The Relationship Between Coping and Mental Health in Children Facing Maternal Breast

Cancer

by

Joanna Gross

A Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of Bachelor of Arts
With Honors in Psychology from the
University of Michigan

2013

Advisor:

Dr. Julie Kaplow

#### Abstract

Millions of cancer patients in the United States have minor children struggling to cope with their parent's illness. This study aims to examine the relationship between coping mechanisms and mental health outcomes in children facing maternal breast cancer, as well as provide suggestions regarding appropriate mental health interventions for those children at risk. Subjects included forty-six children between the ages of 6 and 12 whose mothers had been diagnosed with breast cancer within six months of initial participation in the study. Findings indicate that the use of avoidant coping strategies in children of female breast cancer patients is associated with higher levels of anxiety and posttraumatic stress symptomology. Qualitative findings indicate a range of protective mechanisms that enhance coping including: perceived support, opportunities for expression, information gathering, and reassurance regarding good prognosis.

Keywords: avoidant coping, expressive coping, breast cancer, parental illness, anxiety,

**PTSD** 

The Relationship Between Coping and Mental Health in Children Facing Maternal Breast

Cancer

When a parent receives a cancer diagnosis, often the mental health of the child is overlooked. Accordingly, research regarding children's mental health in the face of parental cancer is sparse. Coping with a parent's illness is never easy, but the effectiveness and specific strategies used are influenced by a variety of factors. The present study examines the relationship between expressive versus avoidant coping in children facing maternal breast cancer and anxiety related mental health outcomes. It is hypothesized that children, who use avoidant coping strategies— or do not feel comfortable expressing their feelings regarding their mothers' illness, will have higher rates of anxiety and posttraumatic stress symptoms.

There are nearly three million children in the United States who have at least one parent with a cancer diagnosis, in addition to those who have lost a parent to the disease (Weaver, Rowland, Alfano, & McNeel, 2010). This number will continue to grow until a cure is found. Families are most often affected by maternal cancer, specifically breast cancer, as approximately 35% of the 2 million women living with breast cancer in the US have at least one child, and women between the ages of 30-50 are more likely to develop cancer than men (Osborn, 2007; Horner et al., 2009). Previous research on the impact of parental---and especially maternal cancer indicates a significant disposition to internalizing and externalizing problems in the children of cancer patients (Clemmens, 2009; Gazendam-Donofrio, Hoekstra, van der Graaf, & van de Wiel, 2010; Flahaut & Sultan, 2010, Wong, Cavanaugh, MacLeamy, Soujourner-Nelson, & Koopman, 2009; Huizinga, Visser, van der Graaf, Hoekstra, Stewart, & Hoekstra-Weebers, 2011; Grant & Compas, 1995). Therefore, given the large numbers of youth affected by maternal

cancer and its impact on mental health, an understanding of how maternal cancer affects children is essential in order to provide appropriate interventions to buffer any negative effects suffered by this growing population.

The emotional and financial toll of cancer on a family can be enormous, and often manifests in dramatic daily life changes for children of cancer patients (Clemmens, 2009). These children frequently spend more of their free time at home, and report feelings of "cancer specific uncertainty, loneliness...and helplessness" (Clemmens, 2009; Gazendam-Donofrio et al., 2010, p. 346). Numerous studies have concluded that this stress manifests in elevated levels of anxiety and depression, and decreases in self-esteem (Ganzendam-Donofrio et al., 2010, Flahault & Sultant, 2010; Wong et al., 2009). These findings are noteworthy with respect to medical professionals who must attempt to address the needs of the entire family affected by cancer.

The mental health implications become especially salient in the face of studies showing that often parents are unaware that their children are having emotional difficulties with their diagnosis (Welch, Wadsworth, & Compas, 1996). This often leaves children of cancer patients feeling misunderstood (Clemmens, 2009). Studies have shown the importance of open communication within families in order to foster expressive coping (Clemmens, 2009), something that is harder to achieve if parents are not correctly interpreting how their diagnosis is affecting offspring.

Avoidant coping in childhood as a response to a traumatic event or series of events has repeatedly been identified as a risk factor for long-term psychopathology, including posttraumatic stress symptoms (Shapiro, Kaplow, Amaya-Jackson, & Dodge, 2012; Kaplow, Dodge, Amaya-Jackson, & Saxe, 2005). Children and adolescents are often reluctant to disclose any difficulties in their life—cancer related or otherwise, to their ill parent, as not to burden them

(Clemmens, 2009; Giesbers, Verdonck-de Leeuw, van Zuuren, Kleverlaan, & van der Linden, 2010). While youth affected by maternal cancer may be able to express their thoughts and feelings to non-parental figures, they often feel that they have no one who can relate to or understand their situation, and this loneliness further promotes avoidant coping strategies (Gazendam-Donofrio et al., 2010).

The uncertainty inherent in a cancer diagnosis complicates perceptions of the situation, and impacts child coping. The prognosis within the first year of a cancer diagnosis is always murky, even if a child has been reassured that the prognosis is good (Gazendam-Donofrio et al., 2010). In fact, children often assume the worst and believe that the parent's death may be imminent, despite the relatively small likelihood that this is the case (Compas, Worsham, Ey, & Howell, 1996).

This study aims to examine the relationship between avoidant coping and anxiety-related mental health outcomes in children of recently diagnosed female breast cancer patients. Evidence suggests that children and adolescents coping with parental cancer are at a higher risk for mental health complications, and avoidant coping has been shown to exacerbate these symptoms in children dealing with any number of life stressors (Huizinga et al., 2011; Kaplow, et al., 2005). Expressive coping has been identified as a protective mechanism in other young, vulnerable, groups including bereaved children, and young sexual abuse victims (Kaplow et al., 2005). Few studies have focused on children facing maternal cancer and the interplay of coping mechanisms and mental health in this particular population. Results of this study may provide preliminary information that can help us to identify protective factors, and potentially serve as important targets for intervention for the millions of children facing maternal cancer.

#### Method

# **Participants**

The children who participated in the current study were recruited through cancer support services including the Breast Care Center and Breast and Ovarian Risk Evaluation Program at the University of Michigan Comprehensive Cancer Center, member hospitals from the Grand Rapids Clinical Oncology Program (Saint Mary's Healthcare, Spectrum Health, and Metro Health), and Gilda's Club of Grand Rapids as part of the larger FAMILY (Facing Maternal Illness in Latency Years) Study (PI: Kaplow). To be eligible for the study, the child had to be between the ages of 6 and 13 and have a mother or primary female caregiver who had received a breast cancer diagnosis within the previous six months. The subjects were between the ages of 6 and 13 with a mean age of 9.3 (SD=2.16). This sample was composed of fifty percent males (n=23), and fifty percent females (n=23). The racial makeup of this sample was 76.1% white (n=35), 6.5% Black (n=3), 6.5% Middle Eastern (n=3), 6.5% "Other" (n=3), and 4.3% Asian (n=2).

# **Procedure**

Children participated in videotaped semi-structured interviews focusing on their thoughts and feelings related to their mother's cancer diagnosis. Children were also administered standardized assessment measures. Mothers were interviewed as well, and administered similar questions, although for the purposes of the current study, only child-report measures will be used.

### **Videotaped Interviews**

Semi structured videotaped interviews were conducted with the children. Interviewers read questions verbatim and recorded the answers both in writing and on video. For the purposes of the present study, qualitative information was taken from three particular questions

- 1. Some kids say that talking about it makes them feel better, and some kids say that talking about it makes them feel worse. For you, does talking about your mom's cancer make you feel better or worse? Can you tell me more about that?
- 2. What has helped you the most so far?
- 3. What would you say to another boy or girl your age who just found out that his/her mom has cancer? (If child has hard time identifying anything, say, what kinds of things have people told you that helped you to feel better?)

#### Measures

Interviewers were instructed to read all questions from the standardized assessment tools aloud to the child and the interviewer recorded the child's responses on the measures themselves.

Avoidance--The Active Inhibition (How I handle Feelings) Scale. The Active Inhibition Scale is an 11-item questionnaire that assesses children's avoidance (or conversely, expressiveness) with regard to feelings (Ayers, Sandler, & Twohey, 1998). The child indicates the degree to which a statement is true by responding to a question about the frequency of each item (see Appendix A) on a scale from 0 (never) to 4 (a lot). Sample items include "You've tried to hide any bad feelings that you've had," and "You've tried to pretend to look happy even when you've felt sad." The scale maintained excellent internal consistency with a Cronbach's alpha of .91, and has consistently shown good reliability and validity in other studies (Ayers et al., 1998;

Tein, Sandler, Ayers, & Wolchik, 2006; Sandler, Ayers, Wolchik, Tein, Kwok, Haine, & Twohey-Jacobs, 2003).

Posttraumatic Stress Symptomology. The UCLA PTSD Reaction Index for Children and Adolescents – DSM IV (Pynoos & Steinberg, 2002) was used to assess the presence of posttraumatic stress symptomology in child subjects. The PTSD severity score is the sum of both the frequency and persistence of certain PTSD symptoms. Children identified how often they experienced certain symptoms, i.e. "I watch out for danger or things that I am afraid of" in the past month using the scale: "0=none, 1=little, 2=same, 3=much, 4=most." Previous studies have indicated that raw scores greater than 38 are indicative of a "likely" PTSD diagnosis (Steinberg et al., 2013). The test-retest reliability of the UCLA PTSD Reaction Index has been consistently good, averaging around 0.93 (Steinberg, Brymer, Decker, & Pynoos, 2004; Foran-Tuller et al., 2012). The measure maintained a high internal consistency of .91.

Anxiety-The Multidimensional Anxiety Scale for Children (MASC). The MASC is a self-report measure of anxiety in youth (March, Parker, Sullivan, Stalings, & Conners, 1997). It is a 39-item questionnaire assessing overall anxious symptomology, as well as four sub-scales; Physical Symptoms, Harm Avoidance, Social Anxiety, and Separation/Panic. For the present study, the total score and sub-scores were examined. Children were asked to evaluate the degree to which a statement such as "I feel tense or uptight," is true about them using the scale "0, never true about me; 1, rarely true about me; 2, sometimes true about me, and 3, often true about me." Previous studies have indicated high test-retest reliability and validity in using both the total score and sub-scores to assess anxiety in children (e.g., March et al., 1997, Olason, Sighvatsson, & Smári, 2004). In the present study, the MASC yielded a Cronbach's alpha of .89 indicating a high level of internal consistency.

### **Data Analytic Plan**

Relationships between continuous and categorical variables were examined via t-tests, and a correlation matrix was generated for all continuous variables. A reliability analysis was used to assess the internal consistency of the measures used within this study.

#### **Results**

# **Descriptive Statistics**

Table 1 presents the descriptive statistics for all continuous variables in the current study.

#### **Correlation Matrix**

Table 2 presents Pearson correlations found among the mental health variable scores and coping (posttraumatic stress, anxiety, and emotional expression). Both posttraumatic stress and overall anxiety are positively correlated with avoidance (r=.36, p < .05, and r=.60, p< .01, respectively), suggesting that a tendency towards avoidant coping may have a negative impact on mental health. It is important to note, however, that these are simply bivariate relationships and do not take into account other confounding factors. Further, avoidance is a component of PTSD diagnosis, which is a potential confound for the correlation between PTSD and avoidance scores measured by the active inhibition scale. Table 2 also presents correlations among each of the subscales of the MASC and avoidant coping, with significant correlations between avoidant coping and physical anxiety (r=.603, p <.01), harm avoidance (r=.392, p <.01) and social anxiety (r=.557, p < .01). Additionally, correlations between each of the PTSD domains with avoidance and overall anxiety are shown in Table 2. Criterion A (number of traumas) was positively correlated with avoidant coping scores (r=.36, p < .05). Criterion B (Re-experiencing) was positively correlated with both avoidant coping (r=.41, p < .01) and overall anxiety (r=.50, p)<. 01). Criterion C (avoidance) was also positively correlated with both measures, (avoidance,

r=.50, p <. 01, MASC total, r=.43, p <. 01). Further, Criterion D, increased arousal was also positively correlated with avoidance and anxiety (avoidance r=.33, p <. 05; MASC Total, r=.49, p <. 01).

### **Qualitative Data**

Children were asked "for you, does talking about your mom's cancer make you feel better or worse?" We found that children who indicated that they felt "better" and children who indicated they felt "worse" did differ in their avoidance scores (M = 13.48 versus M = 23.89, respectively; t(31)=2.65, p=.01) in the expected direction (i.e., those who felt better were less avoidant). No significant difference was found in the avoidance scores between children who answered "worse" and "neither," (M=13.64, SD = 14.32), or between children who answered "better" and neither.

Further, an analysis of participants' responses to the question "What has helped you the most so far?" provided interesting insight into what the children affected by their mothers' cancer found to be the most helpful in terms of coping with parental illness. Responses were categorized into four domains including Perceived Support, Opportunities for Self-Expression, Information Gathering, and Reassurance. These qualitative response categories in relation to this question (what has helped you the most so far?) are shown in Figure 1.

# **Perceived Support**

A number of youth indicated knowing that relatives, friends, and even teachers were available if they wanted to talk was very helpful. Many children made reference to Gilda's Club, a program offering cancer support services from which many participants were recruited. Gilda's Club provides both peer support and opportunities for expression. Other children reported that many people had indicated that they were "there for them" which was found to be quite helpful.

# **Opportunities for Self-Expression:**

As mentioned in the previous section, the opportunities afforded by support groups at Gilda's Club were identified as a helpful factor multiple times. Additionally, many children reported that the most helpful aspect had been talking to others including parents, teachers, and friends.

# **Information Gathering**

Receiving information about both the maternal cancer and cancer in general was identified as being helpful. For example, one subject indicated that having her mother explain chemotherapy, attending a class, and watching a video about cancer were very helpful. Another subject said that it would be "nice if [they] could learn more about cancer." These findings are consistent with other studies that have found open communication about the illness itself to be key in preventing child distress in the face of parental illness (Faulkner & Davey, 2002; Huizinga et al 2011).

### Reassurance

Reassurance came from being told that the prognosis was promising, or from observations children made themselves. For example, one participant identified that knowing their mother was "getting better," and "can do stuff and get out of bed," had been the most helpful thing. A number of subjects also indicated that being told that "everything would be okay," and hearing good news provided a helpful sense of reassurance.

#### **Discussion**

This study suggests that avoidant coping behaviors are associated with increased levels of anxiety and posttraumatic stress symptomology. Given the cross-sectional nature of our data,

causality cannot be determined, and it is possible that other factors may influence both coping mechanisms and mental health measures. However, these findings lend preliminary support to the notion that avoidant coping may influence anxiety-related mental health issues in children facing maternal cancer and certainly warrant more exploration in a larger study.

### **Anxiety**

Scores on the Active Inhibition Scale and Multidimensional Anxiety Scale for Children were positively correlated, indicating a significant relationship between avoidance and anxiety. This is consistent with other studies of children with an ill parent (e.g.: Wong et al., 2009; Flahault & Sultan, 2010). Previous research has found that communication quality falters when a parent is diagnosed with cancer, as neither party wants to upset the other, and withholds information (Huizinga et al., 2011; Lewis, Hammond, & Woods, 1993; Siegel, Mesagno, Karus, Christ, Banks, & Moynihan, 1992). Thus, it appears that in many cases, children are not expressing their anxiety and this avoidance, in conjunction with a lack of information is likely to result in further distress. Children's fantasies about the parent's illness are often worse than the reality but when there are no adults to help facilitate this understanding, children are likely to experience mental health problems (Bowlby, 1979).

In terms of the MASC subscales, there were significant correlations between physical manifestations of anxiety, harm avoidance, and social anxiety with avoidance and PTSD symptoms. A strong, positive correlation of social anxiety with avoidance may be explained by findings suggesting a lack of support from peers in children facing parental cancer, which may exacerbate the inclination to suppress emotions in the face of parental illness (Giesbers et al 2010; Huizing et al., 2011). Other studies have shown lower social competency scores in children of a terminally ill parent, as compared to children with healthy parents (Siegel et al.,

1992). Many children have also indicated a decline in the quality of personal relationships as a result of parental cancer (Wong et al., 2009). Harm avoidance, it seems, might be the manifestation of an increased fear about one's own health in the face of parental illness as seen in similar studies (e.g. Wong et al., 2009).

#### **Posttraumatic Stress**

The mean PTSD severity score for this sample was 13.77 (SD=13.54), slightly lower, though still comparable to mean PTSD severity scores found in studies of children coping with illness in the family, (Packman, Fine, Chesterman, vanZutphen, Golan, & Amylon, 2004; McClatchy, Vonk, & Palardy, 2009). This study found a significant positive correlation between PTSD severity scores with total Active Inhibition scale avoidance scores, indicating a relationship between emotional suppression and posttraumatic stress symptomology. A strong correlation with all four severity sub scores (Number of Traumas Exposed To, Re-experiencing symptoms, avoidance symptoms, and increased arousal symptoms) was found. These correlations, while informative, however, do not take into account other confounding factors both trauma-related and otherwise, such as the redundancy of the comparing two avoidance measures, past life experiences, age, and gender to name a few. Some positive correlation was found between number of trauma exposures and avoidance, and further studies should examine the impact of previous trauma history on coping mechanisms in the face of parental cancers. The overall implications for the severity of PTSD symptomology indicate a need to provide children coping with parental cancer with intervention to prevent long lasting and deleterious psychological effects.

### **Clinical Implications and Conclusions**

Four major categories were derived from children's self-reports of what they found to be most helpful when faced with their mother's cancer diagnosis (Perceived Support, Opportunity to Express Oneself, Information Gathering, and Reassurance/Perception of Prognosis). This qualitative data provides a firsthand account of what children believe to be helpful, much of which can be easily integrated into intervention efforts with this population. These categories are consistent with similar studies (e.g. Davey, Tubbs, Kissil, & Niño, 2011; Gazendam-Donofrio et al., 2010) identifying similar positive adolescent and child coping strategies in the face of parental illness. All of these four categories are related to parent-child communication, which has been found to be one of the most important "predictors of child functioning when a parent has cancer" (Huizinga et al., 2011, p. 731).

# **Perceived Support**

Multiple children identified accessibility to perceived support as a helpful factor in coping with their mothers' illnesses. Simply being told that someone was "there for them," was identified as being extremely positive. Research has indicated similar findings, citing loneliness and subsequent negative appraisals as a possible consequence of lack of support or an inability to "share their experiences with others" (Gazendam, Donofrio et al., 2010, p. 347). This speaks to the need to not only treat the ill parent, but also the family as a whole. In fact, a previous study found that adolescent participants expressed that they thought they could benefit from family counseling, and family centered interventions (Davey, Gulish, Askew, Godette, & Childs, 2005). By using a family based approach and educating parents on how to support their children, perceived support in the home can be optimized. Educating both parents and children on the resources available for them might also provide comfort by helping families to feel less "alone" in their experiences.

# **Opportunity to Express Oneself**

Analyses of collected data reveal a significant difference in mean avoidance scores between children who indicated that talking to someone about their mothers' cancer makes them feel better as opposed to those who indicated it made them feel worse. This may be due to the fact that avoidant children actually do feel worse talking about their experiences, or that children who feel worse talking about their experiences are more avoidant. Accordingly, not one subject who answered "worse" indicated that what they found most helpful fell under the category of "opportunity to express oneself." This may indicate a lack of opportunity for expression for children who do not find talking about their mother's illnesses helpful. Reports from programs geared towards children coping with parental illness or bereavement, such as camps, support groups, counselors, and peers facing similar challenges have reported positive outcomes and increased self-expression (Camp Kesem, 2012; Ele's Place, 2011). This in turn, may help to lessen the frequency of avoidant coping A similar study on adolescents coping with maternal breast cancer, reported that participants would like to participate in a support group with their peers (Davey et al., 2005).

### **Information Gathering**

Information Gathering as a means of grasping a parent's illness has been seen as an important component of supporting children coping with parental illness. The uncertainty that can arise from the withholding of information has been shown in other studies to negatively influence a child's appraisal of the illness, "which may elicit negative emotions" (Gazendam-Donofrio et al., 2010, p.347). Further, a study by Huizinga et al., found that the strongest

predictor of "stress response symptoms" in adolescents of cancer patients was a lack of parent-child communication (2011), although the specific content of the communication was not assessed. Age appropriate educational programs about cancer may help alleviate some of the stress and uncertainty associated with parental diagnosis. This may also allay children's' fears of their own health, as manifested in the harm avoidance subscale of the MASC (e.g., explaining that cancer is not contagious). Further studies should examine age differences in information seeking, and how best to educate in a way that does not provoke more anxiety.

### Reassurance/Perception of Prognosis

The uncertainty inherent in a cancer diagnosis has been shown to cause significant anxiety, depression, and distress in children facing parental illness (Gazendam-Donofrio et al., 2010; Flauhault & Sultan, 2010; Wong et al., 2009). Thus, it is logical that evidence of improved prognosis in the eyes of a child or adolescent would help to alleviate their own anxiety symptoms associate with uncertainty. However, it is unclear whether or not some of the children who indicated reassurance as a helpful factor were being told that their mother "would be okay," with complete honesty. Future studies should examine the potential consequences of misleading a child about their parent's health in an attempt to provide comfort.

#### Conclusion

It is often easy to overlook one of the most helpful resources for childhood interventions—the children themselves. Based on the data in this study, it seems that interventions fostering expressive coping will serve as a catalyst for better mental health outcomes with regard to anxiety and PTSD symptomology. This information, coupled with participant reports, sheds light on what needs to happen, and future studies should examine how this information translates into action.

#### References

- Ayers, T. S., Sandler, I. N., & Twohey, J. L. (1998). Conceptualization and measurement of coping in children and adolescents. *Advances in Clinical Child Psychology*, 20 243-301.
- Bowlby, J. (1979). On knowing what you are not supposed to know and feeling what you are not supposed to feel. *Canadian Journal of Psychiatry*, *24*(5). 403-408.
- Camp Kesem. (2012). Annual Report FY 2012. Chicago, IL: Saccaro, Jane.
- Clemmens, D. A. (2009). The significance of motherhood for adolescents whose mothers have breast cancer. *Oncology Nursing Forum*, *36*(5), 571-577
- Compas, B., Worsham, N., Ey, S., & Howell, D. (1996). When mom or dad has cancer: II.

  Coping, cognitive appraisals, and psychological distress in children of cancer patients.

  Health Psychology. 15, 167-175.
- Davey, M. P., Gulish, L., Askew, J., Godette, K., & Childs, N. (2005). Adolescents coping with mom's breast cancer: Developing family intervention programs. *Journal of Marital and Family Therapy*, 31(2), 247-258.
- Davey, M. P., Tubbs, C. Y., Kissil, K. & Niño, A. (2011). "We are survivors too." African-American youths' experiences of coping with parental breast cancer. *Psycho-Oncology*, 20, 77-87.
- Ele's Place (2011). Annual Report: Fiscal Year 2011.
- Faulkner, R. A., & Davey, M. (2002). Children and adolescents of cancer patients: The impact of cancer on the family. *The American Journal of Family Therapy*, 30(1), 63-72.
- Flahault, C., & Sultant, S. (2010). On being a child of an ill parent: A Rorschach investigation

- of adaptation to parental cancer compared to other illnesses. Rorschachiana, 31, 43-69.
- Gazendem-Donofrio, S. M., Hoekstra, H. J., van der Graaf, W. T. A., van de Wiel, H. B. M., Visser, A., Huizinga, G. A., & Hoekstra-Weebers, J. E. H. M. (2010). Adolescents' emotional reactions to parental cancer: Effect on emotional and behavioral problems. *Journal of Pediatric Psychology.* 36(3), 346-359.
- Giesbers, J., Verdonck-de Leeuw, I. M., van Zuuren, F.J., Kleverlaan, N., & van der Linden, M. H. (2010). Coping with parental cancer: A web-based peer support in children. *Psycho-Oncology*, 19, 887-892.
- Grant, K. E., & Compas, B. E. (1995). Stress and anxious-depressed symptoms among adolescents: Searching for mechanisms of risk. *Journal of Consulting and Clinical Psychology*. *63*(6), 1015-1021.
- Horner, M. J., Ries, L.A.G., Krapcho, M., Neyman, N., Aminou, R., Howlander, N.,...Edwards, B.K. (2009). SEER Cancer statistics review. http://seer.cancer.gov/csr/1975 2006/.
- Huizinga, G. A., Visser, A., van der Graaf, W. T. A., Hoekstra, H. J., Stewart, R. E., & Hoekstra-Weebers, J. E. H. M. (2011) Family-oriented multilevel study on the psychological functioning of adolescent children having a mother with cancer. *Psycho-Oncology*, 20, 730-737.
- Kaplow, J. B., Dodge, K. A., Amaya-Jackson, L., & Saxe, G. N. (2005). Pathways to PTSD, Part II: Sexually abused children. *The American Journal of Psychiatry*. *162*(7), 1305-1310.
- Lewis, F. M., Hammond, M. A., & Woods, N. F. (1993). The family's functioning with newly diagnosed breast cancer in the mother: The development of an explanatory model.

  \*\*Journal of Behavioral Medicine. 16(4), 351-367.

- March, J. S., Parker, J. D. A., Sullivan, K., Stallings, P., & Conners, C. K. (1997). The Multidimensional Anxiety Scale for Children (MASC): Factor structure, reliability, and validity. *Journal of the American Academy of Child and Adolescent Psychiatry*. 36, 554-565.
- McClatchy, I. S., Vonk, E. M., & Palardy, G. (2009). The prevalence of childhood traumatic grief-a comparison of violent/sudden and expected loss. *Omega: Journal of Death and Dying*, 59(4). 305-323.
- Olason, D. T., Sighvatsson, M. B., & Smári, J. (2004). Psychometric properties of the Multidimensional Anxiety Scale for Children (MASC) among Icelandic schoolchildren. Scandinavian Journal of Psychology. 45(5), 429-436.
- Osborn, T. (2007). The psychosocial impact of parental cancer on children and adolescents: a systematic review. *Psycho-Oncology*, *16*, 101-126.
- Packman, W., Fine, J., Chesterman, B., vanZutphen, K., Golan, R., & Amylon, M.D. (2004) Camp Okizu: Preliminary investigation of psychological intervention for siblings of pediatric cancer patients. *Children's Health Care*, 33(3), 201-215.
- Pynoos, R., Rodriguez, N., Steinberg, A., Stuber, M., & Frederick, C. (1998). UCLA PTSD Index for DSM-IV.
- Rodriguez, N., Steinberg, A., & Pynoos, R. S. (2001). The Child Posttraumatic Stress Reaction Index, Revision 2.
- Sandler, I. N., Ayers, T. S., Wolchik, S. A., Tein, J., Kwok, O., Haine, R. A., Twohey-Jacobs, J., ...Griffen, W. A. (2003). The Family Bereavement Program: Efficacy evaluation of a theory-based approach for parentally bereaved children and adolescents. *Journal of Consulting and Clinical Psychology*, 70, 587-600.

- Shapiro, D. N., Kaplow, J. B., Amaya Jackson, L., & Dodge, K. A. (2012). Behavioral markers of coping and psychiatric symptoms among sexually abused children. *Journal of Traumatic Stress*, *25*, 157-163.
- Siegel, K., Mesagno, F. P., Karus, D., Christ, G., Banks, K., & Moynihan, R. (1992).

  Psychosocial adjustment of children with a terminally ill parent. *Journal of the American Academy of Child and Adolescent Psychiatry*. *31*(2), 327-333.
- Steinberg A. M., Brymer M. J., Kim S., Ghosh C., Ostrowski S. A., Gulley K., Briggs, E.C.,
  Pynoos, R.S. (2013). Psychometric properties of the UCLA PTSD Reaction Index: Part 1. *Journal of Traumatic Stress*, 26, 1-9.
- Steinberg, A., Brymer, M., Decker, K., & Pynoos, R. S. (2004). The UCLA PTSD Reaction Index. *Current Psychiatry Reports*, 6, 96-100.
- Tein, J., Sandler, I., Ayers, T., & Wolchik, S. (2006). Mediation of the effects of the Family

  Bereavement Program on mental health problems of bereaved children and adolescents. *Prevention Science*, 7, 179-195.
- Weaver, K. E., Rowland, J. H., Alfano, C. M., & McNeel, T. S. (2010). Parental cancer and the family: A population based estimate of the number of US cancer survivors residing with their minor children. *Cancer*, *116*(18), 4395-4401.
- Wong, M. L., Cavanaugh, C. E., MacLeamy, J. B., Soujourner-Nelson, A., & Koopman, C. (2010). Posttraumatic growth and adverse long-term effects of parental cancer in children. *Families, Systems*, & *Health*, *27*(1), 53-63.

### **Author Note**

Joanna H. Gross, Department of Psychology, University of Michigan, Ann Arbor I would like to thank Dr. Julie Kaplow for collaborating with me on this project and providing her guidance, knowledge and experience. Her continued support has been essential throughout the course of this project, and I am grateful for her wonderful mentorship. I would also like to thank Amanda Burnside, Emilie Lerner, and Damia December, who have been invaluable in the success of this project.

Table 1

Descriptive statistics for the Active Inhibition Scale, PTSD Severity Score, the MASC and its subscales

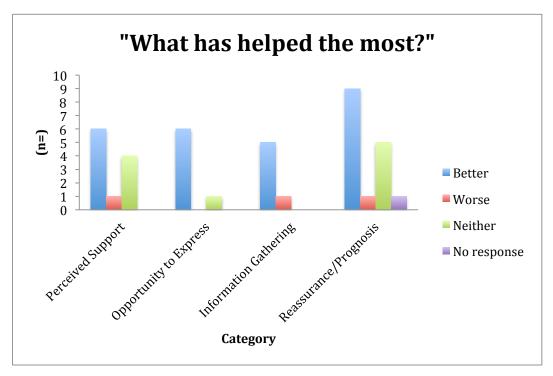
Variable	Mean	Standard Deviation	Range
	A	voidance	
Active Inhibition Scale Total	15.61	11.632	0-44
		Trauma	
PTSD Severity Score	13.77	13.540	0-52
Criterion A Severity			
Score (# of Traumas	2.10	1.781	1-10
Exposed)			
Criterion B Severity			
Score (Re-	4.12	4.570	0-17
experiencing)			
Criterion C Severity		- 4 6 4	0.40
Score (Avoidance)	4.67	5.164	0-19
Criterion D Severity			
Score (Increased	5.21	4.593	0-15
Arousal)			
		Anxiety	
MASC Total	48.85	17.979	11-81
MASC Physical	8.80	6.844	0-26
Symptoms			- <del>-</del>
MASC Harm Avoidance	20.08	5.236	7-27
MASC Social Anxiety	9.69	6.487	0-24
MASC Social Anxiety MASC Separation and			
Panic Panic	10.29	4.561	2-20

Table 2 Correlation Matrix for Mental Health Measures

	Avoidance	Trauma	Anxiety	MASC Physical	MASC Harm Avoidance	MASC Social Anxiety	MASC Separation & Panic	PTSD A	PTSD B	PTSD C	PTSD D
Avoidance		.362*	.597**	.603**	.392**	.557**	.210	.360*	.406**	.495**	.333*
Trauma Anxiety MASC Physical MASC Harm		-	.457**	.262 .806**	.274 .733** .433**	.522** .805** .483**	.303* .740** .490**	.109 .239 .122	.501** .216 .417**	.425** .271 .196	.494** .289 .277
Avoidance MASC Social Anxiety						-	.488**	.087	.586**	.552**	.577**
MASC Separation & Panic							-	194	.312*	.225	.337*
PTSD A (# of traumas								-	.148	.142	.065
exposed) PTSD B (re-									-	.805**	.804**
experiencing) PTSD C (avoidance)										-	.752**
PTSD D (increased arousal)											

Note: N=46, \*p < .05, \*\*p < .01, MASC= Multidimensional Anxiety Scale for Children,

PTSD=Post Traumatic Stress Disorder



*Figure 1.* Identified categories grouped by whether or not the participant identified talking about their mothers' illnesses as making them feel better, worse, or neither.

# Appendix A

# **Active Inhibition Scale**

Subject ID #	Interviewer ID #
Date	
Directions for administration:	
Now, I am going to read some senten	ces about how you handle feelings. Tell me whether you
think the sentence is true for you: nev	ver, a little, sometimes, pretty much, or a lot.
You've tried to hide any bad feeling	ngs that you've had.
A. never	
B. a little	
C. sometimes	
D. pretty much	
E. a lot	
2. You've tried to pretend to look hap	opy even when you've felt sad.
A. never	
B. a little	
C. sometimes	
D. pretty much	
E. a lot	

3. When you've felt afraid, you've kept it inside.

A. never

]	B. a little
•	C. sometimes
]	D. pretty much
]	E. a lot
4. When	n you've felt upset, you've pretended that you're not.
	A. never
]	B. a little
(	C. sometimes
]	D. pretty much
]	E. a lot
5. You'	ve tried not to feel sad.
	A. never
]	B. a little
(	C. sometimes
]	D. pretty much
]	E. a lot

6. You've tried to pretend you were happy even when you've felt sad.

A. never
B. a little
C. sometimes
D. pretty much
E. a lot
7. When you've felt angry, you've kept it to yourself.
A. never
B. a little
C. sometimes
D. pretty much
E. a lot
8. When you've felt sad, you tried not to let anybody know.
A. never
B. a little
C. sometimes
D. pretty much
E. a lot
9. When you've felt afraid, you've tried not to think about it.
A. never
B. a little

C. sometimes
D. pretty much
E. a lot
10. When you've been upset, you've acted like nothing was wrong.
A. never
B. a little
C. sometimes
D. pretty much
E. a lot
11. You've tried to hide it when you've felt sad.
A. never
B. a little
C. sometimes
D. pretty much
E. a lot
(Sandler et al., 2003).