Coping with Pediatric Cancer: Conversational Methods Utilized by Parents and Children when Dealing with Pediatric Cancer

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COPING WITH PEDIATRIC CANCER: CONVERSATIONAL METHODS UTILIZED BY PARENTS AND CHILDREN WHEN DEALING WITH PEDIATRIC CANCER

By
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Bachelor of Arts in Communication Studies
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ABSTRACT

This study analyzed how people perceived parents should communicate with their child regarding pediatric cancer treatments. When dealing with pediatric cancer, it is vital that parents and their child communicate about the illness in order to effectively cope with the cancer. Using Uncertainty Management Theory, appraisals, inferences, and illusions, are examined in this study to discover how much affect-management and buffering would be used to manage the illness. Under UMT, the coping mechanisms of affect-management (i.e., religious coping and behavioral disengagement), and buffering (avoidance and child distraction) depend upon how individuals appraise the uncertain situation (positive vs. negative), the inferences they have about it (positive vs. negative vs. low), and their overall illusions regarding the uncertainty (positive vs. no illusions). To test the extent to which affect-management and buffering were used, an experimental design using 12 hypothetical scenarios was conducted via an on-line questionnaire. About 312 participants participated in this study. Religious coping was not explained by the independent variables. The three way interaction of appraisal, inference, and illusions explained participants’ use of behavioral disengagement. The two-way interaction of appraisal and inferences, as well as the two-way interaction of inferences and illusions partially explained participants’ use of child distraction. Results provided partial support for Mishel’s UMT model and offer interesting directions for future research examining information regulation and coping in uncertainty stemming from a child’s illness.
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CHAPTER 1: LITERATURE REVIEW

Introduction

Cancer is an illness that devastates many people and their families. Terminal illness and death are prevalent features that come with the diagnosis of pediatric cancer (Dolgin & Jay, 1989). When a person is diagnosed with cancer, s/he is faced with complex, ambiguous, and sometimes contradictory information as well as an inability to anticipate the future (Mishel, 1988). In other words, uncertainty accompanies a cancer diagnosis (Stewart & Mishel, 2000). With pediatric cancer, uncertainty is a two-fold situation experienced by both parents and the child. The adjustments parents and children with cancer must make to their daily life routines are inextricably linked to the dynamics of the illness which include diagnosis severity, treatment options, and survival rates (Dolgin & Jay; Stewart & Mishel).

During the diagnosis and pre-treatment stage of pediatric cancer, both parents and the child may experience a variety of emotional and physical discomfort. These discomforts may arise because the family is unsure about the treatments, why the illness has occurred, how long the illness will last, and if the child will survive (to name a few concerning issues). This perceived lack of knowledge and unpredictability are prevalent with pediatric illness; thus families must manage their uncertainty to survive the illness both mentally and physically.

One of the ways parents can manage their uncertainty is by obtaining information from physicians, and by sharing the information with the child, parents may affect their own and their child’s uncertainty. Physicians primarily disclose directly to the parents
about the child’s illness without the presence of the child (Knopf, Hornung, Slap, DeVellis, & Britto, 2008). Parents then choose what information to disclose to and withhold from their child in order to protect them from information that may potentially have negative consequences (Knopf et al.). In a study by Young, Dixon-Wood, Windridge, and Heney (2003), parents often assumed an executive-like role managing what, when, and how their child was told about the illness. Because of the incomplete information given, the child may not know the severity of the illness, which can contribute to their confusion and potentially create greater harm for the child both mentally and physically. For instance, if a child believes s/he is going to the doctor’s office for a routine checkup and unaware s/he is being treated for pediatric cancer, the child may start to feel distressed upon entering the hospital (Dolgin & Jay, 1989). This suggests that while parents must manage their own uncertainty about the child’s cancer, they are fundamental in their child’s management of uncertainty. Understanding how parents view the cancer diagnosis and treatment will likely influence how they inform the child.

To improve our understanding of how parents communicate to children about pediatric cancer treatments, this thesis uses Uncertainty Management Theory (UMT), (Mishel 1988; Brashers, 2001). UMT maintains that when details of an illness are ambiguous, complex, unpredictable, probabilistic, or when information is unavailable or inconsistent, individuals experience uncertainty (Mishel). One’s inferences, or general knowledge of the event and illusions, or the perceptions that there will be positive outcomes to the event, influence the overall uncertainty appraisal, which in turn affects communicative coping behaviors (Hogan & Brashers, 2009; Mishel). Thus, it is useful
for improving knowledge about how one’s information and general beliefs about cancer influence the use of affect-management and buffering strategies when communicating with children about the child’s cancer treatments.

Chapter one provides the practical rationale and theoretical background for this thesis. First, the pediatric cancer context is explained to demonstrate why parents and their child experience uncertainty during the diagnosis and pre-treatment stage. Next, UMT is presented as the theoretical groundwork used to look at pediatric cancer disclosure. Uncertainty appraisals, inferences, and illusions are examined in order to construct an understanding as to how parents might assess pediatric cancer, and how their understanding influences their communication with their child about treatment options.

Chapter two discusses the research methods used to test the hypotheses. Recruitment and participation procedures also are detailed, as are procedures for administering the online questionnaire use to conduct the survey. Twelve hypothetical scenarios were designed to manipulate the three independent variables (i.e., appraisals, inferences, and illusions). Finally, the dependent variables (affect-management and buffering) and assessments for manipulation checks are presented.

Chapter three discusses the results of the study, including the data analysis procedures, as well as the preliminary and substantive analysis.

Chapter four discusses significant findings throughout the study, as well as contradictions in the results as opposed to the supporting literature. Also, chapter four discusses the limitations and future research options for this study.
Pediatric Cancer Context

When a child is ill, there are many factors that transpire in regards to treatments and medical procedures. Parents have to make decisions about medical information and inform the child of the illness. In most pediatric medical situations, patients often remained in the dark, lacking the knowledge of how, what, when, or why certain medical procedures occur in response to their illness (Knopf, et al., 2008). Most information pertaining to the illness is directed from the physician towards parents (Young et al., 2003). Rarely are all three parties, (physician, parent, and child) present when the diagnosis was revealed (Young et al.). However, in a study conducted by Hortsman and Bradding (2002), pediatric cancer patients reported they would prefer clear, unambiguous information directed at them and not the parents.

Following diagnosis, treatment becomes primary. Cancer treatment options, such as bone marrow aspirations, lumbar punctures, radiation, chemotherapy, and surgery range in severity and invasiveness but are typically characterized as repeated painful medical procedures (Rape & Bush, 1994; Sloper, 1996). None of these options are pleasant for patients to undergo and often result in acute distress related to post-procedural chronic-illness pain and discomfort in bones, joints, soft tissues, and organs (Dolgin & Jay, 1989; Miser, Dothage, Wesley, & Wesley, 1987). Chemotherapy alone may cause patients to experience nausea, vomiting, anorexia, nutritional debilitation, anxiety, depression, and even sleep disturbances (Dolgin & Jay). The lumbar punctures, which may accompany chemotherapy, are performed by inserting a needle into the spinal canal between the vertebrae in order to inject chemotherapy or withdraw cerebral spinal fluid to be examined for cancer cells (Rape & Bush). Pediatric patients consistently report
that needle stick procedures are frightening and painful (Kleiber et al., 2007). These treatments must be completed multiple times. Thus, it is typical for cancer treatment to promote fear, both from the discomfort that will be produced, and of the possible implications for the patient’s health and well-being.

Because hospitalizations and medical treatments can be stressful and anxiety producing potentially leading to future transient and long-term disturbances in pediatric patients, better preparation for the treatment procedures for the patient is needed (Melamend & Siegal, 1975) and may benefit from information parents provide regarding upcoming medical treatments (Blount et al., 2009). Patients who are better informed, are better prepared for treatment, have lower distress, and better adjustment during and after treatments (Blount et al.). By providing the patient with specific rather than general information, and procedural (what will be done) as well as sensory (what the patient will feel) descriptions will help the patient prior and during to treatments (Blount et al.; Kain, Mayes, & Caramico, 1996). Although focusing on communication with health professionals, DiMatteo (2004) found that providing such information fostered adherence, positive health outcomes, and helped the patient cope with the illness. Consistent with what Sloper (1996) suggests, providing information to children can help reduce and relieve their anxiety and stress about treatments; additionally, parents can have a more active role in children’s knowledge about treatments and provide the child the support needed for coping with the illness.

Problematically, while providing information can benefit pediatric patients, treatment information may also create anxiety, increasing difficulties for the patient. If the child is informed prior to the treatment that a needle is going to be stuck into his/her
lower back, s/he is probably more likely to suffer from anxiety. Such anxiety is often anticipatory and manifests itself in a variety of symptoms such as nausea, vomiting, insomnia, nightmares, and even depression (Katz, Kellerman, & Siegel, 1980). This anxiety does not necessarily stop once the particular treatment is finished. Pediatric patients may have anxiety in response to frequent hospital visits, personnel (physicians and nurses), and other hospital environment stimuli such as sights, sounds, and smells (Katz et al.). Further, severe treatment side effects, such as misconceptions about painful procedures and physical discomfort, are some of the primary reasons for noncompliance in adolescent cancer patients, which often resulted in delays and even termination of treatment procedures (Zeltzer, Dolgin, LeBaron, & LeBaron, 1991). Also, pre-procedural anticipatory stress also has been considered a reason patients are reluctant to participate in cancer-related procedures such as chemotherapy and radiation (Zeltzer et al.). These outcomes of information for children dealing with cancer treatments may explain why much of adults’ communication focuses on distracting and directing the child’s attention to topics other than pain or discomfort of the treatment (Blount et al., 2009.). The inability to detect how the child will perceive illness-related information, as well as how parents will communicate such information to the child can be examined through the use of UMT.

**Uncertainty Management Theory**

**Uncertainty**

When an individual is faced with a situation with no projected outcome, he/she tends to become uncertain (Brashers, 2001). Uncertainty is a fundamental human experience for the development and decline of interpersonal relationships, socialization,
and adaptation to illness and stress (Brashers et al., 2000). When details of a situation are ambiguous, complex, or unpredictable, people might feel insecure about their own state of knowledge about the situation, therefore, uncertainty arises (Brashers). Uncertainty impacts individuals information seeking and provisions (Hogan & Brashers, 2009).

Uncertainty in the medical field occurs in situations where the decision maker is unable to accurately predict outcomes (Mishel, 1990). When families confront pediatric cancer, the primary decision makers are parents who must determine what information to reveal to the ill child, what treatment procedures will be prescribed, and how to continue family life in conjunction with the illness (Gibson, Aldiss, Hortsman, Kumpunen, & Richardson, 2010). Parents’ and the child’s inability to anticipate or predict what the future holds in regards to the illness can cause emotional, physical, and psychological distress (Thompson & O’Hair, 2008).

For the parents, their responsibility is to be there for the child, both physically and emotionally at all times (Stewart & Mishel, 2000). While parents may experience uncertainty prior to their child’s diagnosis, uncertainty may be heightened when the diagnosis is made (Stewart & Mishel). Parents can experience vulnerability and, therefore, desire to know what their child will suffer from throughout the course of the illness (e.g., symptoms, painful treatments) (Santacroce, 2002). At this point, the information parents may have about the child’s condition can range from being inadequate to overly complex (Stewart & Mishel). Having probably no medical background, parents may feel overwhelmed with the information physicians provide, which contributes to their experience of uncertainty about possible outcomes.
Uncertainty is prevalent throughout each stage of cancer treatment, including how parents communicate about treatment options to their child. In order for parents to relay information to their child about treatments, parents need specific illness-related information (Mishel, 1988). This information primarily comes from the child’s physician. Physicians often attempt to offer detailed information about the procedures to parents (Santacroce, 2002). However, this information is usually presented in a language that would be hard for the child to comprehend and often difficult for parents to understand as well. Parents are often left to develop messages for their child that will make it easier for the child to understand why the procedures are necessary and how they will feel pre and post-treatment (Santacroce). Finding ways to explain complex and painful treatments to the patient while minimizing anxiety and uncertainty might help create a more calm and relaxing experience for the child. However, balancing the child’s needs with the complexity of the information can create uncertainty for the parent regarding what information to reveal and how it should be revealed.

From the child’s perspective, uncertainty might arise in different forms, as well. Depending on if the child has been told they are ill, the child will probably deal with different forms of uncertainty. If the child is at an age where he/she comprehends they are battling cancer, the child will probably be uncertain about how long they are going to have to remain in the hospital and what procedures will be administered in order to make them feel better. Even if the child is not told they are battling cancer, the child is still going to have some form of uncertainty throughout the treatment process (Dolgin & Jay, 1989; Maclay, 1970). For instance, the child might not understand why they constantly have to travel to the hospital for treatments, most often consisting of painful procedures.
accompanied with needles and other instruments (Rape & Bush, 1994). The child may become uncertain as to how long the treatment process is going to take or how long the painful procedures must be endured (Dolgin & Jay; Maclay).

The parents and the child may also be uncertain about how procedures will affect the child outside of the hospital. When the child has cancer, they cannot be around others as much out of fear they may become even more ill if they catch a cold (Dolgin & Jay, 1989). They may become uncertain as to when they are going to be allowed to play with their friends, go to school, and continue living the life they had become accustomed to before the illness took over their lives. Additionally, if the child has to have chemotherapy, the physician may administer a broviac, or a long-term percutaneous catheterization allowing permanent intravenous access for a constant flow of medication (Green, Moore, Strickland, & McFarland, 1988). When the broviac is administered, the child must refrain from contact with others outside the immediate family since the broviac is basically an open wound. If germs or a bacterium was to get into the incision, then the child would be at risk of infection or other complications (Maclay, 1970). Staying away from friends or other social gatherings might disturb and irritate the child.

Overall, a pediatric cancer diagnosis likely creates uncertainty for parents and the child. Parents are typically responsible for managing their own and their child’s uncertainty given the parents’ roles as primary care takers (Young et al., 2003). The diagnostic and treatment information parents share with the child can have diverse implications for the child ranging from easing anxiety and uncertainty (Mishel, 1988, 1990; Santacroce, 2002), to decreasing the child’s willingness to follow treatment protocols and increasing anxiety and uncertainty (Dolgin & Jay, 1989; Maclay, 1970).
Thus, what and how parents reveal information to manage uncertainty is important. Mishel’s (1988) Uncertainty Management theory provides a useful framework for examining parents’ uncertainty management processes.

**Uncertainty Management**

Uncertainty Management Theory analyzes how people cope with uncertainty (Brashers, 2001; Mishel, 1988). Uncertainty is ubiquitous, especially when dealing with an illness (e.g., Brashers et al., 2000). Never knowing what the day will bring can be very stressful both on the patient and the ones caring for them. To cope, and therefore live with their uncertainty, parents and the child must learn how to manage it. Managing uncertainty is the process theorized within UMT; it looks at the communicative behaviors used to respond to the uncertainty experienced within illness-related situations (Hogan & Brashers, 2009; Mishel, 1988). UMT offers an explanation for how people evaluate uncertainty and produce strategies for coping with uncertainty, which affects their adaptation to the uncertainty (Brashers; Hogan & Brashers; Stewart & Mishel, 2000; Mishel). UMT posits that individuals appraise uncertainty either as a danger or opportunity, and from those appraisals, suggests why some people seek and/or share information to reduce their uncertainty while others avoid information (Hogan & Brashers; Mishel). Uncertainty appraisals lead to choices for coping with the situation (Brashers; Volkman & Silk, 2008). Two coping options identified by UMT are affect-management and buffering (Mishel). Appraisals are affected by inferences (i.e., one’s knowledge about the issue) and illusions (i.e., the degree of positivity about the situation) (Mishel).
Appraisals

Uncertainty prompts parents and the child to appraise the uncertainty stimuli in order to create meaning for the situation (Brashers 2001; Mishel, 1998; Santacroce, 2002). Consistent with Lazarus and Folkman (1987), who argues that upon experiencing a stressor, individuals engage in a cognitive meaning making process, and that when dealing with uncertainty, individuals engage in a cognitive appraisal process to understand and determine how to respond to the uncertainty (Brashers; Mishel, 1988). Appraisals serve an evaluative response, which assumes the reaction elicited by an event is dependent on how the event is interpreted along a number of appraisal dimensions such as: good/bad aspects of the event, probability, focus, and responsibility of the agent (Goldsmith, 2009; Marsella & Gratch, 2008; Siemer & Reisenzein, 2007).

Appraisals of uncertainty and stressors can occur in many forms, two of which are threat or challenge (Lazarus & Folkman, 1987; Mishel, 1988). A threat or harm is often determined when the perceived accuracy of situation outcome is unknown (Mishel, 1988). Secondly, uncertainty or stressors may be appraised as a challenge, which has the potential for mastery or gain (i.e., positive) (Lazarus & Folkman; Mishel, 1988). Whenever someone is dealing with some form of uncertainty, the situation is future oriented in that they cannot predict or anticipate what will occur (Berger & Calabrese, 1975). Thus, parents may appraise their child’s diagnosis as either negative or positive (Lazarus & Folkman; Mishel, 1988; Siemer & Reisenzein, 2007).

When the parents, and possibly the child, are given the diagnosis, a negative appraisal can arise from possible lack of clear guidelines about appropriateness of treatments as well as the treatment decision-making process (Bailey, Wallace, & Mishel,
The appraisal is deemed negative when not knowing something is perceived as leading to harm or contributes to the inability to make a decision or solve a problem (Hogan & Brashers, 2009). When dealing with uncertainty management in illness-related circumstances, growing and compelling evidence suggests that uncertainty is often, but not always, negative (see Hogan & Brashers). It is common knowledge that cancer is a very serious, and possibly terminal illness, and that once someone develops it, there is not much they can do but get treatment and wish for the best. Therefore, the diagnosis of cancer indicates an uncertain negative event. Uncertain events appraised by the individual’s notion of the situation are likely viewed as a difficult to manage and therefore, negative (Mishel, 1988). In order to deal with the negative appraisal, parents may choose to provide their child with the necessary information to cope with the cancer treatments (Hogan & Brashers).

When uncertainty is appraised as positive, the person/s has indicated that the situation has potentially optimistic and affirmative outcomes (Bailey et al., 2007). This appraisal process may be accomplished in a passive, watch and wait type manner, where the patient and family member may work, provide self-care, keep other options open (or seek second opinions), and use alternative forms of medicine and/or prayer (Bailey et al.). For instance, parents may avoid providing information about the illness to the child in order to maintain a level of uncertainty when the appraisal is a positive (Brashers et al., 2006; Hogan & Brashers, 2009). Avoiding information provision allows the child to maintain their established uncertainty (Hogan & Brashers). People who wish to maintain a certain level of uncertainty have become comfortable with the situation and therefore, do not wish to learn more about the situation (Brashers et al.).
Once the uncertainty has been appraised as either negative or positive, individuals decide how they are going to cope with the situation (Mishel, 1988). Two possible options for communicatively coping with uncertainty include affect-management and buffering. Affect-management is used to cope with uncertainty that occurs when the person believes that nothing can be done to modify the uncertainty based on their personal perception of the situation. Affect-management contains the methods of faith and disengagement as ways to respond to the emotional arousal that uncertainty produces (Mishel, 1988). Faith refers to turning to prayer or other forms of religious beliefs. Faith is a technique that helps take the individuals mind off the stressful situation (Leydon et al., 2000). When faith is used for emotional support or positive reinterpretation, it is done in order to attempt to give some relief to the stressful situation. For example, with pediatric cancer, by turning to faith, the parents may no longer view the child’s cancer as a death sentence or a punishment, but simply as a minor speed bump in the child’s growth. Parents may also begin to believe that the cancer will help to shape the child as a human being, and the illness will make the child stronger in the future.

In other words, faith can be used as a source of reassurance to parents and the child when dealing with pediatric cancer, because faith may provide them with guidance and reassurance that the child will be well once again. Faithism can assist with parent’s efforts to provide their child with information about treatments. Faith can influence information provision by providing both parents and the patient with an understanding of the complexity and medical uncertainty surrounding pediatric cancer and ultimately provide a will to live (Leydon et al.).
Affect-management also allows the person to become disengaged, which reduces their efforts to deal with the stressor (Carver, Scheier, & Weintraub, 1989). What this statement is implying, is that when the stressor becomes too much for the individual to handle, s/he may give up all hope and begin to ignore and try to completely forget about the problem at hand. The individual will do so by refusing to seek additional information to deal with the problem and basically live their life as if there is no problem. Disengagement occurs through behavioral or mental activities that distract the individual from thinking about the stressful situation (Carver et al.). Affect-management’s use of disengagement is an escape-like strategy used by those who wish to deny the fact that they are being face with a troubling situation (Viney & Westbrook, 1984).

When parents are providing information about cancer to their child, their use of disengagement is unclear. Within the hospital realm, the patient needs to be in compliance with treatment options and to increase satisfaction with medical encounters (Gatson & Mitchell, 2005). In other words, patients and their parents need to be physically and emotionally involved with the hospital staff during the duration of treatments and medical procedures; therefore acting as one unit that works together as opposed to against each other produces better outcomes for the treatment. If parents are disengaged or trying to keep their child disengaged, and therefore attempting to find alternatives to distract themselves and their child from the current situation, they are less likely to play an active role in the medical realm. Parents may do this by occupying their time at work or other leisure activities to avoid the reality of the cancer. In this instance parents will be unable to provide their child with necessary information about the illness and the treatments because they have isolated themselves and possibly their child from
the medical staff. Therefore they may not have the necessary information their child needs.

Overall, affect-management focuses on reducing psychological discomfort by avoiding the noxious stimulus without trying to modify the situation (Dumont & Provost, 1999), or addressing the emotions that arise in conjunction with uncertainty. Another technique that may be used to cope with uncertainty is buffering. Buffering is used to block the input of new stimuli that could alter the view of uncertainty (Mishel, 1988). This strategy includes the strategies of avoidance and selective ignoring (Mishel, 1988).

When individuals attempt to avoid a situation, s/he can use the buffering technique to deliberately evade or leave the situation and replace particularly threatening features with matters that elicit pleasurable reactions and solutions (Thoits, 1986). When an individual avoids a stressful situation, s/he is attempting to find alternate forms of dealing with the stressor that does not include techniques that have previously been attempted. Avoidant behaviors mostly occur when individuals experience dissatisfaction with the situation, when there is a high level of stress associated with the situation, or when individuals feel s/he is not receiving enough support (Tyson & Pogruengphant, 1996). Avoidance can prevent individuals from taking appropriate action, such as ignoring warning signs or information pertaining to the stressor (Tyson & Pogruengphant). Also, avoidance can result in the restriction of necessary activities in order to overcome the stressor and may create a lack of awareness of the severity of the situation (Tyson & Pogruengphant). When dealing with pediatric cancer, parents may avoid providing the child with additional information on how the illness will be treated or avoid taking the child to routine hospital visits in order to act as though the illness is not
as severe as it truly is.

Avoidance may cause issues with the parents’ ability to inform their child of treatment options and information. Avoidance often occurs after the accumulation of imperfect information (Swartz & Strand, 1981). When put in situations where the outcome or other aspects of the situation look bleak or troubling, people will tend to avoid such situation. If parents try to avoid the fact that their child has cancer, then they could begin excluding themselves away from the medical staff. This avoidance can lead to a lack of knowledge and understanding of treatment options, which would limit parents’ ability to inform their child of such treatments.

Selective ignoring is another buffering technique. This technique refers to focusing one’s attention from unpleasant aspects to positive features of the situation by attempting to eliminate or safeguard against any negative attributes associated with the stressor, therefore, trivializing the negative, and maximizing the positive (Menaghan, 1982; Pearlin & Schooler, 1978). Individuals dealing conflict have used this technique to overlook the severity of the situation, tell oneself that the situation is not as bad as it seems, or focus solely on the positive aspects of the situation (Malis & Roloff, 2006). Sometimes, focusing on the positive seems to be the most sufficient way of dealing with a stressful situation, but that is not necessarily the case (Malis & Roloff). By ignoring the problem, individuals may accidently overlook the severity of the situation, which may lead to increased distress (Johnson & Roloff, 2000). When dealing with pediatric cancer, parents may use selective ignoring in order to block out negative stimuli associated with the illness, especially if their child is not showing signs of remission. This may be potentially hazardous to the child’s health because if the parent attempts to only focus on
the positive, parents may fail to seek the necessary treatments for their child out of fear of increased negative stimuli and, therefore, fail to provide their child with the necessary information to cope with the illness.

Selective ignoring can similarly cause restraints in the parents’ ability to provide information to their child regarding treatment options. Selective ignoring attempts to reinterpret or redefine a problematic situation rather than handle the problem directly (Fleishman, 1984). If parents choose to selectively ignore certain aspects of their child’s illness (i.e., treatment procedures), then they may be potentially placing their child in danger. If the child is unaware of what each procedure entails (i.e., needles or painful procedures), the child runs the risk of developing an anxiety or fear of the hospital and medical staff post treatment.

In other words, buffering may help to reduce the amount of stress individuals may experience (Aldwin & Revenson, 1987). Dealing with the stressors that arise with pediatric cancer may require buffering in order manage the uncertainty parents and children experience following the diagnosis. This form of coping does not undermine the severity of the treatment but allows the parent to inform the child of the treatment without making it appear as a threat.

Mishel (1988) hypothesized that negative appraisals prompt affect-management and positive appraisals prompt buffering coping techniques. However, Mishel focused on information seeking efforts rather than information provision. Hogan and Brashers (2009) noted that one neglected area of uncertainty management is how uncertainty impacts information management. UMT maintains that people need to manage their anxieties and/or fears that a negative appraisal may produce (Hogan & Brashers). Yet reliance on
passive or avoidant emotion-focused coping, such as affect-management, has been associated with higher levels of distress in persons with illness (Pakenham, & Rinaldis, 2001). Further, when individuals vented, there was a tendency to focus solely on emotions which inhibited individuals from actively coping with the problem (Carver et al., 1989). This may be an indication towards the coping strategies implied by parents of pediatric patients when conversing about treatments. Parents may tend to provide information to their child in order to reduce the child’s uncertainty about the treatment. Therefore, the following hypotheses were developed:

**H1:** When talking to a child about cancer treatments (a) more affect-management and (b) less buffering will be used in negative appraisal conditions than positive appraisal conditions.

In every uncertain situation, persons involved must decide whether or not they are going to view the issue as a positive or a negative. Individuals’ inferences and illusions contribute to this appraisal (Mishel, 1988). Depending how an individual views a situation will solidify how s/he converses and copes with the situation.

**Inferences**

When confronted with an uncertain situation, individuals’ appraisals are influenced by inferences, or their general beliefs (Mishel, 1988). These general beliefs arise from one of two types of schemas. They can either actively construct a schema to handle the given situation, or they utilize a preexisting schema to guide future processing of the information (Krzystofiak, Cardy, & Newman, 1988). Inferences utilize preexisting knowledge and information to help give meaning to and respond to uncertainty (Mishel; Gnepp, 1989). By inferring a situation using personal examples and previous knowledge,
he/she uses personal history information, such as prior behavior in a similar situation, to decide how to act upon such situation (Gnepp). The inference derived from a given situation can be produced by matching the scenario with one or several memory schemas that contain information about the typical appraisals of events of this kind (Siemer & Reisenzein, 2007). In other words, inferences consist of references to past events that have similar or shared aspects of the current situation that are used to assess how to respond to the current situation.

When dealing with pediatric cancer, parents may use general knowledge that they gain by watching medical shows on television. If parents have never dealt with cancer before (i.e., personal or familial experience), then they may have no other source of knowledge other than the media to inform them on the situation. If parents watch medical shows, and everyone who has cancer dies, then their perceived outcome for their child’s cancer likely will be negative. However, if the medical show depicts that everyone who has cancer lives, then their perceived outcome for their child’s cancer likely will be positive.

Inferences are hypothesized within the UMT to contribute to both positive or negative appraisals (Mishel, 1988). If the inference is negative or threatening, the uncertainty likely will be appraised as a danger (Mishel, 1990). If the inference is positive, then the uncertainty likely will be appraised as an opportunity (Mishel, 1990). Thus, UMT argues inferences contribute to individual’s appraisals of uncertainty by “helping” assign the negative or positive valence to the uncertainty. To these ends, the following hypothesis was formed:

**H2:** When talking to a child about cancer treatments, a negative inference will use (a)
more affect-management and (b) less buffering strategies compared to low and positive inferences respectively.

**Illusions**

Appraisals are also affected by individuals’ illusions. Illusions are the construction of beliefs that have a generally positive outlook and when a person has illusions, they allow uncertainty to be evaluated as having a potentially positive outcome (Mishel, 1990). Illusions are helpful when dealing with events that do not have a sure outcome, such as an illness (Taylor & Brown, 1994). Psychological beliefs such as optimism, personal control, and a sense of meaning are known to be protective of mental health (Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000). Illusions usually occur when the proposed uncertainty is perceived to have a negative trajectory, meaning that general knowledge of the situation indicates a negative outcome (Mishel, 1990). Basically, if reality indicates the outcome will be negative, the illusion will suggest the outcome will be positive. Psychosocial resources, such as illusions, become important when someone is faced with a threatening event, such as an illness (Taylor, 1983), because they may help people cope in more effective ways due to the fact they feel the outcome of the situation will be positive.

Cancer is one such illness which generates a negative reality and is likely viewed as a death sentence. When parents are told their child has cancer, illusions may be present due to their general knowledge of the situation. However, parents may utilize illusions to produce a thought of positive outcomes in order to successfully cope with the illness. If the diagnosis is presented as stage four, the prospected outcome is that the child will more than likely pass away from the illness. However, through illusions, the parents can
hope for a positive outcome to the illness, where their child survives and is completely healthy in remission (Dolgin & Jay, 1989).

Illusions are constructed in situations when the illness may take a certain downward course, and any uncertain aspect of the illness through illusion generation can be evaluated as positive (Mishel, 1990). If parents are optimistic about assessing their child’s ability to overcome particular health struggles, then the illusion will more than likely be positive, even if the illness is cancer (Taylor & Brown, 1994). If parents view the cancer in positive terms, this will nullify the effects of the stressful situation because parents will believe that their child will cope with the illness and one day be healthy again (Taylor & Brown). To these ends, the following hypothesis was developed:

**H3:** When talking to a child about cancer treatment, compared to no illusion conditions, a positive illusion will use (a) more affect management and (b) less buffering strategies.

Assuming parents have some form of uncertainty when confronted with their child’s cancer, their overall appraisal of the uncertainty, along with their inferences and illusions of the situation, will affect both how they manage the uncertainty regarding treatment options, as well as how they provide information to their child about the illness. In other words, the interaction of these factors should affect how parents choose to provide information to the child about the cancer diagnosis and treatment.

To these ends, the following hypotheses were formed:

**H4:** Compared to the interactions of a positive appraisal and positive inference: (a) negative appraisals with negative inferences will lead to (a) more affect-management and (b) less buffering when talking to children about cancer treatments.
**H5:** Compared to the interaction of a negative appraisal and positive inference: (a) positive appraisals with negative inferences will lead to (a) less affect-management and (b) more buffering when talking to children about cancer treatments.

**H6:** Compared to the interactions of a positive appraisal and positive inference: (a) negative appraisals with a low inferences will lead to (a) less affect-management and (b) more buffering when talking to children about cancer treatments.

**H7:** Compared to the interactions of a negative appraisal and positive inference: (a) positive appraisals with low inferences will lead to (a) more affect-management and (b) less buffering when talking to children about cancer treatments.

**H8:** Compared to the interactions of a negative appraisal and negative inference: (a) positive appraisals with positive inferences will lead to (a) less affect-management and (b) more buffering when talking to children about cancer treatments.

**H9:** The interaction of appraisal and illusions will influence (a) affect-management and (b) buffering, but the direction is unknown.

**H10:** The interactions of inferences and illusions will influence (a) affect-management and (b) buffering, but the direction is unknown.

**H11:** The three way interaction of appraisal, inference, and illusion suggests that positive appraisals, positive inferences, and positive illusions will lead to (a) less affect-management and (b) more buffering compared to the three way interaction of negative appraisals, negative inferences, and negative illusions.

For the remaining three way interactions, the effects on affect-management and buffering
are unclear based on the preceding literature and theory, therefore I pose the following research question:

**RQ:** How does the interaction of appraisal, inference, and illusion influences the use of (a) affect-management and (b) buffering?

**Summary**

When dealing with pediatric cancer, uncertainty is common. Dependent on how the individual effectively manages his/her uncertainty is contingent on how s/he appraises the situation. Following the appraisal process (i.e. negative or positive assumption of the situation based on general knowledge), s/he can determine how they are going to cope with the uncertainty (i.e. buffering or illusion), and inform their child of the illness.
CHAPTER 2: METHODS

Participants

Participants met a minimum age requirement of 18 years old and were undergraduate students (i.e., freshmen through senior) at the University of Nevada, Las Vegas. The reason for the age requirement was because this study aimed to see how people believed parents should communicate with their child about pediatric cancer within a given context. It is possible that people under the age of 18 are capable of having and caring for children; however, to consent to participate in research, individuals must be of legal age (i.e., 18 years old). To these ends, the age limit was established to produce a more realistic setting for the survey. However, participants under the required age of 18 were given the opportunity to receive course credit by completing a one to two page summary of a selected peer reviewed scholarly journal.

Three-hundred and eleven participants consented to participate. However, three individuals did not complete the survey, so the total sample size was 309. Participants consisted of 150 (48.5%) males, 157 (50.8%) females, and two people did not indicate sex. The average age was 21.67 (SD = 4.39). Nearly half of participants indicated they were Caucasian (n = 143, 46.3%), 35 (11.3%) African American, 64 (20.7%) Hispanic American, 75 (24.3%) Asian American, 12 (3.9%) Pacific Islander, and 21 (6.8%) indicated they identified with another ethnicity than those provided. Sixty-nine participants (22.3%) were freshmen, 92 (29.8%) were sophomores, 109 (35.3%) juniors, 37 (12.0%) seniors, 1 (.3%) indicated other. Of the 309 participants, 169 (54.7%) were single, 107 (34.6%) were in a dating relationship, 11 (3.6%) were engaged, 19 (6.1%) were married, and 2 (.6%) were divorced. Two-hundred ninety-two did not have children,
16 (5.2%) had children, and 3 of those individuals had had a seriously ill child. One-hundred and twenty-five (40.5%) wanted children within the next five years, and the remaining 183 did not.

**Procedures**

Individuals willing and able to participate in this study, and who met the minimal age requirement of 18 years old, were recruited through the Communication Studies Research Participation System Website (http://unlv-comm.sona-systems.com/). Participants logged on to Sona-Systems to create a participant profile, indicating their name, email address, and Communication 101, 102, and 216 course sections. Once the profile was created, participants would select the survey in which they wished to complete and indicated a time-slot for which they would be sent the questionnaire. Upon receipt of the survey, students could complete the questionnaire at any convenient time and location. As long as the questionnaire was completed by May 3, 2013, which was the deadline for earning research credit for the semester, the participant would receive research credit. Within this system, a description of the study qualifications, inclusion and exclusion criteria, as well as general participation guidelines, were presented.

Participants accessed the survey from a computer (i.e., personal or library) at any location of their choosing with internet access. Once participants logged on to take the questionnaire, they had to complete the questionnaire at that time. The questionnaire was only administered once per participant, so students were not able to go back and make changes to responses, nor were they able to take the questionnaire twice. Communication Studies instructors offering course credit or extra credit for participation directed students to the website either through classroom announcements, syllabus statements, or web-
campus reminders. Students interested in earning research credit checked the website periodically for participation opportunities of which this study was one. Contact information (i.e., name and email address) was provided for all participants via the Research Participation System in order to email the questionnaire to participants. For students who wished to earn research credit associated with this study but were unable or unwilling to participate completed a one to two page summary of Brashers et al., 2004), in which the authors discuss the importance of social support for those dealing with illnesses, and how such support helps patients manage illness related uncertainty.

Those who were interested signed up for a designated time and date in which they wished to receive the questionnaire. On the specified time and date, an email was sent out to the interested participant via their UNLV Rebel Mail provided by SONA. Included within the email was an overview of the study, directions for completion, as well as a web-link to connect the participant to the survey. This web-link was unique for each participant and used in order to track who participated in the study and who earned research credit.

Qualtrics, the UNLV software, was used to design and administer the survey. Once logged in to Qualtrics, participants were presented with the informed consent form. After reading the informed consent form, participants were asked if they consented to participate in the survey. By clicking “NO” participants indicated that they did not wish to volunteer to participate in this study. By clicking “YES” participants indicated that they had read and understood the informed consent form and agreed to participate in the study. Participants were then presented with the survey to complete.

Once participants submit the survey, they were rewarded survey or course credit.
Within 2 to 3 days of study completion, students were able to see the research credit they have earned at http://unlv-comm.sona-systems.com. Qualtrics gathered personal identification information that permits linking email addresses and names to specific responses. This data was used to report earned research credits in SONA, but the data was removed from the survey responses prior to analyses to maximize confidentiality of participants’ responses.

**Scenario Creation**

To test the hypotheses, a 2x3x2 factorial experimental design was conducted via hypothetical scenarios. First, a general backstory situation was presented to participants in order to present a perspective for the participant as to the situation s/he was being faced with (See Appendix A for the backstory and each of the 12 scenarios). The situation was created using past research by Liossi and Hatira (1999) and their analysis of bone marrow aspirations in pediatric and adolescent patients. The situation indicated that the participant had a seven year old child who was recently diagnosed with neuroblastoma. Neuroblastoma is one of the most common solid tumors in pediatric cancer, and it is known to undergo spontaneous regression and/or maturity, therefore affecting children in different ways (Evans, D’Angio, & Randolph, 1970). The younger the child is when the diagnosis is confirmed, the better the prognosis (Evans et al.). The backstory, which was consistent across all hypothetical scenarios, proceeded to tell the participant that his/her child must undergo a bone marrow aspiration. The backstory helped to place participants in the correct frame of mind in order to proceed with the scenario and follow-up questions.

Following the opening backstory, one of twelve scenarios was presented to each
participant. The hypothetical scenarios were created in order to place participants in a situation where their child had cancer. Hypothetical scenario experimental designs involved manipulating the independent variables as to expose participants to pre-determined types or amounts of each variable (Baxter & Babbie, 2004). For the current study, the scenarios were created by manipulating two levels of appraisals (i.e., positive and negative), three levels of inferences (i.e., positive, negative, and low), and two levels of illusions (i.e., positive and none). For instance, one scenario reflected a positive appraisal, positive inference, and positive illusion, while another hypothetical scenario reflected a positive appraisal, positive inference, and no illusion.

Control

To exercise control in the experiment, actions were taken. To assess the dependent variables, a questionnaire was presented to participants following the presentation of the hypothetical scenario. Questionnaires are beneficial because of their strength in regards to measurement (Baxter & Babbie, 2004). Questionnaires allow the researcher to ask the same questions to every respondent and attribute the same intent to every respondent no matter the response (Baxter & Babbie). In other words, it allows every participant to answer the same questions. Another matter of control is how much participants’ exposure each participant has to the independent variables. Maintaining of each independent variable across each treatment is necessary to explain how the manipulation affects the dependent variables. The consistency provided via the questionnaire administration and not revising the scenarios during the course of the study aided with this. Finally, ensuring that the same number of participants was exposed to each of the scenarios is important. About 24-26 participants were exposed to one of the
12 scenarios; this was accomplished using random assignment procedures built into the Qualtrics survey administration software.

**Manipulation and Random Assignment**

The scenarios were randomly assigned. Random assignment is a technique used for assigning experimental conditions to experimental groups (i.e. participants exposed to the independent variables) randomly (Baxter & Babbie, 2004). In other words, this is a way that researchers can make sure that participants are responding to different forms of the scenario, (since there were 12 distinct scenarios) instead of answering the same scenario. The variations in this study which required random assignment was that of the independent variables (i.e. 2 appraisals, 3 inferences, and 2 illusions). Random assignment within this study was determined through administration of 12 distinct scenarios. When building the survey in Qualtrics, each aspect of the scenario was created in blocks (demographics, each of the twelve scenarios, information about marriage and family). Then each scenario block was set up separately in the survey flow option of Qualtrics, which enables each of the twelve scenarios to be distributed separately. Demographics and marriage and family information remained constant with every questionnaire distributed, only the scenarios changed.

This process was intended to make sure that each participant was arbitrarily exposed to one of 12 different manipulations of the scenarios (e.g., only positive appraisal, positive inference, and positive illusion) and in order to prevent researcher or participant bias, the variables were manipulated by varying the valence of inferences; or general knowledge developed through media, such as medical television shows. The overall appraisal were manipulated by altering the valence of preexisting knowledge of
the illness based on past experiences with either family or friends having cancer and surviving, not surviving, or not knowing anyone with cancer (Mishel, 1988; Gnepp, 1989). Illusions were developed in the scenarios by having individuals either focus on possible positive outcomes of the situation or not have positive possible outcomes.

Within the manipulation check, participants were asked their perceptions of the conditions to which they were exposed to in the questionnaire (Baxter & Babbie, 2004). Within the questionnaire, six questions were presented to each participant to check the manipulations of each independent variable within the randomly assigned scenario. Each item was responded to using a 7-item Likert-type scale ranging from 1 (“Strongly Agree”) to 7 (“Strongly Disagree”). The manipulation check of appraisal, which consisted of two items, which indicated a slightly less moderate perception of appraisal ($M = 3.86$, $SD = 1.55$, $\alpha = .79$). The two items used to check the inference manipulation indicated moderate perception ($M = 4.23$, $SD = 1.30$, $\alpha = .78$). The 2 items checking the illusion manipulation indicated slightly above moderate illusions with a lower reliability ($M = 4.56$, $SD = 1.30$, $\alpha = .58$).

**Measures**

**Realism**

A modified version of Knobloch’s (2006) Realism scale was used to solicit perceptions of the reasonableness of the scenario. The questions were modified in order to fit the given scenario and situation of the questionnaire. The beginning of the question was originally “My message was…” (Knobloch Satterlee, & Di Domencio, 2010). Participants answered the three altered items preceded by the stem “This scenario was…”. The three items include: (a) realistic of how I would think about this situation...
with my child, (b) typical of how I would think about this situation with my child, (c) similar to how I would think about this situation with my child (Knobloch et al.).

Participants indicated how much they agreed with each item using a six-point Likert-type scale (1 = “strongly disagree” to 6 = “strongly agree”). The items were averaged to obtain a single score for the scale. Overall, participants perceived the scenarios to be moderately realistic ($M = 4.36$, $SD = 1.03$, $\alpha = .87$).

**Importance of Having Children**

Not all participants desire to have children or they may not believe they will have children in the near future. This might impact their ability to relate to the scenario and respond to the situation. Therefore, how important it is to participants to have children within their foreseeable future may be an important covariate to consider. To assess this, a modified version of a subscale from Carroll et al.’s (2009) Marriage Horizon was used.

One of the components defined by the Marriage Horizon is the relative importance of marriage in one’s current life plans (Carroll et al.). This was modified to determine the relative importance of having children in participants’ current life plans; thus the items were altered to reflect a potential parent-child relationship rather than a future spousal relationship. For instance, the item, “Do you feel you will be able to discuss personal problems with others?” was changed to “My child and I are able to discuss his/her problems openly and effectively?” This measure was important because if the participant were either not interested or ready to have children in the near future, their answers may have indicated that they would not feel comfortable conversing with the child about the cancer.

The original Marriage Readiness Questionnaire consisted of 488 items, with six
subscales (Carroll et al., 2009). For this study, items from three subscales (Family Competencies, Interpersonal Competencies, and Intrapersonal Competencies) were selected and modified to assess readiness for family life (Carroll et al.). Responses to the items were indicated on a Likert-type scale (1 = “Yes”, 2 = “No”, 3 = “In Some Respects Yes, In Some Respects No”) (Carroll et al.). Carroll and colleagues obtained strong internal consistency for emerging adult men (α = .86) but poor reliability for emerging adult women (α = .58) (Carroll et al.). The eight items modified from the original scale were averaged to obtain a single score for the scale. Overall, the scale reliability was poor (α = .59) and, therefore, was not used as a covariate. Desire for children in five years was used in place of readiness for children to determine if the likelihood of having children in the near future would impact the independent and dependent variables. This scale’s low reliability could have resulted due to the modifications made to the wording of the original scale. Modifications included statements such as, “My child and I are able to discuss his/her problems openly and effectively.” This scale was supposed to measure whether or not participants felt they were ready to have children. However, several questions were worded as if participants already had children, which might have led to confusion on what was actually being asked of participants.

Brief COPE

Carver’s (1997) scale was used to measure participants’ likely use of affect-management and buffering in response to the hypothetical scenario. The Brief COPE is a modified version of the original COPE scale. The Brief COPE, consists of 14 subscales with two items in each. Of the original 14 subscales, four were used. Modifications to the Brief COPE were made in order to fit this study. First, the term “my child’s cancer” was
added to the end of the items in order to fit the situation given in the study. Participants responded on a 4-point Likert-type scale ranging from (1 = “I would not do this at all” to 4 = “I would do this a lot”).

**Affect-Management.** Affect-management consists of faithism, prayer, and disengagement (Mishel, 1988). Two sub-scales of the original 14 subscales were used to measure affect-management (i.e., Religion and Behavioral Disengagement).

*Religious coping* was assessed using the two faithism and prayer items from the Brief COPE. The original items consisted of statements such as “I’ve been trying to find comfort in my religion or spiritual beliefs” (Carver, 1997). Modifications to the items were done in order to fit the present survey, (e.g., “Tell my child to find comfort in our faith or spirituality to deal with his/her cancer.”). In other words, the terms “religion” and “prayer” were modified to “faith” and “spiritual beliefs” in order to fit the given context of the scenario, as well as the addition of the statement “my child’s cancer”. The items were averaged to obtain a single score for the sub-scale. Overall, participants reported using a slightly less than moderate level of religious coping ($M = 2.52$, $SD = 1.04$, $\alpha = .90$).

*Behavioral disengagement* was measured by two items from the Brief COPE sub-scale Behavioral Disengagement. The original item consisted of “I’ve been giving up trying to deal with it.” (Carver, 1997). Modifications to the items were done in order to fit the present questionnaire, which include I would “tell my child to give up trying to deal with the, and focus on other positive things (i.e., school, activities, etc.).” The items were averaged to obtain a single score for the sub-scale. Overall, participants reported using a behavioral disengagement in a small amount ($M = 1.87$, $SD = 0.89$, $\alpha = .75$).
Buffering. Buffering consists of avoidance and selective ignoring (Mishel, 1988). To assess buffering, two subscales of the Brief COPE (avoidance and selective ignoring) were used.

Avoidance (i.e., child distraction) was assessed using two items of the Brief Cope sub-scale Self-Distraction (e.g., “I’ve been turning to work or other activities to take my mind off things”) (Carver, 1997). Modifications to the items consisted, “Do other things (i.e., going to the movies, watching TV, reading, daydreaming, sleeping, shopping, or talk about other things) to take my child’s mind off of his/her cancer,” in order to fit the given study. The items were averaged to obtain a single score for the sub-scale. Overall, participants reported they would use a moderate amount of child distraction ($M = 3.16$, $SD = 0.74$, $\alpha = .66$).

Selective ignoring was assessed using two items of the Brief COPE sub-scale Denial. The original item consisted of “I’ve been saying to myself “this isn’t real.” (Carver, 1997). Modifications to the items consisted of changing the sentence to say, “Refuse to let my child’s cancer take over his/her life,” in order to fit the given study. Both items were averaged to obtain a single score for the sub-scale. Overall participants reported using a moderate amount of selective ignoring ($M = 3.05$, $SD = 0.66$). However, due to low reliability selective ignoring was not included in these analyses ($\alpha = .26$).

The low reliability of the Denial scale could have been a result of the re-wording of the scale. The original scale looked at how individuals personally handled denial in personal situations. Since this study looks at how parents would use denial with severely ill children, the modified wording of the scale items could have confused participants. Also, the concept of “Refusing to let me child’s cancer take over his/her life,” is a very
powerful and potentially perplexing statement. Cancer is a dominating illness that requires much attention. Therefore, it might seem odd to participants to deny the fact that the cancer is present by refusing to let the illness take over the child’s life. Further, there are a wide variety of ways this statement could be interpreted. The statement could have been perceived as the parent refusing to let the illness take over their child’s life. Therefore, the refusal could mean they would seek the best medical treatment; or the parents are refusing to allow their child to be around the medical setting. Due to low reliability, this measure was not analyzed as an outcome variable; however, buffering was assessed via child distraction.

Open-Ended Questions

Upon completion of the dependent measures, participants were asked to answer an open-ended question based on the given scenario. Participants were asked: “Given the scenario you read, please explain if 1.) This seems similar to how you would react in this situation, and 2.) If not, how would you react differently?” If participants agreed with the actions in the given scenario, they would indicate how they agreed the situation should be handled and communicated. Participants who indicated they would react differently demonstrated how the reaction would be altered through the open response. The open ended responses provided an opportunity for a more complete understanding to the participant’s background, past history, and general knowledge of pediatric cancer.
CHAPTER 3: RESULTS

Preliminary Analysis

Several potential covariates were tested. Independent samples t – tests showed no significant differences in responses to the dependent variables among participants who watched medical shows on television (Religion: \(t_{304} = -0.25, p > .05\); Behavioral disengagement: \(t_{304} = 1.33, p > .05\); Child distraction: \(t_{304} = 1.48, p > .05\)). No significant differences were found between those who did (versus did not) know anyone who had cancer (Religion: \(t_{304} = 1.34, p > .05\); Behavioral disengagement: \(t_{304} = -0.17, p > .05\); Child distraction: \(t_{304} = 0.26, p > .05\)). However, compared to those who had not had cancer, those who survived cancer used less religious coping (\(t_{304} = -2.01, p < .05\), \(M = 1.60, SD = 1.34\), did not have cancer: \(M = 2.53, SD = 1.03\)) and behavioral disengagement (\(t_{304} = -2.21, p < .05\); had cancer: \(M = 1.00, SD = 0.00\), did not have cancer: \(M = 1.88, SD = 0.89\)). In other words, participants who had previously had cancer reported using less religious coping or behavioral engagement than those who had never previously had cancer. For use of child distraction, no differences were found between those who had and not had cancer (\(t_{304} = -1.39, p > .05\)). Thus, whether or not participants themselves survived cancer was covaried when testing religious coping and behavioral disengagement to make sure the manipulation of the independent variables in the scenario are the explanations for their use and the participants own experience with cancer.

Those who currently had children did not differ from those who did not have children on the dependent variables, yet, those who wanted children within the next five years reported using religion more than those who did not want children in the next five years (\(t_{305} = 2.12, p < .05\); want children: \(M = 2.67, SD = 1.06\), not want children: \(M = \))
2.42, SD = 1.01). Therefore, participants’ desire for children in the next five years was
covaried when testing religious coping to make sure the manipulation of the independent
variables were explaining the use of religious coping and not their desire for children.

Correlations were calculated to examine whether participants’ general knowledge
about cancer and their knowledge about the effects of cancer influenced their use of
affect management (i.e., religion and behavioral disengagement) and buffering (i.e., child
distraction). Participants’ general knowledge about cancer was unrelated to the use of
religious coping (r = .02, p > .05), behavioral disengagement (r = .04, p > .05), and child
distraction (r = -.03, p > .05). Participants’ knowledge about the effects of cancer was not
correlated with their use of religious coping (r = .04, p > .05) nor behavioral
disengagement (r = -.06, p > .05). However, the more participants knew about the effects
of cancer, the more child distraction they used (r = -.13, p < .05). This indicates that the
more general knowledge about cancer participants had, the more they thought they
would use distraction when managing uncertainty regarding children’s cancer. In order to make
sure participants’ personal and general knowledge was not the explanation for the use of
child distraction (i.e., to make sure manipulations in the scenario explains the use of child
distraction and not personal background knowledge), participants’ knowledge of the
effects of cancer were statistically controlled in analyses.

**Manipulation Checks**

Manipulation checks were conducted to determine whether the independent
variable was effective and realistic to participants (Baxter & Babbie, 2004). First, a
manipulation check was conducted to determine whether the independent variable
manipulations (i.e., appraisal as positive and negative; inferences as positive, low, and
negative; and illusion as positive and none) were perceived by participants. To assess the effectiveness of the appraisal manipulation, an independent samples t-test was conducted. Participants did perceive the positive appraisal condition as more positive ($M = 4.04, SD = 1.54$) than the negative appraisal condition ($M = 3.69, SD = 1.55$): $t_{306} = 1.98, p < .05$.

A one-way ANOVA was used to assess the inference manipulation. Overall, the three conditions were perceived as significantly different ($F = 3.34, df = 2, p < .05$). However, group comparisons showed that only the positive inference condition ($M = 4.44, SD = 1.24$) was perceived to be significantly different from the low inference condition ($M = 3.98, SD = 1.29$); the negative inference scenario ($M = 4.29, SD = 1.34$) was not perceived to be significantly different than the positive or low inference scenario.

Therefore, the negative inference condition was dropped from the analyses, and only the positive and low inference conditions were tested. An independent samples t-test indicated the manipulation for illusions was effective ($t_{306} = 2.10, p < .05$): Participants who were presented a positive illusions scenario perceived the illusion as more positive ($M = 4.56, SD = 1.30$) than those who were presented a no illusions scenario ($M = 4.24, SD = 1.39$).

Finally, one way ANOVA was conducted to assess perceived realism of the scenarios. A three-way ANOVA using IBM SPSS Statistics 19.0 univariate general linear model tested for perceived realism across the treatment conditions. For each dependent variable, the 2 appraisal (positive vs. negative), x 2 inference (positive vs. low), x 2 illusion (positive vs. none) model was entered. Across all 12 conditions, participants rated the scenarios as slightly to moderately realistic ($M = 4.34, SD = 1.05$). No single condition was perceived to be significantly more or less “realistic” than the others as
evidence by the non-significant three-way interaction ($F = .14$, $df = 1$, $p > .05$, partial $\eta^2 = 0.00$). No combination of two variables were perceived to be more or less “realistic” than others as evidence by non-significant two-way interactions (appraisal X inference: $F = 0.26$, $df = 1$, $p > .05$, partial $\eta^2 = 0.00$; appraisal X illusion: $F = 0.18$, $df = 1$, $p > .05$, partial $\eta^2 = 0.00$; and inference X illusion: $F = 0.00$, $df = 1$, $p > .05$, partial $\eta^2 = 0.00$). Finally, no manipulation of a single independent variable created scenarios to be perceived more or less “realistically” (appraisal: $F = 0.48$, $df = 1$, $p > .05$, partial $\eta^2 = 0.00$; inference: $F = 0.48$, $df = 1$, $p > .05$, partial $\eta^2 = 0.00$; illusion: $F = 0.04$, $df = 1$, $p > .05$, partial $\eta^2 = 0.00$). Overall, all conditions were perceived as moderately realistic, and no single condition was perceived as unrealistic or significantly different than the others.

**Substantive Analysis**

Due to the different covariates to be considered in relation to each dependent variable, each dependent variable was tested individually using three-way ANCOVAs in the IBM SPSS Statistics 19.0 univariate general linear model. For each dependent variable, the 2 appraisal (positive vs. negative), x 2 inference (positive vs. low), x 2 illusion (positive vs. none) model was entered. For religious coping, participants’ cancer survival and desire for children in five years were entered into the model as covariates. For behavioral disengagement, participants’ cancer survival was entered into the model as a covariate. And, for child distraction, participants’ knowledge of the effects of cancer was entered as a covariate. For all results, alpha was set at .05. Therefore, if $p < .05$, the null hypothesis was rejected and the research hypothesis was accepted; if $p > .05$, the null hypotheses was accepted.

**Affect Management.** Affect management coping approaches were assessed via
religious coping and behavioral disengagement. Hypothesis 1a indicated when talking to a child about cancer treatment more religious coping and behavioral disengagement would be used in negative appraisal conditions than positive appraisal conditions. This was not supported for religious coping ($F = 0.24, df = 1, p > .05$, partial $\eta^2 = 0.00$; see Table 1) or for behavioral disengagement ($F = 0.22, df = 1, p > .05$, partial $\eta^2 = 0.00$; see Table 2). The appraisal’s valence alone did not impact use of either affect management approach. Hypothesis 2a indicated that affect management would be used more in positive inference scenarios than low inference scenarios, but this was not supported for religious coping ($F = 2.07, df = 1, p > .05$, partial $\eta^2 = 0.01$; Table 1) or for behavioral disengagement ($F = 0.04, df = 1, p > .05$, partial $\eta^2 = 0.00$; Table 2). Inference type alone did not impact use of either affect management approach. The no illusion condition was hypothesized provoke less affect management compared to the positive illusion condition (H3a). Similar to H1a and H2a, this was not supported; illusion type alone did not impact the use of religious coping ($F = 0.34, df = 1, p > .05$, partial $\eta^2 = 0.00$; Table 1) or behavioral disengagement ($F = 0.01, df = 1, p > .05$, partial $\eta^2 = 0.00$; Table 2). Overall, no main effects were found for affect management.

The final set of hypotheses examined the interactions among appraisals, inferences, and illusions on affect-management. As shown in Table 1, participants’ use of religious coping was not explained by the two-way interactions of appraisal and inference (H4a: $F = 0.02, df = 1, p > .05$, partial $\eta^2 = 0.00$), appraisal and illusion (H9a: $F = 0.02, df = 1, p > .05$, partial $\eta^2 = 0.00$), nor inference and illusion (H10a: $F = 0.86, df = 1, p > .05$, partial $\eta^2 = 0.00$). The three way interaction of appraisals by inferences by illusions also was non-significant (H11: $F = 0.21, df = 1, p > .05$, partial $\eta^2 = 0.00$; see Table 1).
Overall, no interaction or main effects were found to explain participants’ use of religious coping when helping children cope with cancer treatments.

A slightly different pattern of results emerged for behavioral disengagement. The three-way interaction of appraisals by inferences by illusions did explain individuals’ use of behavioral disengagement when taking with children about cancer treatments (H11a: $F = 5.15$, $df = 1$, $p < .05$, partial $\eta^2 = 0.03$; see Table 2) after adjusting for the covariate (did or did not cancer previously). What this suggests, is that participants indicated the highest use of behavioral disengagement when dealing with a negative appraisal, low inference, and no illusion ($M = 2.01$, $se = .17$; see Table 3) and the positive appraisal, low inference, positive illusion ($M = 2.00$, $se = .16$; see Table 3) compared to the other variable interactions. When faced with a neutral overall evaluation of the situation, and either positive general knowledge from television and media with no optimistic feelings, or negative general knowledge from television and media with optimistic feelings, participants used the greatest amount of behavioral disengagement. In essence when parents’ general knowledge is low, and their illusions and appraisal are contradicting one another, behavioral disengagement may allow parents to help children avoid and divert attention from the illness and focus on more pleasant things.

Conversely, the least amount of behavioral disengagement was reported in the positive appraisal, low inference, no illusion condition ($M = 1.62$, $se = .17$; see Table 3). In other words, the least distraction was used when participants’ did not have much general knowledge about children’s cancer survival from TV and media, but they did know people who had survived cancer, yet they were not sure if their child.

Table 3 and Figures 1 and 2 illustrate the group differences in more detail. For
affect management coping approaches overall, the interactions among appraisals, inferences, and illusions explain the use of behavioral disengagement but not the use of religious coping providing partial support for H11a.

**Buffering.** Due to the low reliability of the denial scale, child distraction was the only form of buffering tested.

Hypothesis 1b indicated that less buffering would be used when talking to children about cancer treatments in negative appraisal conditions than positive appraisal conditions. Results did not support this hypothesis (see Table 3); use of child distraction did not differ between positive and negative appraisals ($F = 0.28, df = 1, p > .05$, partial $\eta^2 = 0.00$). Hypothesis 2b posited that individuals in negative inference conditions would use less buffering compared to positive and low inference conditions. No differences were found regarding use of child distraction in positive versus low inferences ($F = 1.28, df = 1, p > .05$, partial $\eta^2 = 0.01$; see Table 3). Finally, H3b indicated less buffering would be used when individuals had no illusions compared to having positive illusions. As with the preceding two hypotheses, H3b was not supported ($F = 0.42, df = 1, p > .05$, partial $\eta^2 = 0.00$; see Table 3): Illusions did not impact individuals’ use of child distraction.

Participants use of child distraction differed in the appraisal by inference interactions (H4-8: $F = 7.77, df = 1, p < .05, \eta^2 = 0.4$, partial $\eta^2 = 0.04$; see Table 4). Those in the positive inference positive appraisal condition reported the greatest use of child distraction ($M = 3.35, se = 0.11$), followed by the low inference, negative appraisal condition ($M = 3.18, se = 0.11$), the positive inference negative appraisal condition ($M = 3.00, se = 0.11$), and the least child distraction was used in the low inference positive appraisal condition ($M = 2.94, se = 0.11$). Therefore, the highest use of child distraction
occurred when participants had positive general knowledge and positive overall
perception of the current situation. In contrast, the lowest use of child distraction
occurred when participants had no general knowledge and a positive overall perception of
the current situation.

No differences were found in participants’ use of child distraction in the appraisal
by illusion interaction: (H9b: $F = 3.26$, $df = 1$, $p < .10$, partial $\eta^2 = 0.02$. See Table 4).

Participants’ use child distraction was explained by the interaction of inference
and illusion (H10b: $F = 5.75$, $df = 1$, $p < .05$, partial $\eta^2 = 0.03$; see Table 4). In the
positive inference and no illusion condition, participants reported the greatest use of child
distraction ($M = 3.34$, $se = 0.11$) followed by the low inference positive illusion condition
($M = 3.15$, $se = 0.11$), the positive inference positive illusion condition ($M = 3.01$, $se =
0.11$), with the least child distraction used by those in the low inference no illusion
condition ($M = 2.96$, $se = 0.11$). This indicates that when positive general knowledge is
inferred and there is no optimistic belief, participants would use the highest amount of
child distraction. When general knowledge is low and there is no optimistic belief about
the situation, therefore no general knowledge exists in relation to the given situation;
participants would use the least amount of child distraction.

Overall, H4 through H8 (all hypotheses testing the two way interactions among
appraisals, inferences, and illusions) were partially supported: When discussing cancer
treatments with a seven year-old child appears participants’ use of buffering was
influence by the interaction of inferences with illusions and inferences with appraisals.

Hypothesis 11b tested the 3-way interaction effects of appraisals, inferences, and
illusions on child distraction when discussing cancer treatments with a seven year old
child. Results of the three-way ANCOVA indicated no support for the hypothesis (H11b: 

\[ F = 0.36, \ df = 1, \ p > .05, \ \text{partial } \eta^2 = 0.03; \text{ see Table 3}. \]
CHAPTER 4: DISCUSSION

The three variables tested in this thesis project were appraisal, inference, and illusion. Uncertainty management theory argues that when an individual is faced with a situation with no projected outcome, s/he tends to become uncertain; therefore, UMT explains how people manage and cope with different appraisals of uncertainty (Brashers, 2001; Mishel, 1988). In relation to health circumstances, UMT looks at the communicative behaviors used to respond to the uncertainty experienced within illness-related situations (Hogan & Brashers, 2009; Mishel, 1988). To examine whether this process is effective at explaining whether individuals’ appraisals, inferences, and illusions influence their use of affect management and buffering, a hypothetical scenario experimental design was created and administered via online questionnaire. Affect-management, or the use of faith and religion as a source of reassurance and guidance when dealing with uncertainty, was assessed as an informative regulation coping outcome. Affect-management also consists of behavioral disengagement in order to reduce the efforts of dealing with the stressor (Carver et al., 1989). Disengagement is an escape-like strategy used to deny the fact that an individual is facing a troubling situation (Viney & Westbrook, 1984). Buffering, a technique used to deliberately evade or leave a situation and replace threatening features with matters which elicit pleasurable reactions and solutions (Thoits, 1986), was also assessed as an information regulation coping outcome.

This section discusses some of the results of the study which, upon analyses, proved to have peculiar findings in regards to past research. Limitations and future insight are also addressed within this section, as well as concluding thoughts on the overall study.
Theoretical Implications

Affect-Management

When uncertainty is appraised as a negative, the individual will want to reduce the uncertainty if possible, and manage the emotion generated from the negative appraisal (Mishel, 1988). Affect-management helps to manage the emotional responses that occur when an individual believes nothing can be done to modify or reduce the negative uncertainty (Mishel, 1988). This form of coping outcome contains the methods of faith and religion, which is a technique used to help take the individuals mind off the stressful situation (Leydon, et al., 2000). Also, affect-management has been known to blunt negative emotional responses in cancer patients and allow them to play with ideas in an attempt to redefine the situation and use wishful thinking to cope with the condition (Mishel, 1988). Results indicated when the independent variables (appraisal, inference, and illusion) were tested in isolation of one another, no support was provided for the first three hypotheses (H1a, 2a, and 3a) for neither religious coping nor behavioral disengagement. Further, no results were found in terms of the interactions among the independent variables for religious coping. Results supported H11 and answered the RQ, indicating behavioral disengagement was influenced by the three way interactions of the independent variables. The results will be discussed.

The lack of results regarding religious coping suggests participants may not rely on faith as a form of reassurance, which contradicts the literature and model produced by Mishel (1988). These findings also contradict evidence produced by Pearce (2002). Religion is a cultural system establishing power, long-lasting moods and motivations, and influencing and encouraging strategies for family formations (Pearce). In Pearce’s study
findings suggested the religious characteristics of one’s family of origin and the religious choices made as young adults helped to shape attitudes and preferences in relation to religious continuance. Additional research by Myers (1996) and Chaves (1991) provide supplementary information in regards to religion. Myers suggests religion is inherited and transmission of religion might also depend on the accumulation of religious capital during childhood and parent-child relations. Chaves indicates religion decreases the likelihood of defecting from a religious identity; therefore if one is familiarized with religion at a young age, they are likely to continue such religious practices in adulthood. Contradictory to Chaves’s work, findings in Myers’s study indicates there is often a decline in religion within individuals who come from the most religious backgrounds; additionally, offspring from highly religious backgrounds feel constrained to conform to dominant values in the culture, therefore declining the religious perspective.

This preceding literature might provide indication as to why religion did not play a factor in the coping outcome. Participants’ average age was of young adults, roughly twenty-one years of age. Given the content of the literature, some participants may not have been children from highly religious families and, therefore, would not consider religion to be a necessary coping strategy during cancer treatments. If religion was not a prominent factor in some participants’ family life growing up, it is likely that religion would not play a key role in the participant’s life as a young adult. As previously stated, religion is inherited (Myers, 1996), and if participants grew up in households not emphasizing religion, it is likely they would not emphasize religion in their families as adults.

Along with religion, affect-management involves behavioral disengagement, a
strategy seeking to reduce the individual’s efforts to deal with the stressor (Carver et al., 1989). Disengagement occurs through behavioral and mental activities that distract the individual from thinking about the stressful situation (Carver et al.). Mishel’s (1988) model indicates the affect-management technique of behavioral disengagement will be used in response to a negative situation. In this study the focus was on participants’ efforts to distract their child from thinking about the cancer treatments. Results for the three-way interaction effects on behavioral disengagement produced both significant and peculiar findings.

First, the significant three-way interaction generally supports Mishel’s (1988) uncertainty model, indicating that the interaction of appraisal, inference, and illusion affects the use of behavioral disengagement. In other words, all three variables work together influencing the amount of behavioral disengagement employed to help children cope with pediatric cancer. According to UMT, uncertainty’s meaning is determined by the relationship between the appraisal’s valence and the inference the individual makes (Brashers, 2001; Mishel, 1988). Appraisal, in uncertain situations, helps define the ambiguity and decide if the circumstances are either desired or avoidable (Mishel, 1988). When uncertainty is appraised to be negative, the possibility of a harmful outcome is determined based upon the inference appraisal (Mishel, 1988). Conversely, when uncertainty is appraised positively, the result typically is perceived as an optimistic outcome (Mishel, 1988). Mishel continues by implying the positive appraisal is primarily a result of the generation of an illusion, which are beliefs constructed out of uncertainty that predict favorable aspects of the situation. Therefore, the interaction of all three variables will constitute a coping mechanism for the uncertainty, thus supporting
Mishel’s (1988) model.

In relation to the process formulated by UMT and Mishel’s (1988) model, the result of the negative appraisal, positive inference, and no illusion condition, which resulted in more use of behavioral disengagement, as opposed to the other three-way interactions of appraisal, inference, and illusion. This negative interaction has mixed implications in regards to previous literature. Referring back to Mishel’s work, when the situation is deemed negative, this is usually the result of the construct of a negative appraisal and a low or negative inference. Conversely, when the situation is considered positive, this is usually the result of the construct of a positive appraisal and a positive illusion (Mishel). Basically, the experience of an event is considered neutral until it is determined desirable or avoidable through appraisal (Mishel), indicating that appraisals determine the valence (positive/negative) of the situation. Lazarus and Folkman (1984) reiterate this by implying that people appraise situations based on relevance to their lives; indicating general knowledge and beliefs of the situation (inference) help indicate appraisals. Therefore, the preceding interaction does not represent the content of the literature, because the interaction of the positive inference and negative appraisal does not coincide with Mishel’s model. The key impact of this interaction, is that when a situation is appraised as a negative, the coping outcome usually results in higher amounts of affect-management strategies as opposed to buffering strategies; whereas positively inferred situations usually results in the use of higher amounts of buffering strategies as opposed to affect-management strategies. Therefore, the outcome of the three-way interaction of this study, suggests the major impact that appraisals has on the overall determination of the coping strategy selected.
However, additional research by Mishel (1990) suggests possible misrepresentations within the original model. Mishel (1990) indicates that the original 1988 model suggests that opportunity (positive) and danger (negative) appraisals, contingent with inferences and illusions, are parallel to each other, therefore indicating the individual must choose one path or the other. In other words, upon appraising a situation, the person must choose if the condition is going to be perceived as negative or positive, but not aspects of both. Mishel (1990) continues by implying this may not accurately reflect the fluctuations occurring over the course of the illness, and over time, an indication of uncertainty as a negative may evolve into a suggestion of positive uncertainty. This statement might seem a bit far-fetched from the results of this study, but it actually provides possible explanations. Even though an individual might originally infer the situation to be positive, progressive steps might alter the indication to appraise the whole situation as a negative. For example, if general knowledge of cancer indicates the child will survive, the individual will create a positive inference. However, after realizing the child will have to undergo multiple surgeries, treatments, and remission, the overall experience of the situation might eventually be appraised as a negative because there is always a possibility for surgery to go afoul, treatments to not work properly, and remission relapse, all of which are negative side-effects of the cancer process.

With respect to the use of behavioral disengagement, the three way interaction of a negative appraisal, positive inference, and no illusion resulted in a higher use of the coping tactic compared to a low inference, no illusion, and positive appraisal. In other words, when an individual’s general knowledge is optimistic, there are no constructed beliefs of the situation, and the perceived outcome is deemed undesirable, individuals
will likely manage the uncertainty of the situation with a low to moderate amount of behavioral disengagement tactics. In comparison, those who were exposed to the negative appraisal, low inference, and no illusion scenario used the greatest amount of behavioral disengagement results, which are consistent with UMT.

The three-way interaction both contradicts and supports previous theory and research. According to the Mishel’s (1988) work and model, even when influenced by inferences and illusions, positively appraised situations generally will utilize higher amounts of buffering strategies (distraction), and, thus, less affect-management. On the other hand, negatively appraised situations will utilize more affect-management strategies (religion and behavioral disengagement), and less buffering (Mishel). However, Pakenham and Rinaldis (2001) presented evidence consistent with current findings and contradictory to Mishel’s model. Pakenham and Rinaldis investigated appraisal and coping strategies in relation to adjustment to HIV/AIDS, and found that in general, a reliance on passive or avoidant emotional coping strategies is associated with higher levels of distress in persons with HIV/AIDS. What this implies, is that individuals who are dealing with a negative situation will likely turn to buffer coping techniques, such as distraction, to deal with the condition. Pakenham and Rinaldis’s findings also suggested that a reliance on buffering-focused coping is directly related to higher levels of distress. That being said, the more stress and negativity derived from the situation, through appraisal dominant interaction, the more likely the individual is going to buffer, or distract, oneself from the condition as oppose to rely on affect-management coping techniques.

Referring back to the results, the three-way interaction resulted in a high use of
behavioral disengagement. This complex process producing the use of behavioral disengagement in negatively appraised conditions is somewhat consistent with UMT, but not a consistent result for all negatively appraised situations. Even though results of the current study suggested the use of behavioral disengagement when dealing with negative situations, other research suggests the use of avoidance for coping with negative situations. Therefore, the following discussion demonstrates alternatives to both Mishel’s model and the current study’s findings.

Behavioral disengagement is an affect-management coping technique. Avoidant behavior, on the other hand, is a buffering technique, and in a study conducted by Carver (1997) avoidant behaviors were presented in the form of distraction. Therefore, in relation to Pakenham and Rinaldis (2001) findings, the buffering technique of avoidance was the coping mechanism mostly used when faced with a negative situation. What this implies, is that people who are faced with negative situations might prefer to avoid or distract themselves, or those involved, as a means of coping with the situation. For example, parents and children dealing with cancer might tend to do more pleasurable activities, (i.e., go to the movies, go to the park), as oppose to communicate about the cancer and go to doctor visits. This does not mean that parents and children will all-together avoid the medical setting, but they might do more activities that distract from the cancer when not forced to be present in the medical setting for treatments and other routine medicinal facets. This finding offers an alternate solution for coping as opposed to Mishel’s (1988) model.

In a study conducted by Tyson and Pongruengphant (1996) coping strategies other than affect-management also were prevalent in negatively evaluated situations.
Tyson and Pongruengphant analyzed the use of avoidant behaviors as a coping strategy by nurses. Referring back to Mishel’s (1988) work, buffering consists of avoidance; and Carver (1997) indicated distraction to be a tactic of avoidance, as presented in this current study. Tyson and Pongruengphant found avoidance to be reliable symptoms of occupational stress and dissatisfaction and, therefore, the most frequently used tactic used in negative situations. Tyson and Pongruengphant explained that buffering strategies helped reduce the amount of stress individuals might experience in situations; and negativity occurred when dissatisfaction is experienced within the situation. These previous findings are not included to suggest results should have indicated a higher use of buffering as opposed to affect-management. They do however, provide evidence that Mishel’s (1988) model does not necessarily provide the only coping technique available for negative situations. Therefore, when a condition is negative, buffering allows people to evade or leave the situation, (Thoits, 1986), which is similar to what behavioral disengagement is theorized to do as well.

In all, behavioral disengagement suggests individuals will extricate themselves from the situation, as opposed to deal with the stressor when the stressor is negatively assessed. It would seem if the situation of pediatric cancer was perceived, as a whole, to be negative, parents would wish to provide their child with more support and information as opposed to removing themselves from the medical setting. A study previously done by Gibson et al. (2010) helps explain this situation. In the study, Gibson et al. reported that children battling cancer indicated that they would rely on their parents if they wanted to know anything about the illness and their treatment. The children also reported wanting to be told clear, specific information regarding the illness (Gibson et al.). Gibson et al.
looked at children’s information seeking, and this study focused on parents’ information provision to children. When the results of the current study are considered alongside Gibson et al.’s findings, they suggest that parents and children both need to be present (mentally and physically) during cancer treatments and hospital visits. If the parent or child disengage, or give up trying to deal with the situation (Carver, 1997), no information is exchanged or no communication occurs will occur between parents and the child; which is reflected in the current results with the greatest amount of behavioral disengagement used in the most negative uncertain situations.

The preceding three-way interaction suggests that when people have positive general knowledge, no optimistic beliefs, and a negative overall perception of the situation, they will use a moderate amount of behavioral disengagement. This negativity could be produced from the certain aspects of the illness. Media might imply that cancer can be beaten, and/or past personal experience suggests that the child will survive; however since (in the hypothetical scenario) the cancer was stage four, parents believe the actuality of the illness is negative. Since this negative appraisal overshadows the positive inference and no illusion, behavioral disengagement is increased to cope with the uncertainty.

Overall, religion was unrelated when analyzed through a three-way interaction of appraisal, inference, and illusion. However, behavioral disengagement was related in terms of coping with uncertain situations. Past research indicated both support and contradictions to the findings.

Buffering

Results indicated each variable assessed independently (H1b, 2b, and 3b), as well
as the three-way interaction (H11 and RQ), did not impact the use of child distraction. However, the two-way interaction of inference and appraisal (H8b) and inference and illusion (H10b) suggested significant findings. Both interaction types were in relation to the use of the coping outcome buffering through the use of child distraction.

For the inference and appraisal interaction, child distraction was used most in the low inference and negative appraisal interaction. This indicates when there is no general knowledge about the given situation, and the perceived outcome is negative, then more distraction will be used as a coping outcome compared to the other inference and appraisal interactions. Referring again to Mishel’s (1988) model, when there is no inference and the situation is appraised negatively, affect-management coping outcomes should be used more than buffering therefore, current research results does support the current findings.

Although inferences can consist of either actively constructing a schema to handle the given situation, or utilizing a preexisting schema to guide the future processing of information (Krzystofiak et al., 1988), in this study, preexisting schemas based on media’s presented outcomes for cancer were manipulated in the scenarios. Previous research and studies indicate support for the use of positive general knowledge in relation to mass media influence. Inferences can be fostered from many sources, including the patient, social resources, and health care providers. In response to social resources, past research in the area of public health and communication has primarily focused on the extent to see if individual exposure to communication outlets effectively promotes health behavior change (Yanovitzky & Bennett, 1999). Stryker, Moriarty, and Jensen (2008), proposed greater coverage of factors helping in the prevention of cancer indeed may be
associated with greater public knowledge about cancer prevention. In other words, the more general knowledge someone has in regards to the illness, the better the understanding of treatment options and procedures. Also, Viswanath (2005) suggests when dealing with an illness, people will likely obtain additional information from other sources outside the medical facility (i.e., mass media), in order to reduce distress, and increase his/her sense of control with the situation.

For inference and illusion interactions, the use of child distraction was seen in the positive inference and no illusion situation. In other words, positive general knowledge along with no constructed beliefs of the situation resulted in the greatest use of child distraction compared to the other inference and illusion interactions. When someone uses buffering as a way to cope with a situation, s/he is reducing the amount of stress experienced (Aldwin & Revenson, 1987). Buffering consists of avoidant behaviors such as distraction, which allows people to deliberately evade or leave the situation and replace particularly threatening features with matters that elicit pleasurable reactions and solutions (Thoits, 1986).

In response to Mishel’s (1988) model, if the inference is considered positive, buffering will be used to cope with the given situation, therefore, this interaction of positive inference and no illusion is supported. Somewhat consistent with this, results of the current study showed when individuals had low inferences and no illusions; the least amount of buffering was used. However, positive inferences and positive illusions also produced less buffering than the low inference and positive illusion condition.

Again, referring to the research from Mishel’s (1988) model, low inference occurs when events lack clarity and predictability necessary for objective representation, and do
not correspond to past learning. Therefore, when past or general knowledge gives no indication as to how the uncertainty is going to unfold, the event will be viewed as a negative (Mishel, 1988). Positive inferences, on the other hand, utilize existing knowledge to identify examples of similar situations that when viewed as having a beneficial outcome, would evaluate the uncertainty as positive (Mishel, 1988). Illusions consist of individual interpretations or subjective perceptions of stimuli and events that lack sure, physical basis (Taylor & Brown, 1994). Taylor and Brown continue by implying that thinking in positive terms (i.e., illusion) appears to nullify the effects of stressful events such as health threats.

This interaction of positive general knowledge and no optimistic belief, resulting in a high use of child distraction, suggests people believed that they would attempt to distract the child from the medical setting if they believed the illness would result affirmatively. It may be that since general knowledge from past experience and/or media outlets suggests the child will be cured, that participants believed it was not necessary to keep the child around the medical setting more than necessary. Medical facilities can make children nervous because of the past experiences they had in association with the hospital (i.e., painful medical procedures). By distracting the child, parents attempt to provide the child with more pleasurable and optimistic aspects that divert him/her from thinking about potential upcoming hospital visits. This form of buffering might also be a way for the parent to help begin the process of returning the child to a normal life- a life without cancer. Before the diagnosis, the child did not have to attend routine hospital visits and was allowed to enjoy life like normal children do (i.e., going to the movies, school, and hanging out with friends). Since a positive inference implies the child will be
healthy again, parents might use distraction to help ease the child back into the normality of life, therefore allowing the child to do more pleasurable activities and diverting attention from the medical setting.

The positive inference and positive illusion interaction producing less buffering than the no inference and positive illusion condition is peculiar, especially when viewed through Mishel’s (1988) model. Additional research on the effects of inference and illusion interactions was limited, but a study conducted by Taylor and Brown (1988) suggests possible support for Mishel’s (1988) model. In the study, Taylor and Brown analyzed illusions and well-being in regards to mental health. One aspect of their study indicated what happens when a positive illusion is met with negative feedback. The main focus was to see what process was used for rejecting as opposed to accommodating to such negative feedback (Taylor & Brown). Results for their study indicated evaluators who must communicate negative feedback may render it ambiguous therefore implying norms and strategies of social interaction generally enhance positive evaluation and protect against negatives (Taylor & Brown).

Taylor and Brown’s (1988) study provides information for this current study by implying the idea that when faced with a negative situation, people tend to avoid or distract from such negativity by use of illusion. Therefore, in regards to this study’s findings, it makes sense why the low inference and positive illusion used more buffering techniques than the positive inference and positive illusion interaction. Taylor and Brown’s study indicates when faced with a negative situation, positive illusions will overtake the negativity. In other words, people may assimilate contradictory, negative, or ambiguous information to preexisting positive schema in order to turn a negative into a
positive (Taylor & Brown). Thus, for parents helping their child cope with cancer, in relation to Taylor and Brown’s study, people believe that parents would use child distraction when faced with a negative situation. In other words, by using optimistic beliefs to avoid the negativity, parents will distract their child from the cancer setting in order to provide some form of positivity to the negative situation.

Results indicated that the no inference and positive illusion interaction would use more child distraction than positive inference and positive illusion interaction. What this implies is parents who have no general knowledge about cancer (i.e., personal experience and/or media) but have an optimistic outlook on the situation will use a higher amount of child distraction as opposed to those who have a positive general knowledge and optimistic outlook on the condition. This could be because it is common for individuals who are faced with an unknown situation to attempt to divert attention from potential negative circumstances. In other words, when an individual is placed in an unknown condition, s/he is likely to distract the negativity with concepts of positivity. With pediatric cancer, parents might only be able to rely on wishful thinking to provide some form of optimism for the condition. This illusion does not provide any concrete evidence that their child will be healthy again; so parents turn to child distraction to divert from any negative aspects that could alter this positive illusion.

**Implications for UMT Overall**

One consistent pattern across the results was the role of inferences in explaining efforts. Contrary to UMT’s predictions, inference, or individual’s general knowledge about the pediatric cancer situation, and not appraisals, influenced the use of behavioral disengagement and distraction when communicating with children about pediatric cancer
treatments. Previous scholarship, such as Mishel (1988) suggests inferences are hypothesized within the UMT to contribute to both positive and negative appraisals; therefore if an inference is negative, the uncertainty will likely be appraised as a negative and if the inference is positive, the uncertainty appraisal will likely be appraised as a positive. This finding might suggest that inferences are in some ways indicators of the degree of uncertainty of the given situation.

Additional literature has touched upon the importance of inferences in relation to the overall degree of uncertainty. Brashers et al. (2000) suggests among other aspects, uncertainty about illness arises due to individual’s judgments about the state of related knowledge (e.g., general beliefs). Lazarus and Folkman (1984) also suggest people learn to manage potentially distressful situations by assessing the skills and resources they have available to them for coping. In other words, individuals respond to different situations based on what they know about the illness, and how they can use this knowledge to cope. Finally, Bradac (2001) indicates UMT is a relatively open system, which is potentially responsive to external, theoretical influences. This could indicate UMT operates in response to general knowledge in order to manage and cope with the uncertainty.

Across significant findings, inferences seemed to play a consistent role affecting information regulation. However, participants indicated in the open-ended responses media and TV portrayals of cancer would be irrelevant in deciding how to communicate with their child about pediatric cancer. In the scenarios, inferences were depicted as general knowledge derived from medical television shows and/or past personal connection and experience with cancer. Open-ended response suggested that:

“Television would not influence the way I would talk to my child at all.”
"I would not gauge my general idea of cancer survival on the fact that children on TV survive cancer often because TV is not a good measure of reality."

“Television often times gives false hope.”

This is interesting because results to H4-10, showed inferences were a consistent factor in coping responses, and even previous research has indicated the importance of general knowledge in response to formulating uncertainty. Past research by Atkin and Wallack (1990) suggested the use of the media as a reliable source for health information resulted in minimal and inconclusive evidence, therefore supporting the claim of the open-ended responses.

One explanation for the perceived unreliable use of media in relation to cancer coping is presented in a study by Slater, Long, Bettinghaus, and Reineke (2008). Within the study, Slater et al. analyzed the use of news coverage of cancer in the United States. Their findings suggested that among the news coverage of all cancer types, breast cancer dominated the coverage, (i.e., newspaper, magazines, and television) (Slater et al.). This potentially indicates why participants believed the media was an unreliable source of information regarding cancer treatments. Pediatric cancer is not predominantly portrayed throughout the media and, therefore, does not offer insight regarding illness treatments.

Another explanation for this occurrence could be the distinction between mediated aspects of cancer and personal experience with cancer. When someone either knows someone battling cancer, or has personally battled cancer, inferences would act as reasonable and reliable guidelines in order to formulate appraisals regarding the situation. Contrary to personal experience, shows such as Grey’s Anatomy and ER often indicate that cancer patients are not in too much physical pain, and sometimes it appears the
person is actually healthy even though they are supposed to be possible terminally ill. This could be an explanation for why open-ended responses indicated media to be a non-significant form of general knowledge.

Implications for UMT overall brings attention to the use of inference in response to the overall determination of the uncertain situation. Past research both supports and contradicts this finding. Finally, suggestions for contradicting use of inference within this study were suggested (i.e., no influence in open-ended questions). This suggests that people believe television is both useful and not useful when it comes to deciding treatment options for cancer. Media provides hope for patients through survival depictions on medical television shows such as Greys Anatomy. At the same time, only certain cancers receive media attention, therefore some people believe that media is an unreliable source for cancer treatments. Inferences therefore play both a significant and potentially not significant role in determining how to cope with uncertainty based on mediated depictions of the related situation.

Cancer is a very trying time for everyone involved, and might make people feel isolated at times. Parents might feel as though they cannot communicate with their child about the illness because they are afraid they will either frighten the child or produce more stress on the child. Children might believe they cannot converse about the illness with their parents because they are afraid that by implying that they are scared or confused about the illness, parents might feel sad or frustrated that they cannot provide the child with more substantial answers regarding the illness. These are all simply suggestions for why and how parents and children might handle certain aspects of the cancer process. However, results of this study might help to indicate to parents and
children dealing with cancer that there are alternative ways of coping with this illness that can be beneficial to both parties.

Inferences and illusions suggest to those involved with pediatric cancer that there are multiple ways of determining how the cancer may/may not affect their lives. Some people might not consider turning to general knowledge, such as medical television shows to help provide guidance and/or suggest treatment options. However, results of this study indicate that inferences can play a major role in determining how people should cope with pediatric cancer. Therefore, results of this study might provide parents and children dealing with pediatric cancer with new perspectives and outlets that might potentially help them cope and manage the current, uncertain situation.

The coping mechanisms described throughout the study might also help parents and children dealing with cancer. Behavioral disengagement and child distraction might seem like negative connotations in connection to managing illness uncertainty. However, as implied by this study and past research, each mechanism can be used to manage uncertainty in very effective ways. Behavioral disengagement allows parents and children to distract from thinking about the stressful situation (Carver, Scheier, & Weintraub, 1989). Child distraction refers to attempting to deliberately evade or leave the situation and replace threatening features with pleasurable reactions and solutions (Thoits, 1986). Neither technique requires individuals to leave and avoid the cancer issue completely, but the techniques allows for a mental and physical reprieve from the medical situation.

Limitations

Throughout the course of the study, certain limitations occurred in conjunction with online questionnaires, internal and external validity threats, and low reliability of
manipulation checks. On-line surveys can demonstrate a lack of control, a critical element to experimental designs. Because this experiment was administered using online questionnaire format, control concerns arose. First, the time and place in which each participant took the study was not constant. Participants could take the study whenever and wherever s/he desired. One participant might have participated at home at noon, while another participant completed the study at the local library at 8:00 A.M. Secondly, since it was an experiment administered in an on-line questionnaire, participant identification posited a possible limitation. What this implies is an individual who signed up for the study does not mean they completed the study. Because it was not distributed at a given time and place, identification was not checked before beginning the study.

Threats to internal and external validity for the experimental design were presented in the hypothetical scenarios. External validity refers to the extent to which conclusions drawn from a study are generalizable to the “real” world (Baxter & Babbie, 2004). In other words, external validity analyzes the study’s generalizability, and how the findings of a particular study have applicability in other contexts or with people other than who participated in the study (Baxter & Babbie).

Since this experiment consisted of hypothetical scenario, participants commented on how they think they would communicate, as opposed to actual communication. Therefore, since the questionnaire was based on hypothetical scenarios, the results of the study are merely a gauge of what is likely in lived experiences (Baxter & Babbie, 2004) and only looks at potential conversational methods of actual parents of pediatric patients. Generalizability of the findings may also been impacted due to the age range of participants. The average age of participants in the study was 21, and most participants
did not have children. Because the majority of participants did not have children, it may be difficult to accurately assess the communicative techniques they would use to converse with children. Also, 21 year-olds likely possess a different view of what constitutes a competent child. To some, they might assume a seven year-old can comprehend and make decisions about medical treatments.

Internal validity threats arose in regards to participant diversity. The questionnaire was administered only to UNLV undergraduate students. Most participants had either never been associated with the given illness, did not currently have children, or did not have a child battling cancer. Each situation collectively posited possible threats to internal validity, which addresses the “truth value” of the study’s findings, and allows the researcher to make a confident claim about what caused a certain outcome in the study (Baxter & Babbie, 2004). If participants could not identify with the given scenario, it may have been difficult for them to respond. In other words, because participants did not produce answers based on previous experience, but rather through theoretical circumstance, findings may only reflect possible coping behaviors rather than realistic responses to pediatric cancer.

Issues in the study, such as internal and external validity threats, could have been prevented, or at least brought to attention if the study could have been piloted. Piloting a study provides a test run which may effectively uncover any peculiar defects in the questionnaire (Baxter & Babbie, 2004). Due to time constraints, about three to four surveys were sent to fellow graduate assistants as a test survey. This test was useful, because those who participated helped look for grammatical errors and sentence clarity. However, this did not test the adequacies of the scenarios and manipulations of each of
the independent variables. A pilot study helps to ensure the questionnaire is comprehensible and appropriate, and the questions are well defined, clearly understood, and presented in a consistent manner (Lancaster, Dodd, & Williamson, 2002). A pilot study would have helped determine whether the scenarios were clearly presented and if participants understood what was being asked of them.

The manipulation check for the independent variable illusion had a low reliability. Normally, a low reliability would have resulted in the variable being dropped from final analysis of the study. However, after conducting an independent samples t-test, positive and low illusion manipulations showed to be significantly different. Therefore, even though the scale used for the manipulation check lacked strong reliability, the manipulation of illusion was retained to test the hypotheses.

A pilot should have been conducted for this study in order to assess the quality of the independent variable manipulations, clarity of the hypothetical scenarios, and quality and reliability of the dependent variables since the scales were modified. Participant answers in the open-ended section of the survey indicated some aspects of hypothetical misrepresentation. For example, in order to assess inferences within the questionnaire, participants were told they either watched or never watched medical television shows. If the scenario indicated they watched medical shows, participants were then told that upon watching the medical shows, people battling cancer often survived (positive inference), or passed away (negative inference). General response in relation to the inference portion of the scenario resulted in participants questioning the reality and reliability of such source. Responses suggested:

“Television would not influence the way i would talk to my child at all.”
“Television often times gives false hope.”

Responses such as these indicate that people, even though they may watch medical shows, may not rely on mainstream media as a guide for how to communicate with their child about pediatric cancer. These responses indicate why there were no significant findings for the use of a negative inference.

A pilot study could have also provided information about the quality and reliability of the dependent variable scales. Since the scales were modified, the pilot study could have helped to indicate whether the revised scale questions were indicating a similar response as the original scale.

**Future Direction**

Future research should focus on how parents involve children in learning about and deciding on treatment options. The notion parents would allow the child to decide whether or not s/he lives or dies is fascinating, and opens the path for much insight. This was addressed in several of the responses in the open-ended question. This was a minor finding, but this response occurred throughout at least four scenarios and was distinguished by seven participants who completed the open-ended question. Responses suggested:

“I would seek medical attention for him or her, however, if the treatment becomes overwhelming and him or her did not want to continue it, then as much as I would not like this choice, I would let him or her stop treatment.”

“I would react similarly in the situation. I would do whatever is best for my child, while also doing whatever my child chooses to do. We would have to discuss it.”

“I would also support their decision to end treatment, as long as it is an informed
Responses such as these indicated communication would take place with the child in regards to the illness but for a different reason than indicated in this study. Communication in this perspective suggests parents would converse with their children about the possibility of stopping and/or ending treatments. Still focusing on the communicative aspect, this future direction could produce new insight as to what considered appropriate or not appropriate to converse with children about treatments. Past research has implied both sides of the spectrum; parents and physicians need to communicate more openly with children about cancer treatments and that parents and physicians should limit what the child knows in regards to treatment options. This direction could help to provide more insight as to what parents with ill children believe is appropriate/not appropriate communicative topics in regards to cancer treatments and decisions.

**Conclusion**

This thesis study sought to analyze how people perceive how parents should communicate with children about pediatric cancer treatments. When parents and children are dealing with pediatric cancer, it is very important parents and children communicate about the illness in order to effectively cope with the illness. Past research indicates parents choose what information to disclose to children, and what information to withhold from children in order to protect the child from information leading to negative consequences within the medical setting (Knopf, et al., 2008). Theoretical grounding for the study was determined through Uncertainty Management Theory (Mishel, 1988; Brashers, 2001) in order to improve understanding of how parents effectively communicate with children about pediatric cancer. UMT implies when details of certain
situations, such as illness are ambiguous, complex, and unpredictable, individuals may experience uncertainty (Mishel, 1988). Aspects of UMT are inference, illusion, and appraisal. These features help determine how individuals assess the situation (positive or negative) and cope with the uncertainty.

These three characteristics (appraisal, inference, and illusion) guided the study, and provided past research and literature demonstrating how and why parents either choose to or choose not to disclose medical information to their child. Coping outcomes for dealing with pediatric cancer consisted of affect-management (religion and behavioral disengagement) and buffering (child distraction). The interaction of the isolated independent variables, determined the two-way, and three-way interactions among the appraisal, inference, and illusion. Results suggest some significant findings, both through supported hypotheses, as well as contradictions in theoretical findings.

Future research proposes the need for field experiments as opposed to hypothetical scenario distribution. When individuals are personally dealing with a particular situation, such as pediatric cancer, they will likely provide concrete insight as to how or why they react in certain ways as opposed to someone who is not personally dealing with the situation and is only given a hypothetical scenario.

During times of illness, parents and children often feel very lost and confused, and may or may not be sure how to effectively cope with the situation. Also, parents might not have previously realized they can effectively distraction and disengage themselves and their child from the medical setting. However, with the results of this study and previous research, parents might begin to comprehend that they can successfully divert and extricate their child from the medical setting without completely
avoiding the situation. Parents can now understand that some forms of safeguarding can help with the coping process, such as going to the movies and attempting to add some form of normality to the child’s life.

Overall, this study sought to see how people perceive parents and children should communicate about pediatric cancer treatments. However, on a more practical level, findings of this study hopes to assist parents and children dealing with pediatric cancer by providing new insight and explanations regarding conversational methods and coping techniques for managing pediatric cancer.
APPENDIX A:

IRB Approval Form

UNLV

Social/Behavioral IRB – Exempt Review
Deemed Exempt

DATE: January 14, 2013
TO: Dr. Tara McManus, Communication Studies
FROM: Office of Research Integrity – Human Subjects
RE: Notification of IRB Action
Protocol Title: Parent-Child Communication about Pediatric Cancer
Protocol # 1301-4338

This memorandum is notification that the project referenced above has been reviewed as indicated in Federal regulatory statutes 45 CFR 46 and deemed exempt under 45 CFR 46.101(b)(2).

Any changes to the application may cause this project to require a different level of IRB review. Should any changes need to be made, please submit a Modification Form. When the above-referenced project has been completed, please submit a Continuing Review/Progress Completion report to notify ORI – HS of its closure.

If you have questions or require any assistance, please contact the Office of Research Integrity - Human Subjects at IRB@unlv.edu or call 895-2794.
APPENDIX B
Scenarios for Experimental Manipulation

Positive Inference/Positive Illusion/Positive Appraisal

Yesterday, your seven year old child was diagnosed with neuroblastoma, a childhood cancer that affects the nervous system. After explaining the diagnosis, the physician recommended your child have a bone marrow aspiration. The physician explained that the procedure is performed by pushing a large needle into the patient’s lower back to draw a sample of bone marrow. The physician said the procedure is extremely painful and will cause pain and discomfort for your child, but it is necessary to test for cell normality.

Your child was not at the doctor’s office when you were informed of the diagnosis and the neuroblastoma procedures. Your child knows s/he’s not feeling well, but s/he does not know s/he has cancer. At the dinner table tonight, you need to tell your child that you will be taking him/her to the hospital tomorrow. In thinking about how to explain the treatment procedure to him/her, you think about what you’ve seen on television and others’ experiences, and most children on the television programs survive the cancer. Your family has always overcome significant health struggles in the past, and you know your child will, too. This leads you to believe your child will be healthy and able to hang out with friends like normal again sometime soon.

Positive Inference/Positive Illusion/Negative Appraisal

Yesterday, your seven year old child was diagnosed with neuroblastoma, a childhood cancer that affects the nervous system. After explaining the diagnosis, the physician recommended your child have a bone marrow aspiration. The physician
explained that the procedure is performed by pushing a large needle into the patient’s lower back to draw a sample of bone marrow. The physician said the procedure is extremely painful and will cause pain and discomfort for your child, but it is necessary to test for cell normality.

Your child was not at the doctor’s office when you were informed of the diagnosis and the neuroblastoma procedures. Your child knows s/he’s not feeling well, but s/he does not know s/he has cancer. At the dinner table tonight, you need to tell your child that you will be taking him/her to the hospital tomorrow. In thinking about how to explain the treatment procedure to him/her, you think about what you’ve seen on television and others’ experiences, and most children on the television programs survive the cancer. Your family has always overcome significant health struggles in the past, and you know your child will, too. However, this may lead you to believe your child will be in pain and stuck in the hospital without for long period of time.

**Positive Inference/No Illusion/Positive Appraisal**

Yesterday, your seven year old child was diagnosed with neuroblastoma, a childhood cancer that affects the nervous system. After explaining the diagnosis, the physician recommended your child have a bone marrow aspiration. The physician explained that the procedure is performed by pushing a large needle into the patient’s lower back to draw a sample of bone marrow. The physician said the procedure is extremely painful and will cause pain and discomfort for your child, but it is necessary to test for cell normality.

Your child was not at the doctor’s office when you were informed of the diagnosis and the neuroblastoma procedures. Your child knows s/he’s not feeling well,
but s/he does not know s/he has cancer. At the dinner table tonight, you need to tell your child that you will be taking him/her to the hospital tomorrow. In thinking about how to explain the treatment procedure to him/her, you think about what you’ve seen on television and others’ experiences, and most children on the television programs survive the cancer. But it is difficult to overcome significant illnesses, so you’ll see if your child can do it. This leads you to believe your child will be healthy and able to hang out with friends like normal again sometime soon.

**Positive Inference/No Illusion/Negative Appraisal**

Yesterday, your seven year old child was diagnosed with neuroblastoma, a childhood cancer that affects the nervous system. After explaining the diagnosis, the physician recommended your child have a bone marrow aspiration. The physician explained that the procedure is performed by pushing a large needle into the patient’s lower back to draw a sample of bone marrow. The physician said the procedure is extremely painful and will cause pain and discomfort for your child, but it is necessary to test for cell normality.

Your child was not at the doctor’s office when you were informed of the diagnosis and the neuroblastoma procedures. Your child knows s/he is not feeling well, but s/he does not know s/he has cancer. At the dinner table tonight, you need to tell your child that you will be taking him/her to the hospital tomorrow. In thinking about how to explain the treatment procedure to the child, you think about what you’ve seen on television and others’ experiences, and most children on the television programs survive the cancer. But it is difficult to overcome significant illnesses, so you’ll see if your child
can do it. This may lead you to believe your child will be in pain and stuck in the hospital without friends for a long period of time.

**Negative Inference/Positive Illusion/Positive Appraisal**

Yesterday, your seven year old child was diagnosed with neuroblastoma, a childhood cancer that affects the nervous system. After explaining the diagnosis, the physician recommended your child have a bone marrow aspiration. The physician explained that the procedure is performed by pushing a large needle into the patient’s lower back to draw a sample of bone marrow. The physician said the procedure is extremely painful and will cause pain and discomfort for your child, but it is necessary to test for cell normality.

Your child was not at the doctor’s office when you were informed of the diagnosis and the neuroblastoma procedures. Your child knows s/he’s not feeling well, but s/he does not know s/he has cancer. At the dinner table tonight, you need to tell your child that you will be taking him/her to the hospital tomorrow. In thinking about how to explain the treatment procedure to the child, you think about what you’ve seen on television and others’ experiences, and you know that children often suffer from painful procedures and could die. But my family has always overcome significant health struggles in the past, and you know your child will, too. This leads you to believe your child will be healthy and able to hang out with friends like normal again sometime soon.

**Negative Inference/Positive Illusion/Negative Appraisal**

Yesterday, your seven year old child was diagnosed with neuroblastoma, a childhood cancer that affects the nervous system. After explaining the diagnosis, the physician recommended your child have a bone marrow aspiration. The physician
explained that the procedure is performed by pushing a large needle into the patient’s lower back to draw a sample of bone marrow. The physician said the procedure is extremely painful and will cause pain and discomfort for your child, but it is necessary to test for cell normality.

Your child was not at the doctor’s office when you were informed of the diagnosis and the neuroblastoma procedures. Your child knows s/he’s not feeling well, but s/he does not know s/he has cancer. At the dinner table tonight, you need to tell your child that you will be taking him/her to the hospital tomorrow. In thinking about how to explain the treatment procedure to her, you think about what you’ve seen on television and others’ experiences, and you know that children often suffer from painful procedures and could die. But my family has always overcome significant health struggles in the past, and you know your child will, too. However, this may lead you to believe your child will be in pain and stuck in the hospital without friends for a long period of time.

**Negative Inference/No Illusion/Positive Appraisal**

Yesterday, your seven year old child was diagnosed with neuroblastoma, a childhood cancer that affects the nervous system. After explaining the diagnosis, the physician recommended your child have a bone marrow aspiration. The physician explained that the procedure is performed by pushing a large needle into the patient’s lower back to draw a sample of bone marrow. The physician said the procedure is extremely painful and will cause pain and discomfort for your child, but it is necessary to test for cell normality.

Your child was not at the doctor’s office when you were informed of the diagnosis and the neuroblastoma procedures. Your child knows s/he is not feeling well,
but s/he does not know s/he has cancer. At the dinner table tonight, you need to tell your child that you will be taking him/her to the hospital tomorrow. In thinking about how to explain the treatment procedure to him/her, you think about what you’ve seen on television and others’ experiences, and you know that children often suffer from painful procedures and could die. It is difficult to overcome significant illnesses, so you’ll see if your child can do it. This may lead you to believe your child will be healthy and able to hang out with friends like normal again sometime soon.

**Negative Inference/No Illusion/Negative Appraisal**

Yesterday, your seven year old child was diagnosed with neuroblastoma, a childhood cancer that affects the nervous system. After explaining the diagnosis, the physician recommended your child have a bone marrow aspiration. The physician explained that the procedure is performed by pushing a large needle into the patient’s lower back to draw a sample of bone marrow. The physician said the procedure is extremely painful and will cause pain and discomfort for your child, but it is necessary to test for cell normality.

Your child was not at the doctor’s office when you were informed of the diagnosis and the neuroblastoma procedures. Your child knows s/he is not feeling well, but s/he does not know s/he has cancer. At the dinner table tonight, you need to tell your child that you will be taking him/her to the hospital tomorrow. In thinking about how to explain the treatment procedure to him/her, you think about what you’ve seen on television and others’ experiences, and you know that children often suffer from painful procedures and could die. It is difficult to overcome significant illnesses, so you’ll see if
your child can do it. This may lead you to believe your child will be in pain and stuck in the hospital without friends for a long period of time.

**Low Inference/Positive Illusion/Positive Appraisal**

Yesterday, your seven year old child was diagnosed with neuroblastoma, a childhood cancer that affects the nervous system. After explaining the diagnosis, the physician recommended your child have a bone marrow aspiration. The physician explained that the procedure is performed by pushing a large needle into the patient’s lower back to draw a sample of bone marrow. The physician said the procedure is extremely painful and will cause pain and discomfort for your child, but it is necessary to test for cell normality.

Your child was not at the doctor’s office when you were informed of the diagnosis and the neuroblastoma procedures. Your child knows s/he is not feeling well, but s/he does not know s/he has cancer. At the dinner table tonight, you need to tell your child that you will be taking him/her to the hospital tomorrow. In thinking about how to explain the treatment procedure to him/her, you try to think about the general knowledge you have of the illness, but you don’t watch medical television programs, and you do not know anyone who has had cancer before. But my family has always overcome significant health struggles in the past, and you know your child will, too. This leads you to believe your child will be healthy and able to hang out with friends like normal again sometime soon.

**Low Inference/Positive Illusion/Negative Appraisal**

Yesterday, your seven year old child was diagnosed with neuroblastoma, a childhood cancer that affects the nervous system. After explaining the diagnosis, the
physician recommended your child have a bone marrow aspiration. The physician
explained that the procedure is performed by pushing a large needle into the patient’s
lower back to draw a sample of bone marrow. The physician said the procedure is
extremely painful and will cause pain and discomfort for your child, but it is necessary to
test for cell normality.

Your child was not at the doctor’s office when you were informed of the
diagnosis and the neuroblastoma procedures. Your child knows s/he is not feeling well,
but s/he does not know s/he has cancer. At the dinner table tonight, you need to tell your
child that you will be taking her to the hospital tomorrow. In thinking about how to
explain the treatment procedure to him/her, you try to think about the general knowledge
you have of the illness, but you don’t watch medical television programs, and you do not
know anyone who has had cancer before. But my family has always overcome significant
health struggles in the past, and you know your child will, too. However, this could lead
you to believe your child will be in pain and stuck in the hospital without friends for a
long period of time.

**Low Inference/No Illusion/Positive Appraisal**

Yesterday, your seven year old child was diagnosed with neuroblastoma, a
childhood cancer that affects the nervous system. After explaining the diagnosis, the
physician recommended your child have a bone marrow aspiration. The physician
explained that the procedure is performed by pushing a large needle into the patient’s
lower back to draw a sample of bone marrow. The physician said the procedure is
extremely painful and will cause pain and discomfort for your child, but it is necessary to
test for cell normality.
Your child was not at the doctor’s office when you were informed of the diagnosis and the neuroblastoma procedures. Your daughter knows she’s not feeling well, but she does not know she has cancer. At the dinner table tonight, you need to tell your child that you will be taking him/her to the hospital tomorrow. In thinking about how to explain the treatment procedure to him/her, you try to think about the general knowledge you have of the illness, but you don’t watch medical television programs, and you do not know anyone who has had cancer before. It is difficult to overcome significant illnesses, so you’ll see if your child can do it. This could lead you to believe your child will be healthy and able to hang out with friends like normal again sometime soon.

**Low Inference/No Illusion/Negative Appraisal**

Yesterday, your seven year old child was diagnosed with neuroblastoma, a childhood cancer that affects the nervous system. After explaining the diagnosis, the physician recommended your child have a bone marrow aspiration. The physician explained that the procedure is performed by pushing a large needle into the patient’s lower back to draw a sample of bone marrow. The physician said the procedure is extremely painful and will cause pain and discomfort for your child, but it is necessary to test for cell normality.

Your child was not at the doctor’s office when you were informed of the diagnosis and the neuroblastoma procedures. Your child knows s/he’s not feeling well, but s/he does not know s/he has cancer. At the dinner table tonight, you need to tell your child that you will be taking him/her to the hospital tomorrow. In thinking about how to explain the treatment procedure to him/her, you try to think about the general knowledge you have of the illness, but you don’t watch medical television programs, and you do not
know anyone who has had cancer before. It is difficult to overcome significant illnesses, so you’ll see if your child can do it. However, this may lead you to believe your child will be in pain and stuck in the hospital without friends for a long period of time.
Title of Study: **Parent-Child Communication About Pediatric Cancer**

Investigator(s): **Dr. Tara G. McManus, Chelsi Walls** For questions or concerns about the study, you may contact Dr. Tara G. McManus at Tara.McManus@unlv.edu; or Chelsi Walls at wallsca@unlv.nevada.edu.

For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted, contact the UNLV Office of Research Integrity – Human Subjects at 702-895-2794, toll free at 877-895-2794 or via email at IRB@unlv.edu.

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**Purpose of the Study**

You are invited to participate in a research study. The purpose of this study is to learn how people think parents should communicate to children about pediatric cancer treatments.

**Participants**

You are being asked to participate in the study because you: are at least 18 years old, and are currently enrolled as an undergraduate student at UNLV. About 500 people will participate in this study.

**Procedures**

If you volunteer to participate in this study, you will be asked to complete an online survey. Questions will ask about you, your general knowledge of cancer, and how you might communicate if your child was diagnosed with cancer.
Benefits of Participation

There may not be direct benefits to you as a participant in this study. However, we hope to learn more about how parents and children communicate with each other when dealing with pediatric cancer.

Risks of Participation

There are risks involved in all research studies. This study may include only minimal risks. Participants may become uncomfortable or emotional while answering certain questions.

Cost/Compensation

There will not be financial cost to you to participate in this study. The study will take about 30 minutes of your time. You will be compensated for your time with 1 Communication Studies Research Participation credit.

If you do not want to participate in this study, but still wish to earn research credit for this study in your COM course, then you may complete 1 article summary. Email Ms. Chelsi Walls (wallsc@unlv.nevada.edu) if you choose to complete the alternative article summary.

Confidentiality

All information gathered in this study will be kept as confidential as possible. No reference will be made in written or oral materials that could link you to this study. All records will be stored in a locked facility at UNLV for 1 year after completion of the study. After the storage time the information gathered will be destroyed.

Voluntary Participation

Your participation in this study is voluntary. You may refuse to participate in this study or in any part of this study. You may withdraw at any time without prejudice to your relations with UNLV. You are encouraged to ask questions about this study at the beginning or any time during the research study.

Participant Consent

I have read the above information and agree to participate in this study. I have been able to ask questions about the research study. I am at least 18 years of age. A copy of this form has been given to me.

- Yes. I have read the above, and I consent to participate in this research study.
- No. I do not consent to participate in this research study.
Thank you for your interest in Parent-Child Communication About Pediatric Cancer survey and study. The purpose of this study is to learn how and how people believe parents should communicate with their child about pediatric cancer treatments and procedures.

The questions in this study ask about your thoughts. There is no “right” or “wrong” answers. I simply want to know how you believe parents should talk children. Remember that all information is confidential. Your personal information will not be revealed.

Answer each question based on your initial reaction. Do not overthink the questions. If you do not feel comfortable answering a question, you do not need to provide an answer.

At the bottom of each page, you will see a page indicator. This will tell you what how much of the survey you have currently completed.

At the bottom of the page, you will see an arrow box. By clicking on the arrow, you will be escorted to the next page of the survey.

You will not be able to go back to either change/or answer previous questions.

If you choose not to answer the questions, you may exit the survey by clicking X at the top of the page.

If you have any questions about this survey, please feel free to contact me.

Thank you for your help!

Chelsi M. Walls
Directions:

In the first part of this study, I would like to learn about you. Some of the questions are more personal than others. Answer each question as accurately as possible, but do not spend too much time thinking about each one.

1. What is your age (in years)? The age must be between 18-99 years.

2. What is your biological sex?
   - Male
   - Female
   - Other, Please Specify ____________________

3. What is your race/ethnicity? (You may indicate as many options as you feel necessary)
   - Caucasian
   - African American
   - Hispanic American
   - Asian American
   - Pacific Islander
   - Other, Please Specify ____________________

4. Based on the number of credit hours you have earned, what year in school are you?
   - Freshman
   - Sophomore
   - Junior
   - Senior
   - MA student
   - PhD student
   - Other, Please Specify ____________________

5. What is your relationship status?
   - Single
   - Dating Relationship
   - Engaged
   - Married
   - Divorced

6. Do you have children?
   - Yes
Directions:

In this section, I am interested in learning about how you would react in this particular situation. Below is a situation you may experience as a parent if your child has pediatric cancer.

The questions that follow will ask you about this situation.

Situation:

Yesterday, your seven year old child was diagnosed with neuroblastoma, a childhood cancer that affects the nervous system. After explaining the diagnosis, the physician recommended your child have a bone marrow aspiration. The physician explained that the procedure is performed by pushing a large needle into the patient’s lower back to draw a sample of bone marrow. The physician said the procedure is extremely painful and will cause pain and discomfort for your child, but it is necessary to test for cell normality.

Your child was not at the doctor’s office when you were informed of the diagnosis and the neuroblastoma procedures. Your child knows s/he is not feeling well, but s/he does not know s/he has cancer.

At the dinner table tonight, you need to tell your child that you will be taking him/her to the hospital tomorrow. In thinking about how to explain the treatment procedure to the child, you think about what you’ve seen on television and others’ experiences, and most children on the television programs survive the cancer. Your family has always overcome significant health struggles in the past, and you know your child will, too. This leads you to believe your child will be healthy and able to hang out with friends like normal again sometime soon.

Directions:

Now that you have read the situation, I am interested in learning about your thoughts of this situation. In the following questions, please indicate how much you agree or disagree with each item below. Please respond to each question to the best of your ability, and answer based on your initial reaction.

The scenario was...

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Slight Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic of</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Directions:

In this section, I am interested in seeing how you think you would try to explain this situation to your daughter if this happened to you. Remember, do not spend too much time on one question, and answer based on your initial reaction.

Here is the situation again for your reference:

Yesterday, your seven year old child was diagnosed with neuroblastoma, a childhood cancer that affects the nervous system. After explaining the diagnosis, the physician recommended your child have a bone marrow aspiration. The physician explained that the procedure is performed by pushing a large needle into the patient’s lower back to draw a sample of bone marrow. The physician said the procedure is extremely painful and will cause pain and discomfort for your child, but it is necessary to test for cell normality.

Your child was not at the doctor’s office when you were informed of the diagnosis and the neuroblastoma procedures. Your child knows s/he is not feeling well, but s/he does not know s/he has cancer.

At the dinner table tonight, you need to tell your child that you will be taking him/her to the hospital tomorrow. In thinking about how to explain the treatment procedure to the child, you think about what you’ve seen on television and others experiences, and most children on the television programs survive the cancer. Your family has always overcome significant health struggles in the past, and you know your child will, too. This leads you to believe your child will be healthy and able to hang out with friends like normal again sometime soon.
<table>
<thead>
<tr>
<th>I would...</th>
<th>I would not do this at all</th>
<th>I would do this a little bit</th>
<th>I would do this a moderate amount</th>
<th>I would do this a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tell my child to find comfort in our faith or spirituality to deal with</td>
<td>☒</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>his/her cancer.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Help my child turn to faith/spirituality to deal with his/her cancer.</td>
<td>☒</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Focus our conversations on school or other activities to take my child's</td>
<td>☒</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>child’s mind off of his/her cancer.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do other things, (i.e., going to the movies, watching tv, reading,</td>
<td>☒</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>daydreaming, sleeping, shopping, or talk about other things) to take my</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>child’s mind off of his/her cancer.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Try to tell my child to take his/her mind off of the cancer.</td>
<td>☒</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Refuse to let my child’s cancer take over his/her life.</td>
<td>☒</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Tell my child to give up trying to deal with the cancer, and focus on</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>other positive things (i.e., school, activities, etc.).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tell my child to give up the attempt to cope with the cancer, and focus</td>
<td>☒</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>his/her mind on other things in</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
order to avoid or disengage themselves from the cancer.

Here is the situation again for your reference:

Yesterday, your seven year old child was diagnosed with neuroblastoma, a childhood cancer that affects the nervous system. After explaining the diagnosis, the physician recommended your child have a bone marrow aspiration. The physician explained that the procedure is performed by pushing a large needle into the patient’s lower back to draw a sample of bone marrow. The physician said the procedure is extremely painful and will cause pain and discomfort for your child, but it is necessary to test for cell normality.

Your child was not at the doctor’s office when you were informed of the diagnosis and the neuroblastoma procedures. Your child knows s/he is not feeling well, but s/he does not know s/he has cancer.

At the dinner table tonight, you need to tell your child that you will be taking him/her to the hospital tomorrow. In thinking about how to explain the treatment procedure to the child, you think about what you’ve seen on television and others experiences, and most children on the television programs survive the cancer. Your family has always overcome significant health struggles in the past, and you know your child will, too. This leads you to believe your child will be healthy and able to hang out with friends like normal again sometime soon.

In this scenario, I seem to have a...

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Slightly Agree</th>
<th>Neutral</th>
<th>Slightly Disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A positive experience about my child’s cancer</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>A negative experience about my child’s cancer.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
A positive general knowledge of cancer.

A negative general knowledge of cancer.

A thought that the outcome of the situation would be positive for my child.

A thought that I do not know what the outcome for my child’s cancer would be (i.e., healthy or death).

Here is the situation again for your reference:

Yesterday, your seven year old child was diagnosed with neuroblastoma, a childhood cancer that affects the nervous system. After explaining the diagnosis, the physician recommended your child have a bone marrow aspiration. The physician explained that the procedure is performed by pushing a large needle into the patient’s lower back to draw a sample of bone marrow. The physician said the procedure is extremely painful and will cause pain and discomfort for your child, but it is necessary to test for cell normality.

Your child was not at the doctor’s office when you were informed of the diagnosis and the neuroblastoma procedures. Your child knows s/he is not feeling well, but s/he does not know s/he has cancer.
At the dinner table tonight, you need to tell your child that you will be taking him/her to the hospital tomorrow. In thinking about how to explain the treatment procedure to the child, you think about what you’ve seen on television and others experiences, and most children on the television programs survive the cancer. Your family has always overcome significant health struggles in the past, and you know your child will, too. This leads you to believe your child will be healthy and able to hang out with friends like normal again sometime soon.

In this section, I am interested learning about your thoughts on the given situation.

Please answer the question below based on the previous scenario. Please provide as much or as little information as you feel comfortable.

Given the scenario you read, please explain if 1.) This seems similar to how you would react in this situation, and 2.) If not, how would you react differently?
Information about Marriage and Family

Directions: I would like to know a little bit about how you view yourself in relation to getting married and dealing with family life.

I feel that...

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>In Some Respects Yes, In Some Respects No</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am ready to have children.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I am capable of caring for children.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>My child and I are able to discuss his/her problems openly and effectively.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I have overcome familial challenges in the past.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I have had to come to terms with negative family experiences, such as illness, in the past.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I am able to maintain a positive outlook on life during hard times, such as family struggles.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I have good control over my emotions during times of hardships, such as family struggles.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I have a great consideration for others.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Directions:

In this section, I would like to learn a little bit about your knowledge of cancer. Some of the questions are more personal than others. Answer each question as accurately as possible, but do not spend too much time thinking about each one.

1. Have you personally ever had cancer?
   - ☐ Yes
   - ☐ No

2. Do you know anyone who has ever had cancer?
3. Do you watch medical shows on television?

- Yes
- No

<table>
<thead>
<tr>
<th>What level of general knowledge do you have about cancer?</th>
<th>A lot of knowledge</th>
<th>Some knowledge</th>
<th>A little knowledge</th>
<th>No general knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What level of general knowledge do you have about the effects of cancer?</th>
<th>A lot of knowledge</th>
<th>Some Knowledge</th>
<th>A little knowledge</th>
<th>No general knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
### APPENDIX D

## Tables and Figures

Table 1. ANCOVA results for Religious Coping.

<table>
<thead>
<tr>
<th></th>
<th>Type III</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sum of</td>
<td>df</td>
<td>Mean</td>
<td>F</td>
<td>(\eta^2)</td>
</tr>
<tr>
<td>Corrected Model</td>
<td>16.53</td>
<td>9</td>
<td>1.84</td>
<td>1.66†</td>
<td>.07</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.03</td>
<td>1</td>
<td>0.03</td>
<td>0.03</td>
<td>.00</td>
</tr>
<tr>
<td>Do you want children in the next 5 years?</td>
<td>2.94</td>
<td>1</td>
<td>2.94</td>
<td>2.67†</td>
<td>.01</td>
</tr>
<tr>
<td>Have you personally ever had cancer?</td>
<td>9.09</td>
<td>1</td>
<td>9.09</td>
<td>8.23**</td>
<td>.04</td>
</tr>
<tr>
<td>Inferences (positive vs. low)</td>
<td>2.28</td>
<td>1</td>
<td>2.28</td>
<td>2.07</td>
<td>.01</td>
</tr>
<tr>
<td>Illusions (positive vs. none)</td>
<td>0.38</td>
<td>1</td>
<td>0.38</td>
<td>0.34</td>
<td>.00</td>
</tr>
<tr>
<td>Appraisals (positive vs. negative)</td>
<td>0.27</td>
<td>1</td>
<td>0.27</td>
<td>0.24</td>
<td>.00</td>
</tr>
<tr>
<td>Inferences x Illusions</td>
<td>0.95</td>
<td>1</td>
<td>0.95</td>
<td>0.86</td>
<td>.00</td>
</tr>
<tr>
<td>Inferences x Appraisals</td>
<td>0.02</td>
<td>1</td>
<td>0.02</td>
<td>0.02</td>
<td>.00</td>
</tr>
<tr>
<td>Illusions x Appraisals</td>
<td>0.21</td>
<td>1</td>
<td>0.21</td>
<td>0.19</td>
<td>.00</td>
</tr>
<tr>
<td>Inferences x Illusions x Appraisals</td>
<td>0.23</td>
<td>1</td>
<td>0.23</td>
<td>0.21</td>
<td>.00</td>
</tr>
<tr>
<td>Error</td>
<td>211.95</td>
<td>192</td>
<td>1.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1501.00</td>
<td>202</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>228.48</td>
<td>201</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note:* † \(p \leq .10\), * \(p \leq .05\), ** \(p \leq .01\)
<table>
<thead>
<tr>
<th></th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>7.17</td>
<td>8</td>
<td>0.90</td>
<td>1.29</td>
<td>.05</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.00</td>
<td>1</td>
<td>0.00</td>
<td>0.01</td>
<td>.00</td>
</tr>
<tr>
<td>Have you personally ever had cancer?</td>
<td>3.08</td>
<td>1</td>
<td>3.08</td>
<td>4.25*</td>
<td>.02</td>
</tr>
<tr>
<td>Inferences (positive vs. low)</td>
<td>0.03</td>
<td>1</td>
<td>0.03</td>
<td>0.04</td>
<td>.00</td>
</tr>
<tr>
<td>Illusions (positive vs. none)</td>
<td>0.00</td>
<td>1</td>
<td>0.00</td>
<td>0.01</td>
<td>.00</td>
</tr>
<tr>
<td>Appraisals (positive vs. negative)</td>
<td>0.16</td>
<td>1</td>
<td>0.16</td>
<td>0.22</td>
<td>.00</td>
</tr>
<tr>
<td>Inferences x Illusions</td>
<td>0.08</td>
<td>1</td>
<td>0.08</td>
<td>0.11</td>
<td>.00</td>
</tr>
<tr>
<td>Inferences x Appraisals</td>
<td>0.00</td>
<td>1</td>
<td>0.00</td>
<td>0.00</td>
<td>.00</td>
</tr>
<tr>
<td>Illusions x Appraisals</td>
<td>0.17</td>
<td>1</td>
<td>0.17</td>
<td>0.23</td>
<td>.00</td>
</tr>
<tr>
<td>Inferences x Illusions x Appraisals</td>
<td>3.73</td>
<td>1</td>
<td>3.73</td>
<td>5.15*</td>
<td>.03</td>
</tr>
<tr>
<td>Error</td>
<td>139.67</td>
<td>193</td>
<td>0.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>843.00</td>
<td>202</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>146.84</td>
<td>201</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: † $p \leq .10$, * $p \leq .05$, ** $p \leq .01$
<table>
<thead>
<tr>
<th>Inferences</th>
<th>Illusion</th>
<th>Appraisal</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>No</td>
<td>Positive</td>
<td>1.96</td>
<td>.17</td>
<td>1.63</td>
<td>2.30</td>
</tr>
<tr>
<td></td>
<td>Negative</td>
<td>Positive</td>
<td>1.80</td>
<td>.17</td>
<td>1.46</td>
<td>2.13</td>
</tr>
<tr>
<td></td>
<td>Positive</td>
<td>Positive</td>
<td>1.72</td>
<td>.17</td>
<td>1.38</td>
<td>2.05</td>
</tr>
<tr>
<td></td>
<td>Positive</td>
<td>Negative</td>
<td>1.98</td>
<td>.17</td>
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<td>No</td>
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<td>1.62</td>
<td>.17</td>
<td>1.29</td>
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<tr>
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<td>2.01</td>
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<td>2.35</td>
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<tr>
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<td>Positive</td>
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<td>2.32</td>
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<tr>
<td></td>
<td>Negative</td>
<td>Positive</td>
<td>1.73</td>
<td>.17</td>
<td>1.39</td>
<td>2.08</td>
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</table>
Table 4. ANCOVA results for Child Distraction

<table>
<thead>
<tr>
<th></th>
<th>Type III Sum</th>
<th>Mean</th>
<th>Partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>df</td>
<td>Square</td>
<td>F</td>
</tr>
<tr>
<td>Corrected Model</td>
<td>8</td>
<td>1.583</td>
<td>2.79**</td>
</tr>
<tr>
<td>Intercept</td>
<td>1</td>
<td>192.565</td>
<td>339.87*</td>
</tr>
<tr>
<td>Knowledge about the effects of cancer</td>
<td>1</td>
<td>1.482</td>
<td>2.62</td>
</tr>
<tr>
<td>Inferences (positive vs. low)</td>
<td>1</td>
<td>.725</td>
<td>1.28</td>
</tr>
<tr>
<td>Illusions (positive vs. none)</td>
<td>1</td>
<td>.237</td>
<td>0.42</td>
</tr>
<tr>
<td>Appraisals (positive vs. negative)</td>
<td>1</td>
<td>.159</td>
<td>0.28</td>
</tr>
<tr>
<td>Inferences x Illusions</td>
<td>1</td>
<td>3.256</td>
<td>5.75*</td>
</tr>
<tr>
<td>Inferences x Appraisals</td>
<td>1</td>
<td>4.399</td>
<td>7.77**</td>
</tr>
<tr>
<td>Illusions x Appraisals</td>
<td>1</td>
<td>1.849</td>
<td>3.26†</td>
</tr>
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<td>Inferences x Illusions x Appraisals</td>
<td>1</td>
<td>.204</td>
<td>0.36</td>
</tr>
<tr>
<td>Error</td>
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<td>.567</td>
<td></td>
</tr>
<tr>
<td>Total</td>
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<td></td>
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</tr>
<tr>
<td>Corrected Total</td>
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<td></td>
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</tr>
</tbody>
</table>

Note: † $p \leq .10$, * $p \leq .05$, ** $p \leq .01$
Figure 1. Interaction of inferences with appraisals in no illusion condition for Behavioral Disengagement
Figure 2. Interaction of inferences with appraisals in positive illusion condition for Behavioral Disengagement
REFERENCES


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Masters of Arts, Communication Studies  
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Master’s Thesis: Coping with Pediatric Cancer: Conversational Methods Utilized by Parents and Children when dealing with Pediatric Cancer.

Bachelor of Arts, Communication  
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TEACHING EXPERIENCE

Graduate Assistant  
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Communication Department, University of Nevada, Las Vegas  
- Teach Basic Course Communication 101: Public Speaking of over 25 students per section, three sections per semester.  
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Graduate Research Assistant  
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- Worked with a faculty member on coding schemes for the faculty member’s ongoing research.

PRESENTATIONS