IV criteria for PTSD include avoidance and emotional numbing (Criterion C; Schnider et al., 2007). If caregivers are experiencing this component of PTSD, children expressing positive emotions in conversations surrounding the deceased parent could make the caregivers feel conflicted about addressing their child’s needs while still catering to their own experiences of the loss (Schnider et al., 2007). This confusion could create a cycle in caregivers in which they want



to avoid emotional expression themselves, but still must witness their child openly express their feelings. This, in turn, could fuel avoidance in the caregivers because they are not ready to actively participate in affective communication, thus further perpetuating their PTSD symptoms. Again, however, these findings were not found to be significant, but are instead guidelines for future research using a larger, more diverse sample.

### **Negative Affect**

There were no significant relations between caregivers' use of negative affect words when communicating about the deceased parent and caregiver/child PTSD and maladaptive grief symptoms. In addition, the relations were not significant between children's use of negative affect words and caregiver/child PTSD and maladaptive grief symptoms.

As mentioned in regard to positive affect, these relations may not have been significant because virtually no negative affect words were used among children and caregivers discussing the deceased parent, thus there was not enough data to elicit strong conclusions. However, our follow-up analyses reveal interesting findings that may be important to examine among a larger sample within a longitudinal study.

Post-hoc analyses reveal general trends suggesting that negative relations would emerge between caregivers' use of negative affect words and caregiver/child maladaptive grief and PTSD symptoms within a larger sample. Contradictory to our hypotheses, however, these analyses suggest positive relations between children's use of negative affect words and caregiver/child PTSD and maladaptive grief symptoms.

In regards to these opposing findings, previous research suggests that people who recently experience trauma become distressed by their fear of having emotional experiences (Kennedy-Moore & Watson, 2001). By openly expressing their negative emotions, however,

people are able to realize that, although they can be painful, their negative feelings are not unbearable (Kennedy-Moore & Watson, 2001). The death of a parent is considered a traumatic event when occurring during childhood, thus the confusion and distress surrounding how to handle the death can lead children to doubt whether or not they should outwardly express all of their emotions. Research shows that not expressing feelings that are troubling to an individual is associated with poor health outcomes in that individual (Kennedy-Moore & Watson, 2001). Therefore, by expressing their negative emotions, it is possible that children are alleviating the pent up disturbances they are feeling inside, thus contributing to their positive outcomes (Kennedy-Moore & Watson, 2001).

In addition, when children express negative emotions surrounding the deceased parent, it is possible that the surviving caregivers feel a sense of relief that the child is demonstrating any emotion at all, as opposed to being closed-off (Silverman & Worden, 1992). When children are able to outwardly express their emotions, caregivers believe that the children are properly demonstrating their grief and fairing better than if they were acting avoidant (Silverman & Worden, 1992). As a result, upon seeing what they believe is healthy adaptation of their children to the loss, caregivers may also experience positive mental health outcomes.

### **Gender**

Our analyses demonstrate that female caregivers used more negative emotion words when discussing the deceased parent than male caregivers. Research has shown that bereaved women often experience more adjustment difficulties and tend to ruminate more than bereaved men (Boyras & Efstathiou, 2011). According to Nolen-Hoeksema's response-style theory, rumination can lead to greater access to negative cognitions and feelings, which in turn increases the amount of negative affect an individual expresses (Boyras & Efstathiou, 2011; Nolen-

Hoeksema, 1987; Nolen-Hoeksema, 1991). Thus, if women tend to ruminate more than men, it is likely that they employ more negative emotion words than men in conversations as well. It is important to note, however, that there were more women than men in the current study, thus future research should attempt to address these findings using a more equal sample of caregivers.

According to study results, female children tended to express higher PTSD symptoms than male children. This could be due in part to girls' heightened vulnerability to experiencing adverse outcomes following the loss of a parent (Haine et al., 2008; Raveis et al., 1999). Several studies, however, have found that boys tend to be at higher risk for adverse outcomes than girls, while others have demonstrated no relations between child gender and mental health outcomes following a loss (Raveis et al., 1999). This warrants further research in the realm of gender, communication, and mental health.

### **Limitations and Future Directions**

Given the exploratory nature of the current study, several limitations are worth noting. The most pressing issue is the small sample size used, which most likely limited our ability to identify significant findings. Thus, future studies should attempt to employ a larger and more diverse sample size. In addition, only one child from each family was used for analyses. Future research should attempt to incorporate all siblings using more advanced statistical procedures that take into account nesting of families in order to assess the different experiences families with multiple children may have in the context of bereavement.

It is important to note that the child grief measure used (ICG-R) only captures earlier constructs of "complicated grief" as defined by Prigerson et al. (1995). More recent theories have postulated that grief is multidimensional and a broad range of grief reactions can be expressed in bereaved children (Kaplow et al., 2012). Future studies should attempt to use

measures that properly capture the complex experiences of children in relation to maladaptive grief.

Finally, future research should examine the language used in families at multiple time points following the loss of a parent. By comparing emotional expressivity at different times following the death, researchers can assess if the language used when discussing the deceased parent is indicative of caregiver and child well being and growth over time.

### **Conclusion**

While clinicians often emphasize the importance of communication among bereaved families, little is known about the exact words usage that may help facilitate the grieving process. Based on the findings of the current study, it seems that frequent communication between the surviving caregiver and child following the death of a parent may not be conducive to the child's mental health outcomes. Follow-up analyses also revealed general trends supporting the idea that significant relations between caregiver and child emotional expressivity and psychopathology may emerge within a larger sample of bereaved families. Thus, more research is needed on the specific language used between caregivers and children during these intimate conversations in order to promote communication that positively facilitates children's grief reactions. Overall, this study sheds light on both the research and clinical potential of exploring the relations between emotional expressivity, frequency of communication surrounding the deceased parent, and psychopathology in bereaved families.

### References

- Andrykowski, M. A., Cordova, M. J., Studts, J. L., & Miller, T. W. (1998). Posttraumatic stress disorder after treatment for breast cancer: Prevalence of diagnosis and use of the PTSD Checklist—Civilian Version (PCL—C) as a screening instrument. *Journal of consulting and clinical psychology, 66*(3), 586. <http://dx.doi.org/10.1037/0022-006X.66.3.586>
- Boyratz, G. & Efstathiou, N. (2011). Self-focused attention, meaning and posttraumatic growth: The mediating role of positive and negative affect for bereaved women. *Journal of Loss and Trauma, 16*, 13-32. <http://dx.doi.org/10.1080/15325024.2010.507658>
- Cohen, J. A., Mannarino, A. P., Knudsen, K. K. (2004). Treating childhood trauma grief: A pilot study. *Journal of the American Academy of Child and Adolescent Psychiatry, 43*(10), 1225-1233. <http://dx.doi.org/10.1097/01.chi.0000135620.15522.38>
- Haine, R. A., Ayers, T. S., Sandler, I. N., & Wolchik, S. A. (2008). Evidence-based practices for parentally bereaved children and their families. *Professional Psychology: Research and Practice, 39*(2), 113-121. <http://dx.doi.org/10.1037/0735-7028.39.2.113>
- Hinton, D. E., Field, N. P., Nickerson, A., Bryant, R. A., & Simon, N. (2013). Dreams of the dead among cambodian refugees: Frequency, phenomenology, and relationship to complicated grief and posttraumatic stress disorder. *Death Studies, 37*(8), 750-767. <http://dx.doi.org/10.1080/07481187.2012.692457>
- Holahan, C. J. & Moos, R. H. (1987). Personal and contextual determinants of coping strategies. *Journal of Personality and Social Psychology, 52*(5), 946-955. <http://dx.doi.org/10.1037/0022-3514.52.5.946>
- Kaplow, J.B. (2007). CIRCLE Project Adult Caretaker Interview. Unpublished semi-structured interview. University of Michigan.

Kaplow, J.B. (2007). CIRCLE Project Child Interview. Unpublished semi-structured interview. University of Michigan.

Kaplow, J., Howell, K., & Layne, C. (2014). Do circumstances of the death matter? Identifying socioenvironmental risks for grief-related psychopathology in bereaved youth. *Journal of Traumatic Stress, 27*(1), 42-49. <http://dx.doi.org/10.1002/jts.21877>

Kaplow, J. B., Layne, C. M., Pynoos, R. S., Cohen, J. A., & Lieberman, A. (2012). DSM-V diagnostic criteria for bereavement-related disorders in children and adolescents: Developmental considerations. *Psychiatry, 75*(3), 243-265. <http://dx.doi.org/10.1521/psyc.2012.75.3.243>

Kaplow, J. B., Layne, C. M., Pynoos, R. S. (2014). Persistent complex bereavement disorder as a call to action: Using a proposed DSM-5 diagnosis to advance the field of childhood grief. *Traumatic StressPoints*. Retrieved from <http://sherwood-istss.informz.net/admin31/content/template.asp?sid=35889&ptid=1686&brandid=4463&uid=1019021395&mi=3773102&ps=35889>

Kennedy-Moore, E. & Watson, J. C. (2001). How and when does emotional expression help. *Review of General Psychology, 5*(3), 187-212. <http://dx.doi.org/10.1037/1089-2680.5.3.187>

Kranzler, E. M., Shaffer, D., Wasserman, G., & Davies, M. (1989). Early childhood bereavement. *Journal of the Academy of Academic Child and Adolescent Psychiatry, 29*(4), 513-520. <http://dx.doi.org/10.1097/00004583-199007000-00002>

Melhem, N. M., Moritz, G., Walker, M., Shear, M.K., & Brent, D. (2007). Phenomenology and correlates of complicated grief in children and adolescents. *Journal of the American*

- Academy of Child and Adolescent Psychiatry*, 46(4), 493-499.  
<http://dx.doi.org/10.1097/chi.0b013e31803062a9>
- Nie, N. H., Bent, D. H., & Hull, C. H. (1975). *SPSS: Statistical package for the social sciences* (Vol. 421, pp. 250-265). New York: McGraw-Hill.
- Nolen-Hoeksema, S. (1987). Sex differences in unipolar depression: Evidence and theory. *Psychological Bulletin*, 101(2), 259-282. <http://dx.doi.org/10.1037/0033-2909.101.2.259>
- Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology*, 100(4), 569-582.  
<http://dx.doi.org/10.1037/0021-843X.100.4.569>
- Pennebaker, J. W. (1993). Putting stress into words: Health, linguistic, and therapeutic implications. *Behaviour Research and Therapy*, 31(6), 539-548.  
[http://dx.doi.org/10.1016/0005-7967\(93\)90105-4](http://dx.doi.org/10.1016/0005-7967(93)90105-4)
- Pennebaker, J. W., Chung, C. K., Ireland, M., Gonzales, A., & Booth, R. J. (2007). The development and psychometric properties of LIWC2007. *Austin, TX, LIWC. Net.*
- Pennebaker, J.W., Francis, M.E., & Booth, R.J. (2001). *Linguistic inquiry and word count: LIWC 2001*. Mahwah, NJ: Erlbaum Publishers.
- Pennebaker, J. W., & Francis, M. E. (1996). Cognitive, emotional, and language processes in disclosure. *Cognition & Emotion*, 10(6), 601-626.  
<http://dx.doi.org/10.1080/026999396380079>
- Pennebaker, J.W., Mayne, T. J., Francis, M. E. (1997). Linguistic predictors of adaptive bereavement. *Journal of Personality and Social Psychology*, 72(4), 863-871.  
<http://dx.doi.org/10.1037/0022-3514.72.4.863>

- Prigerson, H. G., Frank, E., Kasl, S. V., Reynolds, C. F., Anderson, B., Zubenko, G. S., & Kupfer, D. J. (1995). Complicated grief and bereavement-related depression as distinct disorders: preliminary empirical validation in elderly bereaved spouses. *American Journal of Psychiatry*, *152*(1), 22-30.
- Prigerson, H. G., Maciejewski, P. K., Reynolds, C. F., Bierhals, A. J., Newsom, J.T., Fasiczka, A., Frank, E., Doman, J., Miller, M. (1995). Inventory of complicated grief: A scale to measure maladaptive symptoms of loss. *Psychiatry Research*, *59*, 65-79.  
[http://dx.doi.org/10.1016/0165-1781\(95\)02757-2](http://dx.doi.org/10.1016/0165-1781(95)02757-2)
- Prigerson, H., & Maciejewski, P. (2008). *Prolonged Grief Disorder* (PG-13) scale. Boston, MA: Dana-Farber Cancer Institute.
- Pynoos, R., Rodriguez, N., Steinberg, A., Stuber, M., & Frederick, C. (1998). *The UCLA PTSD Reaction Index for DSM-IV* (Revision 1). Los Angeles: UCLA Trauma Psychiatry Program.
- Raveis, V. H. Siegel, K., & Karus, D. (1999). Children's psychological distress following the death of a parent. *Journal of Youth and Adolescence*, *28*(2), 165-180.  
<http://dx.doi.org/10.1023/A:1021697230387>
- Saldinger, A., Porterfield, K., & Cain, A.C. (2004). Meeting the needs of parentally bereaved children: A framework for child-centered parenting. *Psychiatry*, *67*(4), 331-352.  
<http://dx.doi.org/10.1521/psyc.67.4.331.56562>
- Schnider, K. R., Elhai, J. D., & Gray, M. J. (2007). Coping style use predicts posttraumatic stress and complicated grief symptom severity among college students reporting a traumatic loss. *Journal of Counseling Psychology*, *54*(3), 344-350. <http://dx.doi.org/10.1037/0022-0167.54.3.344>



- Shapiro, D. N., Howell, K. H., & Kaplow, J. B. (2014). Associations among mother-child communication quality, childhood maladaptive grief, and depressive symptoms. *Death Studies, 0*, 1-7.
- Silverman, P. R. & Worden, J. W. (1992). Children's reactions in the early months after the death of a parent. *American Journal of Orthopsychiatry, 62*(1), 93-104.  
<http://dx.doi.org/10.1037/h0079304>
- Steinberg, A. M., Brymer, M. J., Decker, K. B., Pynoos, R. S. (2004). The university of California at Los Angeles post-traumatic stress disorder reaction index. *Current Psychiatry Reports, 6*, 96-100. <http://dx.doi.org/10.1007/s11920-004-0048-2>
- Tremblay, G. C. & Israel, A. C. (1998). Children's adjustment to parental death. *Clinical Psychology: Science and Practice, 5*, 424-438. <http://dx.doi.org/10.1111/j.1468-2850.1998.tb00165.x>
- Weathers, F. W., Huska, J. A., & Keane, T. M. (1991). PCL-C for DSM-IV. Boston: National Center for PTSD—Behavioral Science Division.

Table 1.

*Demographic Characteristics of Caregivers and Children*

<b>Caregiver Characteristic</b>	<b>n</b>	<b>%</b>	<b>Child Characteristic</b>	<b>n</b>	<b>%</b>
<b>Sex</b>			<b>Sex</b>		
Male	9	23.7	Male	22	57.9
Female	29	76.3	Female	16	42.1
<b>Age</b>			<b>Age</b>		
20-29	5	13.2	3-6	7	18.4
30-39	13	34.2	7-10	22	57.9
40-49	16	42.1	11-13	9	23.7
50-59	2	5.2			
60+	2	5.2			
<b>Race</b>			<b>Race</b>		
White	30	78.9	White	27	71.1
Black	4	10.5	Black	5	13.2
Asian	2	5.3	Asian	2	5.3
Hispanic	2	5.3	Hispanic	1	2.6
			Other	3	7.9
<b>Relationship to Deceased</b>			<b>Caregiver Relationship</b>		
Spouse	29	76.3	Biological Father	9	23.7
Parent	2	5.2	Biological Mother	25	65.8
Sibling	2	5.2	Grandmother	1	2.6
Ex-spouse	2	5.2	Aunt	2	5.3
Boyfriend/Girlfriend	1	2.6	Sibling	1	2.6
Ex-boyfriend/girlfriend	1	2.6			

Table 2.

*Demographic Characteristics of Death*

<b>Death Characteristics</b>	n	%
Circumstances of Death		
Anticipated death by illness	14	36.8
Accident	5	13.2
Sudden natural death	9	23.7
Suicide	5	13.2
Drowning	1	2.6
Drug overdose	4	10.5
Time Since Death at Initial Interview (Days)		
0-90	16	42.1
91-180	19	50.0
181-270	3	7.8

Table 3.

*Descriptive Statistics for LIWC Variables and Frequency of Communication*

<b>Variable</b>	<b>Parent</b>			<b>Child</b>		
	<i>M</i>	<i>SD</i>	<i>Range</i>	<i>M</i>	<i>SD</i>	<i>Range</i>
Total Affect	5.88	2.64	0-11.29	4.38	3.30	0-15.38
Positive Emotion	5.44	2.76	0-11.29	3.68	2.58	0-9.24
Negative Emotion	0.44	0.59	0-2.17	0.70	1.46	0-7.69
Communication Report	2.91	1.78	0-5.00	2.27	1.19	0-4.00

*Note.* All LIWC variables calculated as proportion of total word count.

Table 4.

*Descriptive Statistics for PG-13 Total, ICG-R Total, Stress Checklist Score, and UCLA PTSD Severity Score*

<b>Variable</b>			
<b>Maladaptive Grief</b>	<i>M</i>	<i>SD</i>	<i>Range</i>
PG-13 Total	29.88	10.145	12-56
ICG-R Total	53.97	30.98	14-108
<b>PTSD</b>			
Stress Checklist Score	34.92	11.13	18-66
UCLA PTSD Severity Score	23.46	15.41	1-54

*Note.*

PG-13 = Prolonged Grief Disorder Scale (Caregiver Maladaptive Grief)

ICG-R = Inventory of Complicated Grief-Revised (Child Version; Child Maladaptive Grief)

Stress Checklist = Posttraumatic Stress Disorder Checklist – Civilian Version (Caregiver PTSD)

UCLA PTSD = UCLA PTSD Reaction Index for Children and Adolescents (Child PTSD)

Table 5.

*Correlations Between LIWC Variables, Frequency of Communication, and Outcome Variables*

	1	2	3	4	5	6	7	8	9	10	11	12
1. Child Affect	-	.91**	.66**	-.08	.20	.21	-.11	-.12	-.18	-.11	.10	-.17
2. Child Positive Emotion		-	.282	-.01	.09	.13	-.19	-.01	-.09	-.06	.19	-.08
3. Child Negative Emotion			-	-.14	.29	.26	.09	-.26	-.24	-.16	-.11	-.25
4. Child Communication Frequency Report				-	-.03	.03	-.25	.30	.04	-.05	.24	.13
5. Caregiver Affect					-	.98**	-.08	-.07	-.16	-.06	-.06	-.12
6. Caregiver Positive Emotion						-	-.29	-.04	-.19	-.11	-.06	-.15
7. Caregiver Negative Emotion							-	-.10	.18	.25	.04	.17
8. Caregiver Communication Frequency Report								-	.40*	.21	-.10	-.12
9. Child PTSD									-	.85**	-.34	-.19
10. Child Maladaptive Grief										-	-.12	-.04
11. Caregiver PTSD											-	.74**
12. Caregiver Maladaptive Grief												-

Note. \* $p < .05$ . \*\* $p < .01$ .