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An Existential Punchline: How Humor Functions in a Young Adult Friendship Facing Advanced Cancer

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Young adults (i.e., age 18-39) only comprise 4% of the total cancer population, yet cancers in this group are commonly found at more advanced stages due to situational factors influencing delayed diagnosis including access to healthcare, quality health insurance and competing life demands that may hinder prioritization of healthcare. Young adults with cancer also face unique challenges including higher rates of psychological distress, which may contribute to increased risk of social disconnection in response to cancer. Research suggests that humor may be a helpful coping approach and communication mechanism for mitigating distress and discussing difficult topics. Grounded within the frameworks of Relational Cultural Theory and Communicated Narrative Sense Making Theory, this dissertation qualitatively explored how humor functions within a young adult friendship impacted by advanced cancer. The study sample included 12 friendship dyads, comprised of one young adult diagnosed with advanced cancer (e.g., Stage III or IV, recurrent, metastatic, or severe blood cancer) between the ages of 18 and 39 and a close friend of their choosing with no personal history of cancer. Participants completed a demographic questionnaire and engaged in a semi-structured dyadic interview exploring: 1) how humor promotes authenticity and mutuality in the friendship; 2) how humor may help prevent the relational paradox; 3) how humor functions in the meaning-making process about cancer and how humor may help young adults express this meaning to others; and 4) how humor use in this friendship context may differ from other supportive relationships. Results derived from Consensual Qualitative Research analysis revealed eight domains including Sociocultural Influence on Humor; Nature of the Bond; Maintaining Normalcy; Coping with Cancer-Related Distress; Navigating Conversations About Cancer; Resiliency Building; Evolution of the Relationship After Cancer; and Limits of Humor Use. Study findings contribute to the field of psycho-oncology by presenting an empirical description of how humor functions to help a young adult survivor cope with, navigate, and make meaning of an advanced cancer diagnosis within the context of a close friendship; dimensions which had not yet been adequately explored in the research literature.

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Chapter One: Introduction

Cancer is not generally considered to be a “funny” topic, yet emerging research raises the possibility that humor may be a valuable coping mechanism for enhancing social connection between cancer survivors and members of their support system by mitigating the potentially devastating impact of cancer on the physical and emotional well-being of survivors. This dissertation focused on individuals diagnosed with cancer in young adulthood (i.e., between the ages of 18 and 39) as this group consistently endorses higher rates of psychological distress in comparison to older adults with cancer (Park & Rosenstein, 2015). The ultimate aim of this work was to support the psychosocial well-being and improved quality of life for young adults with advanced cancer (e.g., Stage III, IV, metastatic, recurrent, or severe blood cancer such as AML, ALL, myeloma, stage III or IV Hodgkin’s or Non-Hodgkin’s lymphoma, multiple myeloma, or a myeloproliferative disorder) by addressing gaps in the literature regarding how humor is used (a) to cope with the impact of advanced cancer; (b) to help make meaning of cancer and express this meaning to others; and (c) to break through isolation within close friendships impacted by cancer, an oft-overlooked but important type of social support.

Of the estimated 1.7 million new cancer cases in the United States in 2018, nearly 80,000 diagnoses were made in young adults between the ages of 20 and 39 (ACS, 2020a; NCI, 2018b). Young adults are also more likely to present with advanced cancer due to a variety of situational factors contributing to delayed diagnosis such as access to healthcare and competing life demands (ACS, 2020c). Unfortunately, cancer survival rates for young adults have not demonstrated the same consistency in improvement over the years in comparison to pediatric or older adult cancers (ACS, 2020a). In sum, young adults face unique cancer-related challenges that may impact their experience of initial diagnosis, treatment, survivorship, and reintegration into “normal” life (Patterson et al., 2015). Regarding outcomes, research underscores a strong connection between high quality social support and better medical and psychological well-being (Huang et al., 2018). A connection has also been established between social support and “better coping skills, less denial, use of emotional and instrumental support, less behavioral disengagement, venting of emotions, positive reframing, planning for the future, and religious engagement” in the young adult cancer population (Huang et al., 2018, p. 2225). Given the unique needs of young adults with cancer, more research is needed to deepen our understanding about the specific impact of social support in this cohort, particularly young adult friendships.

Of importance for this dissertation, research increasingly supports humor as a cancer coping mechanism (Ferguson, 2016). Investigation is beginning to develop regarding humor-use in cancer survivors and how humor impacts the relational system involving the cancer patient and a close support person (Iannarino, 2014). Data suggests that humor may provide an opportunity to cultivate increased closeness and understanding with a survivor and their relational support system (Iannarino, 2018; Roaldsen et al., 2015). Although it is not yet understood how humor may play a role in the narrative-formation process (Melton, 2016; Roaldsen et al., 2015), there may be an adaptive benefit for cancer survivors who voluntarily engage in structured interventions that encourage them to develop their own cancer narratives to share with other people.

This qualitative dissertation sought to expand understanding of how humor helps young adult survivors with advanced diagnoses cope with cancer within the relational context of a close friendship. In younger people, social disconnection might be compounded due to cancer's disruption of life expectations, trajectories, and its potential for intensifying existential reckoning with the possibility of death given the severity of disease (Mascarin & Ferrari, 2018). These factors may provoke heightened anxiety or distress in survivors and their close friendships. This population also faces unique barriers to social connection due to the increased risk of significant late and long-term effects of cancer, financial toxicity, and death (Miller et al., 2020). These factors may contribute to heightened social disconnection even for those with historically strong support systems as they may struggle to disclose these perceived "unrelatable" challenges and attempt to avoid distressing their loved ones further by discussing these experiences.

To understand the lived experience of humor use within a young adult friendship impacted by advanced cancer, the principal investigator of this study conducted semi-structured dyadic interviews with 12 friendship pairs. Each dyad was comprised of one young adult with an advanced cancer diagnosis, and a close friend (age 18 or older) of their choosing with no personal history of cancer. Among the survivor group at the time of study interview, participant ages ranged from 22 to 41, however notably, all survivor participants had received an advanced cancer diagnosis between the ages of 18 and 39.

To ensure the research sample was comprised of individuals for whom humor was a salient coping device, the first phase of recruitment utilized purposive sampling to target individuals who had completed the "Coping Through Comedy" program created and founded by Charity Sadé at the Smith Center for Healing and the Arts (i.e., a workshop that helped survivors develop brief cancer-related comedic stories or stand-up comedy sets to eventually perform to an audience). The second phase of recruitment utilized purposive and partial snowball sampling approaches to recruit cancer survivor participants via various cancer survivorship organizations, including organizations specifically serving young adult cancer survivors (e.g., Stupid Cancer, Cactus Cancer Society, Cancer Support Community, First Descents, Young Survival Coalition). The primary researcher also contacted individual oncology providers to inquire about their willingness to disseminate recruitment materials to potential participants. Elements from Participatory Action Research were utilized to develop the initial research questions and interview questions in collaboration with Charity Sadé and Erin Price, LICSW, Young Adult and Psychosocial Support Programs Director at the Smith Center for Healing and the Arts. The qualitative data collected from 12 dyadic interviews was analyzed with a coding team using Consensual Qualitative Research (CQR) method guided by the principal investigator to ensure integration of multiple perspectives, context, and incorporation of dyadic processes evident within interview data.

This study sought to contribute meaningfully to the literature surrounding the impact of cancer on a young adult's relational system by focusing on the function of humor as a coping mechanism that may help facilitate discussion about previously taboo or distressing topics related to the challenges of cancer. The study examined humor as it related to the meaning making processes of young adults with advanced cancer diagnoses, which had yet to be specifically studied in the research literature. Ultimately, the study sought to address the gap of knowledge surrounding humor use in young adults with advanced or incurable cancers.

The first section of the literature review section will provide a comprehensive overview of cancer epidemiology and presentation in the young adult population. The second section will outline the unique cancer-related challenges facing young adults with cancer with regard to mental health and meaning making following a cancer diagnosis. This section will also explore what is known about the role of close friendships within a young adult cancer survivor's social support network. The third section of the literature review will discuss the existing research related to humor and cancer and what is known about the function of humor within close, supportive relationships. The fourth and fifth sections will describe Relational Cultural Theory and Communicated Narrative Sense-Making Theory, respectively, in connection with cancer, as these are the two primary theoretical frameworks grounding the study. The final section of the literature review with provide a concise summary of dyadic research and interviewing processes. Throughout this literature review, gaps in the literature will be highlighted.

Cancer in Young Adults

The following section will provide a basic overview of cancer as well as information about prevalence, diagnosis, survival, and treatment in young adults with cancer as this is the specific population of interest in the study. Overall, cancer survivorship trajectories and needs of young adults with cancer are notably different in comparison to older adults with cancer in part due to the potential longevity of their survivorship period and the increased risk of developing subsequent cancers in comparison to the general population (Miller et al., 2020). Miller and colleagues (2020) also indicated that despite some improvement in mortality rates for hematologic malignancies in the young adult population, very little improvement has occurred in mortality rates for other cancers such as colorectal cancer, bone and soft-tissue sarcomas, and cervical cancer, particularly for older young adults (i.e., ages 30-39). While most American cancer patients are over the age of 65 and are thus engaging in survivorship care for 10 to 20 years depending on length of lifespan, young adults with cancer might engage in survivorship care for 30, 40, or even 50 years (Willingham, 2019). The following section will detail the unique medical and psychosocial challenges facing young adult cancer survivors that contributed to the decision to focus on this demographic.

Cancer Overview

According to the World Health Organization (WHO) and the National Cancer Institute (NCI), cancer is a broad term encompassing a significant number of diseases characterized by abnormal cell growth that can result in uncontrollable cell division and invasion of organs and bodily tissues (NCI, 2018a; WHO, 2018). Cancer is the second-leading cause of death worldwide, and it is estimated that at some point in their lifetimes, approximately 39.5% of people in the United States will be diagnosed with cancer (NCI, 2018b; WHO, 2018). The most common cancers include lung, breast, colorectal, prostate, non-melanoma skin cancer, and stomach cancer (WHO, 2018). In the United States, the NCI estimated that more than 1.7 million new cases of cancer would be diagnosed in 2019 and that 609,640 people would die that year from cancer (NCI, 2018a). Despite these stark numbers, the overall cancer death rate from 1991 to 2015 in the United States fell by 26% likely due to a combination of factors including improvements in early detection and treatment efficacy (NCI, 2018a). As of 2019, there were an estimated 16.9 million cancer survivors living in the United States and it is expected that this number will grow to more than 22.1 million by 2030 (Simon, 2019).

Cancer mutations are either hereditary or acquired and a cancer diagnosis is thought to be influenced by a complex interaction of a person's genetic predisposition to disease as well as exposure to external agents such as physical carcinogens (e.g., ultraviolet and ionizing radiation), chemical carcinogens (e.g., asbestos, arsenic, components of tobacco smoke), and biological carcinogens (e.g., infections resulting from viruses, bacteria, or parasites) (NCCN, 2019; WHO, 2018). It is also noteworthy that risk of developing cancer increases as a person ages, likely because of exposure to accumulative risk factors as well as the tendency for cellular repair mechanisms to become less effective in older age (WHO, 2018).

Prevalence in Young Adults

While there is no universally accepted age definition for young adults diagnosed with cancer, researchers typically define the adolescent and young adult (AYA) group as individuals between the ages of 15 to 39 at the time of initial cancer diagnosis and numerous research studies pinpoint the young adult (YA) group between the ages of 18 and 39 (Coccia, 2020). The American Cancer Society (2020a) states that roughly 4% of the cancer survivor population is comprised of people between the ages of 20 to 39 and that around 80,000 young adults are diagnosed with cancer each year in the United States. According to an NCI report, cancer is diagnosed 2.7 times more frequently in people between the ages of 15 and 30 years of age in comparison to children and adolescents below the age of 15 (Bleyer et al., 2006). Furthermore, many cancers diagnosed before age 30 are considered "sporadic and random" and unrelated to either carcinogens in the environment or hereditary factors (Bleyer et al., 2006, p. 2). Notably, people older than age 65 account for about 60% of the cancer survivor population, however incidence rates of certain cancers, such as colorectal cancer, have been increasing by roughly 1.8% annually in adults younger than age 55 even while incidence rates for colorectal cancer are declining by 3.7% annually in adult populations over the age of 55 (Cancer.Net, 2019; ACS, 2019a, p. 13). While significant increases in survival rates have been seen in recent years in both pediatric and older adult cancer cohorts, little improvement has been seen in survival rates for young adults since 1975 (AYAOPRG, 2006).

The incidence of cancer in the 15 to 39-year-old age group is highest for non-Hispanic whites and lowest in Asian/Pacific Islanders in both sexes (Miller et al., 2020). In adolescent and young adult women, overall incidence rates of cancer increased between 2007 and 2016 for all race and ethnicity groups except American Indian/Alaska Native populations which remained stable (Miller et al., 2020). In the same age group of men, incidence rates remained stable between 2007 and 2016 across all race and ethnicity groups except for Asian/Pacific Islander and Hispanic men, for whom rates increased respectively by 1.5% and 0.8% annually (Miller et al., 2020). Despite higher incidence rates in non-Hispanic whites, this group tends to have better outcomes in comparison to higher mortality rates found in African Americans/Black Americans (Bleyer et al., 2006). Social determinants of health, such as socioeconomic status and poverty, likely contribute to cancer health disparities and marginalized groups are often disproportionately affected by these variables (NCI, 2019b).

In congruence with existing research that demonstrates a correlation between poverty and cancer, Boscoe et al. (2016) reported significantly worse cancer stage distributions in high poverty areas in comparison to wealthier areas in a sample of 2.90 million cancers. Potential variables influencing these outcomes may include limited access to health insurance, inadequate health insurance, and barriers to obtaining primary care treatment and preventative screenings. Research also suggests that other health behaviors may potentially influence health disparities including smoking, physical inactivity, obesity, alcohol use, environmental variables (e.g., air quality), and cultural attitudes toward the health care system, cancer, or specific medical procedures (NCI, 2019b). Notably, maladaptive coping behaviors such as smoking and alcohol use have been associated with minority stress (e.g., experiences of stigma, prejudice, discrimination, and internalization of societal stigma), which is further associated with increased physical health problems, including cancer, in marginalized individuals (Flentje et al., 2020).

Diagnosis in Young Adults

As the exact age range of young adult diagnoses is not always consistent across studies on young adult cancer survivors, there is slight variability in the data regarding disease prevalence and incidence rates. The most diagnosed cancers in young adults between the ages of 20-39 are breast cancer, lymphomas (e.g., non-Hodgkin and Hodgkin), melanoma, sarcomas (e.g., cancers of connective tissues like muscles and bones), cancers of the female genital tract (e.g., cervix and ovary), thyroid, testes, colorectum, and brain and spinal cord tumors (ACS Medical and Editorial Content Team, 2019a). In patients between 15 to 24 years of age, the most diagnosed cancers are leukemia, lymphoma, testicular cancer, and thyroid cancer (NCI, 2018b). In young adults between the ages of 25 to 39, the two most diagnosed cancers are breast cancer and melanoma (NCI, 2018b). In fact, for women between 30 and 39 years of age, who are most frequently diagnosed with breast cancer, an estimated 11,100 new cases were expected to be diagnosed in 2020 in the American population (Miller et al., 2020).

Cancer diagnoses within the young adult population often occur when cancer is in a more advanced stage for various reasons including that many people in this demographic a) tend to be physically healthy and might only schedule or attend doctor's appointments once prodromal symptoms are more severe; b) lack an established relationship with a primary care doctor given the transitional nature of young adulthood and/or priorities of other life responsibilities; c) struggle with financial constraints such as lack of health insurance and/or unemployment or low paying occupations that inhibit access to costly medical care, and high deductibles and/or copays; and d) experience delays in the cancer diagnosis process related to a lengthier rule-out process for other illnesses besides cancer that are more likely to occur in this group or a lack of cancer screening tests and processes for this demographic given it is a generally low-risk group for developing cancer (ACS, 2020b). Additionally, young adults might possess an outlook of invincibility themselves, which may lead them to avoid scheduling medical appointments (Miedema et al., 2006). Peer pressure may even play a role in enabling a health-related sense of invulnerability and embarrassment in the young adult population that deters the seeking of medical care (Bath, 2012). In summary, the intersection of life stage variables, complications for earlier diagnosis due to low suspicion of cancer and unclear diagnostic guidelines, and financial constraints occurring via additional steps to secure insurance coverage for specific tests illustrates the complexities facing young adults who are navigating the cancer diagnosis process with their medical provider (Bath, 2012; CDC, 2018).

Cancer health disparities also exist within the young adult cancer survivor population. Young adults in their late 20s and 30s are less likely to be insured in comparison to even younger people in their late teens and early 20s, which may further compound health vulnerabilities (Rosenberg et al., 2015). Lack of quality health insurance or nonexistent insurance are also strongly correlated with increased rates of advanced-stage disease and mortality in young adults, suggesting that broader insurance coverage may be a critical factor in reducing cancer-related health disparities in the young adult population (Rosenberg et al., 2015). Unfortunately, lack of health insurance disproportionately impacts African American and people of Hispanic origin in the United

States who are at consistently higher risk of uninsured status in comparison to their white, non-Hispanic peers across all age groups (Sohn, 2017). This is merely one example of the ways in which racial and ethnic disparities exist in context of cancer in the young adult population, yet this highlights the interdimensional nature of these issues.

Survival in Young Adults

According to the American Cancer Society (2020a), survival rates vary based on cancer type but overall, survival rates have not improved significantly in young adult populations in comparison to the notable improvements in survival rates in pediatric and older adult patients. In the overall young adult population (i.e., ages 18 – 39), cancer is the fourth leading cause of death behind accidents, suicide, and homicide (ACS, 2020a). However, it is the leading cause of disease-related death in young women and the second leading cause of disease-related death in young men following heart disease (ACS, 2020a). While young men and women are equally likely to die from cancer, young women are more frequently diagnosed with cancer than young men, which might reflect women being more likely to attend routine doctor's appointments (e.g., obstetrics and gynecology) that may lead to higher rates of diagnosis (ACS, 2020a, 2020b). Survival rates in the 15 to 29-year-old age bracket are lowest for African Americans/Black Americans, American Indians, and Alaska Natives in comparison to other races and ethnicities (Bleyer & Barr, 2006). For instance, breast cancer mortality rates for non-Hispanic Black women in their 30s are almost two-times the rate for non-Hispanic White women (Miller et al., 2020). Miller and colleagues (2020) report that this disparity is driven by a multitude of factors not only including access to quality treatment and health insurance, but also by difference in tumor characteristics (e.g., estrogen receptor status for female breast cancer). As the Black-White disparity in breast cancer mortality reportedly declines with age, differences in access to quality healthcare and insurance access may diminish with age (Miller et al., 2020).

Advanced and Late-Stage Cancer

After a young adult has been diagnosed with cancer, staging is performed to help assess their prognosis and treatment. Of importance to the scope of this dissertation, cancer in young adults is often diagnosed in a more advanced stage of the disease (ACS, 2020c). While the use of the term *advanced cancer* varies among health providers, it is generally used to describe cancers "unlikely to be cured or controlled with treatment" (NCI, 2020). The American Cancer Society (ACS) specifies that advanced cancers can be classified as metastatic (i.e., spread beyond the primary cancer site to a different, distant part of the body) or locally advanced (i.e., spread beyond the primary cancer site but not yet to distant parts of the body) (ACS, 2016). Yet, these terms may not fit for all advanced cancer descriptions as some cancers are considered advanced even if they have not yet spread to other parts of the body based on their severity (e.g., a large brain tumor that is close to an important blood vessel), and some cancers, such as testicular cancer, might still be curable despite having metastasized to other parts of the body (ACS, 2016). Notably, some hematological cancers can be generalized, or widespread, and will still have a high likelihood of cure (e.g., large cell lymphoma, Hodgkin's lymphoma) (Engert et al., 2010).

A study by Kim et al. (2016) recommended the importance of distinguishing between advanced cancer and terminal cancer due to meaningful differences in treatment goals. More specifically, advanced cancer might be generally considered incurable, however, cancer may still respond to treatments that can help prolong life expectancy, slow cancer growth, shrink cancer, and help relieve symptoms while the lives of people diagnosed with terminal cancers are generally not prolonged by treatment (ACS, 2016; Kim et al., 2016). Moreover, some cancers might already be considered advanced at the time of diagnosis while others may become advanced many years after initial diagnosis (ACS, 2016).

Cancer Staging. Oncologists and other health providers utilize cancer staging models to classify the severity of a patient's cancer and identify treatment plans and/or clinical trials (NCI, 2015). Though several staging systems exist, most incorporate information surrounding the tumor's location in the body, cell type, tumor size, whether or not the cancer has spread to adjacent lymph nodes or different parts of the body, and tumor grade (i.e., how 'abnormal' the cancer cells appear and how likely it is for the cancer to metastasize) (NCI, 2015).

The TNM Staging System, created by the American Joint Committee on Cancer, is the most frequently used system and structures its approach by identifying the size and extent of the main tumor (T); the number of nearby lymph nodes that have cancer (N); and whether the tumor has metastasized (M) (NCCN, 2019; NCI, 2015). The cancer is then rated numerically in each of these categories depending on severity, resulting in a highly descriptive combination. Oncologists and healthcare providers often refer to a patient's stage as Stage 0, I, II, III, and IV, respectively, which is essentially a simplification contingent on a patient's TNM staging (NCI, 2015). Stage 0 is described as "Abnormal cells are present but have not spread to nearby tissue. Also called carcinoma in situ, or CIS. CIS is not cancer, but it may become cancer"; Stages 1, 2, and 3 are broadly described as "Cancer is present. The higher the number, the larger the cancer tumor and the more it has spread into nearby tissues"; and Stage IV is described as "The cancer has spread to distant parts of the body" (NCI, 2015, "Other Ways to Describe Stage"). Notably, not all cancers utilize the TNM staging model. Unique staging models exist for specific types of blood or bone marrow cancers such as lymphoma, leukemia, and myeloma because often the cancer has already spread throughout the body by the time they are diagnosed (ACS, 2020c).

Remission, Recurrence and Progression. After their first line of treatment, patients may achieve a full or a partial remission but sometimes disease progresses during treatment. *Remission* can be partial or complete and refers to a period in which signs and symptoms of cancer either diminish or disappear (NCCN, 2019). *Recurrence*, also referred to as relapse, is a term indicating that cancer has reappeared after a period of remission (NCCN, 2019). *Progression* is a term that indicates that cancer has spread or become more severe without a period of remission in between (NCCN, 2019). If one of these classifications becomes relevant for a cancer patient, the new classification is typically added to the original diagnostic stage (ACS, 2020c; NCI, 2015).

Treatment

Cancer treatment decisions for young adults are typically made in close collaboration with the treating oncologist and the treatment team. A course of treatment might involve surgery, chemotherapy, radiation therapy, stem cell transplant, immunotherapy, hormone therapy, targeted drug therapy, cryoablation, radiofrequency ablation, clinical trials, or a unique combination of various treatment approaches (Mayo Clinic, 2020). Moreover, younger adults face unique challenges associated with certain treatments depending on the type of cancer they are diagnosed with, the types and doses of treatments received, and their age when receiving treatment (ACS, 2019b). In some young adults, certain organs, and body systems, such as the brain, might not yet be fully developed, which can make them more sensitive to chemotherapy and radiation therapies (ACS, 2019b).

Some cancer types may require *neoadjuvant treatment* (i.e.., chemotherapy, radiation, or hormone treatment given prior to surgery to help shrink a tumor) or *induction therapy* (i.e., often used in conjunction with other treatments to reduce the amount of cancer in the body or to prepare the patient for a stem cell transplant) (NCCN, 2019). Other cancers may require *adjuvant therapy* (i.e., additional treatment administered with the objective of getting “rid of any remaining cancer cells and [preventing] a possible recurrence of the cancer”, particularly when the clinical presentation suggests a high enough risk of unknown metastases) (NCCN, 2019, p. 33). Moreover, the patient might experience cancer recurrence following treatment or the cancer may not respond to the primary course of treatment (NCCN, 2019). In this situation, *second-line therapy* is attempted (i.e., typically an additionally round of first-line therapy or surgery, radiation therapy, immunotherapy, targeted therapy, chemotherapy, or a combination of these options) (NCCN, 2019). Unfortunately, in contrast to individuals diagnosed with early-stage cancer who may go on to experience treatment-free survival, many individuals living with stage III or IV cancer experience interminable treatment (Sumpio et al., 2017).

Lastly, while not exactly considered to be cancer treatment, *supportive care* (i.e., palliative care) is an approach centered around the reduction of suffering and improvement of quality of life by helping the patient to better manage symptoms caused by cancer (NCCN, 2019). Supportive care might include pain relief, financial aid, emotional or spiritual support, or family counseling (NCCN, 2019). The National Comprehensive Cancer Network (2019) also recommends that supportive care be provided to all adolescents and young adults living with cancer through every stage of the cancer treatment process.

End of Life Care. Depending on the curability and survival rates for a specific cancer, a young adult patient may be informed by their provider about their potential need for end-of-life care (NCCN, 2019). The process of advanced care directives and planning helps patients think directly about their own death and can include steps such as establishing legal procedures such as an advance directive to plan for end-of-life care or coordination of hospice care options (NCCN, 2019). The varied presentations and complications of cancer and its treatment experienced can be compounded by certain characteristics of a person's specific developmental life stage and responsibilities. The next section will explore the impact of these unique challenges on young adult cancer survivors including difficulties faced during the diagnostic, treatment, and post-treatment phases; impact on mental health; impact on close friendships and relational coping.

Unique Challenges Impacting Young Adults with Cancer

Young adults with cancer encounter complex challenges that often differ significantly from the experience of older adults. Cancer can markedly impact ongoing developmental stages in personal, familial, and career life dimensions. In an interview with the *American Society of Clinical Oncology,* Samantha Watson described her experience being diagnosed with Ewing's sarcoma at 21 years old,

> From an age and life-stage perspective, having a cancer diagnosis at 21 and then again at 23 was challenging because I didn't have a lot in reserve professionally or financially and wasn't sure how to move forward… My peers had already launched their careers, and I had no idea how to go on a job interview (Cavallo, 2018, para. 3).

Additionally, Shilling and colleagues (2017) suggest that differences in capacity to follow through on various life responsibilities may impact survivors differently depending on age. For example, while older adults may experience a sense of loss if they are forced into planning retirement or missing out on plans like travel; younger adults may experience anxiety and distress when facing essential life demands such as returning to work to provide financially for their families (Shilling et al., 2017). In other words, older adults who have had the opportunity to live most of life unconstrained by illness may perceive cancer as less disruptive to their worldview in comparison to younger adults who likely experience a higher volume of unmet life goals and expectations. (2017).

Several commonly referenced challenges faced by young adults with cancer are outlined in more detail below.

Common Challenges

Late and Long-Term Cancer Effects. Cancer might place a young adult at increased risk of developing long-term or late effects from cancer or their respective treatments (ACS, 2019b). *Late effects* simply refer to side effects of cancer that present long after initial diagnosis while *long-term effects* refer to symptoms that present close to initial diagnosis and last for a significant amount of time, possibly never fully remitting (ACS, 2019b). Examples include compromised or complete infertility, problems with their heart, lungs, kidneys, bones or other organs, hearing or vision problems, pain or swelling, hormone deficiencies, and even increased risk of developing another cancer when they are older (ACS, 2019b).

Specifically, young adult cancer patients often consider potential consequences related to fertility despite their individual readiness for this particular life stage as a result of their cancer diagnosis and treatment (NCCN, 2019, p. 23). The reproductive system can be harmed by cancer treatment, though effects are influenced by the type of treatment, the intensity and combination of drugs, and the treatment area (e.g., targeted radiation to the pelvic area; surgery to remove reproductive organs or tissues in the surrounding area) (NCCN, 2019, p. 23). Despite improvements to fertility preservation, risk of infertility remains particularly after receiving chemotherapy with alkylating agents (NCCM, 2019, p. 24). These outcomes might create more emotional distress in certain patients, and research has indicated that young women are at higher risk for fertility-related distress than young men (Benedict et al., 2016).

Clinical Presentation and Treatment Challenges. According to Bleyer and Barr (2006), receiving a cancer diagnosis between the ages of 15 and 29 results in the overlap between pediatric and young adult oncology, which presents challenges, including unique cancer presentations that require an age-based or developmental-based approach to treatment (Bath, 2012). Furthermore, data suggests that access to clinical trials is limited for adolescents and young adults, a point of historical inequity that is related to greater research effort having been devoted to pediatric and older adult cancer research (Fidler et al, 2017). Research also suggests that younger adults may continue to experience inferior treatment outcomes for various reasons including unique genetic and biological factors, lack of routine cancer screening in this age group (e.g., breast and colorectal cancers), lack of standardized therapeutic approaches, and increased risk of poor treatment compliance (Coccia, 2020).

Financial Toxicity. Young adulthood is a developmental period frequently marked by securing gainful employment, early career development and embarking on post-secondary or graduate-level education. There is accumulating evidence that indicates that younger age at the time of initial cancer diagnoses presents an increased risk of *financial toxicity*, or problems related to the cost of cancer treatment (NCI, 2019a). According to the Family Reach Foundation, young adult cancer patients are two to five times more likely to declare bankruptcy in comparison to patients over the age of 65 (Fontinelle, 2020). Financial hardships related to cancer are further complicated by lack of savings and assets, other financial responsibilities (e.g., raising children), increased debt load (e.g., student loans, home ownership debt, and business ownership debt), lack of health insurance and costly, high-deductible health insurance (NCI, 2019a; Fontinelle, 2020). Additionally, young adults might be impacted by loss of employer-provided health insurance, income, and other employment-related benefits (Fontinelle, 2020).

Further, evidence suggests that cancer survivors between the ages of 26 and 39 experience greater financial toxicity in comparison to people between the ages of 15-25 years due to increased financial responsibilities (e.g., housing, insurance, paying back student loans, establishing and providing for families, utilities/bills, “oncofertility” costs, etc.), and fewer financial contributions received from their own parents, as well as gaps in insurance coverage (i.e., those over the age of 26 are ineligible to remain on their parental insurance plans, and can face barriers accessing subsidized insurance through Health Insurance Exchanges (Kaddas et al., 2020). These financial hardships are highly consequential and there is research that highlights an association between significant financial toxicity and poor treatment adherence, which can impact eligibly for clinical trials (Kaddas et al., 2020). Additional research by de Souza et al. (2017) has identified perceived social isolation as a significant contributing factor to compounded financial toxicity by means of behaviors such as increased nonadherence to supportive medications, missed appointments, and use of cost-coping strategies (e.g., using personal savings, borrowing money or taking out credit card loans, selling possessions or property, or having family members increase work hours to earn extra income to pay for cancer-associated costs). Thus, it is possible that social connection may be protective against aggravated financial stress for certain individuals living with cancer.

Cancer and Mental Health

Cancer can be a deeply challenging experience to endure on a mental or emotional level and psychological problems are frequently reported. Distress is likely to impact every person living with cancer at some point in time and may be triggered by specific conditions such as testing appointments (e.g., biopsies, blood work), waiting for treatment to start, or transitions in care (NCCN, 2020). The universal experience of distress among all individuals with cancer likely provides a basic understanding of why between 16% and 42% of all cancer survivors struggle with adjustment disorder with either depression or anxiety symptoms and 20% of cancer patients struggle with a depressive disorder or dysthymia (Park & Rosenstein, 2015).

Approximately one-third of cancer patients report a mood disorder at some point after diagnosis, with the first year after diagnosis posing the greatest risk (Burgess et al., 2005) and between 10-20% of cancer patients continuing to report depression and anxiety after the initial stress of the diagnosis or recurrence has remitted (Lloyd-Williams, 2006). In fact, 19.1% of cancer survivors report taking medications to treat anxiety, depression or comorbid anxiety and depression in comparison to adults with no history of cancer; a figure which is nearly double the rate of the general noncancer public (Hawkins et al., 2017). The mental health toll of cancer is significant, and according to the 2006 Macmillan Cancer Support 'Worried Sick' study conducted in the United Kingdom, more than 45% of cancer patients report that the emotional side effects of cancer were more challenging to cope with than the physical or practical effects (Cardy et al., 2006). This evidence contributes to the growing argument in support of fully integrating mental health treatment into oncological care in order to effectively treat distress at all stages of disease (Penedo & Cella, 2017). By and large, efficacious clinical interventions with the aim of helping cancer survivors cope with or manage the emotional impact of cancer are indicated and warranted as a valuable component of survivorship care.

In young adults with cancer, research has illuminated a wide range of positive and negative outcomes regarding mental health and psychological well-being (Hauken, Grue, & Dyregrov, 2019). Concerning more negative outcomes, rates of psychological distress and psychiatric diagnoses are consistently higher in the young adult cancer survivor population than in older adult cancer cohorts (Park & Rosenstein, 2015). Research has also indicated that AYA cancer survivors report "poorer mental health" twice as frequently as their peers without cancer and have an elevated risk of developing mood disorders, such as depression, in comparison to cancer-free controls (De et al., 2020; Tai et al., 2012). A systemic review and meta-analysis authored by De et al. (2020) identified younger adults of (a) older age at diagnosis and (b) female gender as risk factors that place AYAs with cancer at even higher likelihood of developing anxiety and mood disorders. Women between the ages of 20 to 34 years were 1.6 times more likely to be diagnosed with anxiety disorders (HR 1.6, 95% CI 1.2-2.1, $p<0.05$) and 1.83 times more likely to be diagnosed with mood disorders (OR 1.83, 95% CI 1.41-2.38, $p<0.001$) in comparison to the general population of women in this age group (De et al., 2020). Moreover, data shows a positive correlation between financial toxicity and depression/anxiety severity, a combination that underscores the intensified external factors commonly facing young adult cancer survivors that can exacerbate psychological distress (Thom & Benedict, 2019).

Findings from another study indicated that older adult cancer patients experience reduced negative psychosocial impact than younger adult cancer patients regardless of cancer staging (Mor et al., 1994). A study published in the *Journal of Clinical Oncology* (2004) reported that young women aged 40 or younger with invasive breast cancer experienced “greater absolute and relative functional losses in physical role function, bodily pain, social function, and mental health, compared with middle-aged or elderly women with incident breast cancer” (Kroenke et al, 2004, p. 1853). Additionally, younger patients tend to endorse more cancer-related pain than older patients throughout all phases of cancer including active treatment, survivorship, and advanced or incurable disease, which is notable because pain is often associated with depression (Park & Rosenstein, 2015). Irrespective of cancer type, younger patients endorse more concerns regarding body image, sexuality, fertility, cognitive dysfunction as well as worsened quality of life and increased subjective distress (Park & Rosenstein, 2015).

Notably, it may be difficult for providers to obtain an accurate estimate of depressive disorders in this population given the diagnostic challenges faced by young adult cancer survivors who tend to report a higher symptom burden (e.g., fatigue, nausea, vomiting) in comparison with older adults with the same cancer type (Park & Rosenstein, 2015). For example, physical symptoms such as fatigue, anorexia, and sleep disruption often co-occur with cancer and treatment, meaning it may be difficult to parse out exactly which symptoms are cancer-related side effects or attributable to a singular depressive disorder (Park & Rosenstein, 2015, p. 173). It is important to note that certain somatic symptoms of depression and anxiety (e.g., fatigue, sleep problems, restlessness) might also be normalized and incorrectly attributed solely to cancer, which further underscores the necessity of proper psychiatric screening measures as well as effective treatment and support (Niedzwiedz et al., 2019, p. 5).

To deepen understanding of both negative and positive experiences of young adult cancer survivors five years out from cancer treatment, a qualitative study by Hauken, Grue and Dyregrov (2019). They found that participants endorsed a belief that "the cancer still hampers me," characterized by physical functioning, intrusion of thoughts and feelings, and negative impact on relationships (p. 577). Regarding more positive outcomes, participants endorsed a belief that "I have acknowledged what's important in life," which included the following components: changed perspective, personal growth, and significance of close relationships (p. 577). Based on these findings, the authors recommended increased attention be paid to helping young adults with cancer increase their social support and prioritize close relationships throughout their cancer trajectory (Hauken et al., 2019). This point echoes research evidence that highlights a strong relationship between social support and mental health (Harandi et al., 2017).

Research also suggests that coping style interfaces with mental health in a meaningful way for cancer survivors. Coping styles can be categorized broadly as either adaptive (e.g., fighting spirit) or maladaptive (e.g., anxious-preoccupied, helplessness/hopelessness) (Cheng et al., 2019). In this vein, Cheng et al. (2019) found an adaptive cancer-coping profile (i.e., characterized by low hopelessness/helplessness scores, low anxious avoidance scores, high fighting spirit scores, low cognitive avoidance scores, and high fatalism scores on the Mini-Mental Adjustment to Cancer scale) to be predictive of lower cancer distress, anxiety, depression, and a higher quality of life up to seven years post-initial diagnosis. Another study explored the connection between optimism, self-efficacy, symptom distress, treatment complexity, illness appraisal, coping, and mood disturbance in people over the age of 21 diagnosed with advanced-stage cancer (Sumpio et al., 2017). An association was found between avoidant coping and greater disturbed mood, decreased optimism and self-efficacy, even though avoidant coping was not predictive of mood disturbance (Sumpio et al., 2017). Roberts et al. (2018) applied the Folkman and Greer theoretical model of appraisal and coping and concluded that it is helpful to utilize problem-focused and emotion-focused coping mechanisms for people with advanced cancer. However, they concluded that the coping process for advanced cancer is not a linear process with a singular positive outcome, especially as this group is increasingly affected by fluctuating symptoms and deteriorating physical ability (Roberts et al., 2018, p. 229). In a grounded theory study, boundaries between problem- and emotion-focused coping were indistinct for 15 young adults with cancer, and findings indicated that most participants endorsed a central goal of returning to normalcy, which either meant adjusting to major cancer-related changes or resuming a similar, pre-cancer lifestyle (Miedema et al., 2007).

The next section will build on this idea of positive outcomes regarding mental health and psychological well-being for cancer survivors, and young adult cancer survivors, specifically through the lens of meaning-making surrounding the cancer experience.

Cancer and Meaning Making

Cancer often arrives as unexpectedly as a hand grenade in the lives of patients and generates a frantic recalibration of one's plan for their life. Patients must adjust their schedules and routines to accommodate treatment and follow-up visits, and people with cancer frequently and forcefully face existential reckoning with the possibility of death. Finding ways to make meaning of a difficult or traumatic experience is one of the many ways in which people with cancer cope and navigate the tedious course of diagnosis, treatment, and survivorship.

Relevant theoretical frameworks underscore the importance of sense or meaning-making when confronting a distressing life experience like cancer (Park, 2010). Key tenets of an integrated meaning-making model proposed by Park (2010) include (a) global meaning (i.e., an individual's overall worldview comprised of beliefs, goals, and subjective feelings); (b) appraisal of the situational event or context of a particular encounter (i.e., beliefs, goals, and subjective feelings that result from a specific experience); (c) discrepancies between appraised and global meaning (i.e., how appraised meaning is more or less congruent with existing global meaning, whereby greater incongruence results in increased distress that may fuel the meaning-making process); (d) meaning-making processes; (e) meanings made; and (f) adjustment (Park, 2010; Park et al., 2016); this framework may be adaptable to young adult cancer survivors. Park (2010) also highlighted the need for greater intentionality surrounding the conceptualization and measurement of meaning-making processes and meaning-made.

Within cancer populations, Li et al. (2015) found that higher levels of two distinct dimensions of meaning making (i.e., sense-making and benefit-finding; two meaning making constructs commonly referenced in grief research) were associated with better psychological adjustment in 200 Taiwanese cancer patients. To assess for sense-making, Li et al. (2017) utilized a single-item question on a five-point scale, "How much sense would you say you have made of your cancer?" with 1 indicating *none at all* and 5 indicating a *great deal of sense*. Benefit-finding was also assessed with a similar single-item scaling question, "Have you found any positive change from the experience of your cancer?" with 1 indicating *not at all* and 5 signifying a *great deal of change*. However, data suggests that while some cancer survivors may succeed in meaning making efforts by finding increased life meaning in comparison to life pre-diagnosis, other cancer survivors struggle considerably with making meaning (van der Spek et al., 2013). This disconnect highlights a potential unmet need for meaning-centered interventions for cancer survivors. The research literature on this topic also includes a flurry of recent studies exploring the meaning-making processes for a variety of cultural groups, and the need to consider the cultural context underlying the meaning making process, all of which may contribute to differences in meaning making (Ahmadi et al., 2019a; Ahmadi et al., 2019b; Hall et al., 2020; Gan et al., 2018; Ahmadi et al., 2017; Liamputtong & Suwankhong, 2016).

Concerning young adults with cancer, qualitative studies have highlighted *change* and *uncertainty* as central and paramount challenges throughout the cancer trajectory, and while these experiences are certainly not exclusive to this age group, they can be intensified and compounded due to the significant cancer-related challenges facing individuals in this particular developmental stage of transition from adolescence to adulthood (Lie et al., 2017). In a qualitative study of 10 young adults that examined their specific experience of being diagnosed with advanced disease, Knox et al. (2017) wrote,

> Meaning making tended to be constructed around future-oriented goals rather than upon the life that had been lived. Individuals felt forcefully removed from the stream of life, with a perceived interruption in the developmental tasks of establishing adult identity, becoming autonomous and forming new relationships (p. 399).

As such, further exploration into the meaning making processes of this population is critical to better understand the ways in which young adults make sense of and adjust to their new realities, in which advanced cancer may be central.

Furthermore, hope has been highlighted as a specific component of the meaning making process in young adults with advanced cancer. A grounded theory study by Currin-McCulloch et al. (2020) utilized a measure called *The Hope Timeline* in which participants were prompted to draw their experiences with hope during their illness, including times they perceived as positive or high hopes and times they saw as curveballs or challenging to their sense of hope. Participants were also prompted to include details about what they felt physically during these times as well as who was involved and what they remember thinking or feeling. The collected data from 13 participants helped McCulloch et al. (2020) to define the contingent hope theoretical framework in which young adults with cancer reconcile their pre-cancer and post-cancer identity by engaging in the following psychosocial processes: navigating uncertainty, feeling broken, disorienting grief, finding bearings, and identity reconciliation. In this study, *disorienting grief* reflected a point in the participant's illness trajectory in which essentially every familiar aspect of their pre-cancer identity has disappeared (2020). The authors' findings suggest that hope plays a key role in capacity to endure disorienting grief as a young adult cancer survivor with advanced illness. Further, McCulloch et al. (2020) reported that humor and friendship may be important "healing distractions" that help the young adult survivor to remain connected to a sense of normalcy in their lives (p. 5). This dissertation also sought to explore humor as a mechanism of meaning making for the sample population.

Additionally, a narrative qualitative study conducted by Martino et al. (2019) posited that meaning-making may differ in female cancer patients under age 50 depending on the stage of disease. The authors found that participants in the first phase of hospitalization (i.e., 40-60 days before breast cancer surgery) tended to suppress their own pain or sense of weakness to maintain continuity of the family system, particularly those with young children. This phenomenon demands deeper consideration of the impact of suppression related to one's cancer experience and the social support roles that may offer survivors an outlet for expression, such as close friendships that may not require the same containment as family and/or romantic relationships.

Corresponding to Park's description of global meaning described earlier, some young adults may experience cancer as significantly traumatic and long-lasting in which meaning making may facilitate the post-traumatic growth process to help a survivor form fundamentally new beliefs regarding their own predictability and safety in the world (Hauken et al., 2019; Park, 2010). Post-traumatic growth (PTG) was defined by Tedeschi and Calhoun (2004) as “positive psychological change experienced as a result of the struggle with highly challenging life circumstances” (p. 1). In another study published in *Psycho-Oncology*, Park et al. (2010) collected self-report data from 167 young to middle aged adult cancer survivors between the ages of 18-55 years regarding participants’ intrusive thoughts, post-traumatic growth, mental and physical health-related quality of life, positive and negative affect, life satisfaction and spiritual well-being. Using multiple regression analysis, the authors found that while younger adult cancer survivors who assigned more positive meaning to their individual cancer experience endorsed higher levels of intrusive thoughts, these same individuals scored higher on post-traumatic growth measures (2010). These findings indicate that post-traumatic growth may meaningfully influence the impact of intrusive thoughts on better adjustment to cancer despite the typical understanding of intrusive thoughts as correlates of distress. In sum, it is reasonable to conclude that the adaptive benefits of finding positive meaning in one’s cancer experience are influenced by post-traumatic growth, which involves rumination about cancer.

Meaning making studies have also focused on narrative communication. Pietila et a. (2018) interviewed 22 Finnish men with prostate cancer and found that certain narratives, such as identifying as an “older man” with less salient sexual desire, were more helpful for participants in helping them to cope and relocate themselves within a new, acceptable, and meaningful identity. In another narrative study published by Lee (2001), it was found that Z, a young adult cancer survivor, appeared to create meaning out of her cancer experience by “laying out a sense of related stories that organized her experience” in a manner that helped her engage in the process of reconfiguring a new form of her identity (p. 291). Despite the accruing interest in this area, there remains a gap in the literature regarding the meaning making processes of young adults with advanced or later-stage cancer. Increased attention surrounding meaning making is warranted for young adult cancer survivors who might face increased life disruption resulting from their diagnosis in comparison to older adults.

Friendship and Young Adults with Cancer

Existing research has established a connection between friendship and well-being across cultures including a positive association between friendship satisfaction and happiness in the general young adult population with strength of the correlations ranging from r = 0.20 to r = 0.60 (Demir et al., 2015). Another study by Demir et al. (2007) found that close friendship quality was the most predictive factor of happiness in a sample of 280 college students between the ages of 18 and 44. For AYA survivors, strong friendship support has been indicated as helpful for coping with the “complexity of normative development” (Kaluarachchi et al., 2020, p. 196). In comparison to non-cancer peers, AYAs are tasked with managing friction resulting from attempts to maintain normalcy while dealing with the demands of cancer and its treatment, which can impact adherence to medical recommendations (Cheung et al., 2021). Friendship is thought to contribute to increased social competence, psychosocial adjustment, and mental health both during and after cancer treatment (Zebrack et al., 2007). While friendships are often relegated to the "informal" support system category, strong social support from both friends and family has also been found to be significantly associated with better mental well-being, less depressed mood, and less anxiety in young cancer patients between the ages of 10 and 26 years (Corey et al., 2008).

In a study aimed at exploring the nature of friendship for AYA cancer survivors, Evered (2020) found that *time marking* or "a fluid way of measuring and characterizing the passage and future of narrative time" is a hallmark dimension of friendships for this group (p. E64). Time marking is thought to play a dynamic role in these friendships given that cancer is experienced as a pause in the lives of cancer survivors while time continues to move forward for friends without cancer. Evered (2020) further suggests that friendship may overlap with certain aspects of social support but should be investigated as conceptually distinct from general social support. Perhaps this is because in contrast to familial support, friendships often serve a normalizing function for young adults with cancer who have expressed a deep desire for friends to treat them "normally" or to continue interacting with them in a manner more closely resembling life before cancer. Iannarino et al. (2017) examined normative social support in young adult cancer survivors, finding that participants preferred and expressed appreciation for being asked to engage in non-cancer related activities versus being asked for updates about their cancer.

Data from other studies has indicated that some friendships might grow closer over the course of one friend experiencing cancer especially when survivors feel encouraged, listened to, or comforted by friends in ways that contribute to their personal well-being (Breuer et al., 2017). Differences in perceived support from close friends based on cancer type were reported by Kay et al. (2018), particularly in adolescents and young adults with leukemia, lymphoma, and germ cell cancers (i.e., reproductive disease such as testicular or ovarian cancers). For instance, despite testicular cancer being the most frequently diagnosed tumor in young men between the ages of 15 and 39, Schepisi et al. (2017) reported that shame and stigmatization were not uncommon experiences for this group, particularly in younger, single men who have undergone removal of a testicle by orchiectomy. These feelings may then contribute to social withdrawal from peers due to embarrassment of perceived lack of acceptance (Schepisi et al., 2017).

Additionally, Kay et al. (2018) found that only friendships and relationships with medical staff were positive associated with psychological health for adolescent and young adult cancer patients. There was no evidence to support a connection between familial relationships and psychological health, which may be explained partially by the increased likelihood of conflict in family dynamics (Kay et al., 2018). In this same study, close friendships were also strongly and positively correlated with positive affect and post-traumatic growth, which may be due to the ability of friends to help young cancer patients feel more “normal” (Kay et al., 2018).

Alternatively, research has indicated that support from friends can be experienced as less satisfactory by young cancer survivors, especially behaviors such as distancing, negative storytelling, pitying, excessive self-monitoring, and estrangement (Hauken & Larsen, 2019). Research has indicated that young adult survivors may have heightened concern about their cancer diagnosis being a burden on their friendships, and as a result, may preemptively communicate less about their illness, which can lead to friends withdrawing out a feeling of helplessness (Hauken & Larsen, 2019). Inadequate or lackluster social support has been associated with faulty treatment decisions as well as poorer overall functioning and mental well-being (Mor et al., 1994). In established friendships, non-cancer friends may avoid interactions with the AYA patient in response to their own distress resulting from their friend's cancer situation (Cheung et al., 2021). As such, it is important to deepen our understanding of how poor social support in friendships may manifest to prevent these impairments.

Related to the topic of disclosure and social support, Kvåle (2007) conducted a phenomenological study to better understand if cancer patients always wished to discuss their difficult feelings and emotions associated with cancer while hospitalized. The study findings indicated that cancer patients a) place great value on having choice over with whom they discuss their experience and b) prefer to discuss these experiences with close family members, friends, and romantic partners rather than their oncology nurses (p. 323). Other qualitative studies have found that the cancer experience in young adults may prompt a re-evaluation of close relationships in the survivor's life, as certain family and friends emerge as more steadfast throughout the young adult's cancer diagnosis and treatment trajectory (Hauken et al., 2019). It is also possible that age may influence the salience of friendship for some younger cancer survivors. For example, those in their 30s might be more likely to access professional mental health services while those in their early 20s might turn toward friends or other cancer survivors for support to help mitigate lifestyle and social disruption caused by cancer (Zebrack et al., 2007). The authors state that the preference to pursue formal mental health treatment might indicate increased emotional distress for patients in their 30s or higher amenability to accessing professional care as well as adequate health insurance to support access to quality care (2007).

A recent study published in the *Journal of Psychosocial Oncology* by Kaluarachchi et al. (2020) explored the differences between friend and peer relationships for adolescent and young adult cancer patients. The authors found that friends tended to provide broader support and helped the adolescent and young adult cancer patient “feel like a normal teenager” while peers (i.e., those with a cancer diagnosis) provided more targeted support and “helped [adolescent and young adult cancer patient] feel like a normal teenager with cancer” (Kaluarachchi et al., 2020, p. 195). On the other hand, Kaluarachchi et al. (2020) also found that friends lacking personal knowledge of cancer sometimes created feelings of avoidance and being dismissed in the adolescent and young adult cancer patients. These findings indicate that one challenge faced by peer relationships in which both adolescent and young adult cancer patients were battling cancer was “a premature confrontation with mortality” (Kaluarachchi et al., 2020, p. 195). Thus, dyadic friendships in which only one friend is experiencing cancer might be meaningfully different from peer friendships in which both friends are living with cancer. A dissertation by Ferguson (2016) further emphasized the value of friendship for couples coping with cancer. Based on her study data, Ferguson (2016) wrote,

> When it came to seeking support from friends, the couples did not go to them for assistance with treatment planning. Instead, friends were used for emotional support, and helped with the tasks of daily living. Often friends reached out and asked how they could help. One couple shared they had friends walk their dog on

> chemotherapy days. Another friend gave the gift of house cleaning to help the couple. Friends served as confidants to both the patient and the caregiver. They offered each individual in the couple someone to tell their experiences to, and someone to cheer the couple on through good times as well as challenging times (p. 62).

These findings illustrate the potentially unique role of friendship support received from friends not experiencing cancer directly themselves, as these relationships may be a normalizing force in the lives of young adult cancer survivors. The study centered friendships of this nature with the additional focus of examining humor as a connective device that may contribute to a sense of increased connection and normalcy regarding cancer-related experiences.

Although the background research included in this section is striking, additional understanding is needed about how cancer disrupts or impacts friendships, particularly as these relationships can be protective against psychological stress (Evans et al., 2015). Based on findings by Breuer et al. (2017) and Kaluarachchi et al. (2020), it was hypothesized that humor may hold unique qualities within the friendships between a young adult cancer survivor with advanced disease and a friend without cancer. Further, to the best knowledge of this writer, no study to date has examined the specific function of humor in helping a young adult survivor to cope with, navigate, and make meaning of an advanced cancer diagnosis. Though a sense of normalcy, or communication about non-cancer related topics, appears to be appreciated in these friendships (Iannarino, et al. 2017; Kaluarachchi et al., 2020), the meaning making process typically requires a direct reckoning with cancer (Lie et al., 2017). Drawing from the work of Hauken and Larsen (2019) and Kay et al. (2018), the researcher hypothesized that humor may function to help a young adult with cancer maintain flexibility and a sense of safety surrounding cancer-related discussions with close friends and to preserve a sense of normalcy amid the abnormal experience of living with advanced cancer. In-depth exploration might serve to guide therapeutic strategies engaging the close friendships and support systems of young adults with cancer, that are an oft ignored but potentially valuable component of a young adult cancer survivor's support system.

Humor, Health, and Cancer

Building from the findings outlined in the above sections, humor may be a valuable coping and connection mechanism that relates to both physical and mental health outcomes (e.g., (Ramirez-Maestre et al., 2020; Roaldsen et al., 2015; Tse et al., 2010). This section will first provide a broad overview of the historical association of humor and health. It will then describe what is known about the physiological implications of humor and the humor research literature within the context of cancer survivorship. Lastly, this section will discuss humor as a valued dimension of social support for chronically ill patients.

History, Humor, and Health

The modern word *humor* is derived from the Latin word *umor* and the medieval word *humor* meaning fluid (Bokun, 1986). In the fourth-and third-century BC, the Hippocratic physicians of Ancient Greece developed humoral medicine, an ideology that conceptualized illness as having physical rather than supernatural causes (Lagay, 2002). These early physicians believed that health and disease resulted from a series of interactions between one's four internal humors (i.e., blood, phlegm, yellow bile, and black bile) and lifestyle, habits, and environment (Lagay, 2002). Though modern medicine has long since evolved past these outdated, inaccurate ideas of health, the word humor made a lasting linguistic impact as it frequently describes a person's disposition (e.g., when someone is "in good (or bad) humor") (Lagay, 2002, para. 1).

In the 14th century, a French surgeon named Henri de Mondeville alleged humor to be a critical part of the healing process and encouraged joke-telling by relatives and friends, and in the 16th century, Robert Burton and Martin Luther were known for using humor to help depressed individuals (Tiret, 2014). In the 17th century, humor was employed as a relaxation technique by Herbert Spencer, and posited as a cure for illness by Immanuel Kant and William Battie in the 18th century (Tiret, 2014). In the 1930s, hospitals in the United States were known to employ clowns to entertain children sick with polio and in 1972, Dr. Hunter "Patch" Adams founded the Gesundheit Institute, a "hospital dedicated to spreading humor, fun, friendship and joy to patients" (Tiret, 2014, para. 6). More recently, a meta-analysis of randomized controlled trials by Zhao et al. (2019) described significant positive effects of laughter and humor-based interventions on depression, anxiety, and sleep quality in adults. A systematic review evaluated correlations between humor and laughter with life satisfaction, well-being, and physiological symptoms in patients engaged in palliative care due to life-limiting illness (Linge-Dahl et al., 2018). The authors concluded that humor may be a useful resource in the field of palliative care; however, they also underscored the lack of consensus regarding the definition of humor and the objectives of humor interventions (e.g., some studies express the objective to be a reduction in sadness and frustration while other express the objective of getting patients to laugh) (Linge-Dahl et al., 2018).

Humor has also been conceptualized within the field of positive psychology as a character strength (VIA Institute on Character, 2020). In one randomized placebo-controlled long-term trial, Wellenzohn et al. (2016) constructed an online-format study with placebo control group comprised of five humor-based, positive psychology interventions on happiness and depression including three funny things, collecting funny things, counting funny things, applying humor, and solving stressful situations in a humorous way. Findings from a sample of 632 adult participants who engaged in these interventions daily for one week demonstrated that all five interventions enhanced happiness for up to three to six months and reduced depressive symptoms for up to one-month post-intervention though the authors caution that effect sizes were low and should not be over-interpreted (Wellenzohn et al., 2016, p. 590).

Physiological Implications of Humor

A growing body of literature is emerging to explore the physiological impact of humor, particularly humor's relationship to pain tolerance and immunity. A summary of the most robust findings is outlined below.

Chronic Pain. Research has supported a connection between pain symptoms and humor use. Dunbar et al. (2011) found that pain thresholds significantly increased after social (Duchenne) laughter (i.e., "relaxed unforced laughter that is stimulus-driven and emotionally valent, involving involuntary contraction of the *orbicularis oculi* muscles") was elicited in healthy young adult participants (p. 1165). Based on their findings, the authors posited that laughter may serve an important social bonding function that is enhanced when humans experience social (Duchenne) laughter simultaneously together due to the opiate effects of endorphins. A randomized controlled cross-over experiment designed by Lapierre et al. (2019) examined the effects of laughter on the pain tolerance and muscle soreness of young, healthy adults, finding that laughter significantly inhibited any decrease in pain tolerance for the participants exposed to a 30-minute comedic video in comparison to the control group. In healthy adults, the adaptive benefits of humor and laughter interventions may also extend to decreased depressive and anxious symptoms and improved sleep quality (Zhao et al., 2019).

In further support of the pain and humor connection, Tse et al. (2010) found that older adult participants who completed an 8-week humor therapy program experienced significant reductions in chronic pain. These findings suggest that humor might be a valuable cognitive therapy device for treating chronic pain by helping older adults cope more effectively (2010). A study by Ramirez-Maestre et al. (2020) examined the relationship between specific humor styles and variables including pain acceptance in 427 adult patients (average age = 58.6 years) with diverse chronic pain conditions. Participants completed the Humor Style Questionnaire, a 32-item measure assessing four distinct subscale styles of humor (i.e., affiliative, self-enhancing, aggressive, and self-defeating). After controlling for pain intensity and pain catastrophizing, Ramirez-Maestre et al (2020) reported that higher levels of self-enhancing humor style were significantly associated with higher levels of pain acceptance, which consequently led to higher levels of flourishing and lower levels of depression and pain interference. Grounded in these findings, Ramirez-Maestre et al (2020) posited that a self-enhancing humor style may benefit people struggling with chronic pain by enhancing perspective-taking and cognitive distancing from pain via acceptance of negative emotions related to pain.

Immunity. Research has also demonstrated a connection between humor and immunological functioning. Bennett et al. (2003) conducted a randomized pre-post study with a comparison group to explore the effects of laughter on self-reported stress and natural killer activity in 33 health adult women. Their results indicated that stress decreased for participants in the experimental (humor) group compared with those in the control (distraction) group, and that participants with higher scores on the Humor Response Scale also showed increased immune function postintervention including changes in natural killer cell activity (Bennett et al., 2003).

Several other studies have focused on secretory immunoglobulin A (S-IgA), a part of the human body's immune system found in saliva that helps ward off upper respiratory infections, finding that participants exposed to humorous stimuli experience increases in S-IgA (Martin, 2001). Immunology and endocrinology research have indicated that humor may have immunological-enhancing effects in healthy adults, though findings should be interpreted with caution because some studies have reportedly lacked rigorous experimental design with proper control groups, small sample size, and lack of manipulation checks (Martin, 2001, pp. 508-509).

Humor and Cancer

Turning to oncology, humor may function in medical situations as (1) a psychological defense mechanism to enable healthy distancing in a survivor from their own death; (2) a "*leveling agent* between the patient, their family, and their oncologist"; (3) a tension or embarrassment reliever; (4) a cultivator of familiarity and kinship with a patient's oncologist and treatment team; or (5) a way to establish relationships or *break the ice* quickly with new members of the treatment team (Joshua et al., 2005, p. 646). Specific types of humor that may present include gallows humor, patient-centered banter, and spontaneous or situational jokes related to the cancer situation. Yet, full comprehension of humor use within patient-medical provider interactions is still in its infancy though some work exists that denotes the complexity of interactions inclusive of humor (Beach & Prickett, 2017).

Qualitative studies have indicated that humor can function to protect cancer survivors against "being engulfed by anxiety and gloomy thoughts" (Roaldsen et al., 2015, p. 729). In one qualitative study, 14 out of 14 terminally ill study participants identified humor as an important source of connection, with 85% indicating that humor and laughter made them feel more hopeful and 64% reporting that humor helped them to cope with cancer-related life changes (Herth, 1990, p. 39). Additionally, 'humor coping' may be a malleable skill rather than a fixed personality predisposition, suggesting there could be potential benefit to engaging in structured interventions that encourage cancer survivors to develop their own narratives about their cancer experience as a form of adaptive coping skill development and practice (Melton, 2016). Humor has also been identified as an important coping factor that influences the spirituality and meaning-making process of women breast cancer survivors (Johnson, 2002).

Despite these positive endorsements for the value of humor, the data regarding humor and cancer coping has been mixed. A recent study by Carcioppolo et al. (2019) examined joking behavior about colorectal cancer in a sample of 209 healthy adults. The authors found that male participants were more likely to joke about colorectal cancer than female participants, particularly when feelings of susceptibility were elevated, which may have negative implications for medical decision-making such as avoidance of preventative screenings. Additionally, Noriega (1994) designed a quasi-experimental study to explore the role of humor as a coping mechanism for 70 women participants undergoing surgery for Stage I or Stage II breast cancer. Data was collected from a variety of self-report measures taken the day before surgery, ten days post-surgery, three-months, six-months, and one-year post-surgery to evaluate the use of humor as an effective coping mechanism or an ineffective, defense mechanism. Noriega (1994) found no main effect for the use of humor in determining distress, however, she posited that humor is often a "slippery" concept to define given its diverse presentations (e.g., self-deprecation, slapstick, improvisational, wordplay, observational) and functions (e.g., relief or tension diffusion, unification, presenting new perspectives and viewpoints, or criticizing opposition) which likely impacted her findings (p. vii). To avoid this potential pitfall, this dissertation intentionally sought to study and categorize the types of humor most useful for the coping and meaning making processes of young adult cancer survivors with advanced diagnoses as one of its aims, as much of the existing humor-cancer literature has focused on humor use in individuals with less severe diagnoses.

Yet, research depicting humor as an adaptive coping mechanism for cancer survivors often underscores the benefit of increased social connection stemming from effective humor use. Schwartz (2006) designed a phenomenological study to examine humor use in 11 breast cancer survivors between the ages of 44–65 during the first six months after initial diagnosis. Four key themes emerged from this study including (1) timing (i.e., related to the adaptation and appreciation of humor); (2) physical transformation (i.e., a sense of humor being used to lighten the burden of cancer); (3) emotional transformation (i.e., humor functioning as a helpful device in cognitive perspective shifting or distancing; and (4) connecting (i.e., humor being used as a way to connect with or feel validated by others) (pp. 131-136). Regarding the theme of connection, Schwartz wrote,

> A number of the women in this study mentioned that they had difficulty finding things that were funny when they were by themselves. Humor, for them, needed to be a shared experience. Humorous statements made by the participants gave permission to others to laugh and be less tense when they were together (p. 136).

The shared quality of humor highlighted within the above quote underscores this dissertation's utilization of dyadic interviewing as the primary data collection process to best capture the interactional quality and experience of humor use between a young adult cancer survivor and a close friend (Morgan, 2013). More information and research are needed to better understand the impact of humor on supportive relationships in a young adult cancer survivor's life, particularly regarding how humor may function within the meaning making process.

Humor and Social Support

Research studies have begun to explore the role of humor as a useful coping skill or tool for cancer survivors, and empirical data has suggested that humor can provide a potentially valuable opportunity to cultivate increased closeness and understanding with a survivor and their relational support system (Iannarino, 2018; Roaldsen et al., 2015). Humor has been associated with improvements to the relational systems of patients, their relatives, and professional caregivers (Linge-Dahl et al., 2018). Rabin (2019) conducted a study on the self-disclosure navigation process for 122 young adult cancer survivors and found that humor was one of the two most endorsed strategies during self-disclosure about a cancer diagnosis "to keep things light" (p. 184). Other participants reported using humor as part of their disclosure strategy to "help diffuse tension" (p. 181). Although more information is needed to fully understand the function of humor in relationships, early studies support an adaptive benefit for cancer survivors who voluntarily engage in more structured interventions that encourage them to develop their own cancer narratives to share with other people (Roaldsen et al., 2015). Research supports that humor is a flexible skill or quality that interacts with an individual's social environment and that aids in the development of cancer survivor narratives about their cancer experience (Iannarino, 2018; Roaldsen et al., 2015).

Ferguson (2016) qualitatively explored the way humor can help romantic couples to navigate and cope with the cancer experience after one partner is diagnosed. While this study included age diverse couples and did not focus on the specific ways in which cancer may impact young adult survivors and their partners, Ferguson (2016) found that humor sometimes served to help build relationships and facilitate a normalized interactional style in a couple experiencing stress and uncertainty within a hospital setting. These findings complement other data that shows a correlation between higher levels of relational satisfaction in a romantic couple and use of positive humor (Butzer & Kupier, 2008). Humor has also been empirically examined within cancer caregiving relationships. For instance, Heinsch et al. (2022) conducted a qualitative exploration of the role of humor in brain cancer caregiving, finding that humor functioned in a complex manner to help maintain a sense of self and the relationship; to express shared connection and understanding; to mitigate difficult or awkward moments; and to help momentarily avoid or distract away from tough moments.

Regarding the impact of a cancer diagnosis on the social experience of survivors, a qualitative dissertation study by Iannarino (2014) utilized thematic narrative analysis to interpret interview data from 20 young-adult social network member (SNM) dyads. This study interviewed each member of the dyad separately but analyzed dyadic data together during the thematic narrative analysis process. Iannarino suggested that this work be further developed by exploring specific narrative differences in cancer experience based on diagnosis type, as the researcher hypothesized that differences in diagnosis, treatment, and survivorship may influence communication (Iannarino, 2014). Of relevance to the dissertation, a small section of Iannarino's interview script included a "Making Sense of Illness Through Humor" dimension in which the author explored how humor was utilized by young adult survivors in communication with their relational support person about cancer, which resulted in qualitative findings that supported both positive and negative impacts of humor use (2014). For example, one participant described naming their brainstem lesion “Harold,” which served to lighten the mood and alleviate stress related to their cancer experience (Iannarino, 2014, p. 94). Alternatively, humor was reported to be hurtful to one survivor participant whose sister said she looked like Voldemort from the *Harry Potter* series after she lost her hair to chemotherapy (Iannarino, 2014, p. 96).

Boundaries for and Negative Impact of Humor. Literature supports the need for boundaries regarding humor use in certain situations. All seven couples included in the 2016 study facilitated by Ferguson noted the importance of boundaries in humor use for couples coping with cancer, such as topics like infertility or jokes that emphasize one’s loss of physical femininity (e.g., breasts); in other words, when humor could result in a potentially hurtful impact rather than a supportive one (p. 42-43). As another example, Rabin (2019) found a trend toward less favorable reactions from friends when young adult cancer survivors used humor as a strategy to disclose about their cancer, suggesting that humor may not always be effective during emotionally-laded conversations. Rabin’s findings (2018) favor a prioritization of an open, reassuring atmosphere when disclosing a cancer diagnosis to friends. This information highlights the need for more information regarding efficacy of humor use to facilitate connection as well as increased knowledge about how and when humor might be less beneficial.

“Coping Through Comedy” Program

The dissertation study presented a unique opportunity to examine the function of humor use within a friendship dyad comprised by at least one young adult cancer survivor who had demonstrated a strong inclination toward utilizing humor as a coping device. Initial recruitment efforts targeted individuals who valued humor as a coping mechanism as evidenced by their prior completion of a cancer-specific comedic storytelling workshop. The study’s first three survivor participants were recruited from the “Coping Through Comedy” program, which was created and founded by Charity Sadé in the spring of 2019 at the Smith Center for Healing and the Arts in Washington D.C. Charity reportedly used humor throughout her life as a coping tool to manage difficult moments and, as such, drew significantly from her humor repertoire to cope with the breast cancer diagnosis she received at the age of 27 (Smith Center for Healing and the Arts, 2019). She also became a stand-up comedian and her passion for comedic storytelling led her to develop the six-week “Coping Through Comedy” program at the Smith Center to help fellow cancer survivors develop their own five-minute comedic storytelling piece or stand-up comedy set to eventually perform on stage to an audience (Smith Center for Healing and the Arts, 2019).

Though the connection between humor and health has been around for thousands of years, and humor research related to cancer is a germinating field, more knowledge is needed to better understand the function of humor for young adults with advanced cancer. Based on the work of Schwartz (2006) and Roaldsen et al. (2015), it was hypothesized that humor may help break down boundaries around difficult, cancer-related topics in specific contexts and enable more authentic, honest conversation around cancer in close relationships with friends. Building from the work of Iannarino (2018) and Joshua et al. (2005), it was hypothesized that humor may promote mutuality in the relationship between cancer survivor and a close friend by both helping the friend to withstand a challenging situation and remain present for the cancer survivor and allowing the cancer survivor to give back to their friend by making their friend laugh or providing comfort through humor. The next two sections will address the primary theoretical frameworks grounding the dissertation: Relational Cultural Theory (RCT) and Communicated Narrative Sense-Making Theory.

Relational Cultural Theory

History and Tenets

Relational-Cultural Theory (RCT) is a relationship-centered, culturally oriented framework informed by feminist theory and grounded within the postulation that human beings grow through and toward connection throughout the lifespan (Jordan, 2018a). Developed in the 1970s by Judith Jordan, Jean Baker Miller, Irene Stiver, and Janet Surrey, RCT was initially formulated in reaction to mainstream Western theoretical frameworks that tended to demarcate autonomy and independence as the pivotal markers of adult development (Jordan, 2018a). Additionally, the concept of the *separate self* (i.e., which infers autonomy, firm-self boundaries, individuation, and logical, abstract thinking) was celebrated as the pinnacle of developmental maturity (Jordan, 2018a). RCT's founded posited that individualism demands the creation and maintenance of firm boundaries between the self and others, which precludes the easy sharing of emotions and thoughts, especially those that feel too exposing or vulnerable (Jordan, 2018a).

The founders of RCT argued that this version of the self was a construct rather than an objective truth and that *connection* was a vital and routinely deprioritized force and source of motivation in human lives (Jordan, 2018a). Western values such as self-interest, competition, and strength in isolation were thought to be both over-emphasized and a central cause of human pain and suffering (Jordan, 2018a). RCT theorists have asserted that suffering experienced via chronic disconnection gives rise to the *central relational paradox*, in which a person withholds a significant part of themselves to maintain stability of the relationship despite a deep desire to be known authenticity by their relational partner (Miller, 2008).

Consequently, RCT was formulated as a new model of human development centered around the importance of connection and interpersonal relationships (Jordan, 2018a). Rather than celebrating independence and psychological separateness from others, RCT stresses the importance of relational patterns and capacities (Jordan, 2018a). RCT is not intended to be a linear, unidirectional stage model of development; rather, it considers relationships to be dynamic and complex interactions that change over time (Jordan, 2018a).

Notably, RCT emphasizes the importance of *growth-fostering relationships*, or relationships that are empowering and meaningful for both relational partners (Jordan, 2018a). This relational context is thought to allow each person the ability to both give and receive to create a reciprocal culture of mutual empathy, mutual empowerment, and authenticity (Jordan, 2018a). The concept of *mutual empathy* reflects a dynamic in which each person is aware and responsive to their other person (Jordan, 2018a). In other words, members of a relationship must be able to realize the ways in which they affect and are affected by the other. The concept of *authenticity* demands a safe relational environment in which people can be vulnerable with one another (Jordan, 2018a). RCT's founders also argued that *good conflict* is necessary for positive change, growth, and *mutual empowerment* within relationships, in which people hold space for disagreement to be worked through with openness rather than dominance, violence or aggression (Jordan, 2018a). It is through these processes of mutual empathy, mutual empowerment, and authenticity that growth-fostering relationships are thought to be cultivated.

A few studies have examined friendship dynamics through an RCT framework (Hughes, 2019; Frey et al., 2016; Mitchell, 2009), however, no study to date has specifically applied it to the friendships of cancer survivors. Notably, RCT compels clinicians and researchers to explore the cultural context of relationships and to examine systems of power and privilege to holistically understand the unique dynamics of connection, growth, disconnection, and marginalization inherent within relationships (Jordan, 2018a). A lack of consideration for cultural context is hypothesized to result in division, anger, disempowerment, depression, shame, and disconnection (Jordan, 2018b). This dissertation was concerned with the dynamics inherent within a young adult friendship in which only one individual is living with an advanced cancer diagnosis. Hence, it was hypothesized that power differentials related to physical ability status might be present within these friendships including compromised physical health and presence of severe late effects related to cancer and treatment (e.g., heart or lung problems, hearing or vision problems, impaired fertility, chronic pain, etc.) It was also possible that there would be a degree of privilege embodied by the friend without cancer, who had not experienced the same disruption of life and future goals, or confrontation with death, as experienced by their friend living with an advanced cancer diagnosis. In summary, this friendship context is ripe for exploration and had yet to be explored through an RCT lens prior to this dissertation.

RCT and Cancer

RCT has been applied to the context of cancer in several studies (Blount, 2019; Harrahy, 2012; Johannessen, 2013). An RCT framework has also been applied to deconstructing the social well-being of the cancer survivor population (Raque-Bogdan, 2019). This is important because cancer survivors may be at increased risk for loneliness and 43% of survivors reportedly desire more information on the impact of cancer on relationships (Macmillon Cancer Support, 2006). Of relevance to this dissertation project was RCT's focus on the meaning found in relationships (Raque-Bogdan, 2019). Rosedale (2009) suggests the presence of the central relational paradox for cancer survivors who desire authentic connection with others while simultaneously withholding parts of themselves to preserve the relationship, particularly if they fear that their suffering is too much for others to hold (Raque-Bogdan, 2019). The resulting loneliness that may occur could be compounded by difficulty engaging in authentic interpersonal interactions both during and after active cancer treatment. Further, people with advanced or metastatic cancer may experience increased marginalization, fear, silence, and isolation within interpersonal relationships because they may never "conquer" cancer and must instead live with it for the rest of their lives (Kleban, 2014). To apply RCT to the cancer context requires acknowledgment of the potentially intensified layers of oppression, disconnection and marginalization facing cancer survivors (Raque-Bogdan, 2019). Within the context of cancer survivor friendships, this means focusing attention on the possible power imbalances related to areas like physical ability status, disrupted life course, and increased discrimination experienced in work and personal life dimensions. The importance of relationships as a great source of meaning in the lives of cancer survivors is highlighted by Johannessen (2013) who emphasized the tendency for this population to prioritize relationships over materialism or other forms of success post-diagnosis.

The narrow literature published on RCT in cancer survivors is primarily based on romantic partners facing cancer or parent-child relationships. A study by Kayser et al. (2007) identified two patterns of dyadic coping for 10 couples impacted by breast cancer: mutual responsiveness and disengaged avoidance. Findings suggested that relationship awareness, authenticity, and mutuality were key components of adaptive dyadic coping. Kayser and Acquati (2019) utilized the Actor-Partner Interdependence Model to examine the capacity for mutuality of 86 romantic couples impacted by breast cancer. Findings indicated that relational mutuality was positively correlated with patient and caregiver dyadic coping scores (2019). Additionally, Bekteshi and Kayser (2013) applied an RCT framework to mother-daughter relationships impacted by cancer, findings that authenticity, mutual empathy, and mutual empowerment enabled mothers to transform their stressful cancer experiences into a growth-fulfilling dynamic with their daughters. To date, no study has applied the RCT framework to the friendships of cancer survivors, nor to the context of a young adult friendship impacted by advanced cancer.

RCT and the Dissertation Study

It was expected that humor may function to increase clarity within the friendship by helping elucidate difficult emotions that would have been challenging to articulate otherwise. As such, it was hypothesized that humor may function as a gateway process in the friendship that enabled increased authenticity. Based on the work of Dr. Raque-Bogdan (2019), it was hypothesized that humor would serve a buffering function inhibiting the central relational paradox by helping cancer survivors feel more comfortable discussing difficult aspects of cancer rather than withholding these experiences to protect their friend from potential distress. While humor has been referred to adjacently as an ingredient of creativity in a few RCT studies (Headley & Sangganjanavanich, 2014; Vicario et al., 2013), prior to this dissertation study, humor had yet to been studied directly from an RCT frame, or as a creative dimension of relational connection. Regarding a sense of worth, it was hypothesized that humor might help survivors make sense or meaning of their cancer experience, particularly young adults who may experience increased threat to their worldview and meaning making processes given the unexpectedness of an early in life and severe diagnosis. Regarding increased desire for relational connection, it was hypothesized that humor may help break down communication barriers between a young adult with cancer and their close friend. Similar to increasing clarity, it was hypothesized that humor may help increase authentic connection by disarming the inclination toward the central relational paradox in the context of friendships affected by cancer.

Furthermore, the core RCT tenets of authenticity and mutuality resonate well with the aims of the dissertation study, because RCT argues that for relationships to thrive, authenticity between both people is necessary (Jordan, 2018b). It was hypothesized that incorporating humor into communication about cancer would enable survivors to tell their stories and talk about cancer more honestly by allowing room for emotional relief for both them and their friend. It was also hypothesized that humor would inhibit the inclination to socially withdraw from friendships by maintaining connection through laughter despite potentially daunting cancer-related circumstances. It was thought that humor may even function to deepen mutuality for both the survivor and their friend if humor was used to ease one another’s discomfort or venture attempts at connection. Of course, the researcher considered the possibility that humor may occasionally cloud authenticity or restrict vulnerable emotions depending on its particular use. However, it was expected that boundaries would be negotiated within the context of young adult friendships facing cancer to help maintain humor as a primarily connective mechanism.

Communicated Narrative Sense-Making Theory

This dissertation utilized Relational Cultural Theory (RCT) as its primary theoretical framework, while applying a secondary theoretical dimension of Communicated Narrative Sense-Making (CNSM) Theory. CNSM recognizes humor as one of the many influential elements of storytelling content. Thus, this theory was useful for grounding the study, which aimed to explore the function of humor within close friendships of young adults with cancer. The theoretical underpinnings of CNSM to sense-making, cohesion and well-being echo the objectives of this project and provided a firm foundation for investigation.

History and Tenets

Communicated Narrative Sense-Making (CNSM) Theory is a derivation of interdisciplinary post-positivity research that emerged over the past decade (Koenig Kellas, 2018). It highlights the connection between (a) narrative identity and well-being; (b) storytelling content, processes, and relational health; and (c) the health benefits of storytelling (Koenig Kellas, 2018). At its core, CNSM links narrative and health, as storytelling is thought to be "the communicative manifestation of narrative sense-making" (p. 63). CNSM emphasizes narrative formation and storytelling as key processes that facilitate sense-making of illness-related identity, which in turn, may increase compassionate healthcare and reframe "dispreferred" stories to improve mental health and relationships (Koenig Kellas, 2018, p. 62). CNSM aims to illuminate the communicated content, processes, and functions of storytelling as they connect to individual and relational health and well-being (Koenig Kellas, 2018).

> CNSM theory assumes (a) a focus on storytelling as communicated; (b) links among storytelling content, structure, process, and individual and relational health and well-being (along with other variables illustrative of interpersonal and family dynamics; e.g., perceptions of family supportiveness, attachment styles); and (c) that the link between storytelling and health may be understood, at least in part, by understanding the underlying functions of narratives and storytelling: creating, socializing, coping, and connecting. (Koenig Kellas, 2018, p. 64)

CNSM also hinges on three theoretical heuristics including: 1) retrospective storytelling; 2) interactional storytelling; and 3) translational storytelling.

Retrospective storytelling. This heuristic is grounded within the notion that stories told frequently within a family system can having long-lasting effects on one's beliefs, values, behaviors, and health (Koenig Kellas, 2018). CNSM projects that utilize the retrospective storytelling approach often concentrate on specific features or qualities of the storytelling content and process including how significant the story is perceived to be, the overall theme or tone; and the completeness or coherence of the story (Koenig Kellas, 2018). Recent studies have suggested a positive, linear relationship between well-being and positively valenced storytelling content such as redemptive themes, coherence, and positive tone (Koenig Kellas, 2018). For this dissertation, it was important to consider which stylistic storytelling qualities were adaptively utilized by the friendship affected by advanced cancer.

Interactional storytelling. This heuristic emphasizes the communication processes that characterize storytelling, highlighting the collaborative storytelling processes that contribute to individual and relational well-being (Koenig Kellas, 2018, p. 66). Interactional or joint-storytelling elements may include turn-taking, expression of engagement, and mutual interpretations (Koenig Kellas, 2018). This approach resonates with this dissertation's methodological decision to facilitate dyadic interviews between a young adult cancer survivor and their close friend. Interview questions were designed to facilitate mutual consideration of humor use within the friendship, and the researcher attended to interactional dynamics that occurred during the interviews.

Translational storytelling. This heuristic posits that creative, narrative-based interventions can be developed for a wide variety of populations experiencing adversity, trauma, illness, and stress, and that these interventions are predictive of health and well-being (Koenig Kellas, 2018). In other words, certain stories may be used for “the public good” by increasing the scope of the influence of a particular narrative (e.g., documentaries, school-based programs, medical school curricula) (p. 67). As the primary researcher of this dissertation hypothesized that humor would be a profound coping mechanism, connective force, and tool for creating redemptive narratives about cancer, the researcher intended to share study findings broadly to help substantiate the work of existing survivorship programs that incorporate humor, including the “Coping Through Comedy” program created and founded by Charity Sadé.

Storytelling, Health, and Well-Being

CNSM strongly emphasizes the relationship between narrative identity, storytelling, and health. Qualitative studies informed by CNSM have highlighted the benefit of social systems that conceptualize “cancer as communal” rather than as an individual disease solely impacting the patient (Koenig et al., 2019). Koenig Kellas (2018) identified health and illness as central to family storytelling because of the stress, anxiety, worry, and depression generated by illness that ripples through the family system. Grounded within the CNSM perspective, Koenig Kellas (2018) argues that this distressing landscape is best understood through narrative sense-making. Of relevance to this dissertation project, Koenig Kellas and colleagues cite humor as fundamental to building positive, community support (2016). Humor might even increase connection between key stakeholders navigating cancer together, and to increase comfort, support, and community-wide connection (Koenig et al., 2016). Other studies have analyzed “illness stories” in women living with systemic lupus erythematosus (Castle, 2015) and the lasting impact of stories of mental illness heard in the family systems of emerging adults (Flood-Grady & Koenig Kellas, 2017). In summary, CNSM was selected as a relevant, supplementary theoretical framework from which to guide analysis of storytelling devices and phenomena inherent within the context of young adult friendships impacted by advanced cancer.

Purpose of the Present Study

This dissertation focused on young adults diagnosed with advanced cancer between the ages of 18 and 39, specifically with Stage III or IV, recurrent, metastatic, or severe blood cancer (e.g., AML, ALL, myeloma, stage III or IV Hodgkin’s or Non-Hodgkin’s lymphoma, multiple myeloma, or a myeloproliferative disorder), particularly the ways this group utilized humor to cope with the profound challenges of advanced cancer, and to access distinctive dimensions of social support through close friendships with friends not diagnosed with cancer. It was hypothesized that humor may play a meaningful role in these friendships when communicating about distressing topics (e.g., death or significantly disrupted life expectations and trajectories) that could trigger intense anxiety or distress within the survivor and their close friend. This convergence of these dimensions reflects several research gaps that the dissertation sought to fill including exploration of young adult friendships impacted by advanced cancer; the function of humor within this friendship context; the function of humor in the meaning making process of young adults with advanced cancer, and the application of Relational Cultural Theory to examine the ways in which humor may help promote mutuality and authenticity and inhibit the relational paradox within these friendships. Qualitative methods were used to gain a deeper, richer understanding of these topics. The project aimed to address the following research questions:

Research Question 1: How does humor help to promote authenticity and mutuality in the relationship between a young adult with advanced cancer and a close friend without cancer?

Research Question 2: How does humor help to prevent the relational paradox in a relationship between a young adult with advanced cancer and a close friend without cancer?

Research Question 3: How does a young adult with advanced cancer use humor to make sense or meaning of cancer and to communicate this meaning to others?

Research Question 4: How might humor used in this friendship context differ from how humor is exhibited in other supportive relationships?

Chapter Two: Method

Design

The dissertation study utilized a qualitative design to allow for the careful examination of the role of humor in a young adult friendship impacted by advanced cancer. The complexity inherent within the phenomenon of utilizing humor when communicating about advanced disease, an experience that likely enhances existential reckoning with death, is deserving of in-depth exploration to sufficiently distill the dynamic communication processes occurring for a young adult cancer survivor and their close friend. It is of particular importance to this writer to better understand the meaning that those affected ascribe to the experience of humor use within this friendship context, an area that had not yet been sufficiently studied prior to this dissertation study. These topics positioned this study well for a qualitative design as the researcher's process-oriented research questions were best answered linguistically rather than quantitatively.

The study included 12 friendships dyads (i.e., a total of 24 participants). In congruence with the objectives of qualitative research, this dissertation sought to capture the perspective of a friendship pair through dyadic interviewing as well as engagement in a rigorous Consensual Qualitative Research (CQR) analytical process infused with dyadic analytical approaches to describe the phenomena of interest (Morgan, 2016; Hill, 2012). CQR was selected due to its value of context and culture within the participant experience; and its explicit processes for enhancing study rigor and trustworthiness through consensus building among multiple coders and an external auditor (Hill et al., 1997, 2005).

Consensual Qualitative Research

This section will address the essential research design topics that inform the dissertation, including (a) the advantages of utilizing a qualitative approach to address the study's central research questions; (b) CQR's philosophical foundation, key tenets and processes; (c) the primary investigator's positionality statement; (d) participant criteria, coding team composition, and auditor description; (e) description of measures; and finally, (f) description of study procedures.

Qualitative Research

Qualitative research is a broad term describing a form of inquiry in which 'languaged' data is coded by the researcher to articulate human experience from the perspective of the representative study participants (Polkinghorne, 2005). This subjective process of interpretation allows for a deeper understanding of complex phenomena difficult to capture or comprehensively represent through a quantitative approach. Qualitative research accentuates the significance of context of the participant's unique perspective (Heppner et al., 2015). The theoretical underpinnings of qualitative research generally include a social constructivist framework, which means that multiple views and perspectives are elicited from participants and valued by the researcher (Billups, 2021). This contrasts with quantitative research approaches that tend to support a positivist worldview and a singular truth or reality. Consensual Qualitative Research, or CQR, was selected due to its elemental convergence of three frequently separated theoretical paradigms: positivism (i.e., holds that the researcher and participants are independent and that the researcher can objectively study the participants), postpositivism (i.e., holds that an "objective truth" exists but only as an approximation of the truth attainable by the researcher) and constructivism (i.e., holds that no singular objective truth exists; rather there are multiple socially constructed realities, and a close subjective relationship between researcher and participants is crucial to assessing the participants' *lived experience*, in which multiple, socially constructed variations of "truth" are honored while the CQR team works to distill a consensually agreed upon, singular "truth" through integration of diverse perspectives (Hill, 2012, p. 23-24). In selecting CQR, the lead researcher recognized a balance between herself as an influential being in a relational context with the study participants while simultaneously respecting boundaries through a flexible but semi-structured interview and bracketing of researcher biases to reduce researcher influence on the data and interpretations (Hill, 2012). Further, the lead researcher strived to present results objectively by utilizing an external auditor outside the main coding team to reduce risk of overgeneralized interpretations (Hill, 2012).

CQR Overview

CQR was developed by Dr. Clara Hill and colleagues in the mid-1990s with the intention of infusing some of the positive aspects of quantitative research into qualitative methodology by increasing structure and clarity within data collection and analysis processes and enhancing trustworthiness (i.e., essentially the qualitative research equivalent of validity) by designing a more formal *consensus process* (Hill, 2012). The *consensus process* is an “unforced unanimous decision” that equalizes and validates multiple perspectives involved in the interpretive process by following a structured process of individual interpretation and subsequent group consensus (Hill, 2012). The mechanics of the consensus process will be described in more detail in the ‘CQR Processes’ section. The objective of the process is to produce sound interpretations that are arguably more agreeable to outside interpretation as the consensus process is apt to capturing subjectively nuanced perspectives within the data (Hill, 2012). Consensus is merely one of the key components of CQR that will be discussed in more detail in the next section.

Key Components of CQR

Hill (2012) describes nine key components of CQR. First, CQR is an inductive rather than deductive approach, indicating that conclusions are based on the data gathered with as little theoretical imposition as possible on behalf of the researchers. Second, CQR values the use of open-ended questions to allow the participants the freedom to determine their own ideas regarding their personal experiences. Next, CQR examines languaged data such as words, narratives, and stories rather than quantitative or numerical data. CQR also strongly prioritizes the context of the languaged data, including a degree of immersion within the full participant account (i.e., reading through the entirety of a participant interview before making judgments; or incorporating important aspects of their experience such as being diagnosed with advanced cancer when attempting to conceive one’s first child.) Fifth, CQR relies on small participant samples that are evaluated with close attention and detail rather than superficially examining a large number of participant stories.

In addition, CQR acknowledges the inherent bias within the process of interpreting and making meaning of others' perspectives; and tackles the reality of multiple perspectives through establishment of a coding team of *judges* and *auditors* whose unique points of view are brought into conversation with one another to achieve the seventh component of CQR: consensus. The final two key components of CQR are ethics, trustworthiness, and attention to culture; and a continual engagement with the data. The first of these components is associated with data integrity, balancing both subjectivity and reflexivity through the analysis process, and ensuring clear communication of findings and applicability to clinical work and future research (Hill, 2012). The latter component demands that the CQR research team remain in close contact with the raw data by continually re-examining the accuracy of core ideas, categories, and domains against the original interview transcripts; a process that typically occurs several times before a final version is reached (Hill et al., 2005).

Additionally, CQR recommends that researchers consider the following practices to better attend to the cultural context of the data: cultivating and practicing reflexivity within the entire research team; acknowledging a cultural frame of the research; forming a research team comprised of diverse cultural and educational backgrounds and methodological experiences; attending to power dynamics within the research team; contemplating how research questions reflect the community of study; conducting purposeful participant sampling; practicing responsive interviewing techniques that honor voice inflection, silence, and participant-driven direction; producing accurate transcriptions; considering the context of language and culture within the data being studied; ensuring ethical responsibility to the participants and continually staying close to the data (Hill et al., 2005). Specific techniques that can be used to stay close to the data include asking clarifying questions during the interview to provide participants a chance to clarify their own meaning; incorporating member checks (i.e., inviting participants to review transcripts of their own interviews and interpretations of their data); and integrating direct quotes rather than solely reporting core ideas.

CQR Philosophical Assumptions

The main philosophical assumptions of CQR are founded in constructivism and post-positivism and can be examined through consideration of five key constructs: ontology, epistemology, axiology, rhetorical structure, and methods (Ponterotto, 2005; Hill et al., 2005). Ontology concerns how reality is perceived; and in CQR's case, reality is determined through a constructivist lens that warrants the existence of multiple, equivalent "socially constructed version of the truth" (Hill et al., 2005, p. 197). The view is also positioned within postpositivism, which recognizes the existence of an objective truth, while holding that only an approximation of objective truth can ever be obtained and comprehended (Hill, 2012). Proponents of postpositivism consider conclusions about "truth" to be derived from integrating findings across multiple accounts (Hill, 2012). CQR also reflects upon the experiences shared by different participants as another type of constructed reality (Hill et al., 2005). Hill et al. (2005) describes the postpositive dimension of CQR as the belief that researcher and participant mutually influence one another, which requires a strong relationship grounded in trust and respect.

Axiology concerns the influence of the researcher's values within the research process, and Ponterotto (2005) argues that CQR is a midpoint between constructivism and postpositivism. This is posited because CQR considers researcher biases as unavoidable and requiring reflection (i.e., constructivism) for them to not negatively impact findings (i.e., postpositivism). One CQR practice that blends both constructivist and postpositivist viewpoints regarding axiology is the researcher's *bracketing* of biases (Hill, 2012). Rhetorical structure concerns language use throughout the research process, and CQR inhabits a primarily postpositivist stance in that researchers tend to report findings in the third person while remaining as objective as possible (Hill, 2012). Finally, CQR's methods are more acutely constructivist in that researchers utilize naturalistic, interactive data collection methods; and rely predominantly on languaged data (Hill et al., 2005). Ultimately, CQR seeks to report participant meaning made of a particular phenomenon in a manner that is as accurate and fairly represented as possible.

Following attainment of participant approval of the transcribed interviews, the data analysis process began. All members of the research team completed IRB training before the first team meeting. Throughout the stages that will be described in detail below, efforts will be made to attend to content of both the cancer survivor and the friend; and process moments where dialogue about humor appeared to open up the interaction between both participants. This inclusion of dyadic process sought to provide meaningful in vivo observation opportunities to derive meaning of humor use in the friendship, rather than mere retroactive reporting on past use of humor. Additionally, the coding team was encouraged to read each transcript first for content, and then re-read the same interview for interpersonal dynamics that may be present.

CQR Processes

Hill (2012) defines four important stages in CQR including (1) getting started; (2) within-case analysis; (3) cross-analysis; and (4) writing the manuscript. The first stage involved selection of the research topic and a comprehensive literature review; determination of the research team; development of the interview protocol and facilitation of pilot interviews; definition of eligibility criteria for the study population of interest; participant recruitment; facilitation and transcription of interviews; and sharing transcriptions with corresponding friend dyads to solicit participant input (Hill, 2012). Hill (2012) recommends an early, proactive, and ongoing *bracketing* process to remain conscious of the researcher's values and assumptions as well as the cognitive, emotional, and physical distance between the researcher and their study participants (Billups, 2021). While the relationship between research and participants is paramount for collecting rich data by means of a detailed interview, Billups (2021) cautions qualitative researchers against boundary violations that may lead the researcher to mistakenly assume tor expect their own perspective to be the participant's view.

To address concerns related to biases and expectations, CQR incorporates several tactics in addition to the bracketing process including assembling a coding team of *judges* with diverse biases and expectations and cultivating a team environment in which these biases/expectations can be respectfully discussed; conducting practice interviews and receiving feedback on interview protocols to reduce undue influence of researcher bias; continually returning to the raw data when facing moments of disagreement within the coding team; and attending to power dynamics on the coding team as these dynamics may influence the data analysis process (Hill, 2012). Additionally, the final version of the transcript was shared with the respective participants to ensure accuracy and proper reflection of participant accounts. A draft of the dissertation results chapter was also shared with all participants to elicit their feedback and ensure that participants feel that their ideas are accurately represented in the data and data interpretation.

Training Judges. Prior to receiving access to transcripts, judges received structured CQR training directly from the primary investigator. This training consisted primarily of an educational presentation in which key components of CQR philosophy and process were reviewed. Additionally, judges read two seminal CQR articles and one published CQR study to further familiarize themselves with the method to be discussed in more depth during training (Hill et al., 1997; 2005; Cashore & Tuason, 2009). Two of the initial research team meetings were devoted to this orientation to CQR and discussion of key concepts and processes to ensure sufficient knowledge of the method.

Bracketing Expectations and Biases. CQR recommends a thorough literature review prior to data collection, and Hill et al. (1997) recommends a subsequent *bracketing* process or "forgetting of the literature" notion in which the researchers approach the material with an open mind and allow the data to "speak for themselves" (p. 535). This approach is encouraged by Hill (2012) throughout the interview and data analysis stages to enhance focus on the participants' described experiences. In line with

CQR guidelines, the bracketing process involved a recording of personal biases and expectations by each team member before engaging in the data analysis process (Hill, 2012). All team members first reflected and made notes about their own demographics, values, and beliefs that they expected might influence their perspective on the research topic. Independent reflection was encouraged prior to collective discussion of positionality and biases to inhibit undue influence from one team member on another. Hill (2012) encourages an open, non-judgmental dialogue about individual biases with the additional layer of awareness that these discussions might be uncomfortable or challenging for some team members. The team leader sought to ensure strong understanding of the importance of this level of self-awareness for the integrity of research process and provided specific examples, rationales and definitions to ensure team member understanding before embarking on the bracketing process. During the collaborative discussion portion of the bracketing process, team members reflected on any past exposure to cancer, including cancer diagnoses in family and friends, death of loved ones to cancer, personal removal of suspicious tissue, and professional experience working with cancer patients. Notably, no members of the coding team had ever been personally diagnosed with cancer. Expectations regarding humor use as a coping mechanism were also discussed, including beliefs that generational differences and cultural background likely contribute to humor coping. Several team members reflected on their own use of humor as a rapport building device in clinical work, and thus, team members generally considered humor to be a connective force. All coding members shared beliefs that cancer is typically a profoundly life-altering and often traumatic experience that evokes existential questioning.

The process of bracketing also functions to help the researchers remain in direct contact with the data rather than remaining caught up in the empirical literature and risking the overlook of essential information (Hill, 2012). Hill (2012) reminds researchers of the importance of attending to the verbatim words of the interview transcripts rather than attempting to describe “what they would like the participants to have said” (p. 42). Thus, particularly when struggling to reach consensus about a particular code, the team prioritized returning to the transcribed interview to re-read contextualized quotations.

Attending to Power Dynamics on the Research Team. CQR is a highly collaborative analytical process involving identification and communication between multiple coding team members and the external auditor. Discussion about core themes in the participant data continues until agreement is reached by all coding team members, a process that demands intentional consideration of power dynamics that could potentially interfere with genuine consensus if judges feel uncomfortable or inhibited to share authentic conceptualizations with the rest of the coding team. Though power differentials tend to emerge organically, the primary investigator strived to remain aware of how differing levels of experience (e.g., novice vs. more experienced researchers) may impact judges’ comfort in engaging in the necessary “arguing to consensus” process that CQR demands (Hill, 2012, p. 51). Thus, steps were taken to ensure a condition of safety and to distribute power equitably amongst judges. The coding team worked together to develop a team culture marked by openness to discussion, encouragement of disagreement about themes, and routine invitations to share divergent thoughts and opinions about codes. The team met synchronously via Zoom to read and code the first three interviews to gain comfort and confidence in CQR analysis before transitioning to independent, asynchronous reading and coding of shared interview documents for cases four through twelve. The team continued to meet synchronously via Zoom after independent coding to discuss interpretations until consensus was reached for each case. Additional efforts were taken to reduce the possibility of certain perspectives becoming dominant by judges taking turns as the preliminary coder (i.e., the first person to add written comments on a shared document regarding suggested domains.) Interestingly given the study topic, humor was frequently used during discussions involving divergent opinions and appeared to foster comradery during the consensus process. When certain quotations appeared multi-codable across domains, the team returned to the wider context of the interview text (e.g., reading extended portions of the text versus over focusing on singular quotations.) The team also consistently attended to nonverbal data (e.g., pauses in speech indicated in transcripts with ellipses and notes about intonation and speech quality). A few times when the team had more difficulty reaching consensus about a particular code, the principal investigator played snippets of interview audio recordings, which provided additional context.

Developing Domains. The second stage involved processes inherent to analysis of one particular interview including: development of *domains* (i.e., meaningful and unique classifications distilled from the interview data); construction of *core ideas* within each case (i.e., data summaries that capture the essence of a participant's statement in abbreviated form); involvement of an auditor to weigh in about initially determined domains and core ideas; and a revision process that incorporates the auditor's feedback into reconsideration of domains and core ideas (Hill, 2012). The first step of the CQR within-case analysis stage is to develop domains (i.e., discrete topics) (Hill, 2012). To accomplish this, each judge first reviewed transcripts individually, noting the main themes that arise within the interview next to the relevant transcript section or quotation. These themes were revisited and revised on a regular basis as more interview transcripts were added and incorporated into the data repertoire, deepening understanding of participant experiences (Hill, 2012). Discussion and revisions occurred within the overall domain list until stabilization occurred. Hill (2012) does not specific a specific number of domains that "should" be defined, rather she encourages the domain definition process to continue until domains are discrete or "nonoverlapping" (p. 105). However, in most published CQR studies, there are approximately 8-12 domains. In this dissertation, a total of eight domains were derived by the completion of data analysis.

Constructing Core Ideas. The next step in the CQR within-case analysis stage was to construct core ideas, or "summaries of the data that capture the essence of the participant's statement in fewer words" (Hill, 2012, p. 111). These core ideas intended to reflect an individual's experience (i.e., or one dyad's experience in the case of this dissertation study) while simultaneously allowing researchers to cross-compare these core ideas across cases. To accomplish this, the team revisited quotations (i.e., interview data) from an individual transcript that mapped onto a certain domain. Then, the judges discussed how to best summarize what the participant said, while remaining as true to the verbatim transcript as possible. This included team discussion surrounding other details to include and/or clarification of the participants' meaning. This process continued through each transcript and each domain until consensus was reached regarding final core ideas by all members of the coding team. Hill (2012) reiterates that the purpose of the core idea definition process is to "capture the content of the interview data in a succinct manner, staying grounded in the data and not interpreting participant intentions" (p. 113). The research team tried to avoid double-coding data, as per the recommendations of Hill (2012). Throughout the entirety of the core idea process, the research team continued to attend to context of the domains and interviews.

Initial Auditing Process. Once consensus was reached for each individual case, including specification of domains and core ideas, the document and respective transcript(s) were sent to the auditor for review. The responsibility of the auditor was to ensure the proper placement of data within the domains and core ideas, that all essential data has been captured, and that core ideas are representative of the domain data. The auditor also suggested alternative domains or core ideas that should be further considered by the coding team. The coding team reviewed all suggestions and feedback and determined whether the auditor's comments would be integrated or declined. Communication between the coding team and the auditor continued until consensus is reached.

The third stage of CQR moves to interpretation of data across all study cases including: development of common *categories* within domains that are applicable across all cases; involvement again of an *auditor* to weigh in on cross-analysis interpretations;

and another revision process that incorporates the auditor's feedback into the cross-analysis (Hill, 2012).

Determining Categories. Following the initial auditing process and achievement of consensus for the within-case analysis stage, the coding team moved into the cross-analysis stage, in which common themes, or *categories*, were identified across cases (Hill, 2012). This process involved reconsideration of the relationship between original domains; and regrouping of certain domains as categories and sub-categories under other domains; as well as identification of new themes that became evident after looking at the consolidated data across cases. Before embarking on this phase, a comprehensive document was compiled of all domains and core ideas, mapped on to the respective case quotations. Then, cross-analysis began by approaching one domain at a time and subsequently create a "category structure" that captured most of the data within the original domain (Hill, 2012, p. 118). This process is intended to be discovery-oriented, in that category titles are extracted from the original data as opposed to assumptions or interpretations by the research team. Team members worked independently to create categories and distill sub-categories, continuing until consensus was reached regarding the final list of categories and descriptive nomenclature. This required several rounds of reclarification of categories until the end result accurately represented all essential concepts in the data.

Secondary Auditing Process. During this step, the auditor reviewed core ideas, categories, and sub-categories and provided. As with the initial auditing stage, the auditor also suggested new ideas regarding categories and their respective titles. The coding team then again reviewed all suggestions and feedback together and incorporated the auditor's feedback into a further refined domain list. For instance, during the within-case analysis stage, Dr. Raque often noted alternative domain code suggestions that the team then reconsidered codes via discussion and revisiting of original text. During the cross-analysis stage, Dr. Raque noted salient themes that did not yet appear to be captured in existing domains, categories, and sub-categories; and the team would subsequently re-read related quotations to see if this theme was reflected in other examples; if so, a new category and/or sub-category was added to the domain list. This process continued until consensus was reached by all members of the coding team and the auditor.

Reporting the Data. CQR's final stage involves written summarization of the findings by writing and rewriting; obtaining feedback and incorporating revisions; and continuing to rewrite until a compelling, clear story is produced that sufficiently reflects the data (Hill, 2012). The writing process prompted re-ordering of domains so that the final list reflected the chronological articulation of domain relationships in the results chapter (e.g., the domains of Sociocultural Influence on Humor and Nature of the Bond were re-ordered to appear at the beginning of the list because the principal investigator realized they set the stage by describing foundational qualities about the individual participants and dyad from which the other domains stemmed in the context of the cancer situation). Following consensus about categories, the cross-analysis phase was complete. Then, categories were labeled as "general," "typical," or "variant" according to how represented they are within the sample (Hill et al., 2005). *General* was ascribed to categories consisting of data from all participants, or all but one (*n* = 11-12 cases) (Hill, 2012). *Typical* was assigned for categories in which more than half of the participants are represented (n = 7 or more cases). *Variant* was used to describe categories that only occurred in a few cases (n = 3-6 cases). In this study, no classifications were made for miscellaneous or *rare* category (i.e., typically only designated for themes evident in a singular case).

Researcher Positionality Statement

In congruence with CQR's axiology perspective and the tradition of qualitative research, a detailed research positionality statement has been written. The primary investigator is a White, heterosexual cisgender woman in her early 30s who was completing her doctoral degree in counseling psychology. She has a longstanding, personal investment in the selected research topic and method based on her background and worldview. The primary investigator's first exposure to cancer survivorship was in high school, when her father, a hematologic oncologist, was diagnosed with cancer. His diagnosis left her feeling rattled and anxious about mortality as well as incapacitated from discussing cancer directly with him for many years. Despite her father's relatively smooth journey into remission, their relational dynamic changed, as cancer provoked a disruption in the tradition of the researcher seeking emotional comfort and informational support pertaining to physical health conditions from her father. In response to learning of his diagnosis and becoming overwhelmed with anticipatory grief, the researcher was inhibited in sharing her authentic emotions with her father. This resulted in a period of increased social isolation and loneliness that was likely experienced by both the researcher and her father.

Upon more recent reflection, moments in which humor was incorporated into their discussion around cancer and the researcher's heightened emotionality surrounding her father's diagnosis appeared to allow for increased connection and sustained discussion of cancer-related topics. For many years after her father's successful treatment, the primary investigator wrote creative works that centered on her father's illness and her own resulting grief. Some of these creative works even involved imagining her father's death and funeral. The researcher's father consistently expressed interest in reading these creative works, and it appears that this narrative-based grief rumination deepened her father's understanding of how his own illness impacted his daughter. Though not overtly funny, the researcher and her father routinely co-acknowledged the inherent awkwardness of the researcher's incessant grief process through use of lightness and humor. This allowed for some emotional reprieve while simultaneously building comfort with talking about acutely painful emotions. It is highly likely that the researcher's father tolerated this well and allowed sharing of this creative work to foster connection rather than disconnection due to his longstanding experience reckoning with existential issues in his professional role as a hematologist-oncologist. Certain close friendships also provided support for the researcher to express authentic emotion related to her father's diagnosis that felt "off limits" at first in the relationship with her father. In addition to this experience, the researcher has provided support to several other family members who have unfortunately experienced cancer in recent years.

Informed by these experiences, it has become increasingly important to the primary investigator to facilitate conversations about difficult health experiences and to help create platforms for people to communicate their stories about cancer to others, whether one is a cancer survivor, a caregiver, or a child emotionally paralyzed in fear about what may or may not happen to their parent. It is likely that this desire to better understand human emotional processes surrounding serious health issues compelled the primary investigator to pursue work at a comprehensive cancer hospital following her undergraduate studies, in which she worked for more than five years in various administrative roles within the Division of Hematologic Oncology at Memorial Sloan Kettering Cancer Center (MSKCC). MSKCC also presented the opportunity for the researcher to become involved with the Visible Ink Writing Therapy program; clinically adjacent work that provided creative programming for cancer survivors. The researcher's psycho-oncology interest has continued to develop through the primary investigator's work with her doctoral mentor, Dr. Trisha Raque at the University of Denver, with whom she has assisted with several cancer survivorship projects related to cancer's impact on the work/career dimension, and the impact of a positive-psychology-based workshop on cancer survivors and caregivers.

The researcher's core values are closely aligned with the objectives of this research project and include: 1) the healing, restorative, and sustaining power of growth-fostering relationships and social connection in human lives; 2) the inherent worth of individual subjective experience; 3) the ability to glean objective truths from individual, subjective accounts; 4) the ability to capture objective truths from modified or slightly revised retellings of experience (e.g., creative storytelling; humor-infused stories); 5) equitable treatment of all members of society; 6) critical examination and resistance against societal systems that marginalize, oppress, or discriminate against certain groups; 7) the capacity for certain friendships to hold space for authentic internal processes and connection in a manner unique from other types of intimacy (e.g., familial, romantic partner); 8) the therapeutic power of humor to assuage distress in order to maintain dialogue around difficult issues; 9) the capacity for humor to increase sense of connection between people; 10) the importance of mutual discussion of both positive and more challenging thoughts and emotions within relationships; and 11) qualitative research as a valuable endeavor to explore, expand, and challenge these values and worldviews.

To ensure sound research ethics, quality trustworthiness and rigor, the primary investigator sought to continually practice reflexivity through utilization of a bracketing practice to record expectations and potential biases that arise in reaction to the data. The researcher sought to respect the personal contributions of study participants by remaining in close contact with the original data throughout the process of data analysis. The primary investigator also emphasized and provided support around the importance of reflexivity to the rest of the coding team. It is standard practice within many avenues of qualitative research for the primary investigator to discuss expected findings and reflect upon the way in which these expectations are informed by the researcher's own perspective; and to be explicit about any potential biases that may influence interpretation. As such, the primary investigator expected that many of the friendship dyads would describe using humor as a coping mechanism that enabled authentic expression within the friendship; and that humor would provide emotional relief necessary to sustain distressing discussions about advanced cancer topics, especially existential concerns (e.g., death as it pertains to a young adult who may face more acute reckoning with their own mortality and dramatically altered life course/expectations). It was expected that humor would serve to deepen the sense of connection between a young adult with an advanced cancer diagnosis and a friend who is not personally experiencing cancer; and that humor would allow more fluid mutual exchanges of care within this friendship context (i.e., allowing both the cancer survivor and the friend to "gift" humor or provide care in the form of humor to one another). Barriers to appropriate or helpful humor use are also expected, though it was not pre-emptively known to what extent boundaries would exist around death/fear of death or mortality. The investigator strived to remain open-minded regarding all data that is collected, including unexpected results.

Dyadic Research

Overview

Qualitative dyadic research involves *dyadic interviewing*, or the collection of data from two participants interacting and responding to open-ended research questions together, and *dyadic analysis*, which allows for consideration of not only the individual participant's contributions but the dyad as an inseparable entity (Morgan et al, 2013; Morgan 2016). Manning and Kunkel (2015) describe dyadic analysis within couple research as an opportunity to observe overlap and contrast within a romantic partnership, which in turn can allow a researcher to better understand the way a dyad makes meaning, experiences reality, or maintains its own sense of being (p.186). Several studies have established a precedent for utilizing dyadic research within the context of qualitative health research (Morgan et al., 2013; Mitchell et al., 2017; Petersen et al., 2020; Nielsen et al., 2019; Tan-Ho et al., 2020). A study by Campbell-Salome and Rauscher (2020) sought to illuminate family narratives related to hereditary cancers such as BRCA1 and BRCA2 gene variants, drawing from Communicated Narrative Sense Making (CNSM) theory by utilizing narrative tone and framing as analytical constructs. This dissertation was concerned with expanding understanding of the ways in which humor functions within the context of a friendship in which one party is a young adult living with cancer, thus, a dyadic research approach was selected to not only understand these dimensions within the survivor and friend individually, but to understand how the friendship as a relational unit uses humor to cope with the impact of cancer.

Dyadic Interviewing

Despite some similarities, the process of dyadic interviewing remains distinct from both classic individual and focus group interviewing. Morgan and colleagues (2013) describe potential advantages of dyadic interviewing such as one participant helping the other to remember or recognize ideas and fostering a co-constructed version of the research topic; and potential disadvantages such as more limited privacy that might be stronger within an individual interview setting and less interviewer control over the session. In comparison to focus groups, Morgan et al. (2013) highlights the opportunity for two-person conversations and interactions to imitate real-world interactions more realistically.

Dyadic interviews have been utilized in family studies since the 1970s (Arksey, 1996; Edgell, 1980), though this approach is still relatively nascent within the overall field of research. Much of the existing research on previously established relationships and dyadic interviewing is grounded within the family and couple's realm, where dyadic approaches have illuminated certain interactional processes not visible at the individual interviewing level (Reczek, 2014). For example, dyadic interviewing has been used to explore the ways that same-gender romantic partners "negotiated and co-constructed the meaning of commitment and marriage" (Reczek, 2014, p. 326; Badgett, 2009; Hull, 2006). Of relevance for this study, dyadic interviewing was of particular utility and benefit for researchers interested in how meaning in relationships or surrounding events was mutually constructed and negotiated (Reczek, 2014).

Notably, the pairs required for dyadic interviewing can either be comprised of two people with an existing relationship (e.g., couples, friendship pairs) or dyads matched by the researchers based on a commonly held interest in the research topic; and this study involved the former option by interviewing a pair of friends navigating the cancer survivor's trajectory (Morgan, 2016). Only a few studies have interviewed friendship pairs including one which interviewed adolescents between the ages of 13 and 15 regarding the social context of their smoking and cannabis use (Highet, 2003). Participants were given the choice between interviewing individually and interviewing with a friend of their choice, and the dyadic interview quickly emerged as the preferred option. Highet (2003) emphasized the benefits of dyadic interviewing in that project including facilitating access and recruitment by helping participants relax and become more enthusiastic about participation; helping to maximize accuracy and completeness of data; and offering a more naturalistic environment and a better relationship balance between interviewer and participants. In another study conducted by Borland and Amos

(2009), all participants opted to be interviewed in a friendship pair about the perceived impact of an increase in age of sale for cigarettes in teenage smokers.

Dyadic Analysis

Leading scholar David L. Morgan describes the “units of analysis trap” related to dyadic analysis, which is the researcher’s confusion surrounding whether to consider the individual participants or the dyad itself as the appropriate unit of analysis (Morgan, 2016). He argues that this tension stems from a lack of awareness and confidence surrounding the conceptualization of the interactional production of qualitative data. He posits that this question regarding proper units of analysis is misguided and that “it makes more sense to see the individuals and the dyad as inseparable” (p. 79).

The literature on dyadic analysis is rather slim but includes writings by Eisikovitz and Koren (2010) that rely on separate in-depth interviews of couples and two levels of analysis (i.e., thematic analysis of each interview separately; and analysis of the martial dyad); Van Parys et al. (2017) who proposed a four step model of analysis including interpretative phenomenological analysis, analysis of each family unit, cross-family thematic categories, and continuous auditing by internal and external auditors. Hochman, Segev, and Levinger (2020) proposed a five-stage model for dyadic analysis grounded within a social constructivist framework that is interested in how family members “construct and interpret their own social reality within shared family realities” (p. 684). The five phases include 1) microanalysis; 2) dyadic analysis; 3) exoanalysis of the family narrative; 4) macroanalysis; and 5) cross-family analysis. The microanalysis phase involves the interpretation of individual, subjective accounts and how each participant attaches meaning to the particular experience; the dyadic analysis phase examines themes that emerged within each dyad collectively as well as the overlaps and contrasts between individual accounts; the exoanalysis of the family narrative phase focuses on the shared family narrative and associated relational dynamics and considers each member's perspective as well as the dyadic perspective; the macroanalysis phase involves 'abductive analysis' in which the best prediction is made of systemic family meaning and understanding; and finally, the cross-family analysis phase conceptualizes the analyses distilled for each family unit in context with all other family dyads (Hochman et al., 2020).

A lively discussion continues to unfold with concern to both dyadic and focus group interviewing regarding how much significance to bestow on interactional dynamics, with some advocating for more or less contextual consideration of an interactional moment (Morgan, 2016). Morgan (2016) posits that interactional dynamics should be more accessible and less convoluted within a dyad in comparison to a focus group. He states, "This probability arises from the kind of mutual attunement that is necessary to maintain a two-person conversation, where there is a notable tendency for each person to acknowledge the other's input to the ongoing dialogue" (p. 81). For this dissertation study, the writer considered the opportunity to incorporate interpersonal processes observed between friends within the interview setting to be an asset to a deeper understanding of the content of a friendship where one member is living with advanced cancer, that might be more pronounced within a dyadic interview than separate, individual interviews.

Most processes inherent to mainstream qualitative content analyses are applicable to dyadic data including summary-based reporting, content analysis, thematic analysis, and grounded theory (Morgan, 2016, p. 81-84). Of primary relevance to this study are content analysis and thematic analysis. Regarding content analyses, Morgan (2016) urges the researcher to consider whether 1) the analytical system is derived either deductively or inductively. Deductive analysis is "top down" and is most commonly used when there is a predetermined system for examining data content; while inductive analysis is more exploratory in nature and is driven by the researcher's unique coding process. There is also a hybrid approach that typically starts with deductively established coding categories followed by an inductive reading of the data. Morgan (2016) also stresses the importance of carefully considering which approach the content analysis should take: a count-based or a more qualitative approach. Again, there is also a hybrid version of these approaches that first draws from standard counting of codes to establish meaningful patterns in the data before embarking on a qualitative reading of the data to better understand a process that may be producing the relevant pattern.

There is some literature available about analyzing dyadic data for interpersonal processes including *affective analysis*, which Manning and Kunkel (2015) describes as involving "understanding that people's actions or responses are often not based on logic or reason; rather, they assign meaning based on feeling, especially feeling in a particular place and time" (p. 189). It is posited that a certain situation or stimuli has the capacity to manifest a wide range of affective responses in an interviewee and that the goal of affective analysis is not to generate an extensive list of these responses; but instead to make sense of *how* emotion circulates within different moments (Manning & Kunkel, 2015). Of relevance for this study, the research team strived to pay close attention to interactive moments between the cancer survivor and their close friend in which humor and/or laughter is used in real time during the interview, as this scenario presented a simulation of humor use within the dyad outside of the research context.

Regarding thematic analysis, or a common process of induction wherein the researcher both reads and codes data in order to understand deeper meaning within participant interviews, various approaches with similar processes exist in the realm of qualitative research including narrative, phenomenology, grounded theory, ethnographic, and case study (Creswell & Poth, 2018). This study selected the Consensual Qualitative Research (CQR) approach because of its more rigorous approach to reaching thematic consensus through the utilization of a coding team with multiple perspectives, an emphasis on data context, an external auditing process, and revision processes (Hill, 2012).

Participants

Interviewees.

Interviewees for this study were members of 12 friendship dyads (i.e., 24 total participants). Criteria for participation was determined primarily by identification of one young adult with advanced cancer for whom humor was a salient coping mechanism and an adult friend of their choosing who had never been personally diagnosed with cancer. Specifically, inclusion criteria sought study participants who were: (a) a member of a close friendship dyad in which one person was a young adult (i.e., between the ages of 18 and 41) diagnosed with cancer and one person was an adult (i.e., age 18 or older) who had not been personally diagnosed with cancer; (b) the cancer survivor member of the friendship dyad was diagnosed with cancer between the ages of 18 and 39; (c) the cancer survivor member of the friendship dyad had received an advanced cancer diagnosis as defined by either stage III or IV, recurrent, metastatic or severe blood cancer such as AML, ALL, myeloma, stage III or IV Hodgkin's or Non-Hodgkin's lymphoma, multiple myeloma, or a myeloproliferative disorder; (d) both people were English speaking; and (e) both people consented to participation in the study.

Judges.

Effort was made by the primary investigator to assemble a diverse research team with varied sociocultural backgrounds and previous research experiences to increase heterogeneity in coder perspectives interfacing with participant data. Team members were referred to as *judges*, and each judge had pre-existing interest in either cancer survivorship or chronic health-related issues, close relationship dynamics, or narrative devices (e.g., humor). A brief description of the coding team positionality is included here to contextualize the team composition in relation to the study findings. The coding team was comprised of four judges, including 3 heterosexual, cisgender women and 1 queer, non-binary person. All team members possessed educational privilege with one judge currently employed as a licensed social worker at a renowned cancer center and three judges actively completing graduate-level degrees in counseling psychology. One. Regarding racial/ethnic diversity, 1 judge identified as White, 1 identified as White and Sicilian, 1 as Filipino, and 1 as Lebanese American or Arab-American. Judges also disclosed important dimensions of their existing and emerging professional identities as they related to the topic of study; and 2 judges had current or prior professional work experience in oncology and 1 judge had developed a professional interest in cancer after attending a psycho-oncology conference. All judges reported history of close family or friends being diagnosed with cancer.

Auditor.

In line with CQR's method, an auditor was appointed to provide detailed feedback throughout the coding process. The auditor serves as a 'checks and balances' system that contributes to increased trustworthiness and overall quality of the research findings. For this dissertation, the auditor was the chair of this dissertation, Dr. Trisha Raque, who is a 44-year-old, White, bisexual, cisgender woman, and Associate Professor in the Department of Counseling Psychology at the University of Denver, which houses a counseling psychology master's and doctoral program.

Measures

Demographic Questionnaire

Following the obtaining of formal consent to participate in the research study and prior to the interview, all participants completed a brief questionnaire was sent via email and conducted using the Qualtrics survey platform. Participants were asked to identify their age, race and ethnicity, gender identity, sexual orientation, occupation, income, standard weekly work schedule, educational background, and additional experiences with cancer (e.g., having a friend, family member, or loved one that has also been diagnosed with cancer). Survivor participants were asked several additional questions about their cancer experience including their diagnosis, cancer staging, age of diagnosis, course of illness, treatment history; and they were also asked to describe the impact they felt cancer has had on their life.

Semi-Structured Dyadic Interview

Participants completed one semi-structured dyadic interview (i.e., the survivor and friend participant were interviewed jointly) via the University of Denver's Zoom platform. Interviews explored the following dimensions relating to humor use in the context of a young adult friendship impacted by advanced cancer: 1) the function of humor use within the friendship as it relates to key Relational Cultural Theory concepts such as authenticity, mutuality, the relational paradox, and connection; 2) how humor influences the meaning making process for a young adult diagnosed advanced cancer for a young adult; 3) how humor is uniquely used within friendships impacted by advanced cancer; 4) how humor has impacted comfort in discussing cancer with others; and 5) barriers to humor use within the context of friendship. The interview protocol was developed in several stages. First, the primary investigator discussed the general association of humor and cancer with the dissertation chair (Dr. Raque), before embarking on a process of literature review about young adult cancer, advanced cancer, humor-related cancer research, Relational Cultural Theory, Communicated Narrative Sense Making Theory, and the friendship support dimension of social support for cancer survivors. Dr. Raque also connected the primary investigator with Erin Price, LICSW, Young Adult and Psychosocial Support Programs Director at the Smith Center for Healing and the Arts in Washington D.C. The primary investigator had two, hour-long phone conversations with Erin Price and Charity Sadé, Founder of the Smith Center's "Coping with Cancer" workshop, in which research ideas were discussed and preliminary interview questions designed by the primary investigator were revised and expanded upon. Detailed feedback about the interview protocol was also provided by Dr. Raque and additional revisions were made over four different rounds, at intermittent points during the literature review writing process.

As recommended by Hill (2012), pilot interviews were conducted prior to the study, which allowed the researcher to practice interviewing and asking follow-up questions. Pilot interviews were conducted with two friend dyads, each comprised of one individual impacted by a chronic health problem and their close friend who did not have a chronic medical condition. These opportunities also allowed the researcher to receive preliminary feedback from an external party regarding the clarity, relevance, and content of the interview questions. For example, pilot interviewees noted how helpful it was to begin with 'warm up questions' such as being asked to tell the story of their friendship, describe their personal humor style and sociocultural identities that likely shaped their humor style. The researcher also gained valuable experience in attending to the dyadic interview context, which sometimes required more directive prompts for friend participants to contribute to the discussion.

Procedures

Participant Recruitment

The first phase of recruitment utilized purposive sampling by targeting cancer survivors who had completed the "Coping Through Comedy" workshop created and founded by Charity Sadé. More specifically, the six-week program was designed for young adult cancer survivors to work with comedians including Charity Sadé, a stand-up comic and breast cancer survivor, to develop a five-minute stand-up comedy act related to their cancer experience. This recruitment strategy aimed to assemble a study sample comprised of participants for whom humor was a salient coping mechanism. The study's first three survivor participants were recruited from the "Coping Through Comedy" program. The second phase of recruitment utilized purposive and partial snowball sampling approaches to recruit cancer survivor participants by contacting various cancer survivorship organizations, including organizations specifically serving young adult cancer survivors (e.g., Stupid Cancer, Cactus Cancer Society, Cancer Support Community, First Descents, Young Survival Coalition), to request their assistance in circulating study recruitment emails and/or circulate recruitment flyers to their organization contacts. The primary researcher also contacted several individual oncology providers to inquire about their willingness to disseminate recruitment materials to potential participants. Several organizations posted recruitment materials posted on their respective social media channels (e.g., Facebook, Instagram) and listed the dissertation as a potential research opportunity for survivors on their websites.

Twenty-one individuals (19 prospective survivor participants, 2 prospective friend participants) contacted the primary investigator via email to express initial interest in study participation. The primary research conducted brief screening phone calls with 15 cancer survivors to determine if they met inclusionary criteria and to explain the purpose and processes of the research study. Of these 15 survivors, 12 moved forward with full participation in the study; one did not meet eligibility criteria as they had a stage I diagnosis; one informed the researcher that their friend was unwilling to participate in the research interview; and one stopped responding to email correspondence. The 6 individuals who contacted the researcher via email but did not advance to an eligibility screening phone call either stopped responding to email correspondence; indicated that their friend participant was unwilling to participate; or were actively experiencing acute medical complications related to their cancer that precluded their ability to participate in the interview.

Of the 12 eligible survivors who wished to proceed with recruitment, the investigator then emailed formal, individual study invitations to both the survivor participant and their close friend. The email sent to the survivor participant included a link to the informed consent form and demographic questionnaire, as well as comprehensive information about the purpose of the study, the structure of the study, risks and benefits of participation, participant eligibility requirements, and information about incentives for study participation. The initial email sent to the friend participant included the same comprehensive information about the purpose of the study, the structure of the study, risks and benefits of participation, participant eligibility requirements, and information about incentives for study participation; and asked the friend participant to first reply to the researcher verifying interest in moving forward with study participation. Once a verification email was received from the friend participant, the researcher sent an additional email to the friend participant with a link to the online informed consent form and demographic questionnaire. These emails also informed all participants that interview scheduling would occur after both individuals completed the online informed consent form and demographic questionnaire. Scheduling emails were sent jointly to each friendship dyad. Once an official interview date was determined, participants were emailed a confirmation email with interview date/time/Zoom link details as well as a copy of the interview protocol.

Following completion of the interview, participants were emailed individually to express gratitude for their participation and to encourage their completion of an optional follow-up questionnaire to provide additional comments not mentioned during the interview or feedback about their participation experience. Additionally, all participants were sent an electronic twenty-five-dollar American Express gift card as a token of financial appreciation for their time and input to the study; with funding obtained through a grant received by the primary researcher from the Morgridge College of Education at the University of Denver. Nine participants including 4 survivor participants and 5 friend participants completed the formal follow-up questionnaire; and an additional 2 survivor participants and 1 friend participant shared additional thoughts via email. Follow-up comments included expressions of gratitude for the opportunity to participate in the study with their friend as it facilitated increased closeness and a chance for mutual reflection on how cancer affected the friendship, reiteration of how critical a respectful context was for effective humor use, a suggestion that it could be valuable for the researcher to conduct individual interviews as well, and one survivor shared a salient experience not covered during the interview (e.g., how they became a “medically famous” case study.)

Dyadic Interviews

The 12 dyadic interviews were conducted between September 2021 – April 2022 with length ranging between 72 minutes and 102 minutes, and the average interview being 78.6 minutes. Interviews were conducted by the primary investigator and audio-recorded over Zoom, a cloud-based video communications service, with additional security measures included such as a unique meeting identification number for each interview. Participants were given the option of joining the Zoom meeting from separate locations or the same location; in consideration of their preferences regarding safety and comfort given the context of the global COVID-19 pandemic. Only one dyad joined from the same location (i.e., one survivor participant had traveled out of state to visit the friend participant and said it was preferrable to be in the same physical location for the interview). Before each interview began, participants were reminded of the study purpose and that the interview will be audio-recorded and transcribed, but that audio-recordings will be shared only with research team members as determined by the primary investigator. Additionally, the primary investigator obtained verbal consent from both members of the friendship dyad before commencing the interview and reviewed limits of confidentiality, including the interviewer's role as a mandated reporter. Participants were given the option to turn off their video feature if they preferred (i.e., video was included as an option with the intention to enhance rapport-building between the interview triad; and to allow for increased observational data regarding interpersonal interactions between the friendship dyad).

During the interviews, the primary investigator recorded impressions and pertinent observations of each interviewee and notable in-vivo dyadic exchanges, as recommended by Hill et al. (2005). Interviews were conducted dyadically, with both the cancer survivor and friend present together to allow for inclusion of the dyad as an inseparable entity as well as individual participant contributions (Morgan et al, 2013; Morgan 2016). The dissertation sought to contribute meaningfully to the existing CQR literature by expanding upon typical data collection methods through the inclusion of dyadic interviewing, as Flynn et al. (2019) reported the semistructured individual interview as the most commonly used data collection method.

Confidentiality and Transcription

As individual interviews were completed, they were transcribed verbatim by the primary researcher. To protect confidentiality, specific names and other identifying information were replaced with generic substitutes (e.g., “Survivor,” “Friend,” “HOSPITAL”). Any recurrent, unnecessary filler language (e.g., “um” or “ah”) was omitted at the transcriber’s discretion. In compliance with both the American Psychological Association’s guiding ethical principles and 45 CFR 46.115(b), participants were advised through the written informed consent that all research records including audio files would be kept intact for a minimum of three years following completion of project in the event that re-visitation of the original data is needed to clarify questions encounter by the data analysis team (University of Denver Office of Research and Sponsored Programs, 2021). In line with Participatory Action Method, each friendship dyad was emailed a copy of their corresponding transcript to solicit feedback about it if the data felt accurate and representative of their perspective. This effort was made by the primary researcher as an effort to increase transparency surrounding the research process before embarking on the data analysis process. Eight participants responded to these emails and shared that they felt well-represented, with a few noting minor typos and a rare instance when a quotation was misattributed to the wrong member of the dyad; and the primary researcher effectively made those identified edits. As an additional layer of privacy, the transcribed document was secured via password-protection, and the password was only shared with the respective participants and the coding team members and study auditor. One additional step was taken in line with Participatory Action Method, as the primary research also emailed each participating friend dyad a draft copy of the dissertation results chapter to solicit feedback prior to finalization of the manuscript. Six participants responded to these emails, and all reported positive reactions to the written findings including well-represented and accurate reflections of their shared experience.

Chapter Three: Results

The qualitative dyadic interview data provided a detailed description of the experiences of humor use within 12 young adult friendship dyads impacted by advanced cancer. Results from Consensual Qualitative Research analysis revealed eight domains including (1) Sociocultural Influence on Humor; (2) Nature of the Bond; (3) Maintaining Normalcy; (4) Coping with Cancer-Related Distress; (5) Navigating Conversations About Cancer; (6) Resiliency Building; (7) Evolution of the Relationship After Cancer; and (8) Limits of Humor Use. In this chapter, findings are described in detail following review of background data about study participants, including demographic information about survivor and friend participants, and cancer-specific information about survivor participants. Subsequently, each domain, category, and sub-category is then comprehensively described, featuring specific quotations to substantiate the coding team's interpretations. All participants have been assigned pseudonyms to protect confidentiality. In the subsequent chapter, integrated discussion is included that elucidates connection of domains to the study's central research questions. Appendix I presents the domains, core categories, and exemplary participant quotations. A category is described as "general" when it was evident in almost all cases (*n* = 11-12 cases); "typical" when it included more than half the cases (*n* = 7 or more cases); and "variant" when applicable to only a few cases (*n* = 3-6 cases).

Background Data

Self-reported background data about the 24 total participants (12 survivors, 12 friends) will be described briefly. For each participant, gender identity, race/ethnicity, age, sexual orientation, annual income, and education history was collected. For survivors only, date of initial diagnosis, date of recurrent or subsequent diagnoses, cancer staging, course of illness description, cancer treatment history, and description of overall impact of cancer was collected.

Demographic Information.

Table 1 depicts salient participant descriptions including assigned pseudonym, age at time of study, a brief demographic description, cancer description for the survivor participant, and a brief description of the friendship. Of the 24 participants, 20 identified as cisgender women, 3 identified as cisgender men, and 1 identified as a transgender man. At the time of study interview, participants ranged in age from 21-46 years (mean age = 32.67). At the time of interview among the survivor group, five participants were between the ages of 22-29; five were between the ages of 32-38; and two were between the ages of 40-41 (mean age = 32.08). Among the friend group at the time of study, five were between the ages of 21-28; four were between the ages of 30-37; and three were between the ages of 43-46 (mean age = 33.25). Regarding race/ethnicity of all participants, 15 identified as White; 4 identified as Hispanic, Latinx, or Spanish origin; 3 identified as both White and Jewish; and 2 identified as biracial (Asian and White). Regarding sexual orientation of all participants, 15 identified as heterosexual, 3 as bisexual, 4 as queer, 1 as lesbian, and 1 as questioning. Five participants reported annual household income between $0-25,000, four reported $25,000-50,000, six reported $50,000-75,000, three reported $75,000-100,000, one reported $100,000-125,000, and five reported income above $125,000. In terms of approximate number of work hours per work, five reported between 0-10 hours, one reported 10-20 hours, three reported 20-30 hours, six reported 30-40 hours, and nine reported more than 40 hours. Regarding highest level of education achieved, two participants completed high school, one completed a two-year diploma program, twelve completed a college degree, and nine completed a graduate degree.

Table 1. Participant Demographics

Participant pseudonym	**Age at study**	**Demographic Description**	**Cancer Description at time of study (Age at diagnosis)**	**Friendship Description**
Dyad 1				
Survivor (S1): **"Amelia"**	35	White, queer, cisgender woman	Stage IIIA Breast Cancer (age 30); currently NED	Friends since junior year of high school; met working on school boat building competition
Friend (F1): **"Vera"**	36	White, bisexual woman	-	
Dyad 2				
Survivor (S2): **"Claire"**	36	White, heterosexual woman	Melanoma (age 27); Metastatic Melanoma (age 33); currently NED	Met via Craigslist roommate search; cohabitated through Claire's cancer journey
Friend (S2): **"David"**	46	White, Jewish, heterosexual man	-	
Dyad 3				
Survivor (S3): **"Adam"**	40	White, Jewish, heterosexual man	Brain Ependymoma (age 5) Basal Cell Carcinoma (age 12); Back Sarcoma (age 37); Benign Meningioma (age 39); Significant medical issues including multiple strokes; no current treatment	Brothers; became close friends in college/adulthood

Friend (F3): **“Nathan”**	37	White, Jewish, heterosexual man	-	
Dyad 4				
Survivor (S4): **“Mai”**	22	Biracial (Asian and White), heterosexual woman	Stage IV Ovarian Cancer (age 21); Currently NED but on maintenance therapy	Friends since freshman year of college; met in creative writing class
Friend (F4): **“Alexis”**	21	White, questioning, cisgender woman	-	
Dyad 5				
Survivor (S5): **“Oliver”**	34	White, queer, transgender man	Stage IV Endometrioid Adenocarcinoma Grade 3 (age 33); "incurable" diagnosis; No current treatment	Dated for 2 years; reconnected as platonic friends a few years later
Friend (F5): **“Lucy”**	34	White, queer woman	-	
Dyad 6				
Survivor (S6): **“Lily”**	29	Biracial (Asian, White), heterosexual woman	Stage IV - Primary mediastinal large B-cell lymphoma (PMBCL) (age 28); No current treatment	Friends since freshman year of high school
Friend (F6): **“Charlotte”**	30	Hispanic, Latinx, or Spanish origin, heterosexual woman	-	
Dyad 7				
Survivor (S7): **“Maya”**	24	White, heterosexual woman	ALL T-Cell Leukemia (age 22); Currently cancer free	Friends since college; met at band camp
Friend (F7): **“Sarah”**	25	White, bisexual woman	-	
Dyad 8				
Survivor (S8): **“Sofia”**	41	Hispanic, Latinx, or Spanish origin, heterosexual woman	Stage IV Neuroendocrine Cancer (age 36); Currently on monthly Lanreotide injections	Sisters; became close friends in college while living together
Friend (F8): **“Rosa”**	44	Hispanic, Latinx, or Spanish origin, heterosexual woman	-	
Dyad 9				
Survivor (S9): **“Anna”**	38	White, heterosexual woman	Stage IV Inflammatory Breast Cancer (age 34); brain tumor in the cerebellum (age 34); Leptomeningeal disease	Became friends in adulthood; met at preschool co-op while their

			(age 37); Currently on maintenance chemotherapy	children were playing
Friend (F9): **“Jeannette”**	43	White, lesbian woman	-	
Dyad 10				
Survivor (S10): **“Claudia”**	28	White, heterosexual woman	Acute Myeloid Leukemia -AML (age 4); Recurrence of AML (age 27); Currently on maintenance chemotherapy	Friends since high school (age 14/15); both played tennis
Friend (F10): **“Lauren”**	28	White, heterosexual woman	-	
Dyad 11				
Survivor (S11): **“Elizabeth”**	32	White, heterosexual woman	Desmoid type fibromatosis/desmoid tumor, unstaged, or "intermediate grade soft tissue sarcoma" (age 28), Currently on clinical trial	Became friends in adulthood; met at a theatre education company where Isabella worked, and Elizabeth was a teaching artist
Friend (F11): **“Isabella”**	27	Hispanic, Latinx, or Spanish origin, bisexual, cisgender woman	-	
Dyad 12				
Survivor (S12): **“Maeve”**	26	White, heterosexual woman	Stage IIIc Malignant Melanoma (age 25); Currently on OPDIVO	Friends since early childhood; attended same school and church
Friend (F12): **“Abby”**	28	White, queer woman	-	

Regarding cancer specific information, average age of initial young adulthood cancer diagnosis was age 29, with two participants (“Adam” and “Claudia”) also reporting childhood cancer diagnoses prior to subsequent young adulthood cancer diagnoses. Two survivors indicated being diagnosed with stage III cancer, six with stage IV cancer, three reported unstaged diagnoses, and one did not report the exact stage of a singular diagnosis because they experienced multiple cancer diagnoses in childhood and adulthood. Three survivors reported being diagnosed with blood cancer (primary mediastinal large B-cell lymphoma; recurrent acute myeloid leukemia; and T-cell acute lymphoblastic leukemia); two survivors with breast cancer (including inflammatory breast cancer), two with melanoma (malignant melanoma and metastatic melanoma), one with neuroendocrine cancer, one with ovarian cancer, one with endometrial adenocarcinoma, one with desmoid tumor/sarcoma, and one with brain cancer, basal cell carcinoma, and sarcoma. In the survivor group at the time of study, seven reported being on active cancer treatment and five reported no longer being on active treatment. The 12 friendship dyads also reported a good variety of friendship types including bonds established in early childhood, in college, in adulthood, former dating partners who became platonic friends following dissolution of the romantic relationship, and two sibling dyads who remarked openly on the evolution of friendship within the sibling bond.

Foundational Domains Regarding Individual Participants and the Friendship Dyad

Participants shared important background information about themselves as individuals and as a dyad, which meaningfully positioned each person within the friendship either prior to or separate from the influence of the survivor's cancer. These personal qualities and formative life experiences essentially 'set the stage' and established a unique relational context in which humor would later be used to communicate about cancer and related circumstances.

Domain 1: Sociocultural Influence on Humor.

All participants, including survivors and friends, described the influence of humor use in their family of origin, as well as the sociocultural identities and social roles that shaped the development of their own personal humor style. Most survivor participants described the sociocultural influence on their personal humor style prior to their cancer diagnosis; however, this distinction was not as clear for two survivors in the study (Claudia and Adam) that had also received a cancer diagnosis in early childhood (ages 4 and 5, respectively). Friend participant Vera, a 36-year-old woman, noted her family's cultural lineage as surprisingly instrumental to her own humor style (e.g., "I thought it was just my [Irish] family's sense of humor but it may in fact be a little more cultural than I realized and got passed down," lines 257-262), while Nathan, the 37-year-old brother of survivor Adam, described his humor style as characteristic of their family's Jewish cultural background:

> As Jews, using humor to deal with situations, especially situations that are uncomfortable or usually, you know, sad or depressing…I think that's a big aspect…. We were always listening to comedy albums or watching comedy with our dad or reading comedy books, that sort of stuff. So, that was always like a shared interest and love between us. (lines 139-140)

Several participants further described dimensions of sociocultural identity that developed over time (e.g., sexual orientation, gender identity, national identity), adding richness to their own personal humor style by helping process experiences of marginalization. For example, friend participant Lucy, a 34-year-old woman, discussed the influence of her queer identity on her use of humor:

> I think the humor just really sort of started to blossom around making jokes about my community here. [*laughs*] Because I'm part of it. And looking at the hilarity or

> absurdity of our community sometimes or using humor to manage frustrations with straight culture or feelings that when I've felt impacted by homophobia…I've definitely used humor to release all of that and just sort of take some of the sting out. (lines 189-193)

Notably, one category emerged within this relational-driven domain: (1a) Specific life experiences that influence coping with cancer.

Specific Life Experiences that Influence Coping with Cancer. (General) This relational-driven category captures impactful personal life events outside the scope of the survivor's personal cancer diagnosis that were experienced by survivors and friends and likely shaped their development of humor use as a coping mechanism. These varied experiences ranged from significant personal loss; to caring for a family member with chronic illness or cancer; to prior history of mental health concerns or challenging familial or intimate relationships; to the influence of chosen profession (e.g., nursing). For example, friend participant David, a 46-year-old man, recalled the significance of his parents maintaining a shared sense of humor during his father's worsening dementia process:

> In the last couple of months of his life, [David's father] had some continence issues and ended up soiling himself and getting it on the floor. And my mother was on her knees in the bathroom cleaning up the floor and cleaning him up. And he looked down at her and he said, 'So, what do you think of married life so far?' And it was just this inclination and ability to do that, and to be like, genuinely funny that I think prepared me for being able to relate that way to [Claire]. And I

> think if I was in a similar situation, you know, part of where my brain would go is like, you know, when is it okay to start making some jokes or to make some jokes? (lines 701-707)

Survivor Maeve, a 26-year-old woman diagnosed with stage IIIc malignant melanoma at age 25, participated in the study with her friend Abby, who related the influence of Maeve's prior adverse experiences to her penchant for dark humor by stating,

> Poor [Maeve] has been through, I feel like, more darkness than most people experience in a lifetime in the course of 10 years. So…I'm glad that that's been one of the coping mechanisms and there's a lot of dark humor that really only she can deliver because she's the one in the very bottom of that trench fighting. And so, it almost gives everybody...it...some people depending on the personality get uncomfortable by that. Some people are like, 'Okay, we can...we can laugh about this right?' (lines 134-139)

Domain 2: Nature of the Bond

Participants also described intrinsic qualities of the friendship that underscored their strong relational bond. Three categories emerged from this relational-driven domain including: (2a) Origin of the relationship; (2b) Feeling of high regard; and (2c) Intersection of identities; and notably, these categories were evidenced apart from as well as in context of the survivor's cancer experience.

Origin of the Relationship. (General) This relational-driven category describes the etiology of the friendship, which went on to shape the nature of the bond. For instance, one dyad (Amelia and Vera) recounted the early enactment of deep, transparent conversations and kindred openness to exploration by sharing, “While we had a grand time in Paris and as you said the friendship was cemented. I feel like Thailand developed our travel routine, which is to go somewhere ridiculously beautiful, find a good place to eat, and just sit there all day talking about the state of our souls.” (lines 60-63; and 184-185). Other dyads identified mutual interests (e.g., teacher education, preschool co-op group, band camp) as a launch point for connection, while both sibling dyads reflected on the emergence of true friendship over time within their sibling dynamic. For example, Sofia, a 41-year-old woman diagnosed with stage IV neuroendocrine cancer at age 36, who participated in the study with her 44-year-old sister Rosa stated,

> During our teenage years, we both had separate friends and interests or whatnot…In our early 20s, we both moved to a different city to go to college and ended up living together. So, it was during that time where our real friendship started. And I would say, hands down that she has been my best friend since that time. (lines 12-17)

Feeling of High Regard. (General) This relational-driven category illustrates participants’ immensely positive sentiment felt for their friend, which appeared to elevate the friendship to heightened specialness. This phenomenon was frequently unrelated to cancer, such as when Abby remarked, “She's the first person I want to talk to. And I am fiercely proud of being her person. And I know [Maeve] is beyond a shadow of doubt my person.” (lines 29-30). Yet, it was also evidenced in the context of cancer such as when Elizabeth, a 32-year-old woman diagnosed with a desmoid tumor (i.e., intermediate grade soft tissue carcinoma) at age 28, reflected on how much she appreciated her friend Isabella's committed support,

> And [Isabella] has been so great at wanting to educate herself about being within this community. I was the keynote speaker at CancerCon and that was supposed to take place in Seattle. This was right when the pandemic started, but it pivoted online. So, [Isabella] not only signed up to see me, but also attended other sessions to better understand me and to better understand some of the identities that I have. And something that both of us have done, which I think is like just a phenomenal model for how to support people is, 'Here are some Instagram accounts to follow,' for example, like social media plays heavily into that. (lines 339-346)

Intersection of Identities. (Typical). This relational-driven category depicts the interaction between the diverse identities (e.g., age, social class, gender identity, sexual orientation, national identity, religious or faith background), experiences, and personalities in the friendship that served to increase understanding of one another both in the friendship and/or the world at large. Isabella noted cognizance of traversing overt differences in sociocultural identities between her and Elizabeth,

> I think entering into each other spheres of which we aren't really a member...wanting to understand more, wanting to support, but then also having a similar language to share has played a really important role in how humor has helped us both through some really difficult times that have arisen out of our identities. (lines 354-357)

Another dyad (Maya, a 24-year-old woman diagnosed with ALL T-cell leukemia at age 22, and her 25-year-old friend Sarah) evidenced in vivo humor use during the interview when joking about their age difference (e.g., Maya: “Just to clarify, she's a year older than me.” Sarah: “Oh yeah, I'm the grandma. You baby!” lines 42-46). In summary, participants found ways to appreciate their differences and establish deeper connection through coming to better understand their intersectional differences.

Domain 3: Maintaining Normalcy

Both survivor and friend participants discussed the capacity for humor to help preserve important dimensions of the survivor’s holistic identity and way of life amid the deeply challenging cancer situation. Dyads also shared about how helpful it was for the friendship dynamic to maintain a sense of normalcy for similar reasons. Examples of this process served to highlight important qualities of the friendship that existed prior to the survivor’s cancer diagnosis as well as dimensions of the survivor’s identity outside of the ‘cancer patient’ role. Elucidated in the words of survivor Elizabeth, “Humor has allowed us to have a really healthy dose of normalcy, when there was no other normalcy” (lines 665-666). Two categories emerged from this domain including: (3a) Preserving Sense of Self Outside Cancer (e.g., “I’m still me”) and (3b) Friend Offering Restoration of Survivor’s Sense of Self or Friendship Normalcy (e.g., “You’re still there and you’re still my friend.”)

Preserving Sense of Self Outside Cancer (e.g., “I’m still me”) (Typical). This survivor-driven category depicts moments when survivors employed humor to uphold a sense of identity or individuality outside of their cancer diagnosis. Survivor participants disclosed how fundamental normalcy was for maintenance of their holistic sense of self and how humor often functioned as a channel to core identity dimensions. They also shared examples of humor working to maintain normalcy within relationships with others, including their friendships. For example, Amelia, a 35-year-old woman diagnosed with stage IIIa breast cancer at age 30 said,

> I made music videos at chemo. I made the doctors dance with me. I had my surgeon put on my wig right before I went under…I crave connection and comedy is a way to get there. And so, I do think [Vera] is right. [*Amelia becomes tearful*] It is the only part of me after everything, like, that felt so core to me left. That no matter where I was, that I could make something fun. And that I could make myself and somebody else laugh. That was the part of me that cancer couldn't take away right? Like, even after everything else that felt like so defining to me, I was...because that's always been who I am! That is, at its most core...um, and so I think I got to choose that. (lines 1100-1109)

Friend Offering Restoration of Survivor's Sense of Self or Normalcy of Friendship (e.g., "You're still there and you're still my friend") (Typical). This relational-driven category depicts moments when friend participants helped the survivor to remember or re-establish contact with core dimensions of identity and the friendship separate from cancer, often by sharing something funny or humorous with the survivor. Friend participants discussed purposefully engaging the survivor in funny banter, familiar routines, or conversations about longstanding, non-cancer mutual interests (e.g., college professors, the 'Bravo universe,' dating apps, craft beers, etc.) to help remind the survivor of essential parts of self that were disconnected from cancer. For example, friend participant Charlotte (age 30) stated,

> I never wanted [Lily, 29-year-old woman diagnosed with Stage IV primary mediastinal large B-cell lymphoma at age 28] to not feel like a normal person...I didn't want her to feel like our friendship...obviously, things change. But I didn't want her to feel like she wasn't my friend anymore. Not...not my charity case. I was trying to be like, 'You still have friends!' …I mean, we would do things to take care of her and visit her and there's that added layer, but I still wanted her to always feel normal. I think that...definitely played a role in why I would send her memes and stuff that had nothing to do with cancer, but she still wanted to know what was happening in Bravo-universe. [*laughs*] – (lines 1042-1049)

In another example, Claire, a 36-year-old woman diagnosed with metastatic melanoma at age 33, reflected fondly on her friend David's adoption of a jestful nickname that helped her remember a central part of herself separate from cancer, despite the nickname being cancer-associated. Claire stated,

> [David] started calling me 'Cancerella' [*David and Claire laugh*] which was one of my favorite things in the whole world. And I mean, I think that things like that appealed to who I was regardless of cancer or not. And I think that using humor like that…we had to talk about some really serious stuff and consider really serious things…so things like that reminded me of who I really was, you know? I wasn't the cancer. I was this girl with a sick sense of humor. And that had always been a way that [David] and I interacted. (lines 363-368)

Domain 4: Coping with Cancer-Related Distress

Survivors also discussed attempts to manage acute emotional pain or discomfort directly associated with cancer. They described the importance of humor and laughter as an emotional buffer for dealing with the overwhelming emotional impact of cancer, both for themselves in the patient role and in how they emotionally metabolized the impact of cancer within the context of friendship and other relationships. Regarding the individual impact, Claire stated, “It was just so helpful because laughter helped me get out of the reality of how terrifying my diagnosis was and not knowing the prognosis,” (lines 417-419). Moreover, humor in this domain context was not simply an avoidant strategy, as it often functioned to help survivors and their supporters mitigate discomfort and fear in an adaptive manner that then allowed them to remain in contact with their own strength and positive emotions. Oliver, a 34-year-old transgender man diagnosed with stage IV endometrioid adenocarcinoma at age 33, described this emotional duality by saying, “It's almost like using humor allows me to acknowledge the joy that existed in that part of the journey when it was also a part of the journey that was very specifically painful for me and very earth-shaking for me,” (lines 144-14) Within this domain, two survivor-driven categories emerged including: (4a) Defense mechanism; and (4b) Managing impact on others; and one relational-driven domain emerged: (4c) Importance of balancing humor and seriousness.

Defense mechanism (General). This survivor-driven category captures overt moments of survivors using humor to protect themselves from acute distress or stark realities related to cancer, fear of uncertainty, and, at times, reckoning with death. Some survivors used quippy language to somewhat reduce the impact of a severe cancer-related outcome. For example, Anna, a 38-year-old woman diagnosed with stage IV inflammatory breast cancer and a brain tumor in the cerebellum at age 34 and leptomeningeal disease at age 37, said, “I had 10 whole-brain radiations, which ages your brain like 20 years. (Interviewer: 'Wow...') So, which is why I keep saying, 'Fried brain' [*quick laugh*] I have a fried brain!' Because I do (*quick laugh*)” (lines 321-323), while other survivors described joking more intentionally about devastating disruptions to personal dreams and hopes due to cancer. The latter phenomenon was referenced by friend participant Abby,

> [Maeve] has wanted to be for, for many, many, many years to be a mother…And to turn around and say, 'Yes, instead of giving me a baby, my body gave me a tumor!' And the way she delivered that humor via TikTok and she also told me in person...it was just like, 'Wow, that's really shitty!' [*said with a laugh*] And you laugh instead of cry because there will definitely be tears before and after that fact but the fact that you can find like...she can pull that one out of thin air being like, 'Yep, instead of making a baby...my body made a tumor! Of course!' It was a good example that I remember just being almost shocked at first but then being like, 'Okay, that's....you're not wrong!' (lines 460-473)

Two sub-categories emerged under the Defense Mechanism category including (4a.i.) Humor as a Retort/Clap Back or Education Device and (4a.ii.) Distraction.

Humor as a Retort/Clap Back or Education Device (Typical). This survivor-driven sub-category represents humor used to communicate displeasure or upset (e.g., retort/clap back) or to educate others on incorrect or inappropriate communication about cancer (e.g., misinformation or inappropriate questions.) Mai, a 22-year-old woman diagnosed with stage IV ovarian cancer at age 21, described her frustration with being treated cautiously by others due to their inaccurate cancer-related perceptions of her stamina and frailty. She said,

> I don't want people to be careful with me, like, I'm not...I'm not a dainty person. And I think a lot of people treated me very daintily, and very weak. And my humor was a way to be like, 'No, screw you! Like, I'm okay. I'm doing fine.' (lines 286-289)

Mai also described an admirably brazen future aspiration to “rent out a casket” and host a “pre-funeral party” in which she planned to ask close friends to be “funny and stupid” while delivering eulogies about her life, while she was physically in attendance. She elaborated,

> And there'll be a bouncer as well because ‘the ex’ is not coming. And there's certain "grief tourists" is what I just, you know, what we call them who are like, 'Oooh, she died. I'm so sad. I knew her so well.' Girl, please! No, you didn't! (lines 397-399)

In this example, Mai not only appears to be ‘clapping back’ at phony social acquaintances but also at the very notion of death. Other examples illustrated moments when survivors deployed humor as a snappy, educational device (e.g., Amelia: “It's a little mean but I get a little pleasure when people say things that are dumb about cancer. I really like making light. Like, it is a joke that brings me a lot of pleasure and I know brings them some discomfort." - lines 747-749).

Distraction (Typical). This relational-driven sub-category depicts examples shared by survivors and friends of humor working to actively divert attention away from distressing emotions or cancer circumstances, often via audiovisual content (e.g., funny animal videos, TV, movies, and music). Maya recalled receiving upsetting information about her prognosis while hospitalized for post-stem-cell transplant complications and subsequently, "just turned Golden Girls back on because Golden Girls have always been like the grandmas I'd never had. [*laughs*] And so, I just went back to working on my embroidery, watching Golden Girls after being told, 'Yep, you're gonna die. Sorry.'" (lines 651-654). Additionally, her friend Sarah noted the importance of engaging Maya in positive distraction when appropriate, "I think we've always been really good at communicating like...'[Sarah], send me some pictures of Harry Styles right now.' Like, 'I'm on it, girl! Yeah, I've got...I got you.' [*laughs*]" (lines 959-960).

Managing Impact on Others (General). This survivor-driven category captures moments in which survivors expended remarkable effort mitigating the impact of cancer on others. Examples were shared of survivors' conscientious consideration of the impact of their cancer on friends and other loved ones (e.g., Lucy: "I almost feel like you have to use that humor with your mom otherwise she would get much too weepy." - line 790). It appears this management made a difference, as several friend participants acknowledged their sense of relief in witnessing the survivor use humor, particularly when it was a known way of coping (e.g., Nathan: "It's always a relief. And, you know, comforting to know that [Adam] handles these things with such a good sense of humor." – lines 617-618). Separately, survivors referenced times when they considered the impact on others begrudgingly given how much cancer-related burden they were already shouldering. In the words of Lily, "And they're like, 'I just...I don't know what to say, I don't know how to act.'...I know they're not being selfish in anyway, but it becomes more about again, padding the people around you versus like, what YOU might need" - (lines 589-595). The sub-category of (4b.i) Humor as a Protective Device was derived to capture moments when this managerial aptitude took the form of a survivor expressing deliberate, premeditated intention to cushion loved ones from cancer-related discomfort.

Humor as a protective device (General). This survivor-driven sub-category represents planned and intentional humor use to ease the emotional impact of cancer and its related circumstances on friends and loved ones. Survivors described purposeful disclosure of cancer information and measured engagement in cancer-related discussion as well as occasional masking of their own authentic responses to cancer-related circumstances to protect others from intense emotional pain and distress. In the powerful words of Mai,

> I was the one that was dying. It was my responsibility. I felt like it was my responsibility to help people feel differently. And obviously, now I know I'm not responsible for other people's feelings. But I knew [Alexis]...I think [Alexis] took it the hardest, you know? But she was there for me when we had the whole month of testing. And she took me to the ER, you know? And she saw some of the stuff

> that was happening behind the scenes before I was actually diagnosed. So, humor helped me take care of her. Like, I hope it did, you know? (lines 743-748)

Similar to the category of Managing Impact on Others, deliberate attempts to protect others were not always pleasant for survivors. Elizabeth described a critical distinction between joking for someone else's sake versus using humor to put herself at ease by saying, "That would be tiring. It's what I do with other people is I make the jokes to make them comfortable," (line 879). Interestingly, the dyadic interview situational context provided an opportunity for one dyad pair, brothers Adam (survivor) and Nathan, to address this very tension in vivo,

> Adam: I always use humor in any situation, but especially talking to [Nathan]. I mean, we share a sense of humor all the time but when I call him, I guess I just don't want him to think that I'm...even if I am…I don't want him to think that I'm down in the dumps. Sorry about that one time apparently...[*laughs*] [*Nathan laughs*]
>
> Nathan: Well, you can! Tell me when you're down in the dumps! (lines 337-43)

Importance of balancing humor and seriousness (Typical). This relational-driven category was derived from participant examples in which a need for equilibrium between humor/lightness and seriousness/gravitas was expressed that hinged on the needs of the survivor or dyad. This was an experience expressed both by survivors (e.g., Claudia: "Don't get me wrong, I know I can sit and mourn and have the moments that you need to as well as anyone else but trying to figure out how to get someone to laugh after....it helps to take you out of that part. Otherwise, you just stay there," lines 643-645) and friends (e.g., Sarah: "As time went on, and things were just progressing, I'm like, 'Okay, I'm gonna use jokes. We're gonna lighten this up, girl!' Because like, 'You got cancer...but you could have cancer and laughter!'" lines 755-758). Survivors reflected on how vital this balance became when worried about worst-case outcomes, including worsening prognosis and death. For example, Maeve stated,

> For me, having humor and the lightness that's associated with humor go hand in hand with the worst possible thing you can encounter, which is death, dying, the end of life, all of these things…having those be sandwiched right next to each other [makes air kiss], it's just so beautiful! Chef's kiss! Because it...I mean, it draws you to these very, very simple truths that every single day has lightness and darkness, and they can coexist so beautifully together. And it doesn't take cancer to make you realize that life is important. It doesn't take being the funniest person on the planet to make you realize that life is important. You don't have to be funny, and you don't have to be dying to have an important day, which is the day that you have. (lines 770-777)

Domain 5: Navigating Conversations About Cancer

Survivor and friend participants described various communication devices or processes imbued with humor that arose during cancer-related discussions (e.g., Claudia: "humor being the door opener and the door closer and the back around kind of thing," lines 1131-1132). Some mechanisms were overt, such as a small, laminated "cancer card" made by friend Vera for survivor Amelia that said, "My cancer card" on the front and "'I have,' in very small print, 'a totally treatable cancer...that thing I want, give it to me!'" on the back (lines 205-211). Other examples highlighted humor used by friends to navigate asking questions about the survivor's cancer about which they were curious,

> There's things that aren't really talked about, like...this one's so trivial, but I was like, 'Do you lose your leg hair when you go through chemo? Because you lose your head hair.' But I was so curious! But it's like, how...how do you bring up a question like that and not sound insensitive? So, you know, make it a joke! – Sarah (lines 482-484)

In a similar vein, Elizabeth remarked on how humor helped to talk about typically uncomfortable topics (e.g., "'Tragedy plus time is comedy,' right? So, like, if we can kind of hint to the tragedy, right, but like...spin it around...then it's...it's a way of maybe introducing a topic that I wouldn't feel comfortable introducing otherwise," lines 849-851). Additionally, survivors shared examples of humor helping to broach the topic of cancer in other relationships, such as Adam who routinely joked with his coworker when needing to leave work early for medical appointments,

> [My coworker] would laugh with me all the time, because whenever I had something going on he said, 'Oh, your cancer is working up again?' [*laughs*] And I said, 'Yeah, yeah, I have to go to...' and when I had to go for an 8th checkup, I said, 'I have to go…' and he said, 'Oh, cancer again?' [*with a smile in voice*] I said, 'Yeah...' [*Nathan and Interviewer laugh*] And yeah, a lot of my other friends were joking about it. They all were joking about it instead of being very serious about it because I wasn't serious about it either. (lines 192-197)

Within this domain, two relational-driven categories emerged including (5a) Honesty/Authenticity as a Gateway and (5b) Recalibration.

Honesty/Authenticity as a Gateway (Typical). This category depicts moments when participants expressed themselves with veracity and vulnerability within the friendship regarding cancer. Dyads described engagement in dynamic cancer-related conversations that moved fluidly and effortlessly between lighter, more humorous content to emotional authenticity; often with humor serving as a portal into heavier topics. The following example was shared by Claudia, a 28-year-old woman diagnosed with AML in childhood who then experienced recurrence of AML at age 27, who was facing treatment-induced infertility in and used humor to introduce a sensitive topic into conversation with her friend Lauren,

> I feel like one of the times when we were talking about the whole fertility thing, and I was talking about the 'ninja mutant babies' and, you know, how much torture they've been through and all of this stuff It kind of led way to like…my eggs have always been there and now they've been blasted with chemo twice. And it just kind of started as a joking reference but then opened the door to actually having a conversation about something that really sucks. (lines 896-901)

Recalibration (General). This category depicts times in the friendship dyad when humor facilitated transition to a new state (e.g., physical side effects and changes or emotional shifts associated with cancer; or acceptance of new relational dynamic such as friend serving in a caregiving role). Participants described these moments as occurring as a process while moving out of a state of distress into establishment of a "new normal" state. Numerous examples were shared about recalibration around a physical change such as chemotherapy-induced hair loss, weight loss, surgery, etc. One dyad (Anna and Jeannette) shared a joke they deployed to acknowledge the Anna's mastectomy,

> Anna: "That's right. And I was...I always joked about having one boob."
>
> Jeannette: "Yeah, one boob? Or one boob...yeah, pssh..whatever."
>
> Anna: "The uniboober." (lines 422-428)

Survivor Sofia also described the changes she experienced in her role as a mother following her cancer diagnosis,

> I remember I used to be super strict when the kids were even younger. And you know what? Cancer has lightened me up a little bit. You can't have so much structure in your life. You have to live, you know? You have to make exceptions, bend the rules, be more flexible. So, that's something that cancer has taught me. And...and yeah, I'm just grateful to have you know, [Rosa] in my life. In my corner. (lines 817-821)

Lastly, stories were shared that exemplified how cancer can cause a ripple effect of recalibration throughout the support system. For instance, Claudia shared that during her cancer recurrence journey her divorced parents became "friends again. I mean, they didn't hate each other, and they definitely have more of a better divorce relationship than the majority of people, but this was like...they were…it was weird," (lines 1091-1094).

Domain 6: Resiliency Building

Survivor participants described internal and external processes that empowered and bolstered them along their cancer journey, which were coded into the domain of

Resiliency Building. The naming of this domain was intentional, as it aims to underscore the proactive quality of survivors' engagement in their own resiliency development and expansion, a process that frequently involved humor. This conceptualization stands in contrast to a notion that implies survivors are simply resilient for having experienced adversity via being diagnosed and living with cancer. Rather, the data represented in this domain distinguishes survivors as active, lively, and commanding agents of their own resiliency. Two survivor-driven categories emerged within this survivor-driven domain including (6a) Reclaiming Cancer Narrative and (6b) Internal Meaning-Making Process; and one relational-driven category in which resiliency-building was evidenced as a bidirectional process within the dyadic relationship was designated, (6c) Humor as a Vehicle to Enrich Experiences Where Control is Limited.

Reclaiming Cancer Narrative (General). This category illustrates survivors' descriptions of telling their cancer story on their own terms and taking control of how their cancer is talked about (e.g., through humor use, engagement in survivorship advocacy). Many survivors discussed humor as a transgressive act that functioned to subvert social norms regarding how cancer is discussed, which served to help them reclaim a sense of power back from cancer. Examples included verbal storytelling, which included humor as a rhetorical device that transformed a potentially upsetting or sorrowful cancer narrative into something light or humorous. Some survivors also described writing down memoir-style accounts of their cancer journey, inclusive of both funny and serious moments. Importantly, survivors described a sense of catharsis or liberation in both the conceptualization of their story and the delivery of their narrative to others. Mai exemplified this key point by sharing,

> I'm working on a fantasy novel where the heroine has cancer. I relied heavily on novels, and especially the fantasy genre, because it felt better to escape this horrible world that has cancer in it. And the character, I think [Alexis] can attest to this, is very brash and has dark humor because I want to edge away from, you know, the 'poster-child-cancer-kid', especially with movies like *The Fault in Our Stars* that came out a while ago. I don't know if you're familiar with it, but it was very sad and depressing. And for me like…that's not my story, you know? I get to write it how I want to. And humor is a way for me to write that. Like, I'm not what people expect. And as I said, I like to break those expectations in any way that I can because it gives me some independence and some autonomy that was kind of taken away from me. (lines 431-439)

Additionally, Amelia shared about her decision to make a funny music video to disclose her breast cancer diagnosis to certain friends, a creative choice that was intentionally irreverent (e.g., "part of the music video is just like me in the supermarket holding up different shaped fruit that could be boobs," lines 477-478). Notably, reactions from Amelia's friends were mixed, however, the less enthusiastic responses did not cause her to question her method of disclosure. She elaborated, "People were like, why did you just send me this video and not tell me in a different way? And I was like, 'Because I get to choose how I tell you this shitty news!' And I didn't do that to anybody who I didn't think could handle it" (737-739).

Several survivors also described finding empowerment through engagement in cancer-related advocacy work via speaking at young adult cancer survivorship conventions, seeking out professional advocacy roles, participating in podcast interviews, and managing cancer-focused social media accounts. While sometimes examples were humor-related (e.g., finding relief and social connection via funny memes shared via @TheCancerPatient Instagram account), other examples were meaning-centered without overt connection to humor. For instance, Claudia described how her cancer experience starting in childhood ultimate drove her remarkable career accomplishments within the oncology world,

> I started building a name for myself in the space of oncology. And starting to network and starting to get my name out there joining different kinds of groups and programming. And I spoke at the National Cancer Center administrators' forum about a month ago. I was a patient-expert… I also have two keynotes coming up at Cancer Con. I, yesterday, got approached by the National Coalition for Cancer Survivorship and they want me to give a keynote at their Cancer Policy and Advocacy Symposium and go lobby with them in July. And they also want to make me one of their 'patient voice designees' for NCI. So, I've been trying to make a name for myself in this realm… I feel empowered. And I have a voice and I want to use it. And I'm like, 'You watch! Because I'm going to be in 40 under 40!' [*laughs*] And like, I am going for all of it! And there's no stopping me...I'm going to do it all. And just give me my platform and like let me shine, you know?...That's why I have to give like the backstory, too. It's like a

> combination of like, a whole life brewing, if that makes any sense. [*laughs*] (lines 412-416 and 423-424)

Internal Meaning-Making Process (Variant). This survivor-driven category represents introspective and cognitive shifts that facilitated survivors' sense or meaning-making process regarding their overall cancer experience**.** Survivors indicated that humor served as a cognitive-reframing or perspective-shifting tool that enabled this process of making sense or coming to terms with cancer. For example, Mai stated,

> Humor helps me be able to look at it from a different angle. Obviously, the harder stuff is something that I need to work on myself, you know, coming up, but the humor helps me at least process some of the superficial things. (lines 647-649)

Survivor Oliver utilized an imaginative metaphor to describe how difficult it was for him to navigate the meaning-making process of coming to terms with his stage IV endometrioid adenocarcinoma diagnosis at age 33,

> I wasn't expecting to be diagnosed with cancer...at all...until I was. So, it was very shocking, obviously. And that made it that much more difficult to even begin processing to go from, 'Oh, I probably just need to have surgery to, oh, I have no need to have a surgery. And also, I have…I have cancer.' And then even later find out that it's a stage four cancer, that is incurable, and, like, I'm probably gonna die from it. Like, it was all like, very...very, like...whoosh. I often compare it to like, stepping onto an escalator. And then once you step onto the escalator, their straps come around your boots, and you start to fly into space, because it's a very fast space escalator that you didn't realize was the space escalator. You thought you

> were just going to the second floor of the mall. So even just starting to make sense of my cancer diagnosis was something that was....it was really difficult to do...really difficult to even attempt. (lines 259-268)

Survivors explained how this internal process poured over into the friendship dynamic, in that their friend served as a cognizant companion during their cancer journey and meaning-making process despite being in a markedly different position (i.e., not personally experiencing cancer). As an example, Elizabeth and Isabella shared a GIF they often laugh about together,

> Elizabeth: There's a GIF we send each other and it's two old ladies pretending to be on a roller coaster. They're using a pool tube to pretend to be the bar and there's a green screen behind them. And the two older women, they're having, like *very* different experiences pretending to be on this roller coaster. And we've used that as the analogy for our friendship over and over and over again, because in some moments the one woman is feigning like real shock and awe and the other woman is like, 'This is great!' So, [FRIEND] has been my true companion in trying to balance this horrible thing that I've ultimately arrived at. Like…it doesn't have a meaning and it doesn't have a purpose. And so, if it doesn't have that, can I at least use it to make myself laugh? To make others laugh? My condition is chronic; it's gonna be this forever. Can I get really comfortable with making my experience the punch line? And...we've done that quite successfully within our friendship. And I'm so deeply grateful for that. (lines 1052-1064)

During the interview with this dyad, friend Isabella screen-shared the GIF via Zoom with the interviewer, which segued into an in-vivo dyadic moment in which the pair continued riffing on how the GIF related to their experience as a close friendship impacted by advanced cancer.

> Isabella: Let me just really highlight. At first, I don't think we clocked that they were like...that you literally see the end of the pole. [*all laugh*] Like it took us a couple of viewings to really understand all of the notes at play here. [*all laughing*] And then when we talk about like, you know, playing the bit to death...like this GIF is a prime example of like, 'Are you pink-shirt lady? Are you green shirt lady?'
>
> > Elizabeth: Are you throwing your arms up? Are you enjoying it? Are you like, 'Oh my gosh!'
>
> Isabella: Or are you the pretend bar? Are you just the green screen? Like what is happening here? And let's really break it down for one another… So, you know, it's having those like anchors of humor to kind of go back to, I think, are really really important for both of us.
>
> > Elizabeth: Comforting. Like the word is comforting to me, you know? It's something I can return to when everything is changing and shifting around me and within me so constantly. (lines 1073-1094)

Humor as a Vehicle to Enrich Experiences Where Control is Limited (General). This relational-driven category portrays moments in which both survivor and friend participants actively used humor to make light of situations in which personal control was limited, resulting in a more enriching or meaningful experience (e.g., Adam: “I know I could get over it without humor but...why?” [*said with deadpan affect*] [*participants and interviewer laugh together*], line 497) Dyads found creative ways to use humor despite limitations of control inherent to certain situations such as enduring unpleasant medical procedures and treatment side-effects, being required to drink foul-tasting radiation smoothies, and experiencing puzzling bedside manner from providers. Some examples demonstrated how survivors and friends would occasionally joke about death (e.g., gallows humor), though these moments remained lighthearted rather than reactive to overt emotional distress (e.g., Oliver: “I'm constantly bringing up absurd things that I want to happen at my funeral or celebration of life. Like I want a poutine bar or [*laughs*] that…video where this guy pranks the entire funeral by like, playing a recording of himself like, 'Knock, knock, knock, hello, it's dark in here!'” [*laughs*], lines 598-602). Exemplary moments of this phenomenon also referenced situations involving members of the survivor’s support system outside of the friendship dyad. Maya recalled a memory in which her brother (age 20s), who served as her primary caregiver, witnessed her collapse after using the restroom due to extreme fatigue and weakness following induction chemotherapy. In this story, humor appeared to function as uplifting despite a noteworthy lack of bodily control for the survivor,

> As I use the restroom, I had to just fall down to my knees because I couldn't get up. I literally...even if I tried to use my arms, like I just…I couldn't. And so, I washed my hands. And I open up the door, and by then I was just exhausted. Just...I couldn't...and I just collapsed to the floor. And my brother and [brother’s

girlfriend], they're in the living room and when they turn around, they see me and my brother yells out, 'Lieutenant Dan!' You know, from like Forrest Gump? He has no legs. And so, we all just start laughing so hard. [*all laughs*] (lines 417-420)

Humor as a Connective Force in AYA Survivorship Communities (e.g., "the Youngest Person in the Cancer Center") (Variant). This survivor-driven sub-category captures moments in which humor helped bridge the connection to other young adults with the shared experience of having cancer. Several survivors acknowledged how beneficial it was to learn about and become connected with peers with cancer and young adult survivorship communities, either via specific social media accounts intended for adolescent and young adult patients (e.g., Instagram's @TheCancerPatient) or young adult support groups and organizations. Sofia, who is very involved in the Stupid Cancer survivorship organization, shared,

Doctors tell you, 'You're too young for this!'…and it obviously makes you feel worse. When you go to the cancer center, you see people in their 70s and you're the only young person there and they look at you like, 'Oh my god!' So…finding [the Stupid Cancer organization] community of young adults facing cancer also made me realize that there's humor in there, because everybody had their own jokes about being the young person in the cancer center [*laughs*] about, you know, like, all of these things that happen. Relationships when you have cancer! And people telling you to eat kale to cure your cancer, you know? Like, all these

> things, and it was just funny. So, it started feeling a lot less heavy of a situation. (lines 252-261)

Domain 7: Evolution of the Relationship After Cancer

Participant data illuminated several unique ways in which the friendship dyad fundamentally adapted or changed in a positive way due to the impact of cancer. The categories derived in this relational-driven domain represent extraordinarily special dynamics that emerged in major part because of how the dyad responded as a relational unit to the intensity of advanced cancer. These relational processes appeared to occur both unintentionally and intentionally. The three categories within this domain include (8a) Fostering and deepening connection, (8b) Humor as transcendence or expansion of relationship, and (8c) Attunement.

7a. Fostering and deepening connection (Typical). This category represents dyadic descriptions of the friends learning more about one another throughout the cancer journey, and developing a closer, more grounded bond. One such moment occurred when Claudia remarked directly to her friend Lauren during the interview, "Friendship makes cancer better…It would have sucked without you, my dear" (lines 1186-1191). Dyads reflected on how the friendship deepened in response to cancer, which served to reinforce each individual's being as well as their being within the friendship and in the greater world. The following story shared by friend participant David illuminates how humor restored a sense of connection between him and Claire following a particularly bleak period when Claire was isolated in her room,

> We had this commonality of humor so that when things were dark...that rapport helped me not...to be able to talk to her in a way that wasn't just in a caretaking mode, I guess. Like, you know, 'You need to do this, and we need to...' it was…it helped establish that kind of bond of trust…in a much more gentle and familial way…. There was one time where she had literally not left the room for at least 24 hours. It may have been longer, and the lights were off a lot and she hadn't eaten. [*Claire laughs*] And, I came up with like, 'You have to eat something!' And she's like, 'Okay,' and it wasn't [*voice changes to be more of a gruff command*] 'You have to eat something to keep your strength up,' you know, it was just in that sort of, like, gentle kind of coaxing relating way. And I brought up a sandwich and it was still in the dark. And it was like in that scene in Gremlins where I just held out the sandwich and felt hands take it from me and I just heard like [*David makes eating/chomping sounds*] ...like that. And…that was hilarious! [*David and Claire laugh together*] And so the next the next day, we could talk about that and make jokes about that. (lines 463-483)

7b. Humor as transcendence or expansion of relationship. This category depicts expressions of considerable admiration that elevated the friendship to an unusually special level of connection with cancer serving as a catalyst. The word ‘transcendence’ was intentionally chosen by the researchers to best represent this elevated quality that remarkably occurred within the context of an existentially charged cancer situation. Friend Isabella commented astutely on this experience stating,

> We were talking about the "everything happens for a reason bullshit," right? Like, it's bullshit. And we can say that. And also acknowledge that part of the magic that we have doesn't exist without both of us experiencing the adversity that we have, right? Like our friendship would be very different without [Elizabeth's] cancer. Boy, do I wish it wasn't there. Don't we both. And like, there's this tension of like, because the tension to me is it's so close to that "everything happens for a reason" bullshit to kind of even say anything about it, and also, we can acknowledge that what we have is really special, and that everything that we both bring into it is part of what makes it so special and be appreciative of that. (lines 1009-1016)

7c. Attunement (General). This category illustrates a phenomenon of intuitive responsiveness in the friendship that occurred when the friend instinctively responded or "read" the survivor in a manner compatible with the survivor's emotional state or needs. Participants shared examples of attunement that were humor-related and non-humor related, and many moments were not presented as exceptionally conscious, rather they described an intuitive way of being with one another that cultivated a distinctive understanding within the friendship dynamic impacted by advanced cancer. These moments of recognition were sometimes described as small moments of kindness, such as a friend responding in a loving manner to a survivor's joke about a certain vulnerability. For example,

> Lily: Yeah, you definitely know the hair is sensitive. So, I would be like, 'Oh, I look like Voldemort. I look like Gollum.' But like, you would never say that I looked like that.
>
> > Charlotte: I would say you look like Natalie Portman! [*laughs*] (lines 639-644)

Participants also shared powerful moments of attunement that transpired non-verbally following humor use. One dyad (Anna and Jeannette) described how the delivery of a quick funny remark would prompt a strong degree of alignment that reified their connection in a way beyond words,

> Jeannette: I think it's lightening the mood. I think it's like a [*gesturing to suggest making eye contact*] 'I see you' thing. Right? 'You're okay. We're okay.' [Anna: 'Yeah.'] 'I'm not scared.'…Just maybe even...just like a... 'I'm just so proud of where you've come from.' [Anna: 'Right.] I don't know. 'This won't bother me.' (lines 444-458)

In vivo dyadic moments that evidenced alignment occurred during participant interviews as well, in which the interviewer felt as if she was witnessing the friends actively joining one another on the same wavelength. For example, at the end of one interview when the lead researcher thanked Claire and David for participating, they called back to their intimately special joke as David commented on his decision to join the research study with Claire,

> Claire: “Thank you, that's the rule with Cancerella! You gotta do whatever Cancerella wants! [*said with a laugh*]”

> David: Gotta do it! I had cancer! I had cancer! [*laughs*] (lines 925-929)

Domain 8: Limits of Humor Use

Participants discussed the importance of boundaries surrounding humor use and joking about cancer. As an example of more severe boundaries, Anna and Jeannette indicated that their humor use was rarely directly cancer related. Rather, they only joked about cancer-adjacent circumstances (e.g., the survivor's unsteady gait and impaired motor skills).

> Jeannette: I thought about...I wrote down funny things that we would joke about, but I think they're not necessarily about the cancer. I don't think I can still joke about cancer. I don't think I can. Like...
>
> Anna: It was a very, like, dark, serious time.
>
> Jeannette: It is very dark. And there's...there's nothing for me, it doesn't feel like there's anything fun or funny about the cancer. (lines 392-401)…I don't know. I don't know if I'm doing great about talking about cancer. [*Anna laughs*] I mean...I'm pissed at cancer. And I really, I don't really feel like I'm joking about cancer. But I can joke about, like, how we interact with each other and like little funny things. But cancer is a dick. (lines 478-480)

Other survivors identified certain “off limits” topics for jokes including degrading remarks (e.g., Oliver: “I mean, neither of us really do any sort of like, "punching-down" humor. Neither of us really vibe with that.” Lucy: “Most things are fairly ‘joke-able’ as long as they're not punching down” lines 457-458; and 466) or using humor to discuss anyone else's cancer other than their own (e.g., Sofia: “Obviously, if we're talking about somebody else going through cancer, then yeah, I wouldn't put any humor into it, because that's disrespectful," lines 511-513). Moreover, survivors noted the importance of situational context for determining appropriateness of humor use, even within the friendship dyad that routinely utilized humor in reference to cancer. This revealed the benefit of thoughtful conversations around shifting boundaries and limits of humor use. The three relational-driven categories within this domain include (8a) Timing; (8b) Ineffective Humor Use; and (8c) Unwillingness to Use Humor.

Timing (Typical). This relational-driven category depicts moments in which participants retroactively identified timing as a key consideration for humor use. For some survivors, humor was completely inaccessible during the initial diagnosis period (e.g., "I don't remember in those early days using humor, because it was so terrifying" Claire, lines 264-265) whereas for others, humor was employed almost immediately following diagnosis as a coping mechanism. For survivor Oliver,

> I came right out of the gate with humor, pretty much. Like not immediately right out of the gate, but pretty, pretty quick out of there. And then now that things are feeling okay because I've been through a round of treatment and things are stable right now, and they have been stable since I finished treatment, and I feel good...I feel the need to joke about it less because it's not as immediately terrifying. (lines 367-372)

Friend participants discussed their occasional discomfort with survivors joking about cancer or specific cancer-related topics. This discomfort tended to occur in the early stages of the survivor's cancer journey before the dyad had established familiar rapport for cancer-related discussions. For instance, Sarah reflected on her inner thought process after learning of Maya's cancer diagnosis,

> My best friend just got cancer. And she's younger than me...like, isn't cancer supposed to be for older people? Not people in their early 20s. And so...I don't...I can't really remember if I used humor at first, but really, I feel like it's almost like stages of grief. Like, why is this happening? I don't understand. And then it goes like, why did it happen to [Maya]? Why couldn't it happen to someone else? And then it's like, oh my god, it's...it's happening to [Maya]...my best friend. (lines 728-733)

Once rapport was established surrounding humor and cancer, many dyads described enjoyment of pushing the boundaries of appropriate humor use in a manner that exemplified relational closeness (e.g., "We make jokes about it all the time, like jokes that you don't make around other people, because they're gonna think you're like psychotic." [*laughs*] – Sarah, lines 141-142)

Ineffective Humor Use (Typical). This category captures moments in which humor use did not connect or register with the intended audience, representing a relational-driven process in which both survivors and friends might evidence difficulty accepting humor for various reasons. Survivors shared moments in which their jokes did not make the mark (e.g., Maya: I remember one time my brother was driving, and we passed by a cemetery, and I was like, 'Oh, look, that could have been my home!' You know, like horrible jokes like that! And so, he'd be like, 'Jesus, [Maya]!', lines 809-811). Survivors were usually keenly aware of reasons why their jokes might not land in these moments, often when content was too dark or emotionally heavy (e.g., Oliver: "I think for a lot of people, it's just the fact that you're putting something that's very difficult and that can be very traumatic to talk about or think about right in their face," lines 528-529).

Humor Unsanctioned by Survivor (Variant). One sub-category was derived to illuminate moments when survivors did not initiate or signal acceptability with others using humor about their cancer. Sometimes these were moments when humor, which typically felt positive and connective within the friendship dyad, occurred in other relational contexts that did not have the same foundation. For example, Sofia shared how another person with whom she was less close laughed at a certain joke, which disrupted her typical response to similar humor,

> When I talk to [Rosa] and we joke, there are no boundaries, and I know that. I know what her intentions are and all of that. But maybe if somebody else is in the conversation, and they try to come in and maybe joke around like...I wouldn't like that. And I remember once, and maybe because it was made towards the beginning of the diagnosis, so I was a lot more emotional. We were in that house in [STATE] and [PERSON] was there and I don't remember exactly what was said, I just remember how I felt. But we were talking about the cancer, and then something funny...or something humorous came about. But then [PERSON] laughed about it. And I felt...I didn't...that didn't feel good. (lines 533-543)

As such, both survivor and friend participants expressed how important it was to "follow the lead" of the survivor in determining appropriate content for humor (e.g., Sofia: "If they're following my lead, it's fine. But overstepping those boundaries is where I would feel disrespected," lines 620-621). Along these lines, the following quote from Mai depicts a more egregious boundary violation that damaged other friendships (i.e., not the friend participating in the study),

> I was like, 'Hey, what do you think about my hair?' Right? And one of them told me that I looked like a 35-year-old man. Alright!? Which kind of sucked because I was already self-conscious about looking feminine, right? And owning my body and things like that. And I had to ask my other friend, I was like, 'Do you really think I look like a 35-year-old man, like a balding man?' And she was like, 'No, but your hair isn't doing you any favors.' And that hurt. Because this wasn't a choice, you know? And that kind of made me feel like they shaved their heads for like a fashion statement instead of supporting me, you know? And that was really hard to accept, because I thought they were better friends than that. (lines 487-494)

Unwillingness to use humor (Typical). This relational-driven category highlights a specific situation or relationship where there is purposeful opposition to using humor to talk about cancer. Many of the examples shared by survivors regarded parents (and even more specifically, mothers) being unwilling to laugh at cancer-related jokes involving their child (i.e., the survivor participant). Understanding was expressed by participants about why parents struggled or refused to partake in banter about their child's cancer. For example, Nathan shared,

> I think that our mother doesn't find the humor in the situation because she went through it as a parent. And I understand that more now that I'm a parent and I

> think that was eye-opening to me in a way, but I think... somehow, you know, it was just as hard on my dad, but he just has a different outlook on it. And I think her personality is just such that she...it was devastating for her to watch her child go through this. And so, she just doesn't see any humor in it. (lines 639-643)

While many parents were described as steadfast in this viewpoint, another survivor shared a tender example of her mother finding her own way of stepping into the humor-based space, even if not exactly in line with survivor Claudia's preferences,

> Mom gets mad at my humor now a lot. Like, I really wanted a cake that said, 'Congratulations on not dying!' And she got *really* mad about it and very offended every time I said that. She was like, 'I will NOT congratulate you for not dying!' I was like, 'Oookay...well it is a pretty big accomplishment.' You know, she...but instead she got me a cake that said like, 'Fuck you, cancer.' (lines 646-649)

While survivors made allowances for stark humor-boundaries asserted by parents, they also provided examples of stark boundaries implemented in other relationships that felt both inappropriate and detrimental to the closeness of the relationship. For instance, Mai shared,

> I got a lot of requests from certain people to not talk about cancer, because it was too hard for them. Like my ex at the time was like, 'Can you stop? This is really hard for me to deal with.' And for me it kind of sucked because joking was a way for me to cope, especially with having ovarian cancer. Like, I obviously can't have biological kids anymore. And that was really hard for me to grapple with and be...not okay…And for him, that was a really sore factor. And to not be able

> to joke about it with someone that I, you know, wanted a future with, um, in that way, was hard to like censor myself. That was unfortunate. (lines 346-353)

Chapter Four: Discussion

The purpose of this study was to explore the function of humor within the context of a young adult friendship impacted by advanced cancer. To investigate this topic, semi-structured dyadic interviews were conducted with 12 friend dyads, including 2 sibling dyads (24 participants total.) In these friendships, one member had been diagnosed with advanced cancer (e.g., Stage III or IV, recurrent, metastatic, or severe blood cancer such as AML, ALL, myeloma, stage III or IV Hodgkin's or Non-Hodgkin's lymphoma, multiple myeloma, or a myeloproliferative disorder) between the ages of 18 and 39. The friend member of the dyad was an adult (age 18+) without a personal history of cancer. Using consensual qualitative research (CQR) method, these eight domains emerged from the data: (1) Sociocultural Influence on Humor; (2) Nature of the Bond; (3) Maintaining Normalcy; (4) Coping with Cancer-Related Distress; (5) Navigating Conversations About Cancer; (6) Resiliency Building; (7) Evolution of the Relationship After Cancer; and (8) Limits of Humor Use. Under each domain, categories and sub-categories were derived that illustrated themes consistent across dyads (Hill et al., 1997, 2005). This chapter features integrated discussion of how domains correspond to the study's four central research questions followed by contextualization of participant background information, integration of these findings with prior research, reflection on the dyadic interview context and overall research analysis process, evaluation of study limitations, and implications for clinical practice and research.

Connection to Research Questions

This dissertation supports prior research that has contested the conceptualization of cancer as an "individual disease," recognizing instead how cancer ripples through an entire social system comprised of survivors, families, friends, and healthcare providers (Wittenberg-Lyles et al., 2010). Dissertation findings connected soundly to the study's central research questions, which were grounded within the primary theoretical framework of Relational Cultural Theory (RCT) and secondary theoretical framework of Communicated Narrative Sense Making Theory (CNSM). This section features comprehensive theoretical discussion of each research question and associated domains as well as connection to pertinent theoretical concepts and relevant, empirical research. Table 2 depicts the domains that correspond to each of the four research questions. Some domains mapped onto more than one research question.

Table 2. Research Questions and Domains

Research Questions	Relevant Domains
Research Question 1: How does humor help to promote authenticity and mutuality in the relationship between a young adult with advanced cancer and a close friend without cancer?	(4) Coping with Cancer-Related Distress (5) Navigating Conversations About Cancer (7) Evolution of the Relationship After Cancer

Research Question 2: How does humor help to prevent the relational paradox in a relationship between a young adult with advanced cancer and a close friend without cancer?	(3) Maintaining Normalcy (5) Navigating Conversations About Cancer (7) Evolution of the Relationship After Cancer (8) Limits of Humor Use
Research Question 3: How does a young adult with advanced cancer use humor to make sense or meaning of cancer and to communicate this meaning to others?	(3) Maintaining Normalcy (6) Resiliency Building
Research Question 4: How might humor used in this friendship context differ from how humor is exhibited in other supportive relationships?	(1) Sociocultural Influence on Humor (2) Nature of the Bond (4) Coping with Cancer-Related Distress (7) Evolution of the Relationship After Cancer (8) Limits of Humor Use

Research Question 1: How does humor help to promote authenticity and mutuality in the relationship between a young adult with advanced cancer and a close friend without cancer?

Research Question 1 explored humor's ability to promote two key RCT concepts, authenticity and mutuality, in a young adult friendship impacted by advanced cancer. Participants provided rich examples demonstrating these concepts and three domains that were closely associated with the study's investigation of authenticity and mutuality included: (4) Coping with Cancer-Related Distress; (5) Navigating Conversations About Cancer; and (8) Evolution of the Relationship After Cancer.

Authenticity. The capacity to represent oneself as fully as possible within a relationship and to be responded to with empathy by the relational partner in a manner that enhances well-being and relational growth is a central tenet of RCT (Jordan, 2018a). However, blunt honesty without concern for the impact on others is not congruent with RCT's formulation of authenticity, nor is this type of communication considered beneficial or growth-enhancing in relationships (2018a). Instead, an essential ingredient of authenticity is 'anticipatory empathy,' in which relational partners conscientiously consider how one's feelings or internal experiences may impact the other partner and the relationship as a whole (2018a). In other words, a safe and respectful relational environment is paramount for authentic, vulnerable exchange within relationships (2018a).

Dissertation findings illustrated the complexity of humor operating authentically in friendship dyads as both a survivor-driven coping device for emotional pain and a communication mechanism for providing one's friend a realistic glimpse into the survivor's true emotional pain. Examples of these moments were coded into domain (4) Coping with Cancer-Related Distress. Survivors reflected on expressing difficult emotions to their friend, including fear, sorrow, distress, and anger, through the delivery of a pointed joke. In these examples, humor appeared to function as a defense mechanism (subcategory) by blunting the impact of intense emotionality resulting from their cancer situation (e.g., fear of death, infertility, disruption to expected life trajectory, body image concerns). Many moments coded into this category illustrated how survivors often share authentic emotion within the friendship in a tempered manner using humor, which connects back to the research findings of Roaldsen et al. (2015) that pinpointed humor as protective from engulfment in “anxiety and gloomy thoughts” (p. 729). Other examples demonstrated how survivors sometimes deliberately masked or self-inhibited expression of authentic internal experiences when making jokes or using humor to cushion or mitigate the impact of their cancer on others. These moments were coded into category (4b) Managing Impact on Others, and its sub-category (4b.i) Humor as a Protective Device.

These results resonated with findings from an RCT study that explored relationship factors on women’s adjustment to cancer including ‘silencing-the-self’ beliefs, or suppression of one’s genuine emotional or internal experience or actions to avoid conflict or possible loss of the relationship (Kayser & Sormanti, 2002). In a sample of 26 female cancer survivors 18-months out from initial diagnosis, ‘silencing-the-self’ beliefs were positively correlated with depression and negatively correlated with quality of life and self-care agency (Kayser & Sormanti, 2002). Though impossible to accurately quantify, it appears reasonable to presume that a singular instance of intentional masking would not negate all authentic exchange within a dyad; however, a chronic pattern of subjugating emotions or filtering responses for the sake of others might potentially constrain authenticity in a manner detrimental to the relationship.

In the dissertation study sample, survivor participants reflected on how much relief they felt in being able to be more “real” or honest about their genuine emotions and concerns in response to cancer while remaining considerate about the potential impact of cancer on their friend. These accounts reflect RCT-grounded arguments posited by Raque (2019), who stressed how important it is for survivors to have a space to share their experience with others (i.e., authenticity), while feeling seen and heard (i.e., mutuality). Congruent with this perspective, the friendships included in the dissertation study demonstrated a remarkable degree of authenticity that served to increase sense of closeness in the friendship while decrease risk of disconnection.

Mutuality. From an RCT perspective, mutuality is generally understood as a dynamic practice of responsive and authentic exchange between relational partners that hinges on shared vulnerability and openness to change without expectations that disclosure or roles be symmetrical (Jordan, 2018a). In the study sample, the individuals comprising each dyad were fundamentally different as only one person (e.g., survivor participant) was diagnosed with advanced cancer while the other friend (e.g., friend participant) had no personal history of cancer. Despite this striking experiential difference, survivor and friend participants found constructive ways to talk about cancer together (e.g., Domain 5: Navigating Conversations About Cancer) such as using humor as a door-opener to disclose truthful inner experience (e.g., category 5a: Honesty/Authenticity as a Gateway).

Participants also described how the fundamental nature of the friendship adapted or changed in a positive manner in direct response to cancer; data that was coded into domain (7) Evolution of the Relationship After Cancer. This finding harkens back to writings on the influence of mutuality on the coping styles of romantic couples facing cancer who adopt with a “we” or “I” approach (Johannessen, 2013). Despite the platonic nature of the friendships included in the dissertation study, the emergence of a “we” coping approach was evident in participant descriptions. More specifically, survivor and friend participants reflected on humorous moments that grounded the friendship connection in strong support and reciprocity (e.g., category 7a: Fostering and Deepening Connection). Reflections were also shared about admiration and appreciation for one another that elevated the friendship to a special form of closeness amid harrowing realities intrinsic to the cancer situation (e.g., category 7b: Humor as Transcendence or Expansion of Relationship). Rarely was humor use described by participants as a reductive avoidant strategy that blocked authentic discussion of cancer-related emotional distress. Rather, survivor and friend participants described how they adaptively managed emotional distress and made space for an expanded range of emotional experience by addressing distressing and heavy topics while maintaining close contact with positive emotions, and personal and relational strengths. Data coded into category (4c) Importance of Balancing Humor and Seriousness, depicted the need for equilibrium between humor/lightness and seriousness/gravitas contingent on the needs of the survivor or dyad. Connecting this finding back to mutuality, it appears possible that this artful balance helped the dyad sustain a manageable emotional temperature for both survivor and their friend in response to the emotionally-charged cancer situation.

RCT is informed by feminist theory and as such, its founding theorists emphasized that women often develop a sense of self while “being in relation” to others; suggesting that individual identity development involves recognition of personal feelings as well as the ability to identify the emotions of others (Miller, 1984; Jordan et al., 1991). Both survivor and friend participants recalled moments of intentional Distraction (sub-category 4.a.ii.) or diversion of attention away from difficult or distressing cancer-related circumstances via humor use, demonstrating their awareness of emotionality within self and the friendship. This may also have represented how the dyads recognize and took care of each other's needs as a form of mutuality.

Research Question 2: How does humor help to prevent the relational paradox in a relationship between a young adult with advanced cancer and a close friend without cancer?

Research Question 2 investigated how humor may inhibit the RCT 'central relational paradox,' which occurs when a person withholds a significant part of self from others to preserve stability of the relationship despite a deep desire to be known authenticity by their relational partner (Miller, 2008). Based on the work of Raque (2019), the principal investigator hypothesized that humor may serve a buffering function that prevents the central relational paradox by helping survivors increase comfort in discussing difficult aspects of their cancer experience rather than withholding these experiences to protect their friend from potential distress. Accounts were shared by participants that corresponded closely with this line of inquiry including the following four domains: (3) Maintaining Normalcy; (5) Navigating Conversations About Cancer; (7) Evolution of the Relationship After Cancer; and (8) Limits of Humor Use.

Central Relational Paradox. Prior RCT research has revealed that cancer survivors frequently identify interpersonal relationships as a primary source of meaning

(Johannessen, 2013). Additionally, cancer has been found to provoke reexamination of how survivors relate to others, rendering it reasonable to consider close relationships as vulnerable to the relational paradox if survivors perceive or fear threats of disconnection (Raque, 2019). The relational-driven domain (3) Maintaining Normalcy was derived to represent the identity-linked processes that helped limit self-censorship of important dimensions of self and the friendship through co-construction of an affirming relational space that acknowledged the survivor's holistic sense of self rather than reducing their identity to the cancer patient role alone. Under this domain, two categories were derived: (3a) Preserving Sense of Self Outside Cancer; and (3b) Friend Offering Restoration of Survivor's Sense of Self or Normalcy of Friendship. Findings elucidated how beneficial normalcy was in helping survivors preserve a strong sense of self or contact with important identities separate the patient-role, and how friend participants used humor to help the survivor remember or re-establish contact with essential dimensions of identity and friendship unrelated to cancer. These processes functioned to preserve and celebrate a sense of normalcy in the friendship; allowing the relationship to exist without being entirely permeated by cancer.

RCT posits that human beings have an innate desire for connection that can lead to enactment of disconnection strategies, including self-censorship or sublimation of needs, when efforts to connect with others are unsuccessful (Jordan, 2018a). The dissertation findings suggest that humor may help maintain a strong line of connection in friendships impacted by advanced cancer through preservation of normalcy and non-cancer identity, which corresponds to Schwartz et al.'s (2006) work that underscored humor as a connective force. Additionally, participants described how humor functioned as a communication device that helped friends talk about cancer (e.g., Domain 5: Navigating Conversations about Cancer), including using humor to manage adjustment to new emotional or physical states or new dynamics within the relationship (shifting into a caregiver role; Category 5b: Recalibration).

Separately, though this study did not examine relationships outside of the friendship dyad in much depth, one survivor shared how dismissive and invalidating it felt for her when certain family members asked her how she was doing only to subsequently pathologize her genuine response. She was told she should “pray more” and “have more faith,” and she described how these interactions led her to essentially enact the relational paradox by only presenting as “happy and healthy” to them going forward. In other words, and perhaps unsurprisingly, findings indicated that for some survivors, inhibition of authentic communication in important relationships resulted in (a) undesirable social support, (b) disruption of social connection, and even, (c) emotional harm. These consequences, or even simply the perception of risk of these consequences, may result in increased likelihood of the relational paradox. This is in stark contrast to relationships, such as the friendships included in the study sample, in which survivors felt seen, heard, and respected.

Moreover, relationships that positively adapted in direct response to the challenging cancer situation (e.g., Domain 7: Evolution of the Relationship After Cancer) appeared to prevent the relational paradox as the capacity for these friendships to reach such an admirable level of closeness served as a protective factor against relational distance (e.g., Category 7b: Humor as Transcendence or Expansion of Relationship). Category (7c) Attunement may also function to prevent the relational paradox by illustrating the profound connection evident within friendships that cultivate an intuitive pattern of responsiveness that is recapitulated time and time again amidst emotionally challenging cancer-related circumstances. Interestingly, another RCT concept relevant to discussion of the relational-paradox is 'relationship-focused coping,' which involves attention to one's own presence and emotional needs as well as attention to the relational partner's needs (Kayser & Sormanti, 2002). Though relationships are generally thought to be dynamic bonds, previously research has operationalized 'relationship-focused coping' as a stable and measurable construct comprised of two dimensions: active engagement (i.e., when the survivor actively involves the relational partner in the coping process) and protective buffering (i.e., when one partner intentionally excludes the other to avoid conflict or disagreements or to protect the partner from distress) (Kayser & Sormanti, 2002). Relating this concept to this dissertation, findings demonstrated the power of active and intentional engagement of humor by both survivor and friend participants to maintain a sense of normalcy and holistic identity as well as comfort and closeness within the friendship.

Furthermore, domain (8) Limits of Humor Use demonstrates how respect for the survivor's boundaries for humor as well as the survivor's empathetic acceptance of a friend or loved one's discomfort with certain cancer-related humor use contributed to the prevention of relational distance. This point is further supported by well-timed humor use (8a: Timing). Even following moments of (8b) Ineffective Humor Use within the friendship dyad, open dialogue about boundary violations or shifts in humor appropriateness as well as quick and effective rupture repair helped maintain a sense of connection that may otherwise have been lost. On the other hand, rigid boundaries as described in (8c) Unwillingness to Use Humor that were asserted by anyone other than the survivor or the survivor's parents appeared to foster disconnection and even irreparable damage to the relationship.

Research Question 3: How does a young adult with advanced cancer use humor to make sense or meaning of cancer and to communicate this meaning to others?

Research Question 3 examined humor's potential to help survivors make sense or meaning of cancer as well as how humor aided in the sharing of this meaning with others, namely the friend included in the study. Grounded in Communicated Narrative Sense-Making Theory (CNSM), findings that best correspond with this line of inquiry are represented in domains (3) Maintaining Normalcy and (6) Resiliency Building. Overall, two central dimensions of meaning-making were explored in this study: individual meaning-making by the survivor and collaborative or shared meaning-making between the survivor and their close friend. Regarding individual meaning-making, survivor participants described how disorienting and, for some, impossible it felt to attempt to make sense of an advanced cancer diagnosis in young adulthood. This phenomenon is described in the research findings of Currin-McCulloch, Kaushik, and Jones (2022), who found that young adults with advanced cancer often feel poorly understood by loved ones and display patterns of *disorienting grief* including isolation, lost identity, and disorientation to all areas of pre-cancer life. Several survivor participants indicated that they were still attempting to make sense of their cancer situation and implied a degree of resentment toward having to make sense of such a burdensome and unfathomable situation.

Though many survivor participants struggled to answer questions about general meaning-making about cancer, when asked how humor contributed to their meaning-making process, several shared how critical humor was in helping them to maintain their holistic sense of self (e.g., Category 3a: Preserving Sense of Self Outside Cancer). Survivor participants described how much normalcy was taken away from them by cancer and how humor itself was a core part of identity that could not be robbed of them by cancer. Survivor participant Adam described his sense of humor as such an integral part of his identity, that it was rarely ever a consciously chosen coping mechanism. Rather, his indelible sense of humor served almost as a lifeline to freedom amid his lifelong battle with various cancers and chronic health conditions.

Regarding collaborative or shared meaning-making, the atomic-level adjustment to advanced cancer resulted in poignant clarification of personal values, particularly the significance of relational closeness and connection with loved ones that was felt by both survivor and friend participants. Many friend participants described the helplessness they felt in response to their friend’s cancer diagnosis, yet they refused to turn away in fear from the survivor and rather found a way to remain in deep, meaningful contact and connection. Thus, the collaborative meaning-making process appeared to have required a symbiotic acknowledgement of how little control the survivor and friend had in the situation, followed by a profound, knowing choice to stay in authentic, vulnerable connection with one another. For the participants in this study, this powerful connection appeared to require a balance of emotional vulnerability and inimitable courage to remain lighthearted and optimistic while facing an existential precipice.

In line with CNSM, survivors described the active internal and external processes that empowered or bolstered them on their cancer journey, emphasizing the connection between storytelling and well-being, including individual physical, mental, and emotional health as well as relational health (Koenig Kellas & Horstman, 2015). Overall, interview data further reflected the CNSM theoretical assumptions of storytelling facilitating identity formation, values distillation, coping, and social connection (Koenig Kellas & Horstman, 2015). Findings also connected to the three key CNSM heuristics of retrospective storytelling, interactive storytelling, and translational storytelling (Koenig Kellas, 2018).

Retrospective Storytelling. CNSM posits that the stories human beings hear and tell leave a lasting impact; and thus, retrospective storytelling is typically concerned with the content of stories that have the power to influence perceptions of the world (Koenig Kellas, 2018). Previous CNSM research has revealed that positively framed stories are associated with improved health outcomes (Koenig Kellas & Horstman, 2015). Dissertation findings illuminated how survivor participants weaved humorous content into their storytelling and meaning-making process, creating a more positively valanced and redemptive cancer story (e.g., 6a: Reclaiming Cancer Narrative). Participants described how humor contributed to the meaning-making process about cancer via self-empowerment and self-assertion of resiliency. Though health and well-being outcomes were not measured as part of the qualitative dissertation study, findings suggest that humor may contribute to increased well-being in survivors through the redemptive and reclaiming storytelling process.

Interactive Storytelling. Both nonverbal and verbal interactional processes at work during communication of stories to others comprise the CNSM heuristic of interactive storytelling (Koenig Kellas, 2018). The dyadic interview situation enabled interviewer observation of interactive storytelling, as dyads collaboratively told stories about how humor was used to enhance meaning and connection amid challenging cancer-related circumstances. Much of this data was coded into category (6c) Humor as a Vehicle to Enrich Experiences Where Control is Limited. Trees and Koenig Kellas (2005) designed the interactional sense-making (ISM) rating system in which raters score observed joint-storytelling processes and behaviors including engagement (warmth and involvement), turn-taking (dynamism and distribution of turns), perspective-taking (attentiveness and confirmation), and coherence (organization and integration). While mechanistic communication processes were not rated as part of this dissertation study, the four core ISM rating system behaviors were notably present. Future research may consider use of the ISM rating system in future studies of young adult friendship interactive storytelling about cancer.

Translational Storytelling. The third heuristic in CNSM argues that narrative research and storytelling can inform or contribute to interventions that improve health and well-being on a broader scale such as community-based programming, arts programming (e.g., documentaries, plays), and formal educational curriculum (Koenig

Kellas, 2018). A few survivor participants discussed their engagement in advocacy efforts via sharing their stories with young adult cancer survivorship organizations to spread awareness about rare diagnoses, stem cell donation, and unique challenges. Overall, this dissertation's findings were consistent with the work of Koenig Kellas et al. (2016), in which humor was observed to be a connective force uniting survivors and their support system in navigating cancer together by increasing comfort, support, and community-wide connection. In addition to the survivor participant accounts who described actively contributing to advocacy endeavors, numerous survivors reported benefits of receiving focused content assembled formally by young adult survivorship organizations and informally via humorous social media accounts (e.g., Instagram's @TheCancerPatient). This study illuminated the remarkable benefit of humor in sustaining a more holistic sense of self in young adult survivors and maintaining strong connection in friendships impacted by advanced cancer. In resonance with translational storytelling, study findings may help substantiate the benefits of existing humor-based or comedy programming developed for cancer survivors; and inform future creation of larger-scale interventions that may help improve well-being in young adult survivors through direct incorporation of friendship support. Structured interventions for survivors and their close friends to engage together in meaning-centered projects could provide a rich opportunity to process the impact of cancer while facilitating collaborative resiliency-building through mutual reflection of experience. Given the link between stories valenced with resiliency and positivity, findings also indicate that inclusion of humor in meaning-making interventions may sustain the process, which may be complicated by severe prognoses, by helping to diffuse cancer-related distress and maintain an important sense of relational connection while discussing difficult cancer-related topics and reflecting on cancer's impact.

Research Question 4: How might humor used in this friendship context differ from how humor is exhibited in other supportive relationships?

Research Question 4 explored how humor in the friendship dyad differed from humor use in other supportive relationships; inquiry grounded in both RCT and CNSM. The domains corresponding to the final research question are (1) Sociocultural Influence on Humor; (2) Nature of the Bond; (4) Coping with Cancer-Related Distress; (7) Evolution of the Relationship After Cancer; and (8) Limits of Humor Use.

Eligibility requirements for study participation centered a highly specific friendship context between one survivor experiencing harsh life disruption due to an advanced cancer diagnoses in young adulthood and a close friend of their choosing without the shared experience of cancer. The developmental context of young adult survivors is uniquely challenging as an advanced cancer diagnosis prompts a flood of existential crisis, fear, physical and emotional pain, and loss that may begin even prior to diagnosis as early symptoms mount (e.g., pain, weight loss, unusual masses) (Currin-McCulloch, Kaushik, and Jones, 2022). Challenges compound in response to aggressive cancer treatments that further interrupt quality of life (2022). Thus, it is not uncommon for young adults with advanced cancer to intentionally isolate or withdraw from former friendships, in a self-preservation attempt to differentiate from friends whose lives have not hurdled off course due to cancer (Currin-McCulloch, Kaushik, and Jones, 2022).

With this stark reality in mind, this dissertation provided an opportunity to study friendships that maintained close connection despite profound differences inherent to the lack of shared cancer experience. In the study, all participants described unique personal, sociocultural, and dyadic qualities that distinguished the friendships in this research study from other supportive relationships, and this data was coded into both domain (1) Sociocultural Influence on Humor and (2) Nature of the Bond. Interview data underscored how pivotal the initial establishment phase of the friendship could be to cementing a strong, resilient bond, as well as how remarkably positive friends felt toward one another, and how the complex intersection of individual sociocultural identities increased awareness of one another within the friendship context and in the greater world (e.g., Categories 2a: Origin of the Relationship; 2b: Feeling of High Regard; and 2c: Intersection of Identities). Relevant examples showcased how exceptionally strong these friendships already were before the survivor’s diagnosis or, in the case of friendships cemented after diagnosis (e.g., Claudia and Adam who were diagnosed in childhood), certain relational characteristics that forged resilient connection developed in a manner independent from cancer. In other words, these relationships exemplified the aspirational RCT concept of growth-fostering relationships (Jordan, 2018a). Additionally, participants reflected on impactful life experiences that informed their own positionality before engaging in a friendship that would become impacted by advanced cancer (e.g., Category 1a: Specific Personal Experiences that Influence Coping with Cancer). For some, these experiences presumably shaped their capacity for sustaining connection amid challenging circumstances.

Previously research that examined the emotional impact of cancer on survivors, found that in a sample of 606 survivors, approximately 33% felt cancer placed an “enormous strain” on their relationships and 24% felt abandoned after cancer with no one to talk to (Macmillon Cancer Support, 2006). Thus, the strong relational bonds represented in the dissertation participant sample might have been critical in establishing a foundational sense of connection that could weather the emotionally complex additive of advanced cancer and incorporate effective and adaptive humor as a coping mechanism. Participants described how profoundly close their friendships became in direct result of cancer’s impact (e.g., Domain 7: Evolution of the Relationship After Cancer). They shared moments in which humor served to fortify a strong connection in the dyad (e.g., Category 7a: Fostering and Deepening Connection), reflected on how extraordinary their friendships became in the face of advanced cancer (e.g., Category 7b: Humor as Transcendence or Expansion of Relationship), and emphasized how intuitive responsiveness was enacted repeatedly despite challenges intrinsic to the survivor’s cancer situation (e.g., Category 7c: Attunement). Nevertheless, a question remains of if humor would have been as impactful and effective in coping with cancer within friendships without such a strong, pre-existing bond.

Another study finding related to the final research question concerns category (4a.i.) Humor as a Retort/Clap Back or Education Device, derived under domain (4) Coping with Cancer-Related Distress. The moments coded into this category occurred in relational contexts separate from the friendship dyads focused on in the study. Survivors described utilization of humor to communicate displeasure or irritation when someone else made an insensitive or factually incorrect remark about cancer (e.g., retort/clap back), and to educate others about misinformation or inappropriate questions about cancer. Interestingly, these examples did not occur within the primary friend dyad of study, perhaps because these friendships possessed such a strong degree of attunement and awareness to one another's emotions, reactions, and perspectives regarding cancer that these missteps were unlikely to occur. These findings harked back to Raque's discussion of stigmatizing social messaging that pressures cancer survivors to present as "resilient" and "ultrapositive" in the face of serious illness (2019, p. 101-102). Relatedly, in her seminal text on psycho-oncology, Dr. Jimmie C. Holland references the 'tyranny of positive thinking' phenomenon, which explains how cancer patients are frequently subjected to sociocultural messages that falsely suggest that a positive attitude produces improved cancer outcomes whereas a negative or hopeless outlook may cause one's cancer to "grow faster" (Holland & Lewis, 2000, p. 15). The friend dyads featured in the dissertation study sample appear to possess certain qualities and an understanding of cancer that protected against the "tyranny of positive thinking."

Lastly, the friend dyads included in the study sample were distinguished by how effortlessly friend participants respected the survivor's boundaries for humor use; and how easily survivors accepted the friend participant's discomfort with certain cancer-related humor with a good degree of empathy. Data mapping onto these processes were coded into domain (8) Limits of Humor Use and demonstrated the strength of the relational bond. One interesting yet perhaps unsurprising finding was that many survivors contended with severe boundaries on the use of humor asserted by certain supporters (not the friend participant), often parents and specifically, mothers, and sometimes, romantic partners (e.g., Category 8c: Unwillingness to Use Humor). Parents and mothers were seemingly given a “pass” for refusing to joke about cancer as survivors indicated awareness of how emotionally distressing it probably was for their child to be diagnosed with advanced cancer. Alternatively, a few examples were shared where survivors expressed acute disbelief and resentment of other supporters, including romantic partners, certain family members, and friends outside the dyad for rebuffing their humor attempts. These instances appeared less acceptable or forgivable by survivors and served to foster relational distance and disconnection.

Contextualization of Participant Background Information

After establishing deepened understanding of study results and connection of findings to the research questions, the next section will contextualize background information self-reported by participants in the pre-interview online survey.

Demographic Considerations

In the sample of 24 participants (12 friend dyads), the majority (62.5%) of participants self-identified as White (*n* = 15). Of the other 9 participants, 16.7% of participants self-identified as Hispanic, Latinx, or Spanish origin (*n* = 4), 12.5% as White and Jewish (*n* = 3), and 8.5% as biracial Asian and White (*n* = 2). Adolescent and young adult (AYA) cancer incidence rates remain highest in non-Hispanic Whites for both men and women, and these perspectives appear well-represented within the study sample (Miller et al., 2020). However, despite incidence rates being 25% lower in non-Hispanic Black AYAs in comparison to non-Hispanic whites, non-Hispanic Black AYAs unfortunately experience the highest cancer mortality rates, and non-Hispanic Black perspectives are not represented in the study sample (2020). According to Miller et al. (2020), cancer incidence rates by sex in AYAs are similar between men and women between the ages of 15-19, but rates are 30% higher in women between the ages of 20 to 29 years compared with men; and nearly double in women between the ages of 30 to 39 compared to male cohorts. In the survivor group of the study sample, the majority of participants identified as female (*n* = 10, 83.3%), while only 1 participant identified as male (8.3%), and 1 participant identified as transgender male (8.3%). Given that humor is a complex communication mechanism shaped by sociocultural forces including gender socialization, there could be saliant differences in the way male, female, and gender-diverse individuals utilize humor, and both male and gender-diverse perspectives are underrepresented in the study sample. Regarding sexual orientation in the 24 total participants, the majority self-identified as heterosexual (*n* = 15, 62.5%), however some diversity was evident as 16.7% identified as queer (*n* = 4), 12.5% as bisexual (*n* = 3), 4.2% as lesbian (*n* = 1), and 4.2% as questioning (*n* = 1). This representation is important given awareness of oncological health disparities that negatively impact the LGBTQIA+ population who comprise approximately 10% or more of the United States population (Alpert et al., 2022).

It is also important to consider factors that may have contributed to the friend dyads available and willing to participate in the dissertation study. For one, the current sample was highly educated with 37.5% completing a graduate or professional degree (*n* = 9), 50% completing a college degree (*n* = 12), 4.2% completing a two-year diploma program (*n* = 1), and 8.3% completing a high school degree. Individuals with higher general education levels likely possess increased health literacy in comparison to those with lower education levels, meaning they may have an easier time finding, understanding, and using information and services to inform health-related decisions (CDC, 2023). Additionally, based on how profound financial toxicity can be on survivor well-being, it is remarkable that more than half of the total sample (*n* = 15; 62.5%) reported salaries above $50,000 and five participants, including two survivors, reported salaries above $100,000 (NCI, 2019a; Fontinelle, 2020). This evokes the possibility that socioeconomic privilege, particularly based on education and income level, might contribute to differences in humor used as a coping mechanism by this sample, who may not have experienced the same degree of compounded life stress facing other survivors with fewer resources or privilege when experiencing cancer. It is important to note that generalization is not a goal of qualitative research, rather it aims to analyze and interpret the nuanced, subjective accounts of a unique population. Thus, demographic information about study participants is presented as helpful context that may have contributed to their willingness to participate in the study and informed their use of humor to cope with and make meaning about their cancer situation.

Reflection on Dyadic Research and the Research Analysis Process

The dyadic semi-structured interview situation likely enriched the data collection process by facilitating co-constructed discussion about humor use within a young adult friendship impacted by advanced cancer. This context allowed for mutual reflection on how humor was used to address the topic of cancer within the friendship and dualperspective sharing regarding key moments of humor use. Meaningful data could have been collected via individual interviews; however, increased richness of study data is likely attributable to the relational space cultivated by each friendship dyad that was actively displayed during the semi-structured interview and witnessed by the interviewer. For example, the dyadic context allowed for opportunities of in vivo or real time observable moments of dyadic humor occurring within friend pairs. Additionally, dyadic interviews may have contributed to increased understanding of the relational bond and appeared to provide a unique opportunity for dyads to strengthen their bond by participating in shared reflection. The researchers sought to capture the process as well as the content of humor use by attending to these dyadic moments during the interview and analysis. While formal discourse analytic methods were not used, the study researchers carefully observed nonverbals (e.g., smiling or nodding in response to a friend's storytelling), attended to speech quality (e.g., humorous intonation or pacing that provoked laughter response from the friend), and analyzed in vivo joke-telling and shared storytelling. Moments of in-vivo humor use were labeled as "dyadic moments" during the coding process, and subsequently informed the team's decision demarcate survivor-driven versus relational-driven processes for each domain, category, and subcategory, as a way of attending to process in addition to content.

Limitations

Qualitative interview research contends with intrinsic limitations given that analysis is conducted on a small, non-generalizable sample of subjective data self-reported by participants describing their own life experiences (Polkinghorne, 2005).

Thus, findings cannot be generalized to the greater population of young adults with advanced cancer nor all friendships of young adults with advanced cancer. In this study, the total sample size of 12 dyads (24 total participants) was congruent with the recommendations of Hill and Williams (2012) of using 12 to 15 participants if the sample reflects relative homogeneity in terms of their experiences.

Eligibility criteria aided selection of a study sample with similarity in severity of advanced cancer diagnosis (e.g., Stage III or IV, recurrent, metastatic, or severe blood cancer such as AML, ALL, myeloma, stage III or IV Hodgkin's or Non-Hodgkin's lymphoma, multiple myeloma, or a myeloproliferative disorder) and age of advanced cancer diagnosis in young adulthood (i.e., between the ages of 18 and 39). Further efforts were also made to ensure participant similarity in the use of humor as a salient coping device by initially recruiting from individuals who had completed the 'Coming Through Comedy' comedic storytelling workshop at the Smith Center for Healing and the Arts. However, limitations in sample homogeneity are potentially evident in the inclusion of (1) two sibling dyads, as it is possible that the type of friendship characteristic for familial relatives is meaningfully distinct from unrelated friends; and (2) two survivor participants who were diagnosed with childhood cancers in addition to subsequent diagnoses in young adulthood, as there may be notable experiential differences in comparison to participants who lived medically uncomplicated lives prior to receiving an advanced cancer diagnosis in young adulthood. Additionally, at the time of study interview, two survivor participants were slightly older than the age-related eligibility cut-off of 40-years (Adam, age 40; and Sofia, age 41), however, it is unlikely that this relatively minor discrepancy contributed to limitations in sample homogeneity given that both individuals still received advanced cancer diagnoses within the 18-39 age range. Yet it is reasonable to speculate that for the 10 survivor participants without a childhood diagnosis, phenomenological differences may exist depending on when they received their cancer diagnosis (e.g., difference in being diagnosed with cancer in one’s early 20s versus mid-30s). For example, differences in lived experiences may occur due to age-related developmental stages relating to education or work status such as being diagnosed with cancer as a full-time college student or during the period of early career establishment when one may have unstable access to quality health insurance. In contrast, other types of stressors may be more pressing for unpartnered young adults who are living independently or with roommates, as severe cancer may require immediate caregiving assistance. Other developmental-stage differences may impact young adults who are parents or who are in long-term committed partnerships.

Other potential limitations pertain to the dyadic interview situation. While this context allowed for some degree of corroboration of experiences and events experienced firsthand within the friendship, dyadic verification was not exhaustive for each individual story shared by participants. Additionally, information shared about the survivors’ cancer journeys was not corroborated by medical providers, family members, or other members of the survivors’ support networks who may have had additional, direct knowledge about the experiences and events described. It is also possible that the dyadic interview situational context may have inhibited some participants from sharing more transparently about personal reactions to humor use regarding the survivor’s cancer given the human tendency to respond in a socially desirable manner. This tendency may have arisen in participants wanting to present themselves in a more positive or favorable manner either to the interviewer or to their friend in the dyad by purposefully omitting or minimizing negative experiences. As such, it is possible that conducting the survivor and friend participant interviews separately could have reduced social desirability bias, though it is also suspected that the richness of data gathering within the dyadic context would also be compromised.

Implications for Clinical Practice and Research

Clinical Practice.

Given that the dissertation study did not directly evaluate psychological clinical interventions for young adults with advanced cancer and friend members of their support system, implications for clinical practice should be interpreted with caution. Dissertation findings highlight the relational benefit for friendships practiced in conversational finesse, or oscillation between authentic discussions about cancer-related distress and ebullient, resilient moments of lightness that courageously exist in opposition to the severity of an advanced cancer diagnosis. From a clinical perspective, mental health providers working with young adults with cancer might consider theoretical approaches that value dialectics as compatible modalities typically focus on exploration of opposing forces of cognitive and emotional experience. Relevant modalities include but are not limited to Acceptance and Commitment Therapy, Dialectical Behavior Therapy, and Buddhist or mindfulness-based approaches (Hayes et al., 2012; Linehan, 2015; Mehta et al., 2019). Dialectical approaches may help support psychological exploration of a fuller range of emotional and cognitive experience resulting from cancer via holding space for and facilitating exploration of emotional pain and distress while also supporting the expansion of resiliency and social connection.

Psychological treatments that focus on resiliency and positive psychology concepts (e.g., character strengths, gratitude, life satisfactions, compassion, hope) also appear clinically indicated for treating young adults with advanced cancer, because as previously noted, this group is at increased risk of psychological distress that may contribute to feelings of disillusionment and diminished self-worth and sense of meaning (Currin-McCulloch et al., 2022). One empirically-supported blueprint for an AYA-specific resiliency building is Promoting Resilience in Stress Management (PRISM), a manualized, CBT and skill-based intervention that includes cognitive reframing and meaning-making techniques (Rosenberg et al., 2018). In a randomized controlled trial including 92 AYA participants on active treatment who were newly diagnosed with cancer within 1 to 10 weeks of study enrollment or diagnosed with a progressive, recurrent, or refractory cancer at any time prior to enrollment; completion of four individual PRISM sessions resulted in improved resilience, cancer-specific quality of life, and reduced psychological distress for up to six-months after completion of the program (Rosenberg et al., 2018). As this dissertation provides support for the role of humor as a resiliency-building tool, clinical interventions involving humor appear indicated to aid in resiliency for young adult cancer survivors with advanced diagnoses.

Moreover, approaches that facilitate meaning-making such as Meaning-Centered Psychotherapy, Existential Psychotherapy, Narrative Therapy, and Acceptance and

Commitment Therapy may also be beneficial for young adults with advanced cancer as activities like legacy building may help clarify meaning and mattering (Hill, 2018). For individual psychotherapy treatment, clinical providers may consider exploring the function of humor when used by patients in session and as it may appear as a communication device within the therapeutic relationship. As humor is sometimes interpreted somewhat reductively as a mere defense mechanism, the richness of the dissertation findings warrants open and collaborative exploration of humor use that might result in deeply meaningful patient-provider conversations.

Moreover, psychoeducation about RCT's central relational paradox and potential long-term, negative consequences of withholding genuine experience might be useful for clients impacted by cancer, including patients/survivors and members of their support system (e.g., close friends.) While family and couples' modalities often address the relational impact of distressing and traumatic events, it is unlikely that a psychotherapy treatment context would exist in service of a friendship dyad impacted by advanced cancer. Thus, opportunities to involve friendship support in initiatives aimed at enhancing well-being might be more feasible within survivorship organizations and medical institutions serving the cancer patient and caregiver system. Relational interventions could explicitly include friendships in addition to family and romantic-partner support. Clinicians may also consider group-based resiliency interventions or delivery of specific workshops that allow participation of both cancer patients and friend supporters.

Other qualitative research conducted by Korotkin and colleagues (2019) examined the types of social support identified as most important by 82 cancer patients, stressing that patients value positive interactions with supporters regardless of if the supporter provides caregiving assistance. The study also articulated ways in which family and friends could provide ‘cognitive empathy’ to cancer patients by maintaining normalcy in the relationship, expressing themselves honestly, and being respectful of the survivor’s boundaries (2019, p. 707). These findings closely reflect accounts shared by survivor participants in the dissertation study. On a larger scale, survivorship organizations and medical institutions serving cancer patients may consider designing and promoting publicly-accessible curriculum that educates caregivers and wider networks of social supporters about common cancer patient perspectives and diverse ways of coping, including humor use as an adaptive coping mechanism. This recommendation resonates with prior research findings that denote humor coping as a malleable skill (Melton, 2006), which suggests that humor could be modified as an adaptive coping strategy through intervention. It could be beneficial for survivorship and medical organizations to distribute contact information for existing humor-based programs that continue to proliferate in the wider survivorship community. In addition to the “Coping Through Comedy” workshop at the Smith Center for Healing and the Arts in Washington D.C., kindred programs include the 13thirty Cancer Connect organization that hosts stand-up comedy shows featuring AYA cancer survivor performers; and explicitly advocates for inclusion of friend and sibling support in its programming efforts (13 Thirty, 2023); and The ComedyCures Foundation founded by Saranne Rothberg, a stage IV cancer survivor, whose mission is to “bring joy, hope, laughter, and therapeutic edu-tainment to patients, caregivers, and those who need it most” through creative, humor-based programming aimed at increasing well-being including a 24/7 LaughLine®, cancer resiliency podcast, and development of a 31-Day "Can We Laugh At Cancer?" Online 'Tumor Humor' Comedy Challenge (The ComedyCures Foundation, 2023).

Further, the principal researcher's conversations with organizations like Stupid Cancer, the Cactus Cancer Society, the Young Survival Coalition, Cancer Support Community, and First Descents during the recruitment process illuminated the vibrant ways in which humor is already serving as an organic, connective force uniting young adult peers with cancer through participation in support groups and expressive-arts programming together. The dissertation study might be useful for these already active groups in that findings may empirically corroborate the efficacy of these programs in enhancing participant well-being; and may substantiate the expansion of existing programs into ones that include extended members of the survivor's support system, including close friends, as highly beneficial for collective well-being.

Future Research.

This dissertation focused exploration on humor-use as an adaptive coping mechanism with perceived benefits for individual cancer survivors as well as young adult friend dyads impacted by advanced cancer. Findings and limitations of this study have informed this discussion of potential, future research directions. One recommended future direction of study stems from somewhat unexpected survivor participant perspective that detailed the challenges inherent to meaning-making in response to severe cancer prognoses at such a young age. These findings evoke new questions demanding further empirical exploration such as: Does creation of an acceptable, cohesive narrative about cancer require some degree of completion or feeling ‘through’ or ‘near the end’ of the cancer journey when it may feel more possible to ‘look back’ and create meaning? And if so, how is the meaning-making process influenced by terminal or incurable prognoses? A meta-analysis by Menger et al. (2021) examined qualitative studies focused on post-traumatic growth (PTG) after cancer, labeling meaning-making as a PTG construct. The authors reiterated a common limitation of all cancer survivorship research, in which perspectives of breast cancer patients and mixed groups of cancer survivors are frequently overrepresented (2021). Given PTG is likely influenced by pre-cancer personal circumstances that influence resiliency in response to cancer, and the fact that breast cancer is associated with relatively high 5-year survival rates and higher socioeconomic status, it is possible that privileged identities may contribute to potential for PTG in a unique way (Menger et al., 2021). The dissertation study sample was fairly educationally and economically-privileged, and thus, additional research is needed to better understand how the experience of meaning-making might differ in diverse contexts of varying degrees of sociocultural dimensions of power and privilege.

Another area for future research pertains to the context of humor-specific empirical study. This dissertation sought to evaluate humor use through reflective accounts obtained through audio-recorded dyadic interviews. While in vivo moments of humor were logged and valued by the interviewer and coding team, alternative methods of data collection in which humor use could be actively observed may be an interesting avenue for further exploration. For example, video-taped research interviews and research application of Trees and Koenig Kellas’s interactional sense-making (ISM) rating system to denote observed joint-storytelling processes and behaviors (e.g., engagement, turn-taking, perspective-taking, and coherence) when friend dyads collaboratively tell stories could offer richer mechanistic and process-based findings about humor use during the cancer journey (2005). It may also be worthwhile to consider how humor-based communication about cancer may differ in variant relational contexts, such as patient-medical provider interactions or parent-child interactions. Findings from this study indicated that humor use often proved challenging between cancer survivors and their mothers, so future studies may also wish to consider other communication processes aside from humor that may help promote authenticity, mutuality, and prevention of the relational paradox.

Similarly, future research directions may include continued assessment of interventions that actively promote humor use. For instance, an ongoing 2-arm randomized controlled clinical trial named, ‘LOL: It’ All Improv After Cancer!™ (IMPROV2)’, led by Dr. Arash Asher, Director of the Cancer Rehabilitation and Survivorship program at Cedars-Sinai Health System & Samuel Oschin Comprehensive Cancer Institute, aims to evaluate how engagement in a 6-week improvisational comedy class for patients with stage I, II, or III breast cancer contributes to various psychometrics including overall well-being, anxiety, depression, social isolation, general self-efficacy, self-efficacy for managing emotions, and positive psychosocial outcomes of illness (National Library of Medicine, 2023). Moreover, future research may consider development of humor-based relational-coping scales in an effort to quantify the benefits of collaborative humor use when coping with cancer in a relational context.

Additionally, all survivor and friend participants reported an abundantly positive experience participating in this study, as it offered a unique opportunity to engage in thoughtful, dyadic reflection. Future research may also consider the distinctive offerings of the dyadic interview situation that may increase direct benefit for research participants that are not always so overt.

Summary of Key Findings

This dissertation focused on humor use within the context of a young adult friendship impacted by advanced cancer and qualitatively explored the ways humor may help promote authenticity and mutuality, prevent the relational paradox, facilitate the meaning-making process for survivors as well as the communication to others of the meaning made about cancer, and the meaningful distinctions regarding humor use within the relational context of young adult friendship in contrast to other supportive relationships. Dissertation findings indicated that humor helped survivor and friend participants stay meaningfully connected to one another despite the challenging cancer situation by helping survivors maintain a strong sense of self un-usurped by the patient role identity, helping maintain a sense of normalcy, and effectively softening or mitigating cancer-related distress. Participants also described humor as helpful for navigating cancer-related conversations while maintaining honest and authentic communication and adjusting to new cancer-related states. Additionally, humor was profoundly important in the vibrant process of resiliency-building and meaning-making for survivors, as well as the mutual meaning-making and experiential enrichment process for friendship dyads. These processes resulted in distinct dynamics in which friendships positively adapted or changed in response to cancer. Humor not only functioned in creative ways to help each member of the friendship dyad manage intense events and emotional distress activated within the cancer experience; it helped the friendship dyad as a whole reach a more highly attuned, deeply connected, and even transcendental dynamic.

Despite variability in specific cancer diagnosis, cancer timelines, and friendship contexts, findings indicated that the sample reported similar functions of humor use and experience of meaning-making and communication of cancer-related meaning to others. All participants described the influence of sociocultural variables and personal life experiences on development of their own personal humor style as well as essential qualities of the friendship dyad that laid a strong relational foundation to weather the emotional intensity of the survivor's diagnosis. Participants also described the importance of maintaining normalcy and identity outside of the survivor's patient-role, how humor often served a mitigating function that facilitated coping with cancer-related distress, and how humor played a key role in communicative patterns within the friendship when discussing cancer. Survivors described processes that aided in resiliency building or feelings of empowerment that bolstered them on their cancer journeys, while dyads reflected on the unique ways their friendships evolved in direct response to the cancer situation. Importantly, boundaries for humor use when joking about cancer were also described by all participants.

These findings contribute meaningfully to the field of cancer survivorship research as to the best of the primary researcher's knowledge, this is the first empirical examination of the specific function of humor in helping a young adult survivor to cope with, navigate, and make meaning of an advanced cancer diagnosis within the context of a close friendship. This work underscores how complex and flexible humor is within this relational context, particularly given the vastly different lived experiences of both members of the friendship dyad. Most of all, this study honors the profound stories of adversity experienced by these young adult friendships grappling with advanced cancer; and how humor both helped maintain a strong connection and elevated these friendships to a remarkably special level.

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Appendix A: Recruitment Emails

EMAIL #1: Purposive and partial snowball sampling message distributed through recruitment partners including Smith Center for Healing and the Arts, Stupid Cancer, Cactus Cancer Society, Cancer Support Community, First Descents, Young Survival Coalition.

Subject: Participants Needed for Research Study re: Humor, Friendship, and Young Adults with Advanced Cancer

Hello!

I am writing to request your help in recruiting participants for my dissertation research study about the function of humor within a young adult friendship impacted by advanced cancer.

What are participants asked to do?

1. Contact primary lead researcher (Megan.Solberg@du.edu | 904.728.0203) to complete a brief study eligibility screening phone call (10 minutes)
2. Complete a brief demographic questionnaire online (5 minutes)
3. Participate together with their friend in one audio-recorded interview (60-to-90-minutes)
4. Complete a brief follow-up questionnaire online (5-10 minutes)

Who is eligible for the study?

I am looking for participants who meet the following criteria:

1. A member of a close friendship dyad in which one person is a young adult (i.e., between the ages of 18 and 39) diagnosed with cancer and one person is an adult (i.e., age 18 or older) who has not been personally diagnosed with cancer
2. The cancer survivor member of the friendship dyad was diagnosed with cancer between the ages of 18 and 39
3. The cancer survivor member of the friendship dyad has received an advanced cancer diagnosis as defined by either stage III or IV, recurrent, metastatic or severe blood cancer such as AML, ALL, myeloma, stage III or IV Hodgkin’s or Non-Hodgkin’s lymphoma, multiple myeloma, or a myeloproliferative disorder
4. Both people are English speaking
5. Both people consent to participation in the study

What are the risks and benefits of participation?

I hope that the interview will provide you with a good opportunity to reflect on how humor has been used as a helpful coping mechanism for advanced cancer. There is a slight risk that sharing your experiences during the interview could be emotionally difficult or uncomfortable at moments.

Is there a monetary incentive for participants?

Each individual participant who completes the questionnaires and the interview will be provided with an electronic twenty-five-dollar gift card. This gift card will be emailed to participants once the study requirements are completed.

What are the next steps?

If you are interested in participating in the study, please contact Megan Solberg directly via phone or email (Megan.Solberg@du.edu or 904.728.0203). You are also welcome to contact the faculty sponsor for this project, Dr. Trisha Raque (Trisha.Raque@du.edu). As a reminder, if you decide to take part in the study, you have the right to withdraw from participation at any time. If you have questions about your rights as a research subject or wish to report a research-related injury, please contact: University of Denver, Office of Research and Sponsored Programs, Administrative Office Building, at 303.871.2121 or irbadmin@du.edu. Regardless of whether you are personally able to participate, I am hoping that you will help me in the recruitment process by asking others whom you think might be interested to contact me directly.

If you are interested in participating, or if you have any questions or concerns, please contact me at Megan.Solberg@du.edu or 904.728.0203. I look forward to hearing from you.

Thank you for your help!

Megan E. Solberg, M.A. (she/her)
Doctoral Candidate | Counseling Psychology
Morgridge College of Education | University of Denver
Email: Megan.Solberg@du.edu
Phone: 904-728-0203

EMAIL #2: Response message to be sent to person/cancer survivor who replies to email #1 and expresses interest in the study.

Dear ________,

Thank you so much for expressing interest in my dissertation research study about the function of humor within a young adult friendship impacted by cancer. The next step is to ensure that you meet eligibility criteria for the study. To do this, I would like to schedule a 10-to-15-minute phone call with you in which I will review the eligibility criteria for this study to make sure you would be a good fit, as well as the steps of study participation including what technology you will need to be able to participate.

Please indicate your upcoming availability for a 10-to-15-minute phone call using the Doodle poll link below:

Doodle poll link: [INSERT DOODLE LINK]

I will send a confirmation email once a suitable time is determined. Also, please respond to this message with the best contact phone number for you.

Thank you for your time and interest!

Megan E. Solberg, M.A. (she/her)
Doctoral Candidate | Counseling Psychology
Morgridge College of Education | University of Denver
Email: Megan.Solberg@du.edu
Phone: 904-728-0203

EMAIL #3: Confirmation email for screening/eligibility confirmation phone call

Dear ________,

Thank you for providing your availability for a 10-to-15-minute phone call to review eligibility requirements for participation in my study about the function of humor within a young adult friendship impacted by cancer.

I will call you on [DATE / TIME].

If anything changes with your availability or any questions or concerns arise, please do not hesitate to contact me!

All the best,

Megan

Megan E. Solberg, M.A. (she/her)
Doctoral Candidate | Counseling Psychology
Morgridge College of Education | University of Denver

Email: Megan.Solberg@du.edu
Phone: 904-728-0203

EMAIL #4: Message to be sent to selected friend of interested cancer survivor participant following eligibility confirmation phone call.

Subject: Formal Invitation to Participate in Research Study re: Humor, Friendship, and Young Adults with Advanced Cancer

Dear _________,

CANCER SURVIVOR NAME has indicated that you might be willing to participate together with them in my dissertation research study about the function of humor within a young adult friendship impacted by advanced cancer. Please respond to this email to indicate your interest in moving forward with participation after reading through the below information about the study.

What are participants asked to do?

The friend selected by the cancer survivor participant will be asked to:

1. Complete a brief demographic questionnaire online (5 minutes)
2. Participate together with the cancer survivor in one audio-recorded interview (60-to-90-minutes)
3. Complete a brief follow-up questionnaire online (5-10 minutes)

Who is eligible for the study?

I am looking for participants who meet the following criteria:

1. A member of a close friendship dyad in which one person is a young adult (i.e., between the ages of 18 and 39) diagnosed with cancer and one person is an adult (i.e., age 18 or older) who has not been personally diagnosed with cancer
2. The cancer survivor member of the friendship dyad was diagnosed with cancer between the ages of 18 and 39
3. The cancer survivor member of the friendship dyad has received an advanced cancer diagnosis as defined by either stage III or IV, recurrent, metastatic or severe blood cancer such as AML, ALL, myeloma, stage III or IV Hodgkin's or Non-Hodgkin's lymphoma, multiple myeloma, or a myeloproliferative disorder
4. Both people are English speaking
5. Both people consent to participation in the study

What are the risks and benefits of participation?

I hope that the interview will provide you with a good opportunity to reflect on how humor has been used as a helpful coping mechanism for advanced cancer. There is a slight risk that sharing your experiences during the interview could be emotionally difficult or uncomfortable at moments.

Is there a monetary incentive for participants?

Each individual participant who completes the questionnaires and the interview will be provided with a twenty-five-dollar gift card. This gift card will be emailed to participants once the study requirements are completed.

What are the next steps?

If you are interested in participating in the study, please contact Megan Solberg directly via phone or email (Megan.Solberg@du.edu or 904.728.0203). As a reminder, if you decide to take part in the study, you have the right to withdraw from participation at any time. If you have questions about your rights as a research subject or wish to report a research-related injury, please contact: University of Denver, Office of Research and Sponsored Programs, Administrative Office Building, at 303.871.2121 or irbadmin@du.edu. Regardless of whether you are personally able to participate, I am hoping that you will help me in the recruitment process by asking others whom you think might be interested to contact me directly.

If you are interested in participating, or if you have any questions or concerns, please contact me at Megan.Solberg@du.edu or 904.728.0203. I look forward to hearing from you.

Thank you for your help!

Megan E. Solberg, M.A. (she/her)
Doctoral Candidate | Counseling Psychology
Morgridge College of Education | University of Denver
Email: Megan.Solberg@du.edu
Phone: 904-728-0203

EMAIL #5: Message to be sent separately to both cancer survivor and their selected friend following eligibility confirmation phone call and email confirmation of friend's interest in participating in the study.

Subject: Research Study re: Humor, Friendship, and Young Adults with Advanced Cancer

Dear _________,

Thanks for your interest in participating in my study exploring the function of humor within a young adult friendship impacted by advanced cancer. For this study, it is important that participants trust the interviewer to do a good job. Without trust, you might not open up or share as much information as you could. Therefore, it might be helpful to have some information about the researchers.

My name is Megan Solberg, and the topic of relationships and cancer means a lot to me because when I was in high school, my father was diagnosed with cancer. While he has been in remission for many years, his diagnosis nevertheless left a profound impact on me and certainly underscores my deep interest in cancer survivorship work. Through this experience I learned how challenging it can be to talk about cancer with our loved ones, and how isolating it can feel when trying to avoid both the topic and difficult emotions. I have also been struck by humor's potential to be a powerful, connective force that helps to break through discomfort and isolation. Further, I have found that friendships appear to offer a unique form of social support that has not yet been well-examined in the existing research literature. Before embarking upon my graduate studies, I spent five years working in health administration at Memorial Sloan Kettering Cancer Center in New York City and I am now a fourth-year doctoral candidate completing my PhD in counseling psychology at the University of Denver with the intention of specializing in psycho-oncology. Qualitative research, like this study, makes it possible to deeply understand the experiences of participants. My dissertation advisor, Dr. Trisha Raque, has conducted numerous research studies regarding cancer and relationships, and has extensive experience conducting qualitative research.

A copy of the interview questions is attached for your review. As a reminder, the individual interview is expected to take 60-90 minutes. It will be done by me using the audio-only feature of Zoom. The interview will be audio-recorded and transcribed. I will email you a copy of the deidentified transcript (i.e., all identifying information removed) to allow you review and approve that the data was captured correctly. After the data analysis process, I will also share with you the findings before manuscript finalization to ask for your input and approval.

Before an interview is scheduled, you are asked to follow the link below to complete the informed consent form for the study as well as a demographic questionnaire. These steps should only take about 5 minutes of your time.

Participant ID Number: XX
Link: [INSERT QUALTRICS LINK]

Please note that since this is a dissertation study about humor use within a close friendship context, your friend is also required to complete these surveys before your joint interview is scheduled. Your friend will receive their own ID and link after confirming their interest in participating! Once you and your friend's surveys are complete, I will reach out to you both via email to schedule your joint/dyadic interviews.

I would be honored if you would agree to participate in this study. I think we could learn a lot from you about how you have used humor to cope with cancer. I hope the interview process would be meaningful for you as well. If you have decided not to participate in the study, please reply to this message to let me know. If you decide to participate and complete the consent and questionnaires, I will reach out to you soon to schedule an interview.

Sincerely,

Megan E. Solberg, MA
Doctoral Candidate
904-728-0203
Megan.Solberg@du.edu

Trisha Raque, PhD
Associate Professor
303-871-4522
Trisha.Raque-Bogdan@du.edu

EMAIL #6: Message to be sent separately to both cancer survivor and their selected friend following email confirmation of interest from both parties.

Dear _________,

Thanks for completing the informed consent and demographic forms online. The next step is to schedule a joint/dyadic 60-to-90-minute interview together with your close friend over the next few weeks:

Please indicate your availability for this interview using the below Doodle poll link:

Doodle poll link: [INSERT DOODLE LINK]

Once a mutually agreed upon date/time is determined, I will send you a confirmation email with the date/time of the interview as well as a Zoom link.

All the best,
Megan

Megan E. Solberg, M.A. (she/her)
Doctoral Candidate | Counseling Psychology
Morgridge College of Education | University of Denver

Email: Megan.Solberg@du.edu
Phone: 904-728-0203

EMAIL #7: Message to both the cancer survivor and their selected friend following securement of an interview date/time.

Dear _________ and _________,

Thank you both again for your willingness to participate in this research study! Your interview is officially scheduled for [DATE / TIME]. Here is the Zoom link for the interview:

[INSERT ZOOM LINK]

Please let me know if anything changes with your availability! I look forward to connecting with you both very soon!

-Megan

Megan E. Solberg, M.A. (she/her)
Doctoral Candidate | Counseling Psychology
Morgridge College of Education | University of Denver
Email: Megan.Solberg@du.edu
Phone: 904-728-0203

EMAIL #8: Message to individual participant following completion of Zoom interview.

Dear _________,

Thank you so much for your valuable time and participation in my dissertation study exploring the function of humor within a young adult friendship impacted by advanced cancer. I am so grateful for your contributions and appreciate you sharing your story and perspective with me.

Below, you will find a link to a Qualtrics survey where you will be able to record any feedback, additional thoughts or comments that you either a) did not have a chance to share during the interview or b) did not feel comfortable sharing during the interview. Please note that completing this questionnaire is optional, but that I wanted to provide a space for any ideas that were not shared in the interview.

Participant ID Number: XX
Link: [INSERT QUALTRICS LINK]

Please let me know if you have any questions! Thank you again for your time and participation in this study!

-Megan

Megan E. Solberg, M.A. (she/her)
Doctoral Candidate | Counseling Psychology
Morgridge College of Education | University of Denver
Email: Megan.Solberg@du.edu
Phone: 904-728-0203

EMAIL #9: Message template for contact related to interview content clarification.

Dear _________ & ____________,

I am writing to quickly clarify a question about something that was discussed in the interview. As I want to be sure I am accurately reflecting this specific point, you might recall…[INSERT SPECIFIC DETAILS, AREA FOR CLARIFICATION].

Thank you in advance for your time in clarifying this point!

-Megan

Megan E. Solberg, M.A. (she/her)
Doctoral Candidate | Counseling Psychology
Morgridge College of Education | University of Denver
Email: Megan.Solberg@du.edu
Phone: 904-728-0203

EMAIL #10: Message to respective dyads to share a copy of their transcript.

Dear _________,

I hope you are doing well and enjoying the SEASON so far! I am writing to share with you a transcribed copy of your joint/dyadic interview with me, which was completed on SPECIFIC DATE. You will notice that the transcribed format is deidentified, meaning all personally identifying information has been removed to best protect your privacy.

Please take a few minutes to read through the transcription to ensure everything is accurately reflected. I am including this step as a way to be more transparent surrounding the data analysis process. As the document is password protected as an additional measure of security, the password you will enter to access the file is: __________.

You may reply to me via email to confirm your review and/or to discuss any concerns or inaccuracies. If I do not hear back from you before SPECIFIC DATE, I will presume that you have found the transcription acceptable for me to move forward with in the data analysis process.

Please do not hesitate to contact me with any additional questions or concerns!

-Megan

Megan E. Solberg, M.A. (she/her)
Doctoral Candidate | Counseling Psychology
Morgridge College of Education | University of Denver
Email: Megan.Solberg@du.edu
Phone: 904-728-0203

EMAIL #11: Message to respective dyads to share a copy of the final data analysis.

Dear _________,

I hope this email finds you well! I am writing to share with you a copy of the results chapter from my dissertation project exploring the function of humor within a young adult friendship impacted by advanced cancer. These findings were derived through a formal Consensual Qualitative Research (CQR) data analysis process with a dedicated coding team.

Please take a few minutes to review the final chapter to ensure the findings feel accurately reflected. I am including this step as a way to be more transparent surrounding the research process. You will notice that all included quotations have been deidentified, meaning all personally identifying information has been removed to best protect your privacy.

You may reply to me via email to confirm your review and/or to discuss any concerns or inaccuracies. If I do not hear back from you before SPECIFIC DATE, I will presume that you have found the chapter acceptable for me to move forward with in my dissertation finalization process.

Please do not hesitate to contact me with any additional questions or concerns!

-Megan

Megan E. Solberg, M.A. (she/her)
Doctoral Candidate | Counseling Psychology
Morgridge College of Education | University of Denver
Email: Megan.Solberg@du.edu
Phone: 904-728-0203

Appendix B: Recruitment Flyer

Flyer included as attachment on recruitment emails.

IF YOU:

-Are between the ages of 18 and 39 years;

-Were diagnosed with advanced cancer between the ages of 18 and 39;

-AND want to participate in a research interview with a close friend who has not been personally diagnosed with cancer about:

HUMOR, FRIENDSHIP & YOUNG ADULTS WITH ADVANCED CANCER

Please email Megan.Solberg@du.edu for more information about study eligibility!

UNIVERSITY of DENVER

THIS STUDY HAS BEEN APPROVED BY
THE UNIVERSITY OF DENVER
INSTITUTIONAL REVIEW BOARD
IRBNET #: 1756596-1

Appendix C: Social Media Recruitment Materials

Facebook Post:

If you :

- Are between the ages of 18 and 39 years;
- Were diagnosed with advanced cancer between the ages of 18 and 39;
- AND want to participate in a research interview with a close friend who has not been personally diagnosed with cancer about:

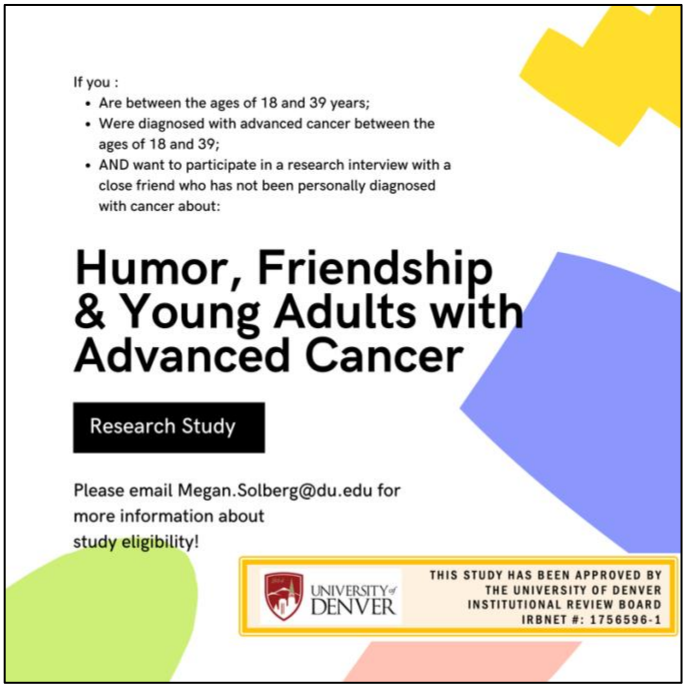
Humor, Friendship & Young Adults with Advanced Cancer

Research Study

Please email Megan.Solberg@du.edu for more information about study eligibility!

THIS STUDY HAS BEEN APPROVED BY THE UNIVERSITY OF DENVER INSTITUTIONAL REVIEW BOARD IRBNET #: 1756596-1

Instagram Post:



If you :

- Are between the ages of 18 and 39 years;
- Were diagnosed with advanced cancer between the ages of 18 and 39;
- AND want to participate in a research interview with a close friend who has not been personally diagnosed with cancer about:

Humor, Friendship & Young Adults with Advanced Cancer

Research Study

Please email Megan.Solberg@du.edu for more information about study eligibility!

THIS STUDY HAS BEEN APPROVED BY THE UNIVERSITY OF DENVER INSTITUTIONAL REVIEW BOARD IRBNET #: 1756596-1

Appendix D: Informed Consent

Title of Research Study: An Existential Punchline: How Humor Functions in a Young Adult Friendship Facing Advanced Cancer
IRBNet #: **1756596-1**
Principal Investigator: Megan E. Solberg, M.A.
Faculty Sponsor: Trisha L. Raque, PhD
Study Site: Online platform (Zoom)

Title of Research Study:	An Existential Punchline: How Humor Functions in a Young Adult Friendship Facing Advanced Cancer
IRBNet #:	**1756596-1**
Principal Investigator:	Megan E. Solberg, M.A.
Faculty Sponsor:	Trisha L. Raque, PhD
Study Site:	Online platform (Zoom)

Voluntary Participation: Participating in this research study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. You may stop completing the survey or interview or not answer particular questions for any reason without penalty.

Purpose: The purpose of this research is to qualitatively explore the role of humor in young adults within the context of a close friendship impacted by advanced cancer; to explore humor's role in the cancer coping and meaning making process; and to examine how humor may help survivors and close friends to maintain authenticity and connection within the friendship. The study is not a replacement for individual therapy for anxiety, depression, trauma, or suicidal ideation.

Inclusion Criteria: You are being asked to participate in a research study because you meet the following inclusion criteria:

a) You are a member of a close friendship dyad in which one person is a young adult (i.e., between the ages of 18 and 39) diagnosed with cancer and one person is an adult (i.e., age 18 or older) who has not been personally diagnosed with cancer,
b) The cancer survivor member of the friendship dyad was diagnosed with cancer between the ages of 18 and 39,
c) The cancer survivor member of the friendship dyad has received an advanced cancer diagnosis as defined by either stage III or IV, recurrent, metastatic, or severe blood cancer such as AML, ALL, myeloma, stage III or IV Hodgkin's or Non-Hodgkin's lymphoma, multiple myeloma, or a myeloproliferative disorder,
d) Both people are English speaking,
e) Both people consent to participation in the study

Procedures: If you participate in this research study, you will be asked to: 1) complete a demographic survey by answering questions about yourself and your cancer diagnosis and course of illness (if you are a survivor), 2) participate in an interview together with the researcher and your selected friend, and 3) complete a follow-up questionnaire to record any feedback or additional thoughts or comments that you were not able to share during the interview. You may also be contacted after the interview by the researcher to follow-up on any points that were not clarified during the interview. After your interview, the researcher will type up the conversation, removing all identifying information (names, places, etc.). The interview document will be password protected and emailed to you to review and verify the transcript of our interview, to make sure that it is accurate. If relevant, you may indicate inaccuracies in your interview transcript by contacting the primary investigator via email or phone. It will take approximately 5 minutes for you to complete the demographic survey and 5-10 minutes for you to complete the follow-up questionnaire. Your interview will take approximately 60-90 minutes. There are no long-term follow-up surveys, and your total time commitment for the study would be approximately 80-115 minutes.

Risks or Discomforts: Potential risks and/or discomforts of participation may include difficult or negative feelings or thoughts about yourself and the cancer experience. As the interviews will be conducted jointly with your selected friend, there is a potential risk for loss of privacy regarding the information shared within the shared space.

Benefits: Possible benefits of participation include greater awareness of how humor may have been used as a way to cope with advanced cancer and how humor helped to increase feelings of authenticity and connection within the respective friendship. You would be contributing to research on how humor coping relates to social connection for cancer survivors and supportive relationships.

Confidentiality: The confidentiality of your answers will be protected as best as possible. Due to the public nature of the Internet, absolute confidentiality cannot be promised. The likelihood of someone accessing your data is very improbable but a theoretical possibility. Be sure to exit or close your Internet browser when you have completed the study to ensure that another person using that same computer cannot see your responses.

To keep your information safe throughout this study, the researcher will ensure that your identifying information will be kept separate from your responses. The master list will be kept on a password protected computer in a secure location in which only the primary researcher has access. The interviews will be audiotaped using the Zoom communications platform. The audio recordings to assess for fidelity to the facilitator’s manual will also be kept on a password protected computer in a secure location in which only the primary researcher has access. In addition, in following the American Psychological Association’s policies regarding data collection and retention, the master list and fidelity audio recordings will be destroyed by erasing it from the computer after a minimum of three years following the study's completion. Your individual identity will be kept private when information is presented or published about this study.

The exception to maintaining your confidentiality will occur if you disclose information that you are going to harm yourself or others. In those cases, the primary researcher's role as a mandated reporter requires the breaking of confidentiality to appropriately assess for risk and to connect the person with appropriate mental health services. Additionally, if participating in the interview prompts any psychological distress, Megan Solberg will discuss with you any potential resources or support for your mental well-being.

Should any information contained in this study be the subject of a court order or lawful subpoena, the University of Denver might not be able to avoid compliance with the order or subpoena.

Before you begin, please note that the data you provide may be collected and used by Qualtrics Online System per its privacy agreement. This research is only for U.S. residents over the age of 18 (or 19 in Nebraska). Please be mindful to respond in private and through a secured Internet connection for your privacy. Your confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties.

Questions: If you have any questions about this project or your participation, please feel free to ask questions now or contact Megan Solberg at 303-871-4522 or Megan.Solberg@du.edu at any time.

If you have any questions or concerns about your research participation or rights as a participant, you may contact the DU Human Research Protections Program by emailing IRBAdmin@du.edu or calling (303) 871-2121 to speak to someone other than the researchers.

If you agree to participate in this research study, please indicate below.

By clicking the link below, I confirm that I have read this form and made the decision to participate in the research project described above. I understand the general purpose of the research, the requirements for participation, and possible risks and inconveniences of participating. I understand that I can discontinue participation at any time. My consent also indicates that I am at least 18 years of age. [Please feel free to print a copy of this consent form.]

☐ I agree to participate (link to demographic survey)
☐ I decline to participate (link to close webpage)

Appendix E: Demographic Questionnaires

Please complete the following demographic questions.

Personal demographic questions:

1. What is your current age?
    a. [Free Response]

2. What is your race/ethnicity? (Check all that apply)
    a. Asian
    b. Biracial or multiracial
    c. Black or African American
    d. Hispanic, Latinx, or Spanish Origin
    e. Middle Eastern or North African
    f. Native American or Alaskan Native
    g. Native Hawaiian or other Pacific Islander
    h. White
    i. Some other race, ethnicity, or origin
    j. I prefer not to answer

3. How do you describe your gender identity?
    a. [Free Response]
    b. I prefer not to answer

4. How do you describe your sexual orientation?
    a. [Free Response]
    b. I prefer not to answer

5. What is your highest grade of education completed?
    a. Grade school
    b. High School
    c. College
    d. Graduate school
    e. Other
    f. I prefer not to answer

6. How do you describe your work and/or occupation?
    a. [Free Response]
    b. I prefer not to answer

7. Approximately, how many hours do you typically work per week?
    a. Between 0 – 10 hours
    b. Between 10 – 20 hours

    c. Between 20 – 30 hours
    d. Between 30 – 40 hours
    e. More than 40 hours
    f. I prefer not to answer

8. What is your approximate annual household income?
    a. $0 – $25,000
    b. $25,000 – $50,000
    c. $50,000 - $75,000
    d. $75,000 - $100,000
    e. $100,000 - $125,000
    f. More than $125,000
    g. I prefer not to answer

9. ***[Question only applicable for Phase 1 Recruitment]*** Have you actively participated in the "Coping Through Comedy" program with the Smith Center for Healing and the Arts?
    - [Yes/No]

10. ***[Question only applicable for Phase 1 Recruitment]*** Please describe your past and current involvement with both the "Coping Through Comedy" Program and the Smith Center for Healing and the Arts.
    - [Free Response]

Are you currently living with a cancer diagnosis?
    - Yes/No

If YES → Cancer patients/survivors only, please answer regarding your experience with advanced, stage III or IV, recurrent, and/or metastatic cancer:

- Please provide the date of your first cancer diagnosis:
    - [Free Response]
- Please provide the date of any recurrent or subsequent cancer diagnoses:
    - [Free Response]
- What is your specific cancer diagnosis?
    - [Free Response]
- What is the stage of your current cancer diagnosis?
    - [Free Response]
- Please describe your general course of illness including experience of diagnosis, treatment, recurrence, etc.:
    - [Free Response]
- Please provide a brief description of your cancer treatment history, including treatments received and time frame:
    - [Free Response]

- Please provide a brief description of any cancer treatment you are currently receiving.
    - [Free Response]
    - Not Applicable
- When was the date of your last/most recent treatment?
    - [Free Response]
    - Not Applicable
- Please describe the overall impact you feel that cancer has had on your life:
    - [Free Response]

Appendix F. Semi-Structured Dyadic Interview Protocol

Introduction:

Thank you for both agreeing to participate in this qualitative study exploring how humor is used within the context of a friendship in which one party is a young adult diagnosed with advanced cancer. Before we get started with the interview, I need to cover a few housekeeping details:

1) It is important for me to remind you that this interview will be audio-recorded and transcribed for data analysis. Your names and other identifying information will be removed from the transcripts and no portion of the interview transcript containing identifying information will be reported verbatim. Only the members of the research team will have access to these recordings. Further, the audio-recordings will be password protected on my computer and will be kept intact for a minimum of three years in compliance with the American Psychological Association's guiding ethical principles and 45 CFR 46.115(b) (University of Denver Office of Research and Sponsored Programs, 2021).
2) Your participation in this study is completely voluntary. All participants have the right to refuse to answer any question(s) and/or to withdraw from this study entirely at any time. I will maintain strict guidelines related to the safeguarding of research material as defined by the American Psychological Association.

Do either of you have any questions? Are you feeling comfortable and ready to proceed with the interview at this time?

> <u>[If yes]:</u> I hope you have had the opportunity to review the interview questions and feel familiar with the questions that I will be asking you both today. Please be aware that I will be asking you questions about your experience using humor within your friendship and how humor is used to talk about cancer and an advanced diagnosis. As it is possible that this discussion might elicit an emotional reaction given this is a potentially sensitive topic, I will make every effort to minimize any emotional discomfort that either of you might experience. I am also able to provide you with information from the American Psychological Association about how to locate a mental health professional in your area (i.e., Psychologist Locator http://locator.apa.org/) if this resource would be helpful.

I am committed to this project because I care deeply about the experiences and stories of young adult cancer survivors and those in their support system and I respect and appreciate your willingness to share your experiences with me, so please be as honest and open as possible and as you feel comfortable. Please feel free to share whatever comes to your mind in response to the questions.

Part A:

1. Tell me the story of your friendship. (e.g., How did you meet? How long have you been friends?)

2. Can you give me some examples of your favorite or the most important moments in your friendship?
    a. Did humor play into any of these moments? How so?
3. How would each of you describe your own personal humor style?
4. What aspects of your cultural identities/social identities have affected how you use humor?
5. Does humor help you to feel more connected to others? How so?

Part B:

1. For survivor: Tell me the story of your cancer experience.
    a. What did it mean for you to be diagnosed with cancer? How have you made sense of your diagnosis?
        i. How do you think humor has helped you to make sense of cancer?
2. For dyad: Tell me about how you use humor to talk about cancer in your friendship.
    a. Can you recall any specific examples?
        i. For survivor: What were you hoping would happen by using humor with your friend (e.g., offering comfort, release, freedom)?
            1. If needed: How did it feel to make your friend laugh?

        ii. For friend: What were you hoping would happen by using humor with your friend (e.g., offering comfort, release, freedom)?
            1. If needed: How did it feel to make your friend laugh?
3. For dyad: Has humor helped to open up conversation about cancer within your friendship?
    b. Can you recall any specific examples?
        i. What do you think was happening in these moments?

4. For dyad: Do you think humor has been helpful in talking about difficult thoughts or feelings related to X's cancer diagnosis? How so?

5. For dyad: Have you noticed any changes over time during the course of X's illness in the way that humor is used within your friendship?
    a. Have you noticed any changes in how you use humor together *following* X's cancer diagnosis? (e.g., How and when humor is used?)

6. For dyad: Has humor helped you to feel more comfortable discussing your cancer with other important people in your life?

7. For dyad: Does one of you tend to initiate using humor more often than the other when having conversations about X's cancer?
    c. If so, why do you think this might be?

8. For dyad: Do you think you use humor differently with each other than you do with other important people in your life (e.g., family), with regard to cancer?
    a. If so, why do you think this may be?

9. For dyad: Has using humor to talk about cancer with each other ever had any unintended results?
    a. What do you think was happening in these moments?
    b. For dyad: Has using humor to talk about cancer with anyone else ever had any unintended results?
        i. What do you think was happening in these moments?
10. For dyad: Have you ever had an experience in which using humor to discuss cancer created distance in your friendship?

11. For dyad: Are there any topics, both cancer-related and not, that are "off-limits" with regard to humor?
    a. Do you recall any specific situations in which you have held back in using humor to discuss parts of your cancer experience with your friend?

12. For dyad: Earlier on in this interview, we talked about how X feels about how they have used humor to make sense of cancer. In what way(s) do you think humor has helped you to make sense of X's cancer together?
    a. Any specific examples?

Appendix G. Follow-Up Questionnaire

Thank you so much for participating in this qualitative study exploring how humor is used within the context of a friendship in which one party is a young adult diagnosed with advanced cancer.

Please use the response boxes to record any feedback, additional thoughts, or comments that you either a) did not have a chance to share during the interview or b) did not feel comfortable sharing during the interview.

[Only applicable for Phase 1 Recruitment] If you have personally completed the "Coping Through Comedy" program OR attended a "Coping Through Comedy" performance as an audience member, is it acceptable for the researcher to contact you via email at a future date to inquire about your interest in participating in any related/prospective research projects?

--[Yes/No/ Not Applicable to Me/Maybe]

Please provide any questions, concerns or comments you have about potentially participating in any future projects.

Appendix H.
Results: Domains, Categories, Sub-Categories, Frequencies, and Illustrative Quotations

Category	Sub-Category	Frequency	Illustrative Quotation
Domain 1: Sociocultural Influence on Humor (General) *Relational-driven*			
Specific Life Experiences that Influence Coping with Cancer *Relational-driven*		General	Claire (survivor): "My dad left our family for another woman when I was 12, and we didn't really process it at the time. And then one of the ways that my brothers and I and my mom have dealt with it over time is through humor. And just, you know, it's been great to have my brothers in terms of bonding through those awkward moments. So, kind of trying to thrive through awkward moments through humor." (lines 115-119)
Domain 2: Nature of the Bond (General) *Relational-driven*			
Origin of the Relationship *Relational-driven*		General	Alexis (friend): "We met in a creative writing class the spring of 2019. It was our freshman year of college. And our professor assigned a sonnet crown writing assignment. And we had to come to class with our own sonnets. And so our friendship was actually based on humor and writing, which I love." (lines 8-10)

Feeling of High Regard *Relational-driven*		General	<u>Maya (survivor)</u>: “It was late at night, so she just drove over to where I was at and talked me through it. And actually, humor was involved because after she calmed me down, she started cracking jokes and stuff and it was kind of another instance where I just realized that [Sarah] is kind of like my 'ride or die.'” (lines 77-80)
Intersection of Identities *Relational-driven*		Typical	<u>Sofia (survivor)</u>: I remember you were more the rebellious type [*Rosa laughs*] and I was the quiet one. So, you had that thing going on. But I felt like we really connected more...I think as adults, you know, once we had the experience of moving out of our home, and living alone and sharing all of that, that's when like...a more like an adult, mature friendship comes. (lines 27-31)
Domain 3: Maintaining Normalcy (Typical) *Relational-driven*			
Preserving Sense of Self Outside Cancer *Survivor-driven*		Typical	<u>Mai (survivor)</u>: “And the humor was the only remaining thread that I had to myself that other people would still recognize.” (lines 357-358)
Friend Offering Restoration of Survivor's Sense of Self or Friendship Normalcy *Relational-driven*		Variant	<u>Amelia (survivor)</u>: “I do think it is this ‘badass riding a motherfucking tiger’ [greeting card] I'm going to come back to because like, it is something that I come back to, right? …Was that us making meaning together? I think so. Because [Vera] was offering this way that I could be seeing myself. Not that I had to see myself that way, but that she saw me that way. And that was the way I could see myself, too.” (lines 1162-1166)

<table>
<tr><th colspan="4">Domain 4: Coping with Cancer-Related Distress (General)
<i>Survivor-driven</i></th></tr>
<tr><td>Defense Mechanism
<i>Survivor-driven</i></td><td></td><td>General</td><td><u>Maeve (survivor):</u> “We're finally getting ready to go and I'm like, 'Houston, we have...we have a problem.' And it was just bathroom day… every 20 minutes for...I mean, it was just the World War III of diarrhea. And so, we're struggling with all this and I'm like...I'm actually embarrassed because I would love for my husband to see me as a young, sexy, fertile hottie. And now, I am none of those things. [<i>quick laugh</i>] And I'm trying not to cry. And we're late for the game. And the buffalo chicken dip is getting cold. And we really need to get White Claw on the way there. And so, all these other things, and it was just so embarrassing. And I think I made some joke when we got there.” (lines 524-531)</td></tr>
<tr><td></td><td>Humor as a Retort/Clap Back or Education Device
<i>Survivor-driven</i></td><td>Typical</td><td><u>Lily (survivor)</u>: You’re like, 'Oh, yeah....I've got cancer.’ You know? ‘I just shaved my head five months before my wedding.' [<i>laughs</i>] Um, there's like...it feels good because it's like, yeah, people can't compete! And I don't want anyone in this situation. And it's like, 'Yeah, I win again!' [<i>laughs</i>] (lines 778-781)</td></tr>
<tr><td></td><td>Distraction
<i>Relational-driven</i></td><td>Typical</td><td><u>Lauren (friend)</u>: “Just trying to find something like silly to send her, something that made me think of her. One day it was like, 'I'll Make a Man Out of You' [song from movie <i>Mulan</i>] [Claudia: 'Yeah!' <i>laughs</i>] I heard that on the radio, and I knew that's always been her favorite song. Like it's been her pump-up song for when she is doing an interview or a test in college. Like... [<i>Claudia laughs</i>] she'll ace this test because she played this song. So, I heard that, and I</td></tr>
</table>

			just called her. I have a horrible singing voice, but I called her. I just sang on the phone to her.” (lines 517-533)
Managing impact on others *Survivor-driven*		General	Anna (survivor): “I started...I don't know, using humor to make a lot of people around me…feel better. And I use it a lot to make people feel like, 'Hey, it's okay to joke! Like, it's...I'm fine. I'm joking. It's okay for you to joke, too… I want to make sure everybody around me feels like it's okay to joke. It's...you know, just because I have this very serious thing going on... it's okay to joke.” (lines 124-127; and 187-189)
	Humor as a protective device *Survivor-driven*	General	Adam (survivor): “I always use humor in any situation, but especially talking to [Nathan]. I mean, we share a sense of humor all the time but when I call him, I guess I just don't want him to think that I'm...even if I am…I don't want him to think that I'm down in the dumps. Sorry about that one time apparently...[*laughs*] [*Nathan laughs*]” Nathan (friend/brother): “Well you can! Tell me when you're down in the dumps!” (lines 337-43)

	Importance of Balancing Humor and Seriousness *Relational-driven*	Typical	Lucy (friend): “The hardest conversations have always been heavily dosed with humor while we're having serious conversations. Like when [Oliver] first started talking to me about assisted dying and that that might be a thing that you would, you know, consider. And you broached that conversation with me asking if I would be there and like...that's a heavy conversation. And there were jokes through the whole thing of that conversation of like...talking about, you know, your mom's gonna be there. Or if your mom even could be there and then like you're gone and it's just me and your mom and like...[*laughs with humorously panicked expression*]”
Domain 5: Navigating Conversations About Cancer (General) *Relational-driven*			
Honesty/Authenticity as a Gateway *Relational-driven*		Typical	Maya (survivor): “I was texting [Sarah]. And it was a situation where I was just feeling sorry for myself. And she said this thing that’s always stuck with me. It helped me so much. She was like, "Right now you're living through 'the suck.' This is the 'Year-of-Suck.' And it's just gonna suck.' [*Sarah laughs*]…’Like, everyday, everything is just horrible. And it's just gonna be...basically. But it's not like that forever." And it's just, it was like one of those things that...it was very blunt, and it was very real, and it was very necessary.” (lines 1130-1136)

Recalibration *Relational-driven*		General	David (friend): “It was in the first couple of days, I believe, when the sort of catchphrase like, 'But I have cancer,' [Claire (survivor): ‘Yeah’] started to emerge. Because to try to ease [SURVIVOR'S] feeling of… everything changing...that we had to really help her with a lot of tasks. I think in a way of her getting used to that being okay. And us and knowing that we were okay with it was like her using as jokingly as a trump card like, [Claire: ‘Yeah] 'I did it because I had cancer. ' (lines 293-298)
Domain 6: Resiliency Building (General) *Survivor-driven*			
Reclaiming Cancer Narrative *Survivor-driven*		General	Elizabeth (survivor): “This whole experience for me has been, how can I control the narrative? How can I tell my story and not have others tell it for me? And before other people rush to tell me like, 'She's so strong, she's such an inspiration.' I can put myself out there and say like, 'Well, yeah, if by inspiration, you mean that I'm like, binging true crime documentaries on Netflix and like shoving my face full of, you know, all briny foods, because that's what my palate can handle today, then sure I'm an inspiration!'...I've reclaimed some power by using humor as the story. (lines 1042-1050)

Internal Meaning-Making Process *Survivor-driven*		Variant	Claudia (survivor): “I don't know where I would have been if it weren't for humor throughout this process because I think it would have been a very dark and sad experience. And that's not how I would say my cancer journey has been...it hasn't been dark and sad. If anything, it's been kind of light and empowering. Confusing and challenging, but not dark and sad. There's been moments though so don't get me wrong, like, I'm not gonna lie. [*laughs*] There's been pockets of darkness and sadness, but that's not how the whole...I don't know...I never let it be like really all consuming.” (lines 436-442)
Humor as a Vehicle to Enrich Experiences Where Control is Limited *Relational-driven*		General	Oliver (survivor): I have to have ‘mystery cancer.’ I have to have the 'cancer-iest' cancer. My cancer has to be the ‘most advanced.’ It has to be the ‘highest grade.’ It has to be in ‘the most places.’ And then...when I'm treated, it has to shrink the ‘absolute most’ it can possibly shrink… Lucy (friend): So yeah, we joke about just the sheer audacity of [SURVIVOR'S] ambition. Oliver (survivor): Also, the sheer audacity of stage four cancer thinking it's gonna get the best of me...hello! [said in jest] (lines 630-646)

	Humor as a Connective Force in AYA Survivorship Communities (e.g., "The Youngest Person in the Cancer Center") *Survivor-driven*	Variant	Maeve (survivor): “I don't think that I connected with or found or knew anything about other young adults who had cancer until I'm pretty sure the first exposure was [Abby] sent me just like some Instagram memes from @TheCancerPatient… So, she sent me that and I was like, 'Oh my god! Thank the Lord! Like some...we are...somebody else…they're all having the same exact crises! Like, this is delightful!' And it's made me feel so much less lonely. So, it's definitely helped connect me to other people who are dealing with the same crazy issues. It makes you realize you're way less alone than you think you are.” (lines 175-182)
Domain 7: Evolution of the Relationship After Cancer (General) *Relational-driven*			
Fostering and Deepening Connection *Relational-driven*		Typical	Amelia (survivor): “[Humor] is such a lifeline to me. I don't know how else to explain it, it makes me feel close to that person, it makes me feel like they're still them, even with the situation around and that our relationship is like, special as well.” (lines 711-713)
Humor as Transcendence or Expansion of Relationship *Relational-driven*		General	Claire (survivor): “[David] and I were made infinitely closer by this experience. And humor played a large role in that and will shape our friendship forever. And let us, you know, he more than anyone was there and provided for me and listened to me and did things for me that I didn't...couldn't do for myself...didn't know I needed to do for myself.” (lines 786-791)

Attunement *Relational-driven*		General	Abby (friend): “I think kind of as a ‘cancer muggle’ as we're dearly called, or people who are not battling cancer ourselves or are the support people, it's very important to let [Maeve] lead with the humor. I know if [Maeve] is leading with the humor, then it's...it's a humor time. And just being very sensitive to the times when that's not the case.” (lines 437-440)
Domain 8: Limits of Humor Use (General) *Relational-driven*			
Timing *Relational-driven*		Typical	Anna (survivor): “I remember that. It was terrible. Like, I would sit in bed each day and be like, 'Is today the day I die?' Like what is...what am I supposed to do...just sit here? [Jeannette (friend): 'Yeah.'] It was...it was a dark time. Yeah...no joking [quick laugh] back then.” (lines 674-676)
Ineffective humor use *Relational-driven*		Typical	Oliver (survivor): “I definitely have a tendency to want to use humor with my medical providers, and I've tried to use humor with my oncologist, but I haven't been able to make her laugh yet.” (lines 754-755)
	Humor Unsanctioned by Survivor *Survivor-driven*	Variant	Mai (survivor): “I also wasn't very comfortable with certain friends or family members making those jokes. Because it felt...especially in the beginning, it felt like they were taking advantage of me being sick to make those jokes. To get attention because of how 'off' they sounded, especially in public.” (lines 334-337

Unwillingness to Use Humor *Relational-driven*		Typical	<u>Maeve (survivor)</u>: “I think it can open up a larger discussion. But I think again...it's successful with [Abby] because she's willing...to talk about these bigger things. But even with my husband, I, you know, it's like you try to make these jokes, you try to…whatever. And it's just...there's, I think, a little too much hurt or too much fear on his part to be able to dip his toe in the humor pool. I don't know. Yeah, there's just more of a disconnect for...for my other people.” (lines 550-554)

Appendix I. Personal Acknowledgements

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