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Cancer Bloggers' Styles of Humor While Coping with Cancer

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Cancer Bloggers' Styles of Humor While Coping with Cancer

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Thesis

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

Master of Arts

The University of Texas at Austin

May 2014

Acknowledgements

Two years ago writing a thesis was a daunting, unfathomable project. My husband reminded me that you eat an elephant one bite at a time; I kept that in mind throughout the thesis writing process. I have many people to thank for helping me get to this point. First, I want to thank my adviser, Erin Donovan, for her knowledge, guidance, thoughtfulness, and patience throughout my master's program, and particularly while I wrote my thesis. I would also like to thank my reader, Anita Vangelisti, who taught me so much about communication and writing in all of the classes I took from her. Second, I would like to thank my husband Luke and my family. Luke, your belief in me has gotten me places I never thought I could be. To my parents and sister – thank you for all of your support, encouragement, and love. Third, I would like to thank Deborah Hempel-Medina, who gave me a teaching assistant position for my four semesters of graduate school. I have been grateful to learn so much from you, and I thank you for all of your support.

Abstract

Cancer Bloggers' Styles of Humor While Coping with Cancer

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The University of Texas at Austin, 2014

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This study explores the use of humor among bloggers coping with cancer. Framed by health communication literature on stress and coping and literature on humor styles, I analyzed the use of humor by individuals coping with various types of cancer. Using content analysis, I investigated 600 blog posts from 85 cancer bloggers for humor use. I adapted the Humor Styles Questionnaire (HSQ), a scale assessing four different uses of humor, into a codebook to use for content analysis within the blog posts. The different styles of humor included affiliative, self-enhancing, aggressive, and self-defeating. Individually, I tested the relationships between the style of humor a blogger used and the blogger's gender, age, type of cancer, and point in the cancer trajectory. I also tested the relationships between the frequency of humor use within each blog post and the blogger's gender, age, type of cancer, and point in the cancer trajectory. Every humorous remark was categorized into at least one of the four humor style categories. Overall, I found no significant relationships among the variables tested. However, each of the humor styles was used multiple times throughout the sample. This study provides future researchers with a new way to operationalize humor use based on the HSQ and with relevant

examples from cancer blogs. The findings also suggest that humor is a common communicative device among those coping with cancer, and further research into how humor is used among more specific samples of cancer patients may provide more significant results.

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Chapter 1: Introduction

In 2013, over 1.6 million new cases of cancer and 580,350 cancer deaths were projected in the United States (Siegel, Naishadham, & Jemal, 2013). The diagnosis and treatment of cancer introduce new stressors into cancer patients' and their families' lives, such as painful treatments, changing relationships, and the uncertainties of disease (Dunkel-Schetter, Feinstein, Taylor & Falke, 1992). The process of coping with cancer and its related stressors has become a large field of study over the past 60 years. According to Folkman and Lazarus's (1980) transactional model of stress and coping, when individuals face stressors such as a cancer diagnosis or a stage of treatment, they will employ coping responses that mediate the emotional and psychological effects of the stressor. The range of possible coping behaviors are generally understood to include: positive reinterpretation and growth, mental disengagement, focus on and venting of emotions, use of instrumental social support, active coping, denial, turning to religion, humor, behavioral disengagement, restraint, use of emotional social support, substance use, acceptance, suppression of competing activities, and planning (Carver, Scheier, & Weintraub, 1989; Carver et al., 1993; Carver, 1997; Folkman & Lazarus, 1980, 1985).

Coping mechanisms may be considered adaptive or maladaptive, which relates to positive or negative effects the coping has on people's psychological or physical well being. For example, positive reinterpretation, or looking for the good in the situation, and planning what steps to take following the stressful event are often thought to be adaptive coping behaviors. Some maladaptive coping behaviors include denial, the refusal to believe that the stressor happened, and substance use (Carver et al., 1989, 1993; Carver,

1997). However, some coping behaviors may be adaptive at times and maladaptive at other times. For example, researchers have found the use of humor to be beneficial to individuals' physical and psychological health (e.g., Booth-Butterfield, Booth-Butterfield, & Wanzer, 2007; Fry, 1992; Horan, Bochantin, & Booth-Butterfield, 2012). When facing a stressor, the use of humor has been associated with lower levels of anxiety and depression as well as greater psychological well being (e.g., Cann & Etzel, 2008; Martin et al., 2003). However, until the 2000s, humor use scales did not adequately assess negative styles of humor use (Cann, Zapata, & Davis, 2009; Martin et al., 2003). Moreover, extant research on individuals coping with cancer tends to generalize humor use to whether or not the individual makes jokes about and makes fun of their situation or stressor (Carver, 1997). These broad generalizations of humor within the coping literature, and the positive outcomes that have been associated with the use of humor to cope with stressors, call for a more detailed look into humor use and coping. Just as researchers have widely studied the nuanced ways that cancer patients use social support (i.e. Helgeson & Cohen, 1996; Kroenke, Kubzansky, Schernhammer, Holmes, & Kawachi, 2006; Manne, 1998) for theoretical advancement and practical purposes, the use of humor to cope with cancer must be further analyzed.

In the following sections, I will discuss how individuals cope with cancer using the transactional model of stress and coping as a framework, and how communication plays a major role in these coping processes and their outcomes. I will review literature on how individuals talk about or avoid talking about their cancer with others, and how individuals use humor to facilitate these often difficult conversations. I will highlight

how the use of humor during stressful events is common and often regarded as a positive coping mechanism; however, it may have negative effects on individuals as well. Martin and colleagues' (2003) distinction of humor styles allows researchers to categorize humor and the way individuals use these categories of humor within various contexts. I argue that looking at the patterns of humor use in the cancer trajectory and distinguishing the types of humor used in individual coping will lead to a greater understanding of how humor is used to cope with cancer. It is important to study how those coping with cancer use humor when talking about their condition – to better understand the context in which people use humor in coping with a major stressor, to highlight patterns of humor use among cancer patients, and to allow for more apt predictions of how different humor styles may affect the distress and psychological or physical outcomes of those coping with cancer in future studies. The purpose of this study is to: (1) identify cancer bloggers' use of humor during their cancer trajectory, (2) determine if and how cancer bloggers differ in types of humor they use, and (3) propose reasoning for the various styles of humor use among cancer bloggers.

Chapter 2: Review of Stress and Coping Literature

The Transactional Model of Stress and Coping Framework

Folkman and Lazarus's (1980, 1985) stress and coping framework suggests that a stressful encounter and its outcome are mediated by coping. Coping is defined as "the cognitive and behavioral efforts to manage (master, reduce, or tolerate) a troubled person-environment relationship" (Folkman & Lazarus, 1985, p. 152). When individuals face a stressor, which Folkman and Lazarus (1985) also define as a disturbance in the person-environment relationship, they will engage in primary appraisal during which the individual evaluates what is at stake in the encounter. During this primary appraisal, the characteristics of individuals' personalities, such as commitments and beliefs, and situational or environmental factors help people determine the stakes of the disturbance (Lazarus & Folkman, 1984). Situational or environmental factors include the novelty, predictability, and uncertainty of the event (Lazarus & Folkman, 1984). If the appraisal is stressful, individuals may assess the damage that has occurred (harm-loss), the anticipated harm or loss (threat), or the possibility of gaining or mastering in the situation (challenge; Folkman & Lazarus, 1980). For example, when a doctor tells a woman that she has early breast cancer, her primary appraisal may be feelings of threat, or anticipation of the harms of the disease and its treatments.

If individuals facing a stressor appraise harm-loss, threat, or a challenge, it is predicted that they will engage in secondary appraisal, in which they assess their resources and coping options (Folkman & Lazarus, 1980; 1985; Lazarus & Folkman, 1984). These options may be internal resources and coping abilities, such as coping self-

efficacy or money to deal with the issue, and external resources such as family, friends, and doctors. For example, after a woman is diagnosed with early breast cancer and primarily appraises it as a threat, during secondary appraisal she may then think of her group of friends that has supported others with breast cancer, and the good health insurance she has. This appraisal may lead her to feel less distressing emotions and use adaptive coping mechanisms compared to another woman who feels threatened but does not appraise many sources of support or financial resources. The amount of stress individuals feel depends on the person and the environment; stress is the outcome of appraising what is at stake and what resources one has to deal with what has occurred or what is anticipated to occur (Folkman & Lazarus, 1980).

Factors influencing appraisal. Individuals' beliefs, commitments, and environment influence their appraisals. Beliefs may be categorized as personal control, or how much the individual feels they have control over the event and its outcomes, and existential concerns, such as "God, fate, and justice" (Lazarus & Folkman, 1984, p. 65). An example of appraisal affected by individuals' beliefs of their personal control over a situation might come up if they face a necessary surgery. Individuals facing surgery may feel less distress over the event if they specifically chose their surgeon compared to individuals who did not have a choice in doctors. A commitment may influence people's appraisals of the event as more or less distressing depending upon whether that commitment is threatened or harmed and how important that commitment is to them. Individuals' commitments "express what is important" (Lazarus & Folkman, 1984, p. 56) to them; therefore, commitments create a lens through which people appraise events by

determining “what is at stake” (Lazarus & Folkman, 1984; p. 56) in the encounter. For example, a person committed to physical achievements such as running marathons is likely to appraise a strained leg muscle as more distressing than someone who is not physically active.

Factors of the situation or environment, such as novelty, predictability, and uncertainty, also influence the appraisal of a stressor. If a situation is novel to people, it will be stressful to them only if they have previously associated that event with “harm, danger, or mastery” (Lazarus & Folkman, 1984, p. 84). For example, if an individual has lost a loved one to breast cancer and is later diagnosed with breast cancer, it is likely to be stressful to that individual due to the association of breast cancer and the loved one’s death. However, someone with several close friends who survived breast cancer may appraise the diagnosis as less stressful. The predictability of a situation can also affect people’s appraisals of the event because it suggests that there are “environmental characteristics that can be discerned, discovered, or learned” (Lazarus & Folkman, 1984, p. 85). Being able to predict what may happen gives individuals some control over the situation, which may affect their appraisal of the encounter. The situational factor of uncertainty also influences individuals’ appraisals of the stressor. The uncertainty in not knowing how the stressor will affect them may be perceived as an opportunity or a threat (Miller, 2014). As previously discussed, when viewed as a threat, the individuals will appraise the situation as stressful.

Categories of coping. Coping is traditionally separated by theorists into two distinct categories: problem-focused coping and emotion-focused coping. Problem-

focused coping is “the management or alteration of the person-environment relationship that is the sources of stress” (Folkman & Lazarus, 1980, p. 223) or “doing something to change for the better the problem causing the distress” (Folkman & Lazarus, 1985, p. 152). Emotion-focused coping is “the regulation of distressing emotions” (Folkman & Lazarus, 1985, p. 152). Forms of problem-focused coping include: active coping, planning, suppression of competing activities, restraint coping, and the seeking of instrumental social support (Carver et al., 1989). Emotion-focused coping mechanisms include: seeking emotional social support, positive reinterpretation, acceptance, denial, and turning to religion (Carver et al., 1989). Individuals may engage in one coping process, but due to the dynamic nature of coping, it often involves multiple processes, both problem-focused and emotion-focused, at once (Folkman & Lazarus, 1985; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). These mechanisms are found to influence emotions, and therefore people’s psychological adaptation (Folkman & Lazarus, 1980; 1985). Because coping differs by individual, environment, and context, the next sub-section will review how stress and coping has been studied in the specific context of cancer, and how the distressing experience of cancer and various coping mechanisms are related to individual outcomes.

Coping with Cancer

Individuals coping with a cancer diagnosis, treatment, or survivorship may experience stressors such as worsening physical condition or physical impairment, fear of dying or recurrence, painful treatments, side effects of treatments, uncertainties related to the disease, and the impact of the disease on their partners’ or families’ well-being

(Donovan-Kicken, Tollison, & Goins, 2011; Hagerdoorn et al., 2000; Manne, 2004; Norton et al., 2005). Worsening physical condition and physical impairment have been associated with psychological distress in multiple studies (e.g., Bodurka-Bevers et al., 2000; Fang, Manne, & Pape, 2001; Given et al., 1993; Norton et al., 2005). Although physical impairment is a source of great stress, many nonmedical stressors are also associated with psychological distress among cancer patients, such as greater depression, greater anxiety, perception of low social support, or unsupportive family and friends (Constanzo, Lutgendorf, Rothrock, & Anderson, 2006; Manne, Taylor, Dougherty, Kemeny, 1997; Norton et al., 2005; Peters-Golden, 1982).

Early literature on coping with cancer dates back to the 1950s (Bard & Sutherland, 1955). One of these early studies identified psychological distress in women after a double mastectomy surgery (Bard & Sutherland, 1955). In a review of literature on coping with cancer, Manne (2007) cited contemporary studies of coping with cancer as beginning in the early 1990s. A large portion of the coping with cancer literature focuses on women coping with breast cancer and their psychological distress stemming from various factors. These factors include fear of death; the changes in their bodies, such as the loss of breasts or hair; the loss of some physical functioning; changes in daily life and the role they play; treatment and its side effects; lack of normalcy in their lives; and difficulty in expressing their feelings (e.g., Bloom, 1982; Carver et al., 1993; Compas et al., 1994; Morris, Greer, & White, 1977; Stanton & Snider, 1993; Shapiro, et al., 1997); however, the literature is not bound solely by breast cancer studies.

Many studies on coping with cancer focus on how individuals cope with a specific type of cancer and how coping processes are associated with physical and psychological outcomes (Manne, 2007). For instance, Classen, Koopman, Angell, and Spiegel (1996) found that breast cancer patients whose coping involved optimism, a realistic appraisal of the illness, and emotional expressiveness had greater psychological adjustment. Stanton and Snider (1993) found that those facing a biopsy who coped with the stress through wishing that the situation would go away or using alcohol, drugs or medication, also known as escape-avoidance coping, experienced negative mood both after the biopsy and after surgery. Shapiro and colleagues (1997) examined various coping mechanisms and symptoms of women with early stage breast cancer; the researchers found that those who had optimism about the future sought more information and wanted to be more involved in decisions about their treatment. Another study evaluated the relationships between both problem-focused and emotion-focused coping and breast cancer patients' distress at diagnosis, and at three and six months following diagnosis. The researchers reported evidence that the coping strategies of emotional venting, social support, wishful thinking, self-criticism, and social withdrawal were associated with higher distress six months following the patients' diagnoses (Epping-Jordan et al., 1999). In a study on individuals coping with gastrointestinal cancer such as stomach, colon, rectal, esophageal, pancreatic or liver cancer, through daily assessments of coping and mood, researchers found that those who vented their emotions reported greater depression (Wasteson et al., 2002). The coping behaviors of denial, behavioral disengagement, and emotional venting were positively related to distress in a study of

individuals with head and neck cancer (Sherman et al., 2000). These studies are a few of the many that address the relationship between how those with a specific type of cancer cope with cancer-related stressors and the outcomes of those coping processes.

Some research in the stress and coping literature has focused on structural or stable properties of people or their environment, such as coping traits or personality traits. However, Dunkel-Schetter, Feinstein, Taylor, and Falke (1992) argued that individuals do not have tendencies or styles of coping with cancer. Coping mechanisms depend on the people and environments in which the stressor occurs (Dunkel-Schetter et al., 1992; Lazarus & Folkman, 1980, 1985), and individuals' appraisals of the stressor and their subsequent coping mechanisms influence each other over the course of the experience (Folkman & Lazarus, 1980, p. 223). Therefore, individuals' continuous appraisals of the situation and subsequent coping may change over time as they influence each other within the particular environment.

As previously discussed, various personal characteristics and demographic variables influence people's primary and secondary appraisals of the stressor, which are believed to influence the stress with which they feel they must cope (Folkman et al., 1986). Because how individuals appraise a stressor is understood to affect the coping mechanism(s) they employ, it is important to note relationships between these factors and the way people cope. Some factors that have been associated with various coping strategies in particular contexts include demographic variables such as age, gender, marital status, and religious affiliation; situational variables, such as site and stage of the cancer and whether the individual is seeking treatment; and personality differences, such

as optimism and neuroticism (Andersen, 1992; Carver et al., 1993; Carver & Connor-Smith, 2010; Dunkel-Schetter et al., 1992; Holland & Rowland, 1987; Sinsheimer & Holland, 1987; Stanton & Snider, 1993). Age is a commonly studied demographic variable that may affect how individuals appraise a stressor and subsequently cope with it. For example, many studies have found that younger women have more distress than older women after diagnosis with breast cancer, during treatment, and post treatment (Admiraal, Reyners & Hoekstra-Weebers, 2013; Ganz, 2008; Ganz, Rowland, Desmond, Meyerowitz, & Wyatt, 1998; Northouse et al., 1999; Penman et al., 1986; Stanton & Snider, 1993; Vinokur, Threatt, Caplan, & Zimmerman, 1989; Vinokur, Threatt, Vinokur-Kaplan, & Satariano, 1990). Other studies have found that women and men appraise particular stressors differently. For example, young women coping with cancer, particularly those with children, report a greater level of distress compared with young men coping with cancer (Admiraal et al., 2013).

Situational factors, such as the point in individuals' cancer trajectories, the site and stage of the cancer, whether they are seeking treatment, and time since diagnosis or treatment may also influence the distress individuals feel and the coping mechanisms individuals use (Dunkel-Schetter et al., 1992; Krause & Koop, 1993). Studies have shown that individuals report high distress directly after diagnosis (Cassileth, Lusk, Strouse, & Bodenheimer, 1984; Devien, Maguire, Phillips & Crowther, 1987), whereas a month after surgery related to treatment, individuals feel lower distress (Dunkel-Schetter et al., 1992). In another study, cancer patients who were in treatment reported higher levels of distress compared to cancer patients at any other stage in the trajectory (Admiraal, et al., 2013).

Individual differences in personality may also influence individuals' stress and coping processes. A longitudinal study on how coping mediates the relationship between breast cancer patients' overall optimism and psychological distress found that significant relationships between coping through failure to acknowledge the threat and failure to move forward in their lives can lead to helplessness and giving up (Carver et al., 1993). However, those who scored high on optimism used acceptance, humor, and positive reframing to cope and experienced lower levels of distress following surgery and over time (Carver et al., 1993). Those scoring high in neuroticism used less problem solving, cognitive restructuring, and acceptance, but sought more emotional support and distraction compared to other personality traits (Carver & Connor-Smith, 2010; Connor-Smith & Flachsbart, 2007). The results suggest that a trait may influence the appraisal and coping mechanisms people use in particular situations, such as coping with breast cancer. Despite the influence of demographic, situational, and personality variables on individuals' outcomes, when controlling for these traits, studies still find significant relationships between the use of different coping behaviors and people's quality of life and well-being (Kershaw, Northouse, Kritpracha, Schafenacker, & Mood, 2004).

Communication, Coping, and Cancer

Another variable that has been found to reflect and influence stress and coping is individuals' communication about their cancer and others' communication with them. Cancer patients and their close others have difficulty talking about cancer and cancer-related topics with one another (e.g., Anderson & Geist Martin, 2003; Donovan-Kicken, et al., 2011; Goldsmith, Miller, & Caughlin, 2008; Zhang & Siminoff, 2003). In their

article on openness and closedness in communication about cancer, Goldsmith and colleagues (2008) asserted that individuals who are in relationships in which one partner has cancer have difficulty discussing various cancer-related topics. These topics include "death, future plans, treatments and side effects, bodily changes and sex, daily life, feelings and fears, and communication practices" (p. 73). Patients' communication about cancer or cancer-related topics may reflect their evaluations of their cancer experience, coping processes, and their psychological well being. The patients or close others may have specific motivations or reasons for communicating or avoiding communication about their cancer, and for using particular communicative devices, such as humor (Donovan-Kicken et al., 2011; Goldsmith et al., 2008). In Donovan-Kicken and colleagues' (2011) grounded theory study on communication work and cancer, cancer survivors reported having difficulty in both conversing with others and creating messages about their cancer to communicate to others. Others' communication or topic avoidance with those coping with cancer may affect the individuals' appraisals, coping behaviors and psychological outcomes as well (Donovan-Kicken et al., 2011; Manne, 1998; Pitceathly & Maguire, 2003). Because talking about cancer may be difficult for both the cancer patients and their close others, studying how various communicative devices are used within the cancer context provides further insight into the experience of cancer and how individuals cope.

Patients' talk about cancer. Individuals coping with cancer find communication about their condition complex, challenging, and potentially problematic (Anderson & Geist Martin, 2003; Donovan-Kicken & Caughlin, 2010; Donovan-Kicken et al., 2011;

Zhang & Siminoff, 2003). Some cancer patients may communicate openly about their condition, while others may avoid the topic all together. Scholars have identified various reasons for individuals' open communication about their cancer. Disclosure and relational closeness are oft-considered associated, and therefore, some people may reveal information about their cancer to become closer to others or to affirm their commitment (Derlega, et al., 1993; Goldsmith et al., 2008). Communicating about their cancer to another may also be a way to relieve patients' distress (Stiles, 1987) or to express the need for support (Pistrang & Barker, 1995). Gray and colleagues (2000) reported that some men coping with prostate cancer talked openly about their prostate cancer to inform others about the disease and preventative measures they may take. Findings from the same study show that men coping with prostate cancer talked less about their illness as time went on because they wanted normalcy in their lives and did not want to be preoccupied by their illness (Gray et al., 2000). Anderson and Geist Martin (2003) suggested that those who feel victimized by their illness may avoid talking about it to avoid the stigmas associated with illness whereas others, called "warriors" (p. 135), may feel that talking about their disease may help them conquer it. Zhang and Siminoff (2003) found that cancer patients and their families avoid talk about cancer due to fears of unsuccessful treatment and death and anguish over the disease. Donovan-Kicken and Caughlin (2010) suggested that patients might avoid talking about their cancer or cancer-related topics to protect themselves, to protect the other, and to protect the relationship; other reasons include that talking about it is inappropriate and social constraints. In one study, prostate cancer patients avoided talking about their cancer with their partners

because they wanted to protect their partners from distress (Boehmer & Clark, 2001). Other studies have found that patients avoid or limit the topic of cancer to maintain a sense of normalcy in their lives (Lewis & Deal, 1995; Rose, Webb, & Waters, 1997).

Having cancer and going through treatment to eliminate the disease causes many patients to feel a loss of control over their lives (Donovan-Kicken et al., 2011). Because individuals have the information about their cancer and know how they feel, communication may be used as a way to gain control over some aspect of their lives and manage the impact of their illness (Anderson & Geist Martin, 2003; Donovan-Kicken et al., 2011; Gray et al., 2000). Cancer patients may attempt to protect themselves through regulating what information is shared about their cancer (Donovan-Kicken et al., 2011; Goldsmith et al., 2008). Communicating about their cancer to others allows individuals to manage their valued identity among family, peers, and acquaintances (Donovan-Kicken et al., 2011; Goldsmith et al., 2008; Goldsmith, et al., 2006). For those coping with cancer, communication also serves as a way to inform or update family and friends about their cancer experience for the others' satisfaction (Donovan-Kicken et al., 2011).

Studies have found that various communication patterns while experiencing a health-related stressor are associated with particular coping behaviors and psychological outcomes. Individuals' talking about their own cancer has been associated with better psychological, emotional, and social adjustment and self-esteem (Goldsmith et al., 2008; Lichtman et al., 1987; Zemore & Sheppel, 1989). For example, in patients with head and neck cancer, those who were open to talking about it reported less depression, loneliness, anxiety, and loss of control; they also reported greater self-confidence and self-esteem

(de Boer et al., 1995). Donovan-Kicken and Caughlin (2011) found an association between breast cancer patients' topic avoidance within their romantic relationships and maladaptive coping behaviors such as self-blame and not seeking social support; these coping behaviors were associated with greater psychological distress.

Outcomes of messages from others. Communication with others may have a great effect on individuals' distress when coping with cancer. Dunkel-Schetter (1984) found that negative experiences in interaction with close others are associated with negative outcomes for those going through chemotherapy as well as post-treatment cancer survivors. Supportive communication may increase, decrease, or maintain certainty and uncertainty for patients coping with breast cancer (Ford, Babrow, & Stohl, 1996; Thompson & O'Hair, 2008). Manne and colleagues (2005) found that partners' unsupportive behavior, such as the lack of expressing interest and concern for the patients, and the absence of asking how they are feeling, was related to avoidant coping and distress experienced by women with breast cancer. The same study also found that when partners responded to patients' disclosures with a solution to the problem or by talking about a problem, patients experienced greater distress. These studies emphasize the influence that others' messages may have on cancer patients' coping behaviors and adjustment.

Communicating through humor. Although individuals coping with cancer have difficulty discussing various topics, such as death, future plans, body changes, distressing feelings, and fears (Donovan-Kicken & Caughlin, 2010), humor has been noted as a means through which individuals and their partners may make sense of health stressors in

a less risky or threatening way (Chapple & Ziebland, 2004; Goldsmith et al., 2008). Rowley (2010) suggested that the social purpose of humor is to manage tension in relationships and interactions, specifically in illness experiences. Other ways humor may relieve tension are by reframing distressing experiences, protecting one's face and identity, reducing embarrassment, helping to confront ambiguous situations or awkward topics, distancing one from the stressor, and helping to convey information that may be difficult or inappropriate to talk about blatantly, which all relate to coping and adjustment (Dean & Gregory, 2004, 2005; Goffman, 1967; Linstead, 1988; Manne, 2004; Penson, 2005; Rowley, 2010). In their study of men coping with prostate cancer, Boehmer and Clark (2001) found that the men's wives used humor such as joking and teasing to improve their husbands' morale; men expressed their fears through making humorous remarks. In Manne and colleagues' (2004) study of partner support for women coping with breast cancer, those whose partners responded to their self-disclosures using humor reported less distress. The researchers proposed that the women might feel less distress because their partners' humor lessens the threat of the cancer or helps change the perspective of the difficult experience (Manne et al., 2004).

The use of humor is prevalent in the coping processes of individuals facing stressors such as cancer, and cancer literature often highlights humor in relation to positive outcomes. Although humor is a familiar concept for most individuals, there are various types of humor that individuals may use in their coping processes. The type of humor individuals use, and when and how an individual coping with cancer uses humor, is crucial to understand because humor has been associated with important outcomes of

those coping with cancer and is relevant for practical application. In the following section, I will provide an overview of theory on humor, discuss various types of humor, and review studies of how people cope with cancer using humor.

Chapter 3: Review of Research and Theory about Humor

Overview of Theory on Humor

Humor has been a widely studied phenomenon, tracing back to early philosophers such as Plato and Aristotle (Bardon, 2005; Lynch, 2002), and hundreds of theories of humor have been documented over the years (Graham, Papa, & Brooks, 1992). Most of these theories may be categorized under the three broad theoretical perspectives of superiority theories, incongruity theories, and relief or arousal theories (Berlyne, 1972; Graham, Papa, & Brooks, 1992; Morreall, 1983). Superiority theories are based on the idea that people find humor in others' inadequacies (Lynch, 2002). Superiority theories assert that one may laugh at or be amused by others because they feel superior to or triumph over them in some way (Vallade, Booth-Butterfield, & Vela, 2013). "In principle, humor as an expression of superiority can be a mechanism of control or a form of resistance" (Lynch, 2002, p. 426). Individuals expressing the superiority of others over themselves, such as putting themselves down to make others laugh exemplifies a way people may control a situation or others' laughter (Lynch, 2002). This type of humor may be particularly relevant in the cancer context because cancer patients may feel a loss of control due to their illness (Charmaz, 1991; Donovan-Kicken et al., 2011). Individuals coping with illness may make jokes about their body or appearance to make others laugh. By putting themselves down, individuals make the others superior to them while also taking control of where the conversation is going. Another example of superiority humor is when individuals denigrate another person to make themselves feel superior. For example, a patient may call a particular nurse a "dimwit" after an interaction to make

others laugh. Through calling the nurse a dimwit, the individual expresses superiority of wit over the nurse.

The second broad theoretical perspective on humor is incongruity theory (Bardon, 2005; Lynch, 2002; Meyer, 2000). This theory suggests that jokes and laughter may "stem from the recognition that something is inconsistent with the expected rational nature of the perceived environment" (Lynch, 2002). In other words, incongruity theory proposes that humor comes from the perception of the inconsistency, the unexpected, or the odd, compared to the set frameworks in people's minds (Lynch, 2002; Meyer, 2000). The very nature of unexpected illness, such as cancer, provides incongruity in the lives of those facing it. The changes in patients' bodies due to illness or treatment, like the loss of hair or weight, may provide an incongruity in the individuals' lives compared to the general population or those their age. Although these physical changes may be distressing, they are incongruous occurrences about which people can make jokes. For example, a woman who is losing her hair due to cancer treatments may liken her appearance to Dr. Evil, the bald, pale villain in the movie *Austin Powers*. This comparison would be considered humorous because women typically do not compare their appearance to those of men, especially bald men; the unexpected comparison elicits humor.

The third major theoretical perspective of humor is relief theory, which describes laughter as "a result of the physical energy which is built up to deal with disagreeable feelings" (Lynch, 2002, p. 427). Freud was a proponent of relief theory, and his work proposed that humor allows people to talk and laugh about topics or situations that may

otherwise remain within themselves. According to Freud, humor allows people to release built-up tension and may also provide people with the opportunity to release aggression (Bardon, 2005; Lynch, 2002; Meyer, 2000). Graham and colleagues (1992) described that relief theories of humor allow individuals to expend emotional energy, such as stress. Relief theory may be used to explain the use of humor in coping with cancer because cancer and its related stressors, such as treatment, surgery, and body changes, may lead to the build-up of tension or aggression within the patient.

Humor and Health

The three theoretical perspectives of humor provide a background to help explain how and perhaps why individuals facing cancer may use humor in their communication. Humor is further defined and operationalized in various ways throughout the humor literature. Humor may be conceptualized as a cognitive ability, an aesthetic response, a habitual behavior pattern, an emotion-related temperament trait, an attitude, a coping strategy or a defense mechanism (Martin et al., 2003). Humor and its influence on health have been linked together since the days of Aristotle and Plato (Lynch, 2002). More recent studies have shown the associations between humor use and various physiological and psychological outcomes, and many of these studies find positive associations between the use of humor and individuals' adjustment. For example, Averill (1969) found that when faced with a humorous stimulus, individuals' sympathetic nervous system, which mobilizes people's fight-or-flight response, was activated, but their blood pressure remained the same; however, those facing a sad stimulus experienced a spike in blood pressure in addition to the activation of the sympathetic nervous system. This

suggests that a humorous stimulus may create a fight-or-flight response in the sympathetic nervous system, but may buffer against negative effects of increased blood pressure (Bennett & Lengacher, 2008). Berk, Tan, Napier, and Evy (1989) found that a group who watched a humorous film had a decrease in stress hormones after the film compared to those in the control group. The research suggests that laughter could decrease stress hormones leading to positive effects on the immune system. Bennett and Lengacher (2008) suggested that laughter can lead to increases in respiratory rate, oxygen consumption, heart rate, and blood pressure, but is followed by a stage of muscle relaxation with a decrease in respiratory rate, heart rate, and blood pressure. This period of relaxation may explain why studies have found laughter to lead to lower stress hormone levels. Fry (1992) reported that laughter has been found to ease muscle tension, break spasm-pain cycles, clear mucus, and increase oxygen flow throughout the body, which may help to fight infection. Another study (Weisenberg, Tepper, & Schwarzwald, 1995) found that individuals who watched a funny movie had a higher pain tolerance than those who watched a neutral movie and those who watched no movie at all. Each of these studies provides evidence for the positive physical effects that humor and laughter may have on people.

In studies focused more on psychological effects of humor, other positive outcomes have been reported. Houston and colleagues (1998) found that when the elderly engaged in humorous activities in their residential settings, such as an old-time sing-a-long with costume hats and jackets, they had lower anxiety and depression compared to those in the control condition that did not engage in humorous activities. Maki, Booth-

Butterfield, and McMullen (2012) found that greater humor orientation (HO), or the tendency to use and find humor in one's life, within a romantic dyad was associated with satisfaction and cohesion within the relationship. Older adults have reported using humor to cope with various life stressors, ease tensions, and increase solidarity between themselves and others in social interactions (Sparks Bethea, 2001).

Booth-Butterfield, Booth-Butterfield, and Wanzer (2007) cited various benefits associated with the use of humor, or sending humorous messages, such as the following: establishing productive social networks, reporting less loneliness, greater social attractiveness, (Miczo, 2004; Wanzer, Booth-Butterfield, & Booth-Butterfield, 1996), and helping individuals cope effectively with stressful situations (Bellert, 1989; Dillon, Minchoff, & Baker, 1985; du Pre, 1998; Miczo, 2004; Nezlek & Derks, 2001; Wanzer, Booth-Butterfield, & Booth-Butterfield, 2005). More specifically, according to Nezlek and Derks (2001), individuals who got higher scores on the Coping with Humor Scale reported less depression, less loneliness, and more pleasurable interactions with others. Cann and colleagues (2009) cited that humor use has been related to lower perceived stress (Cann & Etzel, 2008; Lefcourt, 2002), higher self-esteem (Kuiper & Martin, 1993), and higher optimism and well being (Martin et al., 2003). Wanzer and colleagues (2005) studied the use of humor to cope with stressors among healthcare providers and their job satisfaction. Their study found that nurses who reported higher humor orientation (HO) reported greater job satisfaction and more self-efficacy in managing stressors.

Using humor to cope with cancer. Humor is often cited as one of the various coping behaviors used by individuals coping with cancer (e.g., Manne, et al., 2004;

Goldsmith et al., 2008). Coping through the use of humor has been found as a predictor of less psychological distress in breast cancer patients (Carver et al., 1993). Individuals coping with a terminal diagnosis used humor as a way to feel normal (Rose et al., 1997). In a study of breast cancer patients' coping behaviors and distress before surgery, after surgery, and 3 months post-surgery, among a few other coping behaviors, using humor to cope was negatively associated with distress at all three times (Roussi, Krikeli, Hatzidimitriou, & Koutri, 2007). Rose and colleagues (2013) studied the use of humor among women with ovarian cancer and found that most patients used humor to cope and perceived that humor alleviated their anxiety. A study of lung cancer patients and their spouses (Carmack Taylor et al., 2008) found that a predictor of patient distress was a decrease in humor use by their spouse. The above studies suggest that humor is related to reduced distress.

Humor and negative outcomes. Although many studies have found relationships among humor use and positive outcomes such as less depression and more job satisfaction, studies of humor use do not always find positive outcomes. Cann and colleagues (2009) suggested that humor in terms of the superiority theory, or the notion that humor is derived from pointing out others' inadequacies compared to oneself, can lead to hurtful interactions. Zillman and Cantor (1996) suggested that individuals are likely to appreciate this type of humor only if they share the same sentiment about the target. Cann et al. (2009) cited Meyer's (2000) model that explains functions of humor use that unite individuals and functions of humor that might divide individuals. This model is based on Martineau's (1972) distinctions of humor use. Martineau (1972)

argued that humor can be used to create social connections and receive positive responses; however, humor can also be socially abrasive, creating conflict or discomfort within a group and leading to negative reactions (as cited in Cann et al., 2009). These distinctions suggest that humor does not always lead to positive outcomes; it can have negative effects as well.

Although scholarly interest in humor is growing, no current studies have focused on the types of humor cancer patients use and how these types may differ at various points in their trajectory. For the purposes of this study, I will analyze the types of humor cancer bloggers use at different points in their cancer trajectory and the patterns that may emerge. This humor is important to distinguish because of the implications it may have on future research that focusing on the type of humor one uses to cope with cancer and individuals' associated level of psychological well being. The present investigation in grounded in scholarship on humor styles.

Humor Styles

Martin et al. (2003) created a new measurement of humor use, the Humor Styles Questionnaire (HSQ), which divided humor into four different styles: affiliative humor, self-enhancing humor, aggressive humor, and self-defeating humor. Those who use affiliative humor "tend to say funny things, to tell jokes, and to engage in spontaneous witty banter to amuse others, to facilitate relationships, and to reduce interpersonal tensions," (p. 53). Using puns, telling jokes, and telling funny stories are often demonstrations of affiliative humor because the individuals are attempting to amuse themselves and others. This type of humor affirms the individuals using it and the

receivers. If an individual coping with a health-related stressor tells a humorous story that does not make fun of the self or another, such as a story about their dog, they are often using affiliative humor. Affiliative humor is positively related to self-esteem and psychological well being, and negatively related to anxiety and depression (Cann et al., 2009; Martin et al., 2003).

Individuals high in self-enhancing humor find comedy in the incongruencies of life and are likely to maintain a humorous outlook when faced with life stressors (Lefcourt et al., 1995; Martin et al., 2003). Self-enhancing humor is seen as using humor to cope or "avoid negative emotions while maintaining a realistic perspective on a potentially aversive situation," (Martin et al., 2003, p. 53). Individuals using self-enhancing humor may humorously reframe a stressful situation to make it seem better, think of something funny during a stressful time to cheer themselves up, or spend time laughing with friends to make themselves feel better. For example, if a cancer patient talks about not needing to join WeightWatchers anymore thanks to the chemo diet, he or she is using self-enhancing humor. The individual is reframing weight loss due to physically and emotionally taxing chemotherapy into something positive. This style of humor is negatively associated with anxiety and depression, and positively related to self-esteem and psychological well being (Martin et al., 2003).

Aggressive humor is related to the use of negative humor, such as sarcasm, "put-downs," and disparagement humor (Martin et al., 2003; Zillmann, 1983). Individuals high in aggressive humor tend to use humor without thinking about its effect on others and may be characterized by acting on impulse. Aggressive humor is most clearly

demonstrated in situations in which individuals are teasing or making fun of another person or a group of people. For example, if an individual coping with illness gives his or her doctor a disparaging nickname due to the doctor's mannerisms or appearance, the patient is using aggressive humor. This style of humor is positively associated with hostility and aggression, and may be negatively associated with conscientiousness, agreeableness, and relationship satisfaction (Martin et al., 2003).

The final style of humor, self-defeating humor, involves individuals excessively making fun of themselves in a disparaging manner (Martin et al., 2003). The HSQ is the only measurement currently capturing this dimension of humor use (Cann et al., 2009). Self-defeating humor is demonstrated in individuals allowing themselves to be the butt of others' jokes, attempting to make others laugh by ingratiating themselves, and laughing along when being ridiculed by themselves or others (Martin et al., 2003). Individuals using self-defeating humor may make fun of their appearance or physical impairments to make others laugh. For example, an individual who has just gone through a double mastectomy surgery may make fun of herself for stuffing her bra like she did in middle school so she will not look like a boy. Self-defeating humor is positively related to hostility and aggression, and is negatively related to self-esteem and to satisfaction with social support (Cann et al., 2009; Martin et al., 2003).

Humor styles have not yet been studied in the context of individuals coping with cancer. Carver and Scheier (1989) and Carver and colleagues (1993) emphasized the need to identify individuals' uses of other coping strategies that were not on the commonly used Ways of Coping Checklist (Lazarus & Folkman, 1980) and to distinguish

between particular ways of coping that were combined on the checklist. In this way, we must do the same for the uses of humor. Currently, some of the most commonly used scales to assess coping processes are: the revised Ways of Coping Checklist (Lazarus & Folkman, 1985), the COPE Scale (see Appendix A for the COPE Scale; Carver & Scheier, 1989), and the Brief COPE scale (see Appendix B for the Brief COPE Scale; Carver et al., 1997). The revised Ways of Coping Checklist does not include any items related to the use of humor as a coping process. The COPE scale includes four items regarding the respondents' use of humor, (i.e., *I laugh about the situation*, *I make jokes about it*, *I kid around about it*, and *I make fun of the situation*). The Brief COPE includes two items on the use of humor (i.e., *I've been making jokes about it* and *I've been making fun of the situation*). Although the COPE and Brief COPE scales include items related to coping through humor, they do not distinguish between the various types of humor. The various outcomes related to coping with humor indicate a need for greater analysis of the types of humor individuals coping with cancer use and patterns of this use.

Chapter 4: Cancer Blogs

This study used cancer blog posts to analyze cancer patients' use of humor in writing about their cancer experience. Blogs are defined here as "frequently modified web pages in which dated entries are listed in reverse chronological sequence" (Herring, Scheidt, Wright, & Bonus, 2005). The most common types of blogs have been separated into two general categories: personal journal blogs and filter blogs (Herring, Scheidt, Wright, & Bonus, 2005; Hollenbaugh, 2011). Personal journal blogs are the most commonly maintained blogs and consist of posts, also known as entries or frequently updated content, about the blogger's day-to-day life and internal states, whereas filter blogs are composed of external content, such as news and politics (Herring et al., 2005; Hollenbaugh, 2011;). In Schiano and colleagues' (2004) ethnographic study of individuals' use of blogging as a form of communication and personal expression, they found diary-keeping and personal-record keeping, sharing the occurrences in one's life with others, sharing photos, and reporting on one's progress or status (or that of a close other) were primary uses of personal blogs. Blog posts are channels through which individuals may send messages and express themselves in reaction, response, or reflection on their thoughts and the occurrences in their lives.

In a study of the characteristics of cancer bloggers, or those who write blogs about cancer, Chung and Kim (2008) found that "blogs are used more frequently to share emotional support and personal stories than medical knowledge," (p. 449) and that blogging can "lead cancer patients and their companions to engage in meaningful conversation and that sharing experiences via blogs may help patients better cope with

their cancer-related health conditions" (p. 449). Chung and Kim's (2008) findings suggest that cancer bloggers share personal information through their blog postings more than medical knowledge, meaning that cancer blogs tend to function more as personal journal blogs than filter blogs. In their exploratory study on the uses of (nonspecific) blogs, Nardi, Schiano, and Gumbrecht (2004) suggest that blogs are a social activity—friends told other friends to create blogs, readers told bloggers that they were waiting for posts, bloggers crafted posts with the audience in mind, and bloggers continued discussions with readers outside the blog. Due to Nardi and colleagues' (2004) findings and the public nature of online blogs, blogging is meant to be a communicative channel. Nardi et al. (2004) also found several motivations for blogging—to update others on activities and whereabouts, to express opinions to influence others, to seek others' opinions and feedback, to 'think by writing,' and to release emotional tension. The communication of bloggers' activities, whereabouts, opinions, and emotional tension through blog postings provide messages about themselves and their condition over time, which may provide greater insight into individuals' actions, such as coping behaviors, at various points in their lives.

Chapter 5: Research Questions

The current study of cancer blogs will contribute to greater understanding of how humor is used by individuals coping with cancer. Because the use of humor has often been associated with lower distress in studies of coping, a better understanding of how this humor is actually used when facing stressors will contribute to the stress and coping literature. As discussed previously, there is reason to believe that coping mechanisms vary depending on individuals' appraisals of the stressful situation. Therefore, the styles of humor various cancer patients use and how they use these styles can provide insight into the appraisal and coping process among those from various age groups, with different types of cancer, at different points in the trajectory. Thus, the first research question for the present study was:

RQ1: What styles of humor do individuals blogging about cancer use?

Lefcourt et al. (1997) studied gender differences in the association between a stressful event, the use of humor to cope, and levels of blood pressure. They found gender differences in the ways participants reported using humor to cope, with women reporting more use and appreciation of self-deprecating humor and men reporting more use and appreciation of witty humor. They also found that higher humor scale scores among females were associated with lower blood pressure levels, whereas higher levels on humor scales for men were related to higher blood pressure levels (Lefcourt et al., 1997). Zillman and Stocking (1976) studied gender differences in responses to a disparaging humor comedy routine. They found that when the routine was performed by a college-aged male putting himself, a friend, or an enemy down, males rated putting the enemy

down as the funniest and putting the self down as the least funny. On the other hand, females rated the male putting himself down as the funniest and putting the enemy down as the least funny. Lefcourt and Thomas (1998) cited Dixon (1980) who suggested the use of humor is a product of evolution so humans could live more peacefully rather than in battle. Dixon (1980) proposed that men had to find amusement in distressing situations to refrain from becoming as emotionally aroused; whereas women may have used humor to cope to "help reduce the anger of their male partners and therefore increase their own safety" (Lefcourt & Thomas, 1998, p. 201). Due to the relationship between humor and health, it is important to better understand how individuals use humor and the particular humor differences among sexes. The humor styles questionnaire provides a reliable and valid framework for distinguishing the use of humor (Cann et al., 2009), particularly in the context of cancer. Thus, the second set of research questions for the current study was:

RQ2a: Are there significant differences in the style(s) of humor used by female and male cancer bloggers?

RQ2b: Are there significant differences in the overall frequency of humor used within blog posts among female and male cancer bloggers?

Demographic variables have been shown to influence individuals' appraisal of stressors and coping processes. In particular, studies suggest that age may affect peoples' appraisal and coping behaviors, which are important as they relate to psychological well being. For instance, studies of humans through their life spans suggest that disruptions within people's lives due to cancer "and the meaning attributed to these disruptions" may

differ based on age or stage of life (Yanez, Garcia, & Victarson, 2013, p. 2404). Life plans of young adult cancer survivors may have been disrupted and diverted by their cancer diagnosis and treatments. Howard-Anderson, Ganz, Bower, and Stanton (2011) found that young women who face or have faced breast cancer experience high levels of distress even in remission. Studies have also found that middle-aged adult cancer survivors experience greater distress than older adults with cancer (Yanez et al., 2013). In multiple studies on women coping with breast cancer, researchers have found that during the first year after diagnosis, younger women experience more emotional distress compared with older women (Northouse et al., 1999; Penman et al., 1986; Vinokur et al., 1989). Because the distress individuals feel relates to their coping mechanisms, it is important to study how a coping mechanism like humor is used among various age groups. Research suggests that older people enjoy humor more than younger people, but may have more difficulty in producing humor (Greengross, 2013). Also, as people age there is a decline in cognitive abilities; this might affect the ability to process and produce jokes (Greengross, 2013). Once individuals reach around 60 years of age, their enjoyment of humor begins to decrease (Uekermann, Channon, & Daum, 2006). Individuals' appreciation of different types of humor might also change with age (Martin & Kuiper, 1999). These changes in humor use and appreciation may have future implications on how people may use humor to cope. Therefore, it is important to understand patterns of humor use and age in relation to coping for its theoretical and practical implications. Thus, the third set of research questions for the current study was:

RQ3a: How does a blogger's age relate to the style(s) of humor they use?

RQ3b: How does a blogger's age affect the frequency of their humor use?

The situational aspect of people's cancer experience may also influence the frequency and type of humor they use. Studies have shown that individuals report high distress directly after diagnosis (Cassileth et al., 1984; Devien, Maguire, Phillips & Crowther, 1987), whereas a month after surgery related to treatment, individuals feel lower distress (Dunkel-Schetter et al., 1992). Another study of cancer patients and their distress at different points in their cancer trajectory found that patients under active treatment had the highest level of distress compared to other cancer patients (Admiraal et al., 2013). Therefore, where individuals are in their cancer trajectory and how much time has passed since diagnosis may be related to the frequency or type of humor they use. Thus, the fourth set of research questions for the current study was:

RQ4a: How might bloggers' humor styles vary according to where they are in their cancer trajectory?

RQ4b: How might bloggers' overall frequency of humor use vary according to where they are in their cancer trajectory?

Finally, the type of cancer individuals have may affect their appraisal and subsequent coping mechanisms. For example, a study on how cancer and treatment type affect people's distress found that prostate cancer patients report a lower level of distress than individuals with "breast, digestive, lung, gynecologic, head/neck, and liver/brain/thyroid cancers" (Admiraal, et al., 2013, p. 1770). The researchers suggested that prostate cancer patients may receive information that their course of the disease will probably not result in death (Admiraal, et al., 2013); thus, patients may appraise their

condition differently than those with more severe types or stages of cancer. Another study found lung, brain, and pancreatic cancer patients to have the highest levels of distress, perhaps due to the site of the cancer and mortality rates related to those types of cancer (Zabora, Brintzenhofeszoc, Curbow, Hooker, & Piantadosi, 2001) As previously mentioned, appraisal affects how individuals cope with a stressor (Lazarus & Folkman, 1984). Therefore, those with a type of cancer with a high mortality rate may use humor differently than those whose cancer has a low mortality rate. Thus, the fifth set of research questions for the current study was put forth:

RQ5a: How might bloggers' type of cancer relate to the style(s) of humor they use?

RQ5b: How might bloggers' type of cancer relate to their overall frequency of humor use?

Chapter 6: Methods

The current study used a sample of 600 posts from 85 blogs written by individuals coping with cancer to analyze the use of humor in the cancer experience. Individual bloggers and a set of their blog posts, or entries, were the units of analysis (Herring, 2005). Bloggers included in the study had to reveal on their blog that they had cancer or were in remission for cancer. Blog posts were used for analysis if they consisted of more than one sentence, were written solely by an individual coping with cancer, and fell within the date range selected for the sample. The University of Texas at Austin's Institutional Review Board (IRB) stated that they do not consider this research to be human subject research because the data are publicly available; thus, no IRB approval was required.

Assembling Cancer Blog Database

To begin, this project used the Google search engine to find individual cancer blogs available in the public domain. As part of a larger content analysis project, a group of seven researchers and I searched the term "cancer blog" on the Google search engine, and mined 50 pages of Google results for blogs written by one person who has or has had cancer. By clicking on each of the resulting websites on each of the 50 result pages and reading posts on the blog as well as the "About Me" section (if applicable), we determined which blogs were written about some aspect of cancer, solely by an individual coping with cancer. If the blog was written solely by one coping with cancer, we added the blog to a list of personal cancer blogs, and labeled which Google search page number on which we found the blog. We then looked at each of the bloggers'

"blogrolls," or "section[s] containing links to other blogs of interest" (Schiano et al., 2004, p. 1144). We clicked on each of these blogs on the blogroll, and determined if it was a blog written by an individual with cancer who talks about their cancer experience. If the blog was written by an individual with cancer who talked about their cancer experience, we added it to the list of cancer blogs, and labeled the Google search page number that the "suggester" or original blog was on, as well as the marker "1c." The "1c" label meant that the blog was one click from another blog from the Google search results.

After assembling this collection of blogs, we decided to add to our sample through using a website called "Navigating Cancer," which indexes cancer blogs by the type of cancer with which the blogger is coping. After clicking on each of the blogs, we noticed that this list of blogs did not overlap entirely with the sample we collected from the Google search and blogrolls. We followed the same process of data collection with these blogs as we did with those found in the Google search. After clicking on each blog, we determined if it was written about cancer by someone coping with cancer. If the blog was written solely by an individual coping with cancer, we added the blog to our sample, noting that it came from "Navigating Cancer" with an "NC." If the blog had a blogroll, we then clicked on each of the links to determine whether the resulting webpage was a blog about cancer, written by an individual coping with cancer. We added those blogs that fit the requirements to our sample, labeling it "NC" "1c" which denotes that it was 1-click away from a blog featured on the "Navigating Cancer" website.

Following previous blog studies' methodology for collecting blogs (e.g., Herring et al., 2005; Hollenbaugh et al., 2011), we excluded blogs written in other languages,

blogs written by multiple authors, photo and video blogs that did not contain a significant amount of text, filter blogs (i.e., blogs focused on external events, such as cancer organizations), and "uses of blog software for non-blog purposes (e.g., community center events announcements, news, retail)" (Herring et al., 2005, p. 146). In the end, we gathered a sample of 505 blogs written by individuals currently coping with cancer that met these qualifications.

After collecting the links to the 505 blogs through the Google search, blogrolls, and the "Navigating Cancer" website, we split the blogs up among the group to gather more information about the bloggers and their cancer experience as they have reported it. In addition to collecting the blog URL, we collected information about the date of most recent post by the patient (blog author), the point in the individual's cancer trajectory during which the blog was started, the date the blog was started, the type of cancer with which the blogger was coping, as well as author demographics (i.e., gender, perceived race, and age), which was determined through looking at their "About Me" section (if available) and other posts. This data collection process took place between February 20, 2013 and April 3, 2013.

Codebook Construction

To assess the demographics of the bloggers as well as the characteristics of the blog posts, such as style of humor use and the frequency of humor use, I created a codebook using resources from the National Cancer Institute, the U. S. Census, and Martin et al.'s (2003) humor style study. Please see Appendix D for the complete codebook. The codebook originally consisted of seven sections. The seven sections of the

codebook included: gender, age, perceived race, type of cancer, point in the cancer trajectory, style of humor use, and frequency of humor use.

Gender and age. The gender section consisted of male and female. The age of the blogger was coded as falling within a range (1 = age 10 to 14; 2 = age 15 to 19; 3 = age 20 to 24; 4 = age 25 to 29) and ranged from a score of 1 (age 10 to 14) to 15 (age 80 to 84). These categories follow the U.S. Census Bureau's (2013) age range categorization; the age categories "Under 5" and "5 to 9," were excluded from the codebook due to the unlikelihood of people at those ages writing their own cancer blogs. Bloggers' ages were found through various methods; some bloggers mentioned their age within a post or in an "About Me" section of their blog. Other bloggers' ages were found through careful consideration of context information; for example, some bloggers would mention the age they were when they had a child and later mention celebrating that child's 25th birthday. Other bloggers, however, did not include their exact age on their blog or enough context information to calculate a precise age. Those whose age was unclear were labeled as "uncodable" in the age category.

Race. The perceived race categories of the codebook were adapted from the U.S. Census ("Race Main," 2012) race categories. The category was called "perceived race" because race was primarily determined by the photos the authors included of themselves on their blogs, or through mention of their race. These categories include "white, black, Hispanic/Latino origin, American Indian or Alaska Native, Chinese, Japanese, Korean, Vietnamese, other Asian (Thai, Pakistani), Native Hawaiian, Pacific Islander, and not

available." The "not available" code was used when the blogger did not include pictures of themselves or mention their race.

Type of cancer. The type of cancer section of the codebook originally included the National Cancer Institute's (2014) 12 most common types of cancer. After I randomly selected blogs from the original set of 505 blogs, I noted the types of cancer that the bloggers had that were not in the codebook and then added them to the codebook. As I analyzed the posts if the individual had, or was diagnosed with, a form of cancer not included in the codebook, I would add the type of cancer to the codebook. As a result, the codebook contains 23 types of cancer, as well as a label for "not available" if the bloggers did not reveal their type of cancer on their blog. After noting that some bloggers were coping with multiple types of cancer, I added another label for multiple types of cancer. If individuals were coping with multiple types of cancer, they were given the label "23"; I made this distinction because I did not want to risk invalidating my results by including blog posts under one label that actually belonged under multiple "cancer type" labels.

Point in cancer trajectory. The "Point in the Cancer Trajectory" section consisted of five different labels: "no treatment," "post-diagnosis/ pre-treatment," "in treatment, post-treatment/remission," and "recurrence diagnosis, pre-treatment." These points in the cancer trajectory were derived from the categories the original coding group created after scouring the cancer blogs in February, March, and April of 2013. No treatment refers to those who were diagnosed with cancer but were untreatable due to severity of the disease, chose not to go through treatment, or did not have the resources to

receive treatment. Post-diagnosis/pre-treatment refers to the point in individuals' cancer trajectory in which they knew they had cancer but had not received their first treatment for their cancer yet. In treatment refers to the period of time when the individual was taking medication, going through chemotherapy or radiation therapy cycles, or was using another form of doctor distributed treatment to rid the body of cancer. Post-treatment/remission was the span of time after individuals' last treatment cycle or medication taken to treat cancer. Recurrence diagnosis/pre-treatment refers to the return of the disease and symptoms of the disease after a period of improvement (National Cancer Institute, 2011).

Frequency of humor use. The frequency of humor use within blog posts was distinguished by the number of humorous remarks the bloggers made within their blog posts. If the post included no humorous remarks, the frequency of humor use was labeled "0." If the bloggers made one humorous remark, the frequency of humor use was labeled "1"; two humorous remarks was labeled "2"; and three humorous remarks was labeled "3." If the post included eight humorous remarks, it was given an "8" for frequency of humor use. Typically, if individuals included more than one humorous remark in their post, one could be differentiated from another by a serious tone or statement written in between. I also differentiated humorous remarks when the remarks were related to two different topics. The frequency of humorous remarks per post was averaged over the number posts the blogger wrote within the given timeframe, so blogger frequency of humor use is an average.

Humor style. Through the use of the Humor Styles Questionnaire (HSQ) categories (Martin, 2003; please see Appendix C), I constructed the "Humor Style" section of the codebook. The "Humor Style" section of the codebook was used to note the various types of humor used in the blog posts. The styles of humor, as distinguished in the HSQ, are: affiliative, self-enhancing, aggressive, and self-defeating. Affiliative humor is characterized by laughing and joking around a lot with others, being naturally humorous, and engaging in witty banter (Martin et al., 2003). I interpreted affiliative humor from the text of cancer blogs if individuals talked about laughing and joking with others, told jokes, and made witty remarks that were not related to making fun of themselves or another person. Self-enhancing humor is characterized by individuals cheering themselves up with humor, thinking about the humorous side of the situation to make themselves feel better, using humor to help themselves from getting depressed, and finding things to laugh about even when alone (Martin et al., 2003). I interpreted self-enhancing humor from the text of cancer blogs if bloggers talked about how humor made them feel better, how laughing made them feel better, or how a certain amusing situation related to their well-being. Aggressive humor is characterized by teasing others when they make mistakes, offending others with humor, being impulsive even with hurtful/offensive humorous remarks, and laughing at others even if the joke is offensive (Martin et al., 2003). I interpreted aggressive humor from the text if bloggers made fun of another person in any way or put another person down. Self-defeating humor is characterized by letting people laugh at oneself or make fun at one's expense, getting carried away in putting oneself down to make other laugh, and trying to make people like

and accept oneself by saying something funny about one's own weaknesses, blunders, or faults (Martin et al., 2003). I interpreted self-defeating humor from the cancer blog text if bloggers were putting themselves down, saying something funny about their weaknesses or faults, and highlighting their own errors.

This project used the HSQ categories as opposed to other humor scales because the HSQ descriptively categorizes various types of humor rather than giving an overall score for a humor variable such as humor orientation. The humor styles questionnaire has also been successfully used over the past ten years due to its high reliability and validity. Furthermore, Kuiper and Martin (1998) argued that the Humor Orientation (HO) scale, Humor Assessment (HA) scale, and the Uses of Humor Index (UHI), and other measures of humor use did not strongly relate to mental health constructs. They found methodological issues with previous humor studies, such that in studies of humor, psychological health, and well being, dimensions of humor accounted for less than 6% of the variance in mental health (Martin et al., 2003). A possible reason for the discrepancies within the studies is related to the way humor use was measured. Martin and colleagues (2001, 2003) suggest that styles of humor use should be distinguished between potentially adaptive functions of humor and potentially maladaptive functions of humor. Using a scale that measures both potential functions of humor could lend insight into a patient's choices of humor styles and in a future study, the outcomes of those styles.

Sample Selection

Sample sizes in relevant extant blog content analysis studies range from 246 posts from 108 blogs (Shah & Robinson, 2011) to every post within a two-month period from 485 blogs (Kim, 2009). From the original collection of 505 cancer blogs, I randomly selected 85 blogs to be included in my study of humor use in individuals coping with cancer. After this random selection process, I clicked on each of the links to determine if the blog was still available, and if the blog indeed matched the criteria of being written in English by an individual coping with cancer. Blogs that did not meet these criteria were replaced with other randomly selected blogs from the original collection of 505 cancer blogs. After selecting the 85 blogs, I alphabetized the blogs by their URL and gave each blog an identification number. I archived, in Portable Document Form (PDF), the first 10 posts bloggers wrote between May 1, 2011 and July 31, 2011. The dates May 1, 2011 and July 31, 2011 were chosen to approach data collection systematically. For blogs that did not include posts between May 1, 2011 and July 31, 2011, I archived the bloggers' posts from the period between May 1, 2010 and July 31, 2010. If the blogger did not write between May 1, 2010 and July 31, 2010, I archived the bloggers' posts from May 1 to July 31 of 2009, 2012, or 2013, depending on the year that had posts within the May through July time frame. Posts that were primarily "guest posts" or written by someone other than the blogger, contained only video, or consisted of one sentence or less were not included in the sample. I archived up to ten posts for each blogger during this time period, if the bloggers wrote 10 posts. If the bloggers wrote only one post during this time period, I archived the one post. This sampling technique resulted in a sample containing

600 cancer blog posts. As I archived each post, I verified and updated the existing information on the bloggers' age, their point in the cancer trajectory, and the date of the posts. In the previous group data collection, we noted the point at which the bloggers were in their trajectory during their initial post. While archiving each of the bloggers' posts, I noted their point in the cancer trajectory during those specific dates. These points in the trajectory include: post-diagnosis/ pre-treatment (the individual had just been diagnosed), in treatment, post-treatment/ remission, and post-recurrence diagnosis/ pre-treatment. Since each post is a unit of analysis, if bloggers had just been diagnosed in one post, I labeled their point in the trajectory for that blog entry "post-diagnosis/ pre-treatment." If a post by the same blogger indicated that he or she was in treatment in the next blog entry, I labeled their point in the trajectory as "in treatment."

Procedures for Establishing Coding Reliability

An *a priori* content analysis was conducted on a randomly selected sample of 60 blog posts (10%) of the 600 posts in my sample. I randomized the sample of 600 posts using Microsoft Excel's randomization tool; I then labeled each post with an identification number ranging from 1 to 600. The 60 cancer blog posts came from 43 different cancer blogs in my sample, which are all available in the public domain. Through reading the blog posts and using the codebook I constructed, another coder and I individually determined the type of humor used within the blog post, if any (see Appendix E for an example of how we coded the blog posts). The other coder and I read each of the 60 posts separately and analyzed whether the post had humor or not, how many humorous remarks were made, what type of humor was used in each of the

humorous remarks. More specifically, each of the posts was given a line in a Microsoft Excel spreadsheet. Next to the previously collected information about the posts (i.e., URL, post date, sex, age, and type of cancer with which the individual is coping), were four columns, one for each style of humor. For those posts in which the individual used no humor at all, each humor style received a 0. In posts in which we perceived the blogger using humor, we would identify the type(s) of humor used in the particular humorous remark, and put a 1 in the humor style column corresponding with the type of humor we perceived. We would then copy and paste that humorous quote into an Excel spreadsheet, with the label of the type of humor in front of the quote. For example, if I perceived a blogger to use self-defeating humor in a humorous remark, I would put a "1" in the self-defeating humor style column, and I would copy and paste the quote into the "Humorous Remark" column. After finishing the blog post, we would count the number of humorous remarks we included in that post's row of the spreadsheet, and label the frequency with the number of humorous remarks the blogger included.

After coding the 60 blog posts, I analyzed our inter-coder reliability on each of the four humor styles using Cohen's Kappa (i.e., affiliative, $\kappa = .772$; self-enhancing, $\kappa = .302$; aggressive, $\kappa = 1.00$; self-defeating, $\kappa = .739$). Although our inter-rater reliability was sufficient for affiliative, aggressive, and self-defeating humor styles, we had low inter-coder reliability for the self-enhancing humor style.

Because our reliability was not sufficient, the other coder and I met to discuss our differences and discovered how to resolve our coding. The coder and I re-examined the codebook together to further discuss each of the categories and distinguish between the

types of humor again; we then came to agreement on humor use and style within the posts on which we disagreed. Once we had discussed each of the styles of humor again, I pulled the next 60 posts from my randomized sample of 600 posts. The second sample of 60 posts to code was written by 44 different bloggers.

After coding the second sample of 60 blog posts, I analyzed our inter-coder reliability again using Cohen's Kappa. For the second subsample of blogs, the coder and I had sufficient reliability for all four humor style categories (i.e., affiliative, $\kappa = .857$; self-enhancing, $\kappa = 1.00$; aggressive, $\kappa = 1.00$; self-defeating, $\kappa = .815$). After achieving inter-coder reliability, I coded the remaining 480 cancer blog posts. A total of 600 blog posts, written by 84 bloggers, were analyzed for this study.

Summary of Demographics

A majority of the blogs were written by females ($n = 71$, 83.5%) and ages ranged from the 25 to 29 category to the 70 to 74 category. Specifically, 7 cancer bloggers were between the ages of 25 and 29 (8.2%), 12 bloggers were between the ages of 30 and 34 (14.1%), 7 bloggers were between the ages of 35 and 39 (8.2%), 13 bloggers were between the ages of 40 and 44 (15.3%), 11 bloggers were between the ages of 45 and 49 (12.9%), 8 bloggers were between the ages of 50 and 54 (9.4%), 1 blogger was between the ages of 55 and 59 (1.2%), 2 bloggers were between the ages of 60 and 64 (2.4%), 1 blogger was between the ages of 70 and 74 (1.2%), and 23 bloggers' ages were not available (27.1%). Therefore, the majority of bloggers fell within the 30 to 34 and 40 to 44 age categories (29.4%).

A majority of the bloggers was white (n = 68, 80%). Other perceived races of the bloggers included black (n = 1, 1.2%), Hispanic/Latino (n = 3, 3.5%), and Korean (n = 1, 1.2%). The other 12 bloggers' race was unknown (14.1%). The most common form of cancer among the bloggers was breast cancer (n = 42, 49.4%) followed by colon and rectal cancer (n = 8, 9.4%). Two bloggers had bladder cancer (2.4%), 7 bloggers had a form of lymphoma (8.2%), 4 bloggers had leukemia (4.7%), 2 bloggers had lung cancer (2.4%), 1 blogger had prostate cancer (1.2%), 2 bloggers had thyroid cancer (2.4%), 4 bloggers had ovarian cancer (4.7%), 1 blogger had vaginal cancer (1.2%), 1 blogger had cervical cancer (1.2%), 1 blogger had tonsil cancer (1.2%), 1 blogger had head and neck cancer (1.2%), 1 blogger had myeloma (1.2%), 2 bloggers had sarcoma (2.4%), 1 blogger had uterine cancer (1.2%), and 5 bloggers had multiple types of cancer (5.9%), such as breast and liver cancers. Most of the cancer bloggers were either in treatment (n = 41, 48.2%) or had already gone through successful treatment and were in remission (n = 40, 47.1%); two cancer bloggers had just been diagnosed and had not been treated yet (2.4%), and two bloggers had been diagnosed with a recurrence and were not yet in treatment (2.4%).

Chapter 7: Results

Overall, 57 of the 85 cancer bloggers used humor in at least one post (67.1%), and each of the four humor styles was identified multiple times throughout the sample. Specifically, of the 57 cancer bloggers who used humor, 46 bloggers used affiliative humor at least once within their posts (83.6%), 35 bloggers used self-enhancing humor at least once within their posts (63.6%), 20 bloggers used aggressive humor at least once in their posts (36.4%), and 38 bloggers used self-defeating humor at least once in their posts (69.1%). In the following section, each of the humor styles is described further, with exemplars from the cancer blogs included to illustrate each theme. Typos in exemplars were not corrected.

Affiliative Humor

Affiliative humor was the most commonly used humor style; 117 blog posts (19.3% of total posts) written by 46 cancer bloggers (54.1% of total bloggers) included affiliative humor. As previously mentioned, one's use of affiliative humor is characterized by laughing and joking around with others, engaging in witty banter, telling jokes, and making witty remarks (Martin et al., 2003). Within the sample of cancer blogs, affiliative humor was often used when individuals told stories about their daily real or imagined experiences; they made jokes and witty comments, used puns, or talked about a recent experience they had laughing and joking around with others.

In the posts that included humor, it was common for bloggers to use affiliative humor in their review of the previous day(s) or week. One blogger, who was nearing the end of treatment for breast cancer, recapped her weekend with her readers and talked

about how she is beginning to see more ups than downs in her days. She began by giving the example that she was able to go to her daughter's ballet recital at her school. She wrote:

> The first graders did a beautiful performance and they combined a few things they had learned from their Chinese teacher. There was the expected dragon dance and a ribbon dance (which one parent misconstrued from his lisping daughter and was disappointed that it wasn't 'River Dance.) But you haven't lived until you have seen an entire first grade class do the 'hokey pokey' in Chinese. I have and I did. (Griffin, 2010)

This post is an example of affiliative humor because the author tells a funny story of a father thinking first graders will be performing "River Dance," a complicated Irish step dance typically performed by professional dancers. The post is also affiliative because the blogger strikes up a funny image for the reader of an entire class of first grade American students doing the "hokey pokey" in Chinese.

Another example of the use of affiliative humor in a recap comes from a blogger going through treatment for colorectal cancer; she posted about the happenings of her previous week. She wrote, "Last Friday I went to the doctor, because I felt it had been far too long since someone inspect my bottom while trying to make casual conversation with me" (Sheri, 2009a). This post demonstrates the use of affiliative humor because the blogger makes a joke about her doctor's appointment. She is not making fun of herself or her doctor with this humorous remark, she is simply joking around about the situation itself. People typically go to the doctor when they are not feeling well or to get a check up. However, instead of just saying, "I went to a doctor's appointment," the blogger made fun of the situation. The reader can detect that this statement is meant to be humorous

since it is incongruent with the ideas of doctors' appointments many have set in their minds. Multiple posts that included humor used affiliative humor in talking about the appointments, procedures, and treatments they have experienced or will experience, as the excerpt above exemplifies.

Another use of affiliative humor within blog posts was in true and imagined stories. For example, one blogger in remission for breast cancer wrote and open letter to a coyote that she felt was tormenting her dog. Another cancer blogger talked about calling her doctor and included how she imagined him as they talked:

> It started with a brief email from one of my doctors to call him. So, I called and he was scrubbing into a surgery while the nurse was holding the phone. All I could think of is the 'oops, I lost you, can you hear me now' and phone drops into a woman's abdominal cavity. (Joanie, 2011)

Affiliative humor was used often by cancer bloggers in this study, and the uses of it were broad ranging from talking about children, to doctor's appointments, to imagined situations.

Self-Enhancing Humor

Self-enhancing humor is characterized by using humor to cheer oneself up, thinking about the humorous side of a situation to make oneself feel better, using humor to avoid feeling depressed, and finding things to laugh about even when one is alone (Martin et al., 2003). Thirty-five bloggers (41.2% of total bloggers) used self-enhancing humor at least once in their posts, and 52 total posts included self-enhancing humor (8.7% of total posts). Many of the posts that included the use of self-enhancing humor simply talked about how having a sense of humor can make facing cancer better. For

example, a woman going through chemotherapy treatments for breast cancer talked about her emotions and some strategies of coping with the cancer-related treatment. She wrote:

> There are a few days I fall apart, but mostly, I think, I just take each day as it comes. Of course, having a sense of humor helps greatly. After I get a treatment and I'm lying on the bathroom floor enjoying the feel of the cool tile on my face, I think of things that make me laugh. (Sheri, 2009b)

This quote illustrates self-enhancing humor through the author's revelation that she thinks of things to make her laugh to help her from feeling worse or falling apart. A 40-year old colorectal cancer blogger used self-enhancing humor when recounting an experience on a trip from which he and his wife had recently returned. He said:

> There were lots of other little challenges - when a really great sailing trip went horribly wrong in the last five minutes - with hindsight there were a few real comedy gems (no, honestly, when the tide goes out ALL the water goes away!), actually I will share that with you later... It's making me smile as I write, even though it was not exactly fun at the time. (The Impatient One, 2011)

In this excerpt, the blogger remembers a somewhat disastrous experience on a sailboat, among a few other small boating disasters from the same trip. However, he suggests that he finds humor in the situation that was not funny at the time, which aligns with the premise of self-enhancing humor. Lastly, some bloggers found humor in some aspect of their cancer treatments. Some talked and joked about lacking modesty in showing their breasts after going through surgeries and treatment for breast cancer, despite social norms. A cancer blogger coping with treatments for leukemia found humor in a specific treatment situation.

> When you have a horrible cold and everyone in the civilian world looks at you like you have the plague, the cancer center folks tell you look beautiful and healthy. If only I could live my entire life just being compared to aged cancer patients. (Jessie 0, 2009)

This excerpt demonstrates an individual finding humor in the absurdity of her new norm.

Aggressive Humor

Aggressive humor is characterized by teasing others when they make mistakes, offending others with humor, being impulsive even with hurtful/offensive humorous remarks, and laughing at others even if a joke is offensive (Martin et al., 2003). Of the four humor styles, aggressive humor was used the least among the sample. Twenty bloggers (23.5% of total bloggers) used aggressive humor at least once in their posts, and 32 posts (5.3% of total posts) included aggressive humor at some point. Aggressive humor was often used to make fun of hospital staff such as doctors and nurses, as well as a blogger's close other.

One blogger going through radiation therapy as treatment for breast cancer used aggressive humor as she talked about the disorganized valet attendants at the radiation center. She wrote:

> One day I drove to the clinic and all of the attendants were wearing straw hats. I imagined the meeting they held. "What is wrong with this operation?" they asked each other. Then they all decided that the problem was a deficit in straw hats. Perhaps if they all had the same hat, order would follow. (Caya-Papaya, 2013)

She continued, "I have said some pretty weird things to the attendants - like the one time when I told them that radiation was less painful then having them park my car" (Caya-Papaya, 2013). These two excerpts exemplify aggressive humor because the blogger is making fun of the valets' lack of organization, their particular attire, and how "painful" it is to have them park her car, although that is their job.

In another blog, I found aggressive humor when the blogger was writing about her treatment and her dad's recommendations for her. She wrote:

> So now I just have to contend with my father's belief that lemongrass will cure all, and that I should be taking doses of the stuff everyday. The icing on the cake though came when he asked me to send a sample of my wee to the Philippines, and did not for one moment think that this was a silly request. My father is normally rational, but when I refused his request to send my urine via Fedex, he just could not accept it. (Chinot, 2011)

The previous excerpt is considered aggressive humor because the author is making fun of her father and his "silly request." Another example of aggressive humor comes from a blogger coping with throat cancer. At the time of the post, he was in treatment but still going to work. In his building at his workplace, a school, asbestos glue was used under the tiles on the floor; the district decided to rip it all out over the summer. The blogger wrote:

> Now the EPA, DEP and every 0ther intelligent person says to leave it alone as it is not a threat until you disturb it and these clowns are going to uproot the whole flooring system in 3 buildings to get to the glue. (Pat C., 2011)

As Pat C. (2011) and the other bloggers in the previous excerpts demonstrate, aggressive humor was used in cancer blog posts primarily to make fun of other people.

Self-Defeating Humor

Self-defeating humor was the second most-used type of humor within the sample of cancer blogs. Thirty-eight bloggers (44.7% of total bloggers) used this type of humor at some point in their posts, and 80 posts (13.3% of total posts) included self-defeating humor at some point. Self-defeating humor is characterized by letting people laugh or make fun at one's expense, getting carried away with putting oneself down to make

others laugh, saying something funny about one's own weaknesses, blunders, or faults, and going overboard by putting oneself down when making jokes or trying to be funny (Martin et al., 2003). Self-defeating humor was often distinguished by bloggers making fun of their appearance, their reactions to treatment, or a blunder they made. For example, one blogger with breast cancer told a story of a recent blunder, her bike ride to a radiation therapy appointment. During the bike ride she ran a red light and was hit by a car. She was fine despite some potential bruising. She made it to her appointment, but then had to go home and tell her husband what happened. She wrote:

> 'How much has the insurance company spent trying to keep you alive?' he asks. 'Don't you think it's a little crazy to push it like that?' I bow my head, contrite. For most people, simply battling cancer might be enough of a reminder that life is fragile, and precious. Some of us, with thicker skulls, need to have their butts slapped to the ground to really get the message… (Millar, 2011)

This excerpt is an example of self-defeating humor because she made fun of herself for having a "thicker skull" and implies that she needed a bigger reminder that life is fragile than getting cancer.

Another breast cancer blogger joked about the side effects of chemo, often called "chemo brain" which may make chemotherapy patients and those who have previously gone through chemotherapy forgetful or foggy-headed. She wrote, "One cancer website suggests writing everything down so you don't forget. Brilliant! Why didn't I think of that? I probably did but can't remember" (Rosebloom, 2013). This excerpt demonstrates how individuals make fun of their side effects, although they may be distressing.

Another cancer blogger made fun of her appearance, a common theme for self-deprecating humor, after a recent doctor's appointment. She wrote:

> Leaving the doctors office and walking outside, eyes are automatically drawn to my chest where a large white cotton ball and tape protrude. To top things off, my lymphedema was being less than cooperative that day, which meant wearing my compression sleeve and glove. Yeah, what a sight I was! Passersby didn't know where to advert their eyes, to my chest or to my arm and hand! (Cummings, 2011)

Overall, cancer bloggers seemed to use self-defeating humor when telling stories of their blunders, when talking about side effects of treatment such as chemo brain and hot flashes, and when talking about their appearance during treatment.

Gender and Humor

The second research question for this study asked if there are significant differences in styles of humor used by women and by men as well as if there are significant differences in the frequency of humor used by women and by men. For this analysis, I used only the data from those 57 bloggers who included humor in at least one of their posts. To find the differences between humor styles used by women and by men I ran four chi-square analyses with gender and each style of humor as the variables. In this study, there was no evidence that the use of affiliative humor, χ^2 (1, 57) = .89, p = .35, V = .13; self-enhancing humor, χ^2 (1, 57) = .83, p = .36, V = .12; aggressive humor, χ^2 (1, 57) = .29, p = .59, V = .07, or self-defeating humor was significantly affected by gender, χ^2 (1, 57) = .30, p = .58, V = .07. These results suggested that men were no more likely than women to use certain styles of humor on their cancer blogs.

An independent samples t-test was conducted to compare the frequency of humor use of bloggers and gender conditions. For this test I used the data from the full sample of 85 bloggers, because there may have been a significant relationship between those who used no humor at all and gender. There was no evidence of a significant difference in the

frequency for male (M = .60, SD = .17) and female (M = .71, SD = .09) conditions, $t(83)$ = .27, p = 0.51. These results suggested that gender was not significantly associated with the frequency of humor use among cancer bloggers.

Age and Humor

The third set of research questions for this study asked if bloggers' ages affected the type of humor they use and the frequency of humor use within blog posts. For the age and type of humor analysis, I used only the data from those 57 bloggers who included humor in at least one of their posts. A chi-square analysis was conducted to compare the humor style and age group conditions. There no evidence of an association between age group and affiliative humor style, χ^2 (7, 57) = 8.56, p = .29, V = .39. There was not a significant difference in the scores for age group and self-enhancing humor style, χ^2 (7, 57) = 13.63, p = .06, V = .49. There was not a significant difference in the scores for age group and aggressive humor style, χ^2 (7, 57) = 5.76, p = .57, V = .32. There was not a significant difference in the scores for age group and self-defeating humor style, χ^2 (7, 57) = 5.28, p = .63, V = .30. These results suggested that age did not affect the humor styles bloggers used.

A one-way ANOVA test was conducted to test whether age was related to the frequency with which bloggers used humor throughout their blog posts. For this test I used the data from the full sample of 85 bloggers, because there may be a significant relationship between those who used no humor at all and age. There was no statistically significant difference between groups as determined by a one-way ANOVA, $F(9, 75)$ =

.78, $p = .63$. This analysis suggested that age did not significantly affect the frequency with which bloggers use humor in their posts.

Point in Cancer Trajectory and Humor

The third set of questions that guided this research asked if bloggers use particular humor styles at different points in their cancer trajectory, and if bloggers use humor more frequently at particular points in their cancer trajectory. A chi-square analysis was conducted to compare the humor style and point in cancer trajectory group conditions. For this analysis, I used only the data from those 57 bloggers who included humor in at least one of their posts. There was no evidence of an association between point in cancer trajectory use of the affiliative humor style, χ^2 (3, 57) = 1.16, $p = .35$, $V = .125$; use of the self-enhancing humor style, χ^2 (3, 57) = 2.42, $p = .49$, $V = .21$; use of the aggressive humor style, χ^2 (3, 57) = 3.40, $p = .33$, $V = .24$; or use of the self-defeating humor style, χ^2 (3, 57) = 1.71, $p = .64$, $V = .17$. These results suggested that the bloggers' point in the cancer trajectory did not significantly affect the type of humor they used in their blog posts.

A one-way ANOVA test was conducted to test whether the point in the cancer trajectory was related to the frequency at which bloggers used humor throughout their blog posts. For this test I used the data from the full sample of 85 bloggers, because there may be a significant relationship between those who used no humor at all and their point in the cancer trajectory. There was no evidence that frequency of humor use varied by groups, $F(3, 81) = .38$, $p = .77$. These results suggested that a blogger's point in the

cancer trajectory did not significantly affect the frequency at which bloggers use humor in their posts.

Type of Cancer and Humor

The final set of questions that guided this research asked if bloggers used particular humor styles when coping with different types of cancer, and if bloggers used humor more frequently when coping with different types of cancer. A chi-square analysis was conducted to compare the humor style and the bloggers' type of cancer group conditions. For this analysis, I used only the data from those 57 bloggers who included humor in at least one of their posts. There was no evidence that type of cancer was associated with use of the affiliative humor style, χ^2 (13, 57) = 11.5, p = .57, V = .45; use of the self-enhancing humor style, χ^2 (13, 57) = 18.9, p = .13, V = .58; use of the aggressive humor style, χ^2 (13, 57) = 15.1, p = .30, V = .52; or use of the self-defeating humor style, χ^2 (13, 57) = 11.1, p = .60, V = .44. These results suggested that the type of cancer bloggers had did not significantly affect they type of humor they used in their posts.

A one-way ANOVA test was conducted to test whether the bloggers' cancer type was related to the frequency at which bloggers used humor throughout their blog posts. For this test I used the data from the full sample of 85 bloggers, because there may be a significant relationship between those who used no humor at all and their type of cancer. There was no evidence that the frequency of humor use differed between groups as determined by a one-way ANOVA, F(16, 84) = .49, p = .94. This analysis suggested that

the type of cancer a blogger has does not significantly affect the frequency with which bloggers used humor in their posts.

Chapter 8: Discussion

This exploratory study focused on how cancer bloggers used humor while facing cancer and cancer-related stressors. The study sought to understand how cancer bloggers used humor and to discover patterns in styles and frequency of humor related to various characteristics such as gender, age, point in the cancer trajectory, and type of cancer. Overall, no patterns emerged among humor styles and gender, age, point in the cancer trajectory, and type of cancer. The frequency of humor use was also not related to gender, age, point in the trajectory, or type of cancer. However, a few important findings in this study contribute to the larger body of stress and coping literature.

Over two-thirds of the cancer bloggers used humor at some point in their blog posts, and nearly one-third of the cancer blog posts (n = 189) included at least one type of humor during the three months' worth of blog postings that I sampled. This finding adds some qualitative information to studies on coping and humor use (e.g., Carver, 1997; Goldsmith et al., 2008). For example, multiple studies have found a negative relationship between using humor to cope and feelings of distress when facing some aspect of cancer (Carmack Taylor et al., 2008; Carver et al., 1993; Rose et al., 1997; Roussi et al., 2007). However, humor is often reported in these studies using the revised Ways of Coping Checklist (Lazarus & Folkman, 1985), the COPE scale (Carver et al., 1989) or the Brief Cope (Carver, 1997), which include zero, four, and two items related to humor, respectively. As the current study suggests, uses of humor while coping with cancer are much more complex than the aforementioned scales' humor items represent (i.e., *I laugh about the situation, I make jokes about it, I kid around about it,* and *I make fun of the*

situation) (the COPE Scale; Carver & Scheier, 1989). As the current study found, bloggers coping with cancer tell jokes, make witty remarks, talk about their day humorously, talk about their children humorously, make fun of others, make fun of themselves, joke about their own blunders, make fun of the side effects of treatment, and find humor in the absurdities of various situations in which they find themselves. Through the study of blog posts, I found descriptive data to complement extant quantitative data about coping with cancer and the use of humor. These descriptive data provide a richer understanding of how humor is used among those coping with cancer.

Humor is a distinct communicative device. Individuals may encode information about themselves and their experiences through the use of humor. As previously cited, Boehmer and Clark (2001) found that men coping with prostate cancer used humor to express their fears; the wives of these men used humor to improve their husbands morale. Rose and colleagues (1997) found that cancer patients with a terminal diagnosis used humor to feel normal. Breast cancer patients reported using humor to cope during various stages of treatment, which was related to less distress (Roussi et al., 2007). It is clear that individuals have purposes, whether unconscious or conscious, as to why they use humor when facing a stressor. The conscious use of humor to cope will often be captured on various coping scales. However, the use of humor in daily communicative activity may be lost on those coping with cancer when answering a coping questionnaire. Therefore, content analysis contributes to the greater understanding of humor and how and what individuals communicate through the use of humor. The current study's findings

contribute to an understanding of the context in which humor operates and points to future research into the effects of this humor.

Folkman and Moskowitz (2004) have been critical of the use of self-report methods in coping research, in part due to the "potentially burdensome length" (p.749), variations in the period of time since the stressor occurred for respondents', "unreliability of recall" (p. 749), and "confounding of items with their outcomes" (p. 749). Many of these issues can be resolved through using content analysis methods, as in the current study. Content analysis methods also provide qualitative information to help explain and make sense of quantitative findings. Through the study of cancer bloggers' posts, I was able to directly see how individuals were using humor while facing cancer and cancer-related stressors. A better understanding of how individuals use humor, instead of simply knowing *that* they use it, helps us move forward to better understand the outcomes of each of these styles of humor in the cancer context. Also, because the use of humor is often studied in relation to coping with cancer, but the differentiation of types of humor have not, this study provides support for adapting the Humor Styles Questionnaire (HSQ; Martin et al., 2003) to coding qualitative data. Each of the four humor styles was found in the various bloggers' posts, which provided evidence for these categories actually being applicable.

The complexities of cancer patients' humor use may be found within the study. The cancer bloggers' humorous remarks helped illustrate the four humor styles categories; each of these remarks contributed to a more descriptive definition of that style of humor. As far as I know, the study reported here is the first in which the HSQ has been

adapted to use with descriptive data. The current study provides examples of each style of humor use observed in existing online data. Future studies will be able to use this application of the HSQ to categorize other qualitative data and perhaps to further categorize humor use.

Martin et al. (2003) found positive and negative outcomes associated with using the various styles of humor. For example, affiliative humor was negatively associated with depression, anxiety, seriousness, and bad mood. Self-enhancing humor was negatively related to depression, anxiety and bad mood. Aggressive humor was positively related to hostility and aggression. Self-defeating humor was positively related to depression, anxiety, hostility, aggression, and bad mood. Therefore, the use of a humor style or the frequent use of a particular humor style may lead to negative psychological outcomes for the individual using the humor style. However, it is also possible that people's psychological states lead to certain uses of humor. For example, individuals experiencing depression may tend to use aggressive humor. Although a study may show that individuals who use aggressive humor are more depressed, perhaps the depression lead to the use of a negative humor style rather than the humor style leading to the negative psychological state. Due to the positive and negative psychological outcomes previously associated with the humor styles, future studies may use my adaptation of the HSQ to distinguish individuals' humor styles in qualitative data, such as interviews or observations, and then test individuals' psychological well being before and after their use of humor. This procedure would lead to a greater understanding of if and how the use of different styles of humor may be beneficial or detrimental to an individual's well

being. This greater understanding of how humor is used and its potential effects can advance humor theory and provide applications for those facing various stressors.

The common use of affiliative and self-defeating humor styles together among those coping with cancer is an interesting finding, particularly because affiliative humor has been related to experiencing positive outcomes and self-defeating humor has been related to experiencing negative outcomes (Cann et al., 2009; Martin et al., 2003). The widespread use of one positive style of humor as well as one negative style of humor calls for more research into how the use of these humor styles actually affect or reflect individuals differently as they use them throughout their cancer trajectory. This information is important because the use of aggressive and self-defeating humor may impact cancer patients' distress positively, which could exacerbate their conditions. If the impacts of using affiliative and self-enhancing humor lead to less distress or greater psychological well being, these styles could be important for clinical adaptation.

The relationships between humor styles and gender, age, point in the trajectory, and type of cancer were not found to be significant in this study, perhaps due to the wide range of types of cancer and ages of cancer patients. Perhaps if we pulled a larger sample of just breast cancer patients, or those whose cancer had similar mortality rates, more patterns in humor style and frequency may emerge. As Admiraal et al. (2013) found, individuals with prostate cancer had lower levels of distress compared to those with other types such as digestive, lung, liver, brain, or thyroid cancers. The researchers suggested that prostate cancer patients might feel lower levels of distress because they may receive information that the disease is not likely to kill them (Admiraal, 2013). Therefore, those

with prostate cancer may appraise the disease differently than someone with lung cancer, which has a much higher mortality rate (National Cancer Institute, 2014).

Chapter 9: Limitations

The current study analyzed the content of cancer blog posts for styles of humor used by those coping with cancer. Although another coder and I reached sufficient reliability in our coding of humor in cancer blogs, humor is complex and difficult to analyze. What is funny to one person may not be funny to another. Therefore, one coder may find one remark humorous while another does not. In addition, some individuals' jokes are private jokes with a few others who may be reading the blog. Because those private jokes were not clearly jokes to an outside audience, I did not include those jokes as use of humor. Therefore, the number of bloggers who used humor in their posts or the number of humorous posts in the total sample may actually be larger than what my results report.

The current study analyzed all perceived humorous remarks within a particular sample of blog posts. This method may be problematic because perhaps individuals used humor for other reasons than coping with cancer. Although many bloggers joked around regarding their cancer, cancer treatment, and related effects, some of the humorous remarks they made had nothing to do with cancer. For example, one blogger coping with multiple types of cancer (ovarian, endometrial, and peritoneal) talked about a non-cancer related event humorously:

> After talking to Jim, I decided to check on Alex at lunch where he greeted me with 'blue eye and blue face'. Lovely blue marker all over his hands and face! My first question was, 'it isn't a sharpie, right?'. It eventually came off with the help and advice of many moms with some great ideas. I am not sure about the pen blew up story from Alex. It is more like I was playing with my pen and then, it blew up. Now, tomorrow he will be a non blue faced ring bearer. You can check out my facebook to see his lovely too short rental tuxedo pants. Come on people,

> work with me! It seems that many people are in need of basic measuring skills. (Joanie, 2011b)

In the excerpt above, Joanie (2011b) talked humorously about her son having blue pen all over his face, his story about what happened, and the people who measured her son's pants incorrectly. Joanie demonstrated using humor while facing a stressor in this particular situation; however, the situation and people involved were not directly related to her cancer or cancer-related events. Although we know in the larger context that Joanie was going through treatment for multiple types of cancer, it is difficult to assume that in the situation above she is using humor not only to cope with that specific stressor but the larger stressor of cancer. In a future study, using only humorous quotes related to some aspect of the individual's cancer might lead to more significant results.

The use of the Humor Styles Questionnaire provided categories for various types of humor; however, the affiliative humor style is broad, including joking around with others, making witty remarks, and laughing with others. The breadth of affiliative humor may have led to humorous remarks being labeled as "affiliative humor" simply because it did not fit with the other, more specific categories. Further distinction of the affiliative humor category may help alleviate this potential overuse of the category.

The content analysis of humor styles was based on 600 blog posts from 85 cancer bloggers that were written within a 3-month period. This method of defining the sample allowed for 10 posts from some bloggers but one post from other bloggers. Although I made sure the data were not skewed by noting only the presence of the various types of humor in the bloggers' overall subsample, in a future study, I would sample the same

proportion of posts from each blog. The sample also consisted of primarily of white females who blog about their cancer, which is a unique group; these repetitive characteristics within the sample make the results difficult to generalize to a larger population.

It is also important to remember the nature of these blogs, and the unique circumstances that may lead these particular cancer patients – bloggers – to cope differently from a non-blogging population. For example, the expressive writing aspect of a blog may lead to more positive, adaptive coping, such as the use of humor, among cancer bloggers. Expressive writing is writing about emotional experiences and topics. Studies have shown that writing about emotional experiences and topics produce improvements in mood and well being, as well as reductions in distress (Pennebaker, 1997). Expressive writing has also been found to "reduce psychological distress associated with an impending stressful event" (Lepore, 1997, p. 1034). All individuals in the current study partake in some form of expressive writing about their cancer, so the results should not be affected by this factor. However, the commonality of expressive writing among this sample makes it difficult to generalize results to the larger population.

Overall, this study contributes to the stress and coping literature by identifying and categorizing cancer patients' humor use. This further distinction of cancer patients' humor provides information on the various styles of humor used by individuals facing different types of cancer, at different ages, and at different stages in the disease trajectory. Because there were no clear patterns of humor use except that many patients used humor,

future research should narrow the range of the sample and coding scheme to gain a greater understanding of humor in the context of cancer.

Appendix A

The COPE Scale (Carver, Scheier & Weintraub, 1989)

COPE

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel, when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress.

Then respond to each of the following items by blackening one number on your answer sheet for each, using the response choices listed just below. Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU--not what you think "most people" would say or do. Indicate what YOU usually do when YOU experience a stressful event.

1 = I usually don't do this at all

2 = I usually do this a little bit

3 = I usually do this a medium amount

4 = I usually do this a lot

1. I try to grow as a person as a result of the experience.
2. I turn to work or other substitute activities to take my mind off things.
3. I get upset and let my emotions out.
4. I try to get advice from someone about what to do.
5. I concentrate my efforts on doing something about it.
6. I say to myself "this isn't real."
7. I put my trust in God.
8. I laugh about the situation.

9. I admit to myself that I can't deal with it, and quit trying.
10. I restrain myself from doing anything too quickly.
11. I discuss my feelings with someone.
12. I use alcohol or drugs to make myself feel better.
13. I get used to the idea that it happened.
14. I talk to someone to find out more about the situation.
15. I keep myself from getting distracted by other thoughts or activities.
16. I daydream about things other than this.
17. I get upset, and am really aware of it.
18. I seek God's help.
19. I make a plan of action.
20. I make jokes about it.
21. I accept that this has happened and that it can't be changed.
22. I hold off doing anything about it until the situation permits.
23. I try to get emotional support from friends or relatives.
24. I just give up trying to reach my goal.
25. I take additional action to try to get rid of the problem.
26. I try to lose myself for a while by drinking alcohol or taking drugs.
27. I refuse to believe that it has happened.
28. I let my feelings out.
29. I try to see it in a different light, to make it seem more positive.
30. I talk to someone who could do something concrete about the problem.
31. I sleep more than usual.
32. I try to come up with a strategy about what to do.
33. I focus on dealing with this problem, and if necessary let other things slide a little.
34. I get sympathy and understanding from someone.
35. I drink alcohol or take drugs, in order to think about it less.
36. I kid around about it.
37. I give up the attempt to get what I want.

38. I look for something good in what is happening.

39. I think about how I might best handle the problem.

40. I pretend that it hasn't really happened.

41. I make sure not to make matters worse by acting too soon.

42. I try hard to prevent other things from interfering with my efforts at dealing with this.

43. I go to movies or watch TV, to think about it less.

44. I accept the reality of the fact that it happened.

45. I ask people who have had similar experiences what they did.

46. I feel a lot of emotional distress and I find myself expressing those feelings a lot.

47. I take direct action to get around the problem.

48. I try to find comfort in my religion.

49. I force myself to wait for the right time to do something.

50. I make fun of the situation.

51. I reduce the amount of effort I'm putting into solving the problem.

52. I talk to someone about how I feel.

53. I use alcohol or drugs to help me get through it.

54. I learn to live with it.

55. I put aside other activities in order to concentrate on this.

56. I think hard about what steps to take.

57. I act as though it hasn't even happened.

58. I do what has to be done, one step at a time.

59. I learn something from the experience.

60. I pray more than usual.

Scales (sum items listed, with no reversals of coding):

Positive reinterpretation and growth: 1, 29, 38, 59

Mental disengagement: 2, 16, 31, 43

Focus on and venting of emotions: 3, 17, 28, 46

Use of instrumental social support: 4, 14, 30, 45
Active coping: 5, 25, 47, 58
Denial: 6, 27, 40, 57
Religious coping: 7, 18, 48, 60
Humor: 8, 20, 36, 50
Behavioral disengagement: 9, 24, 37, 51
Restraint: 10, 22, 41, 49
Use of emotional social support: 11, 23, 34, 52
Substance use: 12, 26, 35, 53
Acceptance: 13, 21, 44, 54
Suppression of competing activities: 15, 33, 42, 55
Planning: 19, 32, 39, 56

I have had many questions about combining scales into "problem focused" and "emotion focused" aggregates, or into an "overall" coping index. I have never done that in my own use of the scales. There is no such thing as an "overall" score on this measure, and I recommend no particular way of generating a dominant coping style for a give person. Please do NOT write to me asking for instructions to for "adaptive" and "maladaptive" composites, because I do not have any such instructions. I generally look at each scale separately to see what its relation is to other variables. An alternative is to create second-order factors from among the scales (see the 1989 article) and using the factors as predictors. If you decide to do that, I recommend that you use your own data to determine the composition of the higher-order factors. Different samples exhibit different patterns of relations.

Appendix B
The Brief COPE Scale (Carver, 1997)

Brief COPE

These items deal with ways you've been coping with the stress in your life since you found out you were going to have to have this operation. There are many ways to try to deal with problems. These items ask what you've been doing to cope with this one. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I haven't been doing this at all

2 = I've been doing this a little bit

3 = I've been doing this a medium amount

4 = I've been doing this a lot

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real.".
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to help me get through it.
12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.

14. I've been trying to come up with a strategy about what to do.
15. I've been getting comfort and understanding from someone.
16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.
18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do.
24. I've been learning to live with it.
25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.
27. I've been praying or meditating.
28. I've been making fun of the situation.

Appendix C

Humor Styles Questionnaire (Martin et al., 2003)

The Humor Styles Questionnaire:
Using the following scale, indicate how true or not true the following statements are to you.

1 = Never or Very Rarely True 2 = Rarely True 3 = Sometimes True 4 = Often True
5 = Very Often or Always True

1. I usually don't laugh or joke around much with other people.
2. If I am feeling depressed, I can usually cheer myself up with humor.
3. If someone makes a mistake, I will often tease them about it.
4. I let people laugh at me or make fun at my expense more than I should.
5. I don't have to work very hard at making other people laugh—I seem to be a naturally humorous person.
6. Even when I'm by myself, I'm often amused by the absurdities of life.
7. People are never offended or hurt by my sense of humor.
8. I will often get carried away in putting myself down if it makes my family or friends laugh.
9. I rarely make other people laugh by telling funny stories about myself.
10. If I am feeling upset or unhappy I usually try to think of something funny about the situation to make myself feel better.
11. When telling jokes or saying funny things, I am usually not very concerned about how other people are taking it.
12. I often try to make people like or accept me more by saying something funny about my own weaknesses, blunders, or faults.
13. I laugh and joke a lot with my closest friends.
14. My humorous outlook on life keeps me from getting overly upset or depressed about things.
15. I do not like it when people use humor as a way of criticizing or putting someone down.
16. I don't often say funny things to put myself down.
17. I usually don't like to tell jokes or amuse people.
18. If I'm by myself and I'm feeling unhappy, I make an effort to think of something funny to cheer myself up.
19. Sometimes I think of something that is so funny that I can't stop myself from saying it, even if it is not appropriate for the situation.
20. I often go overboard in putting myself down when I am making jokes or trying to be funny.
21. I enjoy making people laugh.
22. If I am feeling sad or upset, I usually lose my sense of humor.

23. I never participate in laughing at others even if all my friends are doing it.
24. When I am with friends or family, I often seem to be the one that other people make fun of or joke about.
25. I don't often joke around with my friends.
26. It is my experience that thinking about some amusing aspect of a situation is often a very effective way of coping with problems.
27. If I don't like someone, I often use humor or teasing to put them down.
28. If I am having problems or feeling unhappy, I often cover it up by joking around, so that even my closest friends don't know how I really feel.
29. I usually can't think of witty things to say when I'm with other people.
30. I don't need to be with other people to feel amused – I can usually find things to laugh about even when I'm by myself.
31. Even if something is really funny to me, I will not laugh or joke about it if someone will be offended.
32. Letting others laugh at me is my way of keeping my friends and family in good spirits.

Appendix D
Codebook for Cancer Bloggers' Humor Styles

Gender: 0 = male; 1 = female

Age:
1 = 10-14
2 = 15-19
3 = 20-24
4 = 25-29
5 = 30-34
6 = 35-39
7 = 40-44
8 = 45-49
9 = 50-54
10 = 55-59
11 = 60-64
12 = 65-69
13 = 70-74
14 = 75-79
15 = 80-84
16 = unknown

Perceived Race:
1 = White
2 = Black
3 = Hispanic/ Latino origin
4 = American Indian or Alaska Native
5 = Chinese
6 = Japanese
7 = Korean
8 = Vietnamese
9 = Other Asian (Thai, Pakistani)
10 = Native Hawaiian
11 = Pacific Islander
12 = Not available

Type of Cancer:

0 = Bladder
1 = Breast
2 = Colon and Rectal
3 = Endometrial

4 = Lymphoma
5 = Kidney
6 = Leukemia (All Types, including acute myeloid leukemia (AML), acute lymphoblastic leukemia (ALL), chronic myeloid leukemia (CML), and chronic lymphocytic leukemia (CLL))
7 = Lung
8 = Melanoma
9 = Pancreatic
10= Prostate
11 = Thyroid
12 = Ovarian
13 = Vaginal
14 = Cervical
15 = Brain
16 = Liver
17 = Tonsil
18 = Head & Neck
19 = Myeloma
20 = Sarcoma
21 = Uterine
22 = Kidney
23 = Multiple types of cancer
24 = Not available

Point in the Cancer Trajectory:
0 = No Treatment
1 = Post-diagnosis/ pre-treatment
2 = In Treatment
3 = Post-treatment/remission
4 = Recurrence diagnosis pre-treatment

Style of Humor Use:
0 = affiliative humor
- Characterized by laughing and joking around a lot with others; being naturally humorous; engages in witty banter
- Talks about laughing and joking with others
- Talks about making others laugh
- Tells jokes
- Makes witty remarks
- From the Humor Styles Questionnaire:
    - "I usually don't laugh or joke around much with other people."← reverse coded
    - "I don't have to work very hard at making other people laugh."

- "I seem to be a naturally humorous person."
- "I rarely make other people laugh by telling funny stories about myself." ← reverse coded
- "I laugh and joke a lot with my closest friends." "I usually don't like to tell jokes or amuse people." ← reverse coded
- "I enjoy making people laugh."
- "I don't often joke around with my friends." ← reverse coded
- "I usually can't think of witty things to say when I'm with other people." ← reverse coded

- Examples of affiliative humor:
  - "Catherine and Mickey popped in for our bi-weekly dinner and a movie. Catherine cooks and we eat and watch a movie. Well we *intend* to watch a movie, but we always end up laughing and talking and ignore the movie." --justputonalittlelipstick.blogspot.com, July 24, 2008
  - "A couple of months ago, a friend came over for a visit, bringing her little dog along. With barely a glance at Molly, he marched right over and peed on the Cancer Box. My thoughts, exactly." – LACOOTINA, August 15, 2008

1 = self-enhancing humor

- characterized by cheering oneself up with humor, thinking about the humorous side of a situation to make oneself feel better, using humor helps the individual from getting depressed, don't need to be with others to feel amused – can find things to laugh about even when alone
- Items on the Humor Styles Questionnaire:
  - "If I am feeling depressed, I can usually cheer myself up with humor."
  - "Even when I'm by myself, I'm often amused by the absurdities of life."
  - "If I am feeling upset or unhappy, I usually try to think of something funny about the situation to make myself feel better."
  - "My humorous outlook on life keeps me from getting overly upset or depressed about things."
  - "If I'm by myself and I'm feeling unhappy, I make an effort to think of something funny to cheer myself up."
  - "If I am feeling sad or upset, I usually lose my sense of humor." ← reverse-coded
  - "It is my experience that thinking about some amusing aspect of a situation is often a very effective way of coping with problems."
  - "I don't need to be with other people to feel amused – I can usually find things to laugh about even when I'm by myself."
- Examples of self-enhancing humor:
  - "If you've wandered here from The Adventures of Cancer Girl, welcome. It's a lousy thing we have in common, but we are both using humor and

blogging to cope and I have to say, it seems to be working." LACOOTINA, August 23, 2008

- "What makes laughter the best medicine? In honor of April Fools' Day and National Humor Month, a look at the science behind laughter and uncover some sites that encourage this stress-relieving phenomenon. Don't miss the many laughy links." LACOOTINA, April 1, 2009
- "Gotta put on my big girl panties and deal with it! So I have them hiked up to my arm pits now and ready!" TheArtofCancer.com, February 6, 2008

2 = aggressive humor

- characterized by teasing others when they make mistakes, offending others with humor, being impulsive even with hurtful/offensive humorous remarks, laughing at others even if a joke is offensive
- Items on the Humor Styles Questionnaire:
  - "If someone makes a mistake, I will often tease them about it."
  - "People are never offended or hurt by my sense of humor." ← reverse coded
  - "When telling jokes or saying funny things, I am usually not very concerned about how other people are taking it."
  - "I do not like it when people use humor as a way of criticizing or putting someone down." ← reverse coded;
  - "Sometimes I think of something that is so funny that I can't stop myself from saying it, even if it is not appropriate for the situation."
  - "I never participate in laughing at others even if all my friends are doing it." ← reverse coded
  - "If I don't like someone, I often use humor or teasing to put them down."
  - "Even if something is really funny to me, I will not laugh or joke about it if someone will be offended." ← reverse coded
- Examples of aggressive humor:
  - "Also a bit amusing to me… my teens were IN the house, and completely unaware there were four police cars and two fire trucks in font of our house, when I got home. Nice to know they are so alert to what is going on." – n/a
  - "I really can't imagine *any* reason to justify why athletes would do this to themselves voluntarily. I mean, it's insane to basically *poison* yourself with toxic drugs that shrink your boy bits, and make you sound like a chipmunk on crack, and maybe cause brain cancer and who knows what else, for what? To run a little faster, jump a little higher? That's SO crazy, we ought to lock them up on grounds of mental instability. I wonder if the risk of having "nutjob" on their Permanent Record would be a deterrent. I guess if the life-threatening side effects or the threat of the loony

bin *doesn't* deter them, that *proves*they're nuts, right?" LACOOTINA.blogspot.com, July 7, 2008

- "Pre-authorization from DieSuckah Health Insurance has finally come through, and the countdown for the Stem Cell Transplant (SCT) begins!" – LACOOTINA.blogspot.com, August 29, 2008

3 = self-defeating humor

- characterized by letting people laugh or make fun at one's expense, getting carried away in putting oneself down to make others laugh, trying to make people like and accept oneself by saying something funny about one's own weaknesses, blunders, or faults, going overboard by putting oneself down when making jokes or trying to be funny, being the one that others make fun of or joke about, "If I am having problems or feeling unhappy, I often cover it up by joking around, so that even my closest friends don't know how I really feel," "Letting others laugh at me is my way of keeping my friends and family in good spirits"
- Items on the Humor Styles Questionnaire:
  - "I let people laugh at me or make fun at my expense more than I should."
  - "I will often get carried away in putting myself down if it makes my family or friends laugh."
  - "I often try to make people like or accept me more by saying something funny about my own weaknesses, blunders, or faults."
  - "I don't often say funny things to put myself down." ← Reverse coded
  - "I often go overboard in putting myself down when I am making jokes or trying to be funny."
  - "When I am with friends or family, I often seem to be the one that other people make fun of or joke about."
  - "If I am having problems or feeling unhappy, I often cover it up by joking around, so that even my closest friends don't know how I really feel."
  - "Letting others laugh at me is my way of keeping my friends and family in good spirits."
- EXAMPLES:
  - "Dear God, please convince the Demon HMO Trainer that a heart attack will be more costly than Lap Band. Please plant the seed of the idea that some sort of heart rate monitor would be wise. Help me have the courage to stope when I can't do any more push ups (like after 0) despite the humiliation. If possible, let there not be too many good looking fit people in the room watching my moments of humiliation." Stayinginthepink.blogspot.com, August 15, 2012
  - "I remember going to the door after returning home from the hospital when some early trick or treater, a young one, came to the door with her father before I was ready and had opened the plastic bags of Nestle Crunch bars and mini Mr. Goodbars. Who trick or treats when it's still

light out? I couldn't be bothered to put on my wig. Boy did they get a fright." Jenngriffinblog.blogspot.com, Oct. 31, 2011

- "Yeah, two years out and sometimes I feel like I want to jump off the pedestrian bridge that connects North Parking to the Pentagon (except I'd probably just injure myself so even that would seem like a waste." – Jenngriffinblog.blogspot.com, Oct. 13, 2011

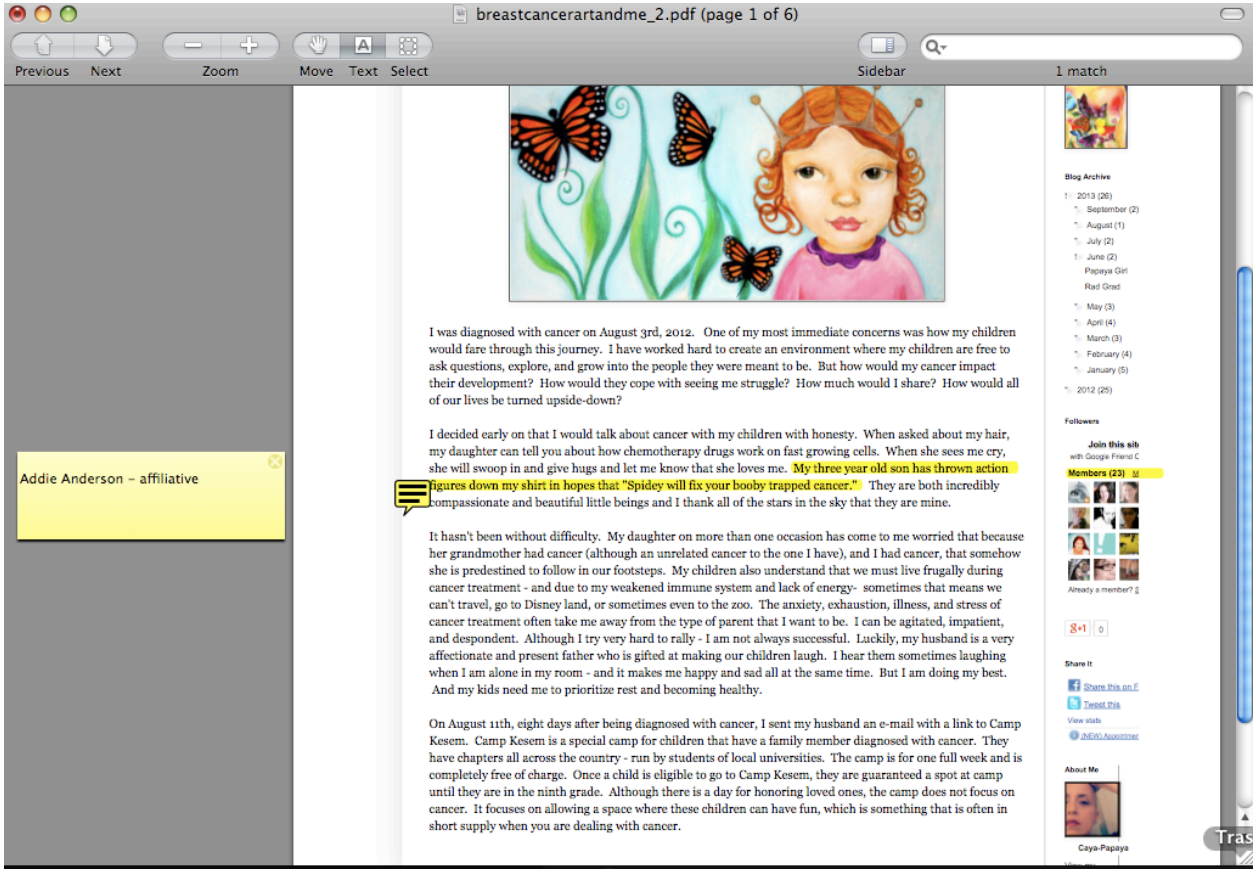
4 = no humor

Frequency of Humor Use:
Count the number of humorous remarks within the post. Humorous remarks are usually separated by a change in the topic or story

0 = Post includes no humorous remarks
1 = Post includes one humorous remark
2 = Post includes two humorous remarks
3 = Post includes three humorous remarks
4 = Post includes four humorous remarks
5 = Post includes five humorous remarks

Appendix E

Example of Coding a Post



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