TESTING THE ROLE OF NARRATIVES IN IMPROVING SOCIAL SUPPORT AND MEANING MAKING FOR YOUNG ADULT CANCER SURVIVORS

Meredith K. Reffner Collins

A dissertation submitted to the faculty at the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the Hussman School of Journalism and Media.

Chapel Hill
2023

Approved by:

Allison Lazard

Francesca Dillman Carpentier

Maria Leonora Comello

Catherine Benedict

Erin Kent

ABSTRACT

Meredith K. Reffner Collins: Testing the role of narratives in improving social support and meaning making for young adult cancer survivors.
(Under the direction of Allison Lazard)

Young adult cancer survivors (ages 18 – 39) face a variety of challenges related to their illness. Many of these challenges are unique to young adult cancer survivors due to the developmental milestones common to young adulthood. Nearly a third of this population suffers from symptoms of posttraumatic stress disorder, distress, and/or anxiety due to uncertainty in creating meaning from the cancer experience. Many young adult cancer survivors also report difficulty expressing their true feelings about cancer to friends and/or family due to fear of unwanted reactions, such as excessive sympathy or undesired pity. This suboptimal social support is associated with greater mental distress and less posttraumatic growth. Interventions designed to help young adult cancer survivors these challenges have failed to produce scalable, successful interventions. One shortcoming of these interventions is the exclusion of media effects as a potential solution in improving psychosocial health for this population.

Two empirical studies were conducted to investigate how stories in entertainment media—that is, movies, television shows, and books – could operate as a potential solution to these issues. The first study was a quantitative, online survey of 108 young adult cancer survivors. Results of the survey revealed that this population is indeed turning to entertainment media stories to cope with their cancer experience; however, this use and its effects differ by

racial and gender identity, as well as time since cancer treatment completion. The second study was a three-condition, randomized, online experiment of 454 healthy young adults was conducted to test the effect of exposure to a eudaimonic story (e.g., inspirational stories) on willingness to engage in social support activities toward a hypothetical friend with cancer. The results of the study indicated that participants who consumed a eudaimonic media narrative reported higher mixed affect, greater connectedness, and more reflective thoughts than participants who consumed a control narrative. The implications for future research on the effect of stories in improving the psychosocial health for young adult cancer survivors is discussed.

To Mitchell, my best friend, my partner in crime, and my number one fan: I couldn't have done it without you. I love you so much.

ACKNOWLEDGEMENTS

First, I would like to acknowledge my committee members, Drs. Catherine Benedict, Francesca Dillman Carpentier, Nori Comello, and Erin Kent, as well as my advisor and chair, Dr. Allison Lazard. I greatly appreciate the support, encouragement, and enthusiasm you have given me over the past year. Your comments have greatly improved this project, and I am grateful for the foundation you have given me to start my postdoc journey!

I would also like to thank the faculty and staff at the Hussman School of Journalism and Media for everything over the past six years. It is hard to adequately express how much my time here has meant to me, both personally and professionally, so I will just say that I am grateful to all of you for impacting my life. I am also grateful to the Park family for the support of the Park Fellowship, which allowed these Master's and doctoral degree dreams to come true. I am honored and proud to be a two-time Tar Heel.

I would also like to acknowledge the support offered to me by my family. In addition to my parents, Terry and Susan Reffner, and grandparents, Emory and Katherine Carter, this dissertation wouldn't have been possible without the support of my amazing in-laws, Lori Collins and Amanda Collins. I am so happy that I get to call every one of you a member of my family and my support team. I hope you are as proud of me as I am of you.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

Young adults (ages 18 – 39) are deeply affected by a cancer diagnosis. In addition to dealing with the physical symptoms of disease and treatment, the mental health of this population also suffers severely. In fact, nearly one-third of young adult cancer survivors report symptoms of distress, anxiety, and low social functioning (McCarthy et al., 2016; Rosenberg et al., 2018). There are two key drivers of these less-than-ideal mental health outcomes among this population: (1) difficulty integrating the cancer experience into a sense of identity and purpose, and (2) suboptimal social support from healthy peers.

Young adult cancer survivors report uncertainty about the impact of cancer on their lives, which often causes additional distress (Darabos & Ford, 2020; Husson et al., 2017; Iannarino et al., 2017; Laing et al., 2017; Lea et al., 2019). However, engaging in reappraisal, or reframing, activities can diminish the negative impact of cancer on young adults' identities and life goals (Husson & Zebrack, 2017a, 2017b). Simultaneously, young adult cancer survivors face a lack of effective social support from healthy, same-aged peers (e.g., friends, classmates, co-workers, etc.). Yet, this suboptimal social support is associated with greater mental distress and less posttraumatic growth (Greup et al., 2018; Kay et al., 2019). Peers often respond in ways that are unhelpful or harmful (Janin et al., 2018; Lang et al., 2020), and some even respond with bullying or ostracism (Kaluarachchi et al., 2020), which can increase distress (Iannarino et al., 2017).

A potentially novel means by which to engage both healthy peers and young adult cancer survivors in meaningful activities to address these issues is that of entertainment media, in the

form of stories (e.g., television shows, movies, novels, etc.). Engaging with entertainment media is a common response to stress (Nabi et al., 2017; Nabi et al., 2022), and engaging in the boundary expansion activities elicited by stories can prompt self-compassion and acceptance (Bartsch, 2012; Khoo, 2016; Khoo et al., 2021). Additionally, *eudaimonic*, or inspirational, stories can prompt increased willingness to perform altruistic behaviors, such as helping others (Algoe & Haidt, 2009; Oliver et al., 2021; Oliver et al., 2018); thus, these stories may be an ideal way to reach healthy peers. Stories that feature moments of positivity resonance, or interactions of positive emotions, mutual care, and behavioral synchronization (Frederickson, 2016) should produce willingness to engage in social support activities through a cognitive-emotional process. Mixed affect, or the concurrent experience of positive and negative emotions (Bartsch et al., 2016; Oliver et al., 2021); self-transcendent emotions, or a trio of other-focused emotions encompassing compassion, gratitude, and awe (Stellar et al., 2017); connectedness, or a feeling of closeness towards humanity (Janicke Bowles & Oliver, 2017); and, reflective thoughts or thoughts that reflect on the content and themes of the story (Das et al., 2017; Oliver et al., 2018).

The purpose of this dissertation is to integrate research on the effects of stories, or narratives, in a way that addresses – and improves – suboptimal mental health among young adult cancer survivors. Chapter 2 further explicates the case for considering narrative media effects in addressing suboptimal mental health among young adult cancer survivors.

Chapter 3 focuses on how young adults struggle with identity reformulation and meaning making following a cancer diagnosis. Yet, the extant literature on the effects of narrative on the processes of boundary expansion and reappraisal suggests that stories may be able to address this very issue among young adult cancer survivors. However, very little research exists on how young adult cancer survivors use narratives following their cancer diagnosis; given the physical

demands of treating cancer, it is likely that many young adults are engaging their minds with narratives while their body faces the exhaustion wrought by disease and treatment. A quantitative survey aimed at identifying if young adult cancer survivors are already using stories following their diagnosis and how that use affects them is proposed. The detailed method and measures for the survey to collect this data are presented.

Chapter 4 focuses on the provision of suboptimal social support from healthy peers toward young adult cancer survivors. Again, the extant literature on the effects of narrative suggests that stories can inspire prosocial behavior – and therefore prompt more effective social support from healthy peers. Key to these effects may be the inclusion of positive psychology concepts, such as positivity resonance. However, the effects of stories on healthy peers' prosocial behavior toward young adult cancer survivors has yet to be applied in the literature; it is unclear exactly if and how these prosocial outcomes could be harnessed. Thus, a three-condition, randomized experiment designed to prompt prosocial behavior after viewing stimuli containing depictions of positivity resonance is proposed. The detailed method and measures for the resulting experiment are presented.

Following the collection of data, the results, discussion, and conclusions for chapters 3 and 4, as well as a general discussion and conclusion, will be added.

CHAPTER 2: CAN STORIES REALLY IMPROVE SOCIAL SUPPORT AND MEANING MAKING FOR YOUNG ADULT CANCER SURVIVORS? A THEORETICAL PERSPECTIVE

Following a cancer diagnosis, young adults (ages 18 – 39) report a variety of challenges related to their illness, including treatment and survivorship. Due to the developmental milestones common to this age range (Arnett, 2000, 2001, 2015), many of these challenges are unique to young adult cancer survivors and are not seen in pediatric or older adult populations. The cancer diagnosis and subsequent treatment can interrupt typical developmental tasks such as establishing independence from the family of origin, finishing secondary and postsecondary education, establishing a career, and meeting and choosing a romantic partner (Wong et al., 2017). Furthermore, reflective of young adults' developmental life stage, a wide variety of family, including parents, siblings, spouses and children, and same-aged peers, including friends, colleagues, romantic partners, and classmates, are involved in providing support to the young adult cancer survivor (Junkins et al., 2020; Juth et al., 2015; Kay et al., 2019; Kent et al., 2012). These informal caregivers can offer any combination of instrumental (e.g., tasks related to daily living, transportation, clinical care tasks, etc.), financial (e.g., giving money, dealing with insurance issues, etc.), emotional (e.g., companionship, talking about cancer, offering motivation etc.), and informational (e.g., about treatment options, clinical trials, etc.) support (Kent et al., 2012). Interventions to help young adults with cancer and their caregivers who are struggling with this wide variety of issues have failed to produce scalable, successful interventions (Devine

et al., 2018; Telles, 2021; Warner et al., 2016) that can help young adult cancer survivors and their caregivers address their concerns about relevant topics (Warner et al., 2016; Wong et al., 2017). Additionally, existing interventions to address these issues have neglected to incorporate media effects as a potential solution; interventions using entertainment media could potentially improve psychosocial health for this population.

Suboptimal Psychosocial Health

Young adults (ages 18 - 39) cancer survivors struggle with a host of suboptimal psychological and social outcomes. According to the National Cancer Institute, an individual is a "cancer survivor" following diagnosis through the balance of his or her life (National Cancer Institute, 2022). Approximately 1/3 of young adult cancer survivors are at increased risk of suboptimal mental health, including posttraumatic stress disorder (PTSD) or partial PTSD and depression and anxiety (McCarthy et al., 2016), distress (Rosenberg et al., 2018), and poor social functioning (Husson et al., 2017). Many of these suboptimal mental health outcomes are influenced by two key factors: (1) the support the young adult receives – or doesn't – from their informal care networks, and (2) the process of meaning-making and identity renegotiation that the young adult undertakes following a cancer diagnosis and treatment.

The Problem

Young adult cancer survivors struggle with suboptimal mental health. Approximately 1/3 of these young adults deal with symptoms of posttraumatic stress disorder (PTSD), distress, and poor social functioning (Husson et al., 2017; McCarthy et al., 2016; Rosenberg et al., 2018). Two experiences are particularly commonplace and damaging: First, the experience of social isolation and dissatisfaction with support from healthy peers, or same-aged friends, classmates or co-

workers, and acquaintances. These peers lack the requisite knowledge to provide optimal social support to their ill peers (Iannarino et al., 2017; Janin et al., 2018), which means education may be a viable solution to the problem. Second, young adult cancer survivors describe difficulty integrating the cancer experience into their identity, especially following the completion of cancer treatment (Husson et al., 2017; Laing et al., 2017; Lea et al., 2020). While engaging in substantial meaning-making activities facilitates improved mental health outcomes (Benish-Weisman et al., 2014; Darabos et al., 2020; Laing et al., 2017; Trevino et al., 2013), there are few scalable, resource effective means by which to help these young adults in processing their experience.

Suboptimal Social Support

The experience of social isolation, altered peer relations, and interrupted normalcy is both commonplace and damaging for young adult cancer survivors. While effective support from family and peer supporters is known to protect an individual from the psychological distress that can arise during the cancer experience (Coletti & Kane, 2016; Kent et al., 2012; McCarthy et al., 2016; Trevino et al., 2013; Wong et al., 2017), young adults report continued dissatisfaction with their relationships with healthy peers. Healthy peers include friends, classmates or coworkers, and other same-aged members of the young adults' social circles; these healthy peers have never been diagnosed with cancer themselves, so they are unaware of what exactly the cancer experience entails. Young adult cancer survivors consistently report that relationships with healthy peers are both of greater priority and less satisfying than any other relationship in their life (Graetz et al., 2019; Janin et al., 2018; Sodergren et al., 2017; Warner et al., 2016). In fact, young adult cancer survivors generally report satisfaction with the support provided by family

members within their informal care network (Haluska et al., 2002; Kay et al., 2019; Kent et al., 2012; McCarthy et al., 2016; Yi & Zebrack, 2010).

Dissatisfaction with support from healthy peers is a common and harmful occurrence among young adult cancer survivors. Approximately 2/3 of this population describe experiencing negative social support, mostly from friends (Breuer et al., 2017). Young adult cancer survivors describe negative social support as characterized by "hesitancy, fear, discomfort, shock, denial, self-absorption, and ineptitude" (Iannarino et al., 2017, p. 276); they report that negative social support is trivializing (Hauken & Larsen, 2019), invalidating (Kaluarachchi et al., 2020), and can even include bullying (Kaluarachchi et al., 2020; McDonnell et al., 2020). In other words, negative social support belittles the experience of young adult cancer survivors and can even be blatantly spiteful. While little extant research exists on the unique, direct effect of negative social support on the mental health of young adult cancer survivors (i.e., the unique contribution of negative social support without any cofounders or covariates), if negative support is also thought of as the *lack of positive social support*, then the harmful effects of experiencing negative social support are downright dangerous. Positive social support is related to positive affect and posttraumatic growth (Kay et al., 2019), and having someone to talk honestly to is associated with improved quality of life among young adult cancer survivors (Trevino et al., 2013). Additionally, the availability of positive social support has been linked to the facilitation of processing and adjustment (Greup et al., 2018), as well as coping skills (Huang et al., 2018). Logically, if young adult cancer survivors lack these opportunities to cultivate postive affect, posttraumatic growthy, and quality of life, then these beneficial outcomes will be out of reach.

The healthy peers of young adult cancer survivors lack the appropriate knowledge to provide optimal social support to their struggling peers.. Like young adult cancer survivors,

healthy peers have had little experience with such a serious illness at their young age (Head & Iannarino, 2019; Iannarino, 2018; Janin et al., 2018; Koenig Kellas et al., 2021; Warner et al., 2016), and this lack of experience may inhibit both healthy and ill young adults' abilities to conduct conversations about desired support and support preferences, leaving both parties dissatisfied (Darabos et al., 2021; McDonnell et al., 2020). As interactions with others require reciprocity – giving and taking – a lack of understanding about cancer's role in that process may exacerbate existing problems (Hauken & Larsen, 2019; Lewis et al., 2013). Furthermore, educating the young adults' social network is not a new idea and has been identified as an important need in several studies on social support among this population (Darabos et al., 2021; Hauken & Larsen, 2019; McDonnell et al., 2020). However, very few – if any – interventions have targeted the social and peer relationships of young adult cancer survivorsas an intervention outcome. Therefore, pursuing further development of interventions designed for healthy peers to learn about effective social support could be an appropriate strategy to improve the psychological health of young adult cancer survivors.

Current interventions to address young adult cancer survivors' suboptimal mental health due to ineffective social support are lacking. Though some interventions have (e.g., Jones et al., 2010; Sansom-Daly et al., 2021) included programming about navigating altered social relationships with friends and family due to cancer, these interventions didn't directly measure the impact of the intervention on social functioning or well-being. Other interventions have measured social integration (Robb et al., 2014) and social well-being (Aubin et al., 2019) as intervention outcomes. Robb et al.'s (2014) therapeutic music video intervention with adolescent stem-cell transplant patients reported significantly better social integration than did the control group, while young adult participants of Aubin et al.'s (2019) cognitive-based-therapy

intervention reported significant improvements in social well-being versus the control group. However, these interventions required considerable effort of time and expertise, and they could be difficult to scale. In fact, very few interventions aimed at young adult cancer survivors have moved past feasibility and acceptability studies (Devine et al., 2018; Telles, 2021). Thus, though successful, feasible, and acceptable interventions that improve social outcomes exist, very few – if any – have reached the widespread implementation needed to help a meaningful amount of the population.

Furthermore, these existing interventions rely heavily on the young adult cancer survivor to educate their peers. Young adult cancer survivors agree that they want information on how to talk to their peers (Kent et al., 2013); however, young adults with cancer have multiple physical and psychosocial issues to manage at any given time (Graetz et al., 2019), which leaves less time and energy available for educating healthy peers. Furthermore, a recent meta-analysis provides clear evidence to suggest that individual interventions are significantly less effective than non-individual interventions (Zhang et al., 2021). Therefore, educating healthy peers, in concert with existing education for young adult cancer survivors, may be the most effective strategy for improving social support in this population.

Struggle for Meaning

Young adults with cancer report a lasting impact of the disease on their identity and mental health. Though young adults with cancer report that the experience has made them more altruistic and empathetic (Zamora et al., 2017), interested in helping others with the disease (Hanghoj et al., 2019), and interested in advocating for healthy lifestyles broadly (Head & Iannarino, 2019), young adults with cancer also report uncertainty about the impact of the cancer on their lives moving forward (Husson et al., 2017; Iannarino et al., 2017; Laing et al., 2017; Lea

et al., 2020). Additionally, while young adults with cancer describe frustration when others in their social network ignore their cancer experience or assume that the cancer is over with no impact to their current lives (Darabos & Ford, 2020; Kaluarachchi et al., 2020), they also describe difficulty in "forming a present identity that includes reflecting and honoring their cancer experience while also separating from their cancer experience and navigating life postcancer" (Darabos & Ford, 2020, p. 537). Some evidence suggests that the end of active treatment is a particularly difficult time for young adults with cancer (Elsbernd et al., 2018; Husson et al., 2017; Lea et al., 2020), with the outcome of this process of identity renegotiation and meaning making (i.e., incorporating cancer into one's identity) impacting the young adults' identities throughout adulthood (Darabos & Ford, 2020).

Thus, engaging in meaningful meaning-making activities enables young adults with cancer to experience improved mental health outcomes. Meaning-making is one resource for overall resilience (Rosenberg, Bradford, McCauley, et al., 2018). When young adults with cancer explore the *good*, along with the bad, of their experience, they experience higher levels of reflection and positive reappraisal (Benish-Weisman et al., 2014; Darabos et al., 2020). Positive reappraisal can lead to greater levels of *mindfulness*, or the state of focusing energy on experiencing the present as a rich and full event, which has been linked to lower levels of psychological distress and lower levels of uncertainty among young adults with cancer (Patterson & McDonald, 2015). Additionally, disclosure of honest cancer-related experiences is linked to greater quality of life (Trevino et al., 2013) and lower impact of cancer on relationships (Kent et al., 2013).

Yet, existing interventions designed to help young adults with cancer are not meeting the needs of this population. Though Rosenberg, Bradford, McCauley, et al.'s (2018) PRISM

intervention did increase participant-reported resilience, attrition in the treatment group was double that of the usual care group. Furthermore, a pilot study of the intervention did not detect differences between the treatment and control groups due to participant burden and the resulting attrition (Rosenberg et al., 2015). Additionally, changes in resilience between the intervention and the control group were non-significant at a two-year follow-up (Rosenberg et al., 2021). On the other hand, participants in Robb et al.'s (2014) therapeutic music video intervention did not report any significant differences in overall resilience when compared to the low-dose control group. Both interventions required considerable effort of time and expertise, and they could be difficult to scale (Rosenberg et al., 2021). In fact, very few interventions aimed at young adult cancer survivors have moved past feasibility and acceptability studies (Devine et al., 2018; Telles, 2021).

Additionally, very few interventions addressing young adult cancer survivors' need for meaning focus on the full picture. Instead, these interventions focus primarily on *either* alleviating negative psychosocial symptoms (i.e., anxiety, distress, etc.) *or* promoting psychological resources (i.e., mindfulness, reframing, resilience, etc.). (Rosenberg, Bradford, Bona, et al., 2018) suggest that focusing on *both* alleviating negative symptoms and promoting psychological resources *in the same intervention* may hold the most promise for improved quality of life outcomes. Focusing on either alleviating or promoting leaves young adults with cancer are left equipped with only one skill to manage this difficult time when they may need to learn and practice both to maximize improvement in psychological outcomes.

Finally, existing interventions that are designed to facilitate meaning-making only serve individuals (Benish-Weisman et al., 2014; Laing et al., 2017), which ignores the influence of

young adults' social lives on their cancer experience (Darabos & Ford, 2020; Elsbernd et al., 2018; Janin et al., 2018), as discussed extensively above.

The shortcomings of existing interventions leave young adult cancer survivors unsure of how to fully integrate their cancer experience into their overall life story. Interventions that are less resource intensive, address more of the skills that young adult cancer survivors need, and incorporate the influence of young adults' social lives on their cancer experience are needed to complement existing resource-intensive interventions.

Mass Media Stories

Mass media, in the form of *stories*, offer a promising means by which to improve the mental health outcomes of young adult cancer survivors. Stories, also sometimes called *narratives* in the extant literature, have long been the building blocks of society, and the advent of mass media has only made this type of content more widely available. In their simplest form, stories, whether fact or fiction, often contain a main character who wants something but is challenged by another force, whether it be a person or thing (Schmidt, 2005). How the main character does – or does not – overcome this opposing force coheres into a plot, generally consisting of a beginning, a middle, and an end (Green & Brock, 2000; Schmidt, 2005). The medium in which the content is conveyed may take a variety of forms: from television shows, to movies, to printed or online novels, to comic strips, to podcasts, and everything in between, it is the *function* of these narratives that is important, not the medium. In fact, narratives facilitate "an understanding of people, and how their goal, beliefs and emotions interact with their behaviours [*sic*]" (Mar et al., 2006, p. 696). In other words, narratives offer mental models that allow insight into human behavior, and they simulate the complex social world in which humans inhabit (Mar & Oatley, 2008).

Stories facilitate coping, both mentally and physical, with stress and anxiety. For example, the R^2EM Model posits that engagement with stories promotes both short-term recovery and the development of long-term resilience (Reinecke & Rieger, 2021). In the short term, stories promote psychological detachment and relaxation; these short-term effects feed into the development of positive emotions, self-efficacy, and social support (Reinecke & Rieger, 2021). In the long-term, short-term effects promote the development of mastery and control, allowing for the development of long-term resilience (Reinecke & Rieger, 2021). Empirical evidence from a variety of sources supports these assertions. For example, women who watched more television had significantly lower cortisol levels than those who watched less television (Nabi et al., 2016); cortisol is hormone produced during times of stress that can interfere with immune system functioning. Furthermore, though there was a mismatch between empirical cortisol levels and perceived stress among participants in this study (Nabi et al., 2016), participants of a separate study reported less perceived stress following a single media exposure and, relative to those who weren't exposed to media, perceived less overall stress for more than a week (Nabi & Prestin, 2020). Additionally, media consumption suppresses the negative effects of anxiety on affect and flourishing (Eden et al., 2020); that is, anxiety decreased positive affect and flourishing less after exposure to stories. Additionally, coping via media was associated with greater positive affect overall and higher mental health scores, although there were some differences based on the intent of media consumption (Eden et al., 2020). Media consumption can also affect more physical symptoms. Perks found that "while their [interviewees] minds stayed focused on media, interviewees reported being less likely to move about and reinjure themselves or otherwise hinder the healing process (2018, p. 31). In other words, media titles can facilitate cognitive exertion during a time when physical exertion would cause harm. Thus,

stories are an important source of rest and recovery that can enable audiences to meaningfully decrease stress and anxiety and promote optimal physical and mental well-being.

Realizing Insight and Meaning

Stories can support the attainment of humans' basic psychological needs. The Temporarily Expanding the Boundaries of the Self theory (TEBOTS; Slater et al., 2014) posits that stories enable individuals to expand the boundaries of their personal and social selves; in other words, story consumers are no longer bound to the self they experience every day. As a result of this expansion, individuals engage with roles, circumstances, and abilities that are unique from their everyday responsibilities. As a result, individuals gain greater competence, insight, and meaning in life (Hadden & Smith, 2017; Ryan & Deci, 2017; Slater et al., 2014).

These changes arise from a serial, reinforcing process of thought-provocation, emotion, and reframing. First, story consumption often stimulates both reflective thoughts and emotions that stimulate and intensify each other (Bartsch et al., 2014). As a result, individuals often experience a "vicarious release of … vulnerable emotions including sadness, fear, disgust, fascination, and poignancy that … might reflect individual's owning up to vulnerabilities that they avoid admitting in everyday life" (Bartsch, 2012, p. 293). In other words, stories enable an acknowledgement of emotions that may be consciously or subconsciously avoided in day-to-day life; acknowledging and releasing these emotions creates a path for reframing. In fact, Khoo (2016) found that participants reported greater self-compassion and self-acceptance four weeks after exposure to a tragic media narrative; a change in self-perceptual depth – that is, reframing or exploring oft-avoided feelings – was named as key to this effect. Follow-up work confirmed that reflective thoughts can "promote[ing] a deep self-awareness and, potentially, the gaining of new insights related to unresolved past experiences" (Khoo et al., 2021, p. 330). The work of

reframing is essential in promoting competence, insight, and meaning in life, all of which are vital to psychological well-being (Hadden & Smith, 2017; Ryan & Deci, 2017).

Encouraging Prosocial Outcomes

Stories can also inspire healthy peers to act prosocially toward their counterparts with cancer. These types of stories are called *eudaimonic* in the extant literature; this term describes a particular type of story that "heighten[ed] awareness and concern for people or issues that are broader than self" (Oliver et al., 2021, p. 191). These stories feature themes of hope, appreciation of beauty and excellence, the interconnectedness of the world, love and kindness, and gratitude and encouragement (Janicke Bowles & Oliver, 2017; Oliver et al., 2021), and exposure to these types of stories has been linked to emotions such as awe, elevation, and admiration (Bartsch et al., 2016; Janicke-Bowles, 2020; Janicke-Bowles et al., 2019; Janicke Bowles & Oliver, 2017; Oliver et al., 2018).

Outcomes resulting from consuming a eudaimonic story vary, although these outcomes can be thought of as resources to expand an individual's abilities in the social world. Aligned with Mar and Oatley's (2008) assertion that narratives can enhance social knowledge and facilitate individual practice with potential perspectives and solutions, many of these outcomes can be seen as *broadeners* and *builders* of individuals' roles in society. Referring to the Broaden-and-Build Theory of Positive Emotions (Frederickson, 2001; Fredrickson, 2013), *broadening* means that positive emotions facilitate an individual's access to a greater swath of thoughts and potential actions, *building* describes the access to greater perceptual ability, more connected social ability, and a wider variety of body movement facilitated by broadening (Fredrickson, 2013). Both the broaden and build components are essential to the overall effects, as they work

together and reinforce the effects of the other (Frederickson, 2001; Fredrickson, 2013). Research suggests eudaimonic stories may fill a similar role.

Thus, exposure to eudaimonic media facilitates broadens and increases social resources. For example, exposure to eudaimonic media has been associated with greater endorsement of prosocial and altruistic motivations (Bartsch et al., 2016; Ellithorpe et al., 2015; Neubaum et al., 2020; Raney et al., 2018; Tsay-Vogel & Krakowiak, 2016); in other words, eudaimonic media *broadens* audience members' horizons and allows them to *build* social ability. Specifically, eudaimonic media has led to decreased levels of stigmatization for people with disabilities (Bartsch et al., 2016), although this effect could not be replicated with a different group of stigmatized individuals (e.g., African-Americans; see Dale et al., 2020). Eudaimonic media has also led to increased willingness to act prosocially toward general others (Ellithorpe et al., 2015; Neubaum et al., 2020; Raney et al., 2018; Tsay-Vogel & Krakowiak, 2016). Furthermore, eudaimonic media has been associated with increased dispositional hope (Prestin, 2013) and increased positive emotions, self-efficacy, social support, and sense of coherence (Reinecke & Rieger, 2021). In other words, eudaimonic media has also *broadened* the range of emotions available to audiences in a way that *builds* resources for recovery.

Connecting Stories to Cancer

Stories are an ideal vehicle for educating healthy peers about effective social support toward young adult cancer survivors because young adults are already socializing around this type of media content. Watching and talking about the television shows and movies with family members, friends, and romantic partners is viewed as a social activity that forms the basis of additional connection at school or work, online, or in other public places, especially among young women between the ages of 15 and 29 (Lacalle, 2015; Madill & Goldmeier, 2003). Hence,

young adults, especially young adult women, are already consuming and socializing around media content, which is especially important for young adult women with cancer, who are more likely to experience suboptimal mental health (McCarthy et al., 2016) and more likely to prioritize social support (Graetz et al., 2019; McDonnell et al., 2020). Thus, the population most at risk is already consuming these stories, indicating that intervening via this mechanism may be an ideal target. Furthermore, individuals who became involved in fan communities "attempt to connect the narrated storylines with their own lives … suggest[ing] the need to express themselves in terms of their feelings with self-reflective comments about their intimate experiences" (Lacalle & Simelio, 2017, p. 458). In other words, not only does consuming the media facilitate self-reflection, but that self-reflection is then shared in a community that can support and enhance the reflection through a shared interest and language.

Stories can also teach the necessary cognitive scripts to the healthy peers of young adult cancer survivors. From the lens of Social Cognitive Theory (Bandura, 1986), it is possible that exposure to a story containing depictions of human connection, altruism, and helping behavior will serve as a model for healthy peers; seeing (or reading) a model performing these behaviors may elicit greater self-efficacy toward performing the behavior. Finally, lifetime narrative fiction consumption is positively associated with levels of trait empathy (Lenhart et al., 2020; Mar et al., 2006), meaning that individuals who immerse themselves in fiction have greater levels of empathy at their disposal. This may enhance their ability to function in the social world by providing a social simulation; that is, stories provide a simulation of the complex social world in which the character serves as a mental model (Mar & Oatley, 2008). These simulations facilitate the reader's ability to practice various social situations, both familiar and unfamiliar (Mar et al., 2006). Practicing, in turn, "permits the exploration of our own ideas, feelings, and

desires, and of our own potential reactions to the story's plot" (Mar & Oatley, 2008, p. 183). Providing healthy peers with the space to experience a novel situation (i.e., having a peer with cancer) firsthand enables them to work through the associated psychological responses prior to interacting with the young adult cancer survivors (Mar & Oatley, 2008), which could prevent some of the suboptimal support responses documented in the existing literature. Thus, stories are a promising means by which to enable the healthy peers of young adult cancer survivors to gain the needed cognitive scripts to provide effective support following a cancer diagnosis.

Conclusion

Young adult cancer survivors (ages 18 - 39) struggle with a host of suboptimal psychological and social outcomes following a cancer diagnosis. Young adult cancer survivors face two particularly devastating social and emotional challenges: (1) Suboptimal social support from healthy peers, or friends, classmates, coworkers, and other same-aged members of young adults' social circles; and (2) Uncertainty about the impact of the cancer on their identity and meaning in life. Since young adult cancer survivors find their relationships with healthy peers less satisfying than other relationships following cancer (Graetz et al., 2019; Janin et al., 2018; Sodergren et al., 2017; Warner et al., 2016) and report that they are unsure of how to honor, yet move on from, their cancer experience (Darabos & Ford, 2020), it is not surprising that nearly 1/3 of young adult cancer survivors suffer from symptoms posttraumatic stress disorder (PTSD), distress, and poor social functioning (Husson et al., 2017; McCarthy et al., 2016; Rosenberg et al., 2018). Furthermore, existing interventions designed to address these issues focus on *either* alleviating negative symptoms *or* promoting positive psychological resources (Rosenberg et al., 2018); additionally, despite the importance of social relationships to this age group, very few

interventions include individuals other than the young adult cancer survivors themselves (Zhang et al., 2021). Thus, new avenues to intervene must be explored.

One such avenue is that of *stories*. Mass mediated stories, in the form of films, television shows, and novels, can improve the mental health of young adult cancer survivors by addressing the existing issues of suboptimal social support and meaning making. Stories facilitate coping, both mentally and physical, with stress and anxiety (Eden et al., 2020; Nabi & Prestin, 2020; Nabi et al., 2017; Nabi et al., 2016; Nabi et al., 2022; Reinecke & Rieger, 2021; Rieger et al., 2014). Stories can support attainment of basic psychological needs, such as competence, insight, and meaning in life (Hadden & Smith, 2017; Ryan & Deci, 2017; Slater et al., 2014) through a serial, reinforcing process of thought-provocation, emotion, and reframing (Bartsch et al., 2014; Khoo, 2016). Stories can also inspire healthy peers to act prosocially toward their counterparts with cancer through *eudaimonic* stories, broadly described as inspirational (Oliver & Raney, 2011; Oliver et al., 2021; Oliver et al., 2018). In fact, consuming a eudaimonic story has been linked to destigmatization (Bartsch et al., 2016; Oliver et al., 2015) and helping behaviors (Ellithorpe et al., 2015), with some effects lasting over time (Neubaum et al., 2020).

Stories are ideal for young adult cancer survivors– and their healthy peers because young adults are already socializing around this type of media content (Lacalle, 2015; Lacalle & Simelio, 2017; Madill & Goldmeier, 2003). Consuming stories not only facilitates self-reflection (Slater et al., 2014), but that self-reflection can also be enhanced through sharing in fan communities (Lacalle & Simelio, 2017). Furthermore, through modeling (Bandura, 1986), stories can help the healthy peers of young adult cancer survivors learn the cognitive scripts needed to provide effective social support. As lifetime fiction exposure is positively associated with trait empathy (Lenhart et al., 2020; Mar et al., 2006), we must consider media effects in psychosocial

oncology. Stories are easy to access both financially and emotionally, trigger important psychological benefits and stand to improve the lives of many young adult cancer survivors.

CHAPTER 3: YOUNG ADULT CANCER SURVIVORS' ENGAGEMENT WITH STORIES AND THE EFFECTS ON IDENTITY AND GOALS

Nearly one-third of young adult cancer survivors (ages 18 – 39) report suboptimal mental health following a cancer diagnosis (McCarthy et al., 2016; Rosenberg et al., 2018). Since the National Cancer Institute defines an individual as a "cancer survivor" following diagnosis through the balance of his or her life, cancer's disruptive impact, both during and after treatment, is relevant to young adult cancer survivors' mental health outcomes (Darabos & Ford, 2020; Elsbernd et al., 2018; Husson et al., 2017; Lea et al., 2020; National Cancer Institute, 2022). Often, young adult cancer survivors describe feeling uncertain about the impact of the disease on their lives, setting up a type of identity paradox that they must reconcile (Darabos & Ford, 2020; Husson et al., 2017; Iannarino et al., 2017; Laing et al., 2017; Lea et al., 2019). However, engaging in reappraisal, or reframing, activities can diminish the negative impact of cancer on young adults' identities and life goals (Husson & Zebrack, 2017a, 2017b).

Entertainment media, in the form of stories (e.g., television shows, movies, and novels), could engage young adult cancer survivors in meaningful reframing activities. Engaging with entertainment media is common during times of stress (Nabi et al., 2017; Nabi et al., 2022), and this engagement has been linked to better mental health, although these outcomes may differ depending on the type of coping employed (Eden et al., 2020). Furthermore, engaging with entertainment media is common during times of identity threat (Johnson et al., 2015), and experiencing an identity threat is predictive of engagement in boundary expansion (Johnson et

al., 2016; Silver & Slater, 2019; Slater et al., 2014). Boundary expansion enables greater self-compassion and self-acceptance by acknowledging and releasing emotions that may be avoided in everyday life (Bartsch, 2012; Khoo, 2016; Khoo et al., 2021).

Though existing evidence suggests that engaging with entertainment media stories is a common strategy to cope with stress, anxiety, and identity threat, little is known about how and why young adult cancer survivors engage with stories after their cancer treatment. Less is known about the effects that consumption has on how young adult cancer survivors process their cancer experience, especially regarding their identities and sense of purpose in life.

Literature Review

Young cancer survivors describe enormous difficulty in finding meaning from and integrating their cancer experience into their identity, resulting in suboptimal mental health. Approximately 1/3 of young cancer survivors deal with symptoms of posttraumatic stress disorder (PTSD) and distress (McCarthy et al., 2016; Rosenberg et al., 2018). Young adult cancer survivors also exhibit significantly lower social functioning compared to population norms over time (Husson et al., 2017). Though young adult cancer survivors report that the experience has made them more altruistic and empathetic (Zamora et al., 2017) and interested in helping others with the disease (Hanghoj et al., 2019), they also report uncertainty about the impact of the disease on their lives (Husson et al., 2017; Iannarino et al., 2017; Laing et al., 2017; Lea et al., 2020).

This uncertainty arises from the disruptive impact of cancer on young adults' lives. Cancer has left these young adults feeling psychologically different from peers (Elsbernd et al., 2018) and desiring a normal life (Kaluarachchi et al., 2020); yet, there is little clarity on how to

move forward. Thus, young adult cancer survivors find themselves struggling to attain meaning from their cancer experience (Odh et al., 2016). In fact, this tension is often "manifested as a search for identity" in which young adult cancer survivors feel "a desire to be like before and to be normal … alongside a desire to not have to live up to the ideas of how an individual diagnosed with cancer should" be (Odh et al., 2016, p. 59). In response to this struggle, young adult cancer survivors generally describe using one of two approaches – either separating their lives into a before cancer and after cancer or trying to connect their experience into their before and after (Kumar & Schapira, 2013). However, this process is rarely linear, as "cancer-related identities seem to undergo continual personal and social negotiation," with young adult cancer survivors often reporting various identities both sequentially and simultaneously (Hammond & Teucher, 2017, p. 63).

Young adults often report feeling an identity paradox once they reach the end of their cancer treatment. While a majority of young adults who have completed cancer treatment describe their cancer experience as a part of the past (Darabos & Ford, 2020), young adult cancer survivors also report frustration with their social network if their cancer experience is ignored outright or assumed to be over once treatment is finished (Darabos & Ford, 2020; Kaluarachchi et al., 2020). Young adult cancer survivors often describe feeling unprepared for the psychosocial issues they face at the end of treatment, such as continuing to feel psychologically different from their peers (Elsbernd et al., 2018; Husson et al., 2017; Lea et al., 2020). Thus, young adult cancer survivors often face "a struggle, an identity paradox, between forming a present identity that includes reflecting and honoring their cancer experience while also separating from their cancer experience and navigating life postcancer" (Darabos & Ford, 2020,

p. 538). In other words, young adult cancer survivors are struggling to fully integrate the cancer experience into their past and future identities in ways that feel meaningful to them.

Various approaches to coping with cancer exist. Two popular, effective approaches to cancer-related coping among adult cancer survivors include emotional approach coping and meaning-making (Hoffman et al., 2012; Park et al., 2008; Stanton, Kirk, et al., 2000). Emotional approach coping is the process of identifying one's emotions, processing those emotions, and expressing those emotions (Stanton, Kirk, et al., 2000). Among adult cancer survivors, emotional approach coping has been associated with improved psychological adjustment (Austenfeld & Stanton, 2004; Stanton, Danoff-Burg, et al., 2000). A second type of coping with cancer is meaning making; this type of coping is the process of incorporating the understanding of a stressor into an individual's overall meaning system (Park et al., 2008); in other words, meaning making is a process of positive reframing or reappraisal (Park et al., 2008; Park & George, 2013). Extant research has supported the association of positive reframing with growth and life-meaningfulness among adult cancer survivors, even over a one-year period (Park et al., 2008).

Among young adult cancer survivors, emotional processing and meaning making are associated with improved mental health outcomes. Emotional processing is one component of emotional approach coping, which focuses on the active attempt "to explore meanings and come to an understanding of one's emotions" (Stanton, Kirk, et al., 2000, p. 1151). Emotional processing has been associated with higher levels of resilience and posttraumatic growth among young adult cancer survivors (Darabos et al., 2020). Additionally, meaning making is also effective for young adult cancer survivors. Those who engage in reappraisal activities tend to report better psychological health (Benish-Weisman et al., 2014; Patterson & McDonald, 2015). Furthermore, more successful integration of cancer into identity is associated with lower levels

of psychological distress and higher levels of health-related quality of life, as is the presence of a sense of purpose and life goals (Husson & Zebrack, 2017a). However, despite the promise of these emotional processing and reframing activities, few exist for a wide swath of young adult cancer survivors (Sodergren et al., 2017; Zhang et al., 2021). Interventions that focus on meaning for adult cancer survivors are effective and share similar effect sizes with interventions that treat depression, pain, and fatigue among adult cancer survivors (Park et al., 2019). However, for young adult cancer survivors, interventions addressing meaning have not been as successful. The PRISM intervention taught young adult cancer survivors skills such as reframing and meaning making, but, despite an increase in participant-reported resilience, attrition in the treatment group was double that of the usual care group (Rosenberg, Bradford, McCauley, et al., 2018). Furthermore, a pilot study of the intervention did not detect differences between the treatment and control groups due to participant burden and the resulting attrition (Rosenberg et al., 2015). Additionally, changes in resilience between the intervention and the control group were non-significant at a two-year follow-up (Rosenberg et al., 2021). A second intervention, a therapeutic music video intervention designed to increase resilience through derived meaning, did not report any significant differences in overall resilience when compared to the low-dose control group (Robb et al., 2014). Both interventions required considerable effort of time and expertise, and they would be difficult to scale (Rosenberg et al., 2021).

Stories Expand the Boundaries of the Self

Entertainment mass media, in the form of *stories*, offer a means by which to engage young adult cancer survivors in substantial coping activities for the purpose of improving their mental health outcomes. Stories – also sometimes called *narratives* in the extant literature – depict a main character who wants something but is challenged by another force, whether it be a

person or thing (Schmidt, 2005). How the main character does – or does not – overcome this opposing force coheres into a plot, generally consisting of a beginning, a middle, and an end (Green & Brock, 2000; Schmidt, 2005). The story's form, or medium, does not change its function; a story, whether conveyed as a television show, a movie, a novel, a comic strip, a podcast, or something else, facilitates "an understanding of people, and how their goal, beliefs and emotions interact with their behaviours [*sic*]" (Mar et al., 2006, p. 696). As a simulation of a complex social world, the truth of the story is irrelevant to how the individual processes it (Mar & Oatley, 2008); in fact, stories are processed the same regardless of their status as fact or fiction (Green et al., 2006).

Individuals often successfully turn to stories to cope during times of distress. For example, not only did college students report using media as a coping strategy with similar frequency to non-media strategies such as meditation, talking to friends, and healthy eating (Nabi et al., 2022), but breast cancer survivors also rated media as a better-than-average stress management tool (Nabi et al., 2017). Greater exposure to stories has also been linked to lower perceived stress (Nabi & Prestin, 2020) and lower levels of salivary cortisol, a stress hormone (Nabi et al., 2016). Engaging with stories has also been associated with greater positive affect and higher scores on mental health assessments, and story consumption can suppress the negative effectives of anxiety on affect and flourishing (Eden et al., 2020).

However, stories' effects on mental health and affect can differ based on the *type* of coping used. Based on the extant coping literature (Carver, 1997), Eden and colleagues proposed five dimensions of coping via media: Reframing-based coping, humor-based coping, avoidant coping, escapist coping, and problem-focused coping. Reframing coping – using media to find something good in a bad situation – and humor-based coping – using media to poke fun of or

make jokes about the situation – were associated with higher mental health scores (Eden et al., 2020).

Individuals also often turn to stories during times of identity threat – such as a cancer diagnosis. In fact, experiencing an identity threat is predictive of engaging in boundary expansion (Khoo et al., 2021), a process during which stories facilitate an individual's engagement with roles, circumstances, and abilities that are unique from their everyday selves and responsibilities (Johnson et al., 2015; Johnson et al., 2016; Silver & Slater, 2019; Slater et al., 2014). This theory, the Temporarily Expanding the Boundaries of the Self (TEBOTS) theory, posits that, during engagement with a story, individuals are no longer confined to their personal and social selves (Johnson et al., 2015; Johnson et al., 2016; Silver & Slater, 2019; Slater et al., 2014).

Expanding beyond our personal and social selves has beneficial consequences for those who experience it. According to Mar and Oatley (2008) stories simulate various social situations, both familiar and unfamiliar, which prompts "the exploration of our own ideas, feelings, and desires …" (p. 183). This exploration process is conducive to cognitive reappraisal, or reframing. Engagement with stories prompts both reflective thoughts and emotions (Bartsch et al., 2014); as these thoughts and emotions stimulate and intensify each other, the story's consumer often experiences "vulnerable emotions including sadness, fear, disgust, fascination, and poignancy that … might reflect individual's owning up to vulnerabilities that they avoid admitting in everyday life" (Bartsch, 2012, p. 293). Acknowledging and releasing emotions that may be consciously or subconsciously avoided in everyday life facilitates greater self-compassion and self-acceptance (Khoo, 2016; Khoo et al., 2021). These short-term effects also promote the

development of greater competence, insight, and meaning in life, which are key psychological needs for human beings (Hadden & Smith, 2017; Ryan & Deci, 2017; Slater et al., 2014)

The Present Study

Despite increased attention on the unique needs of young adult cancer survivors, nearly a third of this clinical population suffers from suboptimal mental health symptoms, including posttraumatic stress disorder and distress (McCarthy et al., 2016; Rosenberg et al., 2018). Difficulty in finding meaning from the cancer experience is a key cause of these symptoms (Darabos & Ford, 2020; Husson et al., 2017; Odh et al., 2016), and more easily accessible opportunities to engage in emotional processing and meaning making coping could improve young adult cancer survivors' mental health (Benish-Weisman et al., 2014; Darabos et al., 2020; Park et al., 2008; Stanton, Kirk, et al., 2000).

Stories, in the form of television shows, movies, and books, offer a novel solution to this problem. According to the Temporarily Expanding Boundaries of the Selves (TEBOTS) theory, engaging with stories facilitates cognitive reappraisal activities, especially during times of identity threat (Bartsch, 2012; Bartsch et al., 2014; Johnson et al., 2015; Johnson et al., 2016; Khoo et al., 2021; Silver & Slater, 2019; Slater et al., 2014).

Though little is known about how and why young adult cancer survivors engage with stories, the extant literature suggests that turning to stories to cope with stress and anxiety is a common strategy, especially among individuals with cancer (Collins et al., 2023; Nabi et al., 2017). The goal of this study is to better understand if and how stories can provide relief to young adult cancer survivors who are struggling to cope following their diagnosis. Though the extant literature indicates that, for this population, these beneficial processing opportunities could come

through stories, little is known about how that might work. Furthermore, interviews with young adult cancer survivors have suggested that encountering cancer-based plotlines creates additional distress for them (Collins et al., 2023), so additional understanding about how cancer storylines may inhibit this potential is needed. Thus, to fill this gap, the following research questions are proposed:

1. Research Question 1: Are young adult cancer survivors purposefully seeking out cancer storylines in entertainment media, either (a) during treatment, or (b) after treatment, and (c) are there demographic differences in this behavior?
2. Research Question 2: Are young adult cancer survivors using entertainment media narratives to (a) start a conversation about their cancer experience, and (b) with whom?
3. Research Question 3: How are young adult cancer survivors using entertainment media narratives to cope with their cancer experience?
1. Research Question 4: Do items measuring (a) meaning making coping and (b) emotional processing coping form an overall coping via entertainment media scale?
4. Research Question 5: Is cancer coping via entertainment media associated with (a) the impact of cancer, (b) boundary expansion, and (c) cancer storyline seeking?
5. Research Question 6: Are there differences in the (a) impact of cancer, (b) cancer coping via entertainment media, and (c) boundary expansion by participant demographics?

Methods

A cross-sectional survey of young adult cancer survivors was conducted to explore their use of and experience with stories in the preceding three months and their current quality of life. The University of North Carolina Institutional Review Board reviewed the study prior to launch (IRB #22-2700).

Procedure

Potential participants were recruited from three sources: paid social media advertisements, ResearchforMe@UNC, and Prolific.

Recruitment through social media and ResearchforMe@UNC ran concurrently. One social media advertisement was created and placed on social media sites owned by Meta (e.g., Instagram, Facebook, etc.). Considering the threats to validity inherent in recruiting online and via social media (Griffin et al., 2021; Pozzar et al., 2020), bot-deterrent best practices such as reCAPTCHA filters, hidden questions, and open-ended responses were embedded throughout the survey.

The advertisement (see Figure 3.1 and Figure 3.2) was live between January 20, 2023, and February 1, 2023. The ad reached more than 33,000 people on Facebook and Instagram; only 365 people clicked on the study link. Those who clicked on the link were screened for eligibility prior to completing the survey; eligibility criteria included being between the ages of 18 and 39, receiving a cancer diagnosis between the ages of 15 and 39, and consenting to participate. Eligible participants who consented completed a mix of closed-ended and open-ended survey questions, which took between 15 and 20 minutes to complete.

Those who were recruited via ResearchforMe@UNC completed a similar process. They saw a recruitment listing on the website; those who were interested were then directed via link to the eligibility screener. Those who clicked on the link were screened for eligibility prior to completing the survey; eligibility criteria remained the same as above. Eligible participants who consented then completed the full survey.

Aligned with best practices for reducing bot responses in online surveys, including among young adult cancer survivors (Bell et al., 2020; Griffin et al., 2021; Pozzar et al., 2020), participants were told that compensation would come through a raffle to win one of 80 gift cards worth $50. However, given the low numbers of participation, all participants who passed the bot protocol (detailed below) were compensated with a $50 Amazon.com gift card.

Given the low number of participants recruited via paid social media advertisements, a second wave of recruitment was conducted via Prolific, an online research platform known for high data quality (Peer et al., 2022). Useful specifically to this project, Prolific can also filter potential participants based on a variety of self-reported health conditions, including cancers. These potential participants completed a short screening survey about their cancer history. Those who identified as between the ages of 18 and 39 and having received a cancer diagnosis between the ages of 15 and 39 were invited to complete the full survey, which contained the same mix of closed-ended and open-ended survey questions as the survey given to participants recruited via social media and took between 15 and 20 minutes to complete. Recruitment lasted from February 7, 2023 – February 24, 2023. Participants were compensated with $0.50 for completing the one-minute screening survey and $5.00 for completing the full 20-minute survey.

Measures

Participants completed a mix of close-ended and open-ended survey questions in the order detailed below; however, items within each construct were randomized to minimize and protect against potential order effects. The exact measures and wording can be found in Appendix 3.1.

Demographics

To assist in screening participants for eligibility, demographic items were collected prior to the start of the survey. Participants were asked for their current age, their cancer diagnosis (or diagnoses), their age at diagnosis, their current treatment status, and the start and completion date of their treatments. Participants were also asked to report their race, ethnicity, and gender identity.

Impact of Cancer AYA

The impact of cancer on participants' sense of purpose and life goals and identity was assessed with nine items from the Impact of Cancer AYA (IOC-AYA) module (Husson & Zebrack, 2017b) of the Impact of Cancer Instrument. Though the IOC-AYA contains seven subscales, only the *sense of purpose* and *life goals and identity* subscales were given to participants, as they were the most relevant to the current research ($M = 3.92$, $SD = 0.78$, $\alpha = .86$).

The IOC-AYA has been validated with young adult cancer survivors (Husson & Zebrack, 2017b), and scores on the instrument are significantly related to measures of psychological distress and health-related quality of life (Husson & Zebrack, 2017b). Sample items include "I feel that I can achieve my goals in life" and "Good things have come out of having had cancer". Response options ranged from *strongly disagree*, coded as 1, to *strongly agree*, coded as 5. Higher scores reflected higher positive effect of cancer on participants' lives.

Dimensions of Coping through Media

Emotional processing coping and meaning making coping via media over the preceding three (3) months were assessed with eight total items ($M = 2.98$, $SD = 1.39$, $\alpha = .97$). All items

were measured on a five-point, Likert-type scale ranging from *strongly disagree*, coded as 1, to *strongly agree*, coded as 5.

The prior three months was chosen as the reference time point due to a lack of prior literature on short-term media memories. Young adults accurately remember content exposure from their childhood (Potts et al., 2008; Potts & Seger, 2013) and early adolescence (Bonus et al., 2022; Myrick & Pavelko, 2017). However, young adults also recall autobiographical memories associated with both older and more recent film content with similar specificity (Bonus et al., 2022).

Meaning making coping was measured with four items adapted from Carver (1997). These items have been previously used with cancer survivors to assess reappraisal activities as part of the meaning making process (Park et al., 2008; Park & George, 2013; Park et al., 2019). The items all follow the stem "In the past three (3) months, I've been using media to …". Items included: "Look for something good in having experienced cancer"; "Try to see cancer in a more positive light"; "Reflect on the good and the bad of cancer"; and "Find meaning in the cancer experience".

Emotional processing coping was measured with four items adapted from Stanton, Kirk, et al. (2000). These items were previously used with young adult cancer survivors and demonstrated high reliability (Darabos et al., 2020). The items all follow the stem "In the past three (3) months, I've been using media to …". Items included: "Figure out what I'm really feeling about cancer"; "Get a thorough understanding of my feelings about cancer"; "Realize my feelings about cancer are valid and important"; and "Acknowledge my emotions about cancer."

Boundary Expansion

Boundary expansion, or the experience of practicing personal roles and abilities other than our own via narrative media, was assessed with ten items adapted from Johnson et al., 2016 and Khoo et al., 2021 (M = 3.86, SD =0.83, α = .91). Participants indicated their agreement or disagreement about their experience of boundary expansion when consuming entertainment media. Response options ranged from *strongly disagree*, coded as 1, to *strongly agree*, coded as 5. Statements followed the stem "When I watched movies or TV shows or read books during the past three (3) months, I experienced what it would be like to …" and included items such as "relate to others in ways different than you normally do yourself", "have emotional and interpersonal skills that are different from your own", "face situations and challenges other than those in your own life", and "have someone else's thoughts and feelings". Higher scores indicated a greater level of boundary expansion.

Participants' perceptions of the characteristics of a helpful narrative were assessed with one open-ended item. Participants responded to the prompt: "What are the characteristics of a narrative that has helped you cope with cancer? In other words, what is the title of the book, movie, or television show and what was it about that narrative (e.g., story, characters, imagery, etc.) that helped you?"

Cancer Media Consumption and Organizational Participation

Participants were asked about their consumption of cancer-related stories. First, participants were asked whether they had purposefully sought out or avoided stories about cancer while they were in treatment (M = 2.91, SD = 1.31). This was a single item, and response options ranged from *strongly disagree*, coded as 1, to *strongly agree*, coded as 5. Higher scores indicated *less* cancer-story seeking.

Participants were also asked if they used a movie, television/streaming show, or book to start a conversation about their cancer experience – and with whom they started that conversation. Provided responses included family members, friends, treatment team, coworkers, other survivors, and social workers/therapists, but participants were also given the option to write in their response and check all that apply.

For those participants who have completed primary treatment, they completed the same set of two questions about their experience with cancer stories after treatment completion (M = 2.75, SD = 1.22). Again, higher scores indicated *less* cancer-story seeking. These participants were also asked if they used a movie, television/streaming show, or book to start a conversation about their cancer experience after their cancer treatment ended.

Finally, participants were asked about the extent of their current participation with cancer resource organizations. Since some organizations are highly involved in helping participants process and make meaning from their cancer experience, participants were first asked if they *are*, coded as 1, or *are not*, coded as 0, connected to these organizations. If they reported that they were connected to these organizations, then they were asked about past participation in programming. The frequency of this participation was also requested from participants who could report answers ranging from *never*, coded as 1, to *almost always*, coded as 5. Those who reported no involvement with cancer organizations were directed immediately to the end of the survey, where they either (a) provided their contact information for the gift card raffle, if they were recruited via social media, or (b) were directed back to Prolific.

Data Cleaning and Analysis Plan

Data analysis began by analyzing the dataset collected from social media participants and ResearchforMe@UNC. A three-pass procedure was used to identify bot responses (Bell et al., 2020; Griffin et al., 2021; Pozzar et al., 2020). First, Qualtrics' fraud detection tools, including ReCaptcha, Relevant ID Duplicate Score, and Relevant ID Fraud Score, were checked. Responses that met three or more of seven potential flags were removed (see Appendix 3.2). Participants were also asked to report their date of birth several times; inconsistency among these responses was considered fraud, and these responses were removed (Bell et al., 2020). The third pass. Finally, open-ended responses were checked for non-coherence, prevalence of spelling errors, and inconsistency with the given instructions (e.g., "tell us that your favorite animal is a dog"; Pozzar et al., 2020). These checks represented the third pass. This process is reported, in its entirety, in Appendix 3.2.

Data analysis continued by analyzing the dataset collected from the Prolific participants. Since the data provided from these participants was assumed to be of higher quality (Peer et al., 2022), there was less concern about the quality of the data. However, two responses appeared to be duplicates, based on provided Prolific identifier numbers, and were thus removed from the dataset.

After addressing the quality of the data in each data set, attention turned to the responses themselves. Prior to computing the scale variables, the reliability of the potential scales were checked and each of the scales were calculated. The reliability of each scale was deemed to be acceptable (all $\alpha s \geq .75$; Hayes, 2005), so all scales were calculated using all items. Participants who answered less than two-thirds of the total items for any measure were excluded from the analysis.

The scale creation process aligned with the following procedure. First, participants' responses to the ten impact of cancer items were averaged to form a single, impact-of-cancer score. Then, each subscale of the coping dimensions measure was averaged. That is, participants' responses to each of the four items for meaning-making coping were averaged to form one meaning-making score; then, participants' responses to the four emotional-processing coping items were averaged to form one emotional processing score. Participants' responses to the ten boundary expansion items were also averaged to form a single score for the boundary expansion construct. Each of the newly created scales were then checked for the presence of outliers, as well as threats to tests of statistical inference, such as skewness and kurtosis. No corrective actions were taken.

To improve the interpretability of the cancer storyline seeking variables, the single item measuring this behavior during treatment and the single item measuring this behavior after treatment were reverse coded for the purposes of analyses. Higher scores on each of the items indicated greater seeking of cancer storylines.

Furthermore, some of the participants' responses were analyzed by three demographic characteristics: Race, gender identification, and time since treatment completion. For the purposes of these analyses, race was grouped into three categories: White, Black or African American, and another race. Gender identification was separated into two categories: Female and male. Finally, treatment status was categorized into four groups: active treatment or not yet started treatment, completion less than or equal to 12 months prior, completion between 13 months and 36 months prior, and completion 37 or more months prior. These categories account for the difficulty of that first year following completion of treatment (Elsbernd et al., 2018; Lea

et al., 2020), as well as the distinction between active treatment and the completion of treatment in coping processes.

Once each dataset was cleaned and organized, they were merged into one master dataset for analysis using SPSS 28. To answer RQ1a-b and RQ2, item counts and percentages, as well as item means and standard deviations, were calculated. Then, to investigate potential demographic differences in young adult cancer survivors' use of entertainment media (RQ1c), subgroup analyses were performed. Analyses by participants' reported race (White vs. Black vs. another race), gender identification (female vs. male), and time since treatment completion (active or not yet started treatment, ≤12 months since treatment completion, between 13 months and 36 months since treatment completion, and ≥37 months since treatment completion) were included. To test for statistical significance, ANOVAs with Tukey post-hoc tests were conducted for the demographic indicators of race and time since treatment completion. A t-test was used to test for statistically significant differences based on gender identification. Since the sample was recruited through two different sites – and the demographics differences of each subsample were stark – additional analyses testing for the presence of interactions between each of the three demographic subgroups and the recruitment site were conducted using general linear models. Overall, three general linear models were constructed for the purpose of testing each demographic category (i.e., racial identification, gender identification, and time since treatment completion) was tested separately. Though reported separately, all key outcomes (i.e., cancer storyline seeking during treatment, cancer storyline seeking after treatment, cancer coping via entertainment media, the impact of cancer, and boundary expansion) in the study were tested together, as the outcome variables, in each model.

RQ3 asked how young adult cancer survivors report using entertainment narratives to cope with their cancer experience. To answer this, item counts and percentages, as well as item means and standard deviations, were calculated. Then, aligned with RQ4, an exploratory factor analysis (EFA) was conducted with items from the meaning-making coping and emotional processing coping scales. The goal of this EFA was to determine if scores on these two independent scales could be combined into a single scale, or if multiple latent factors exist and should be separated in subsequent analyses. Because these scales were developed separately, this EFA was an important step prior to moving on with the rest of the analysis.

To answer RQ5a-c, bivariate correlations were calculated between all key variables in the study, and tests of statistical significance were calculated using the correlation coefficient. Given the paucity of existing literature on the relationship of coping via entertainment media among young adult cancer survivors specifically, the goal of this research question was to simply establish the existence of an association among these concepts, if those relationships existed.

To answer RQ6a-c, subgroup analyses were again performed. Again, analyses by participants' reported race (White vs. Black vs. another race), gender identification (female vs. male), and time since treatment completion (active or not yet started treatment, ≤12 months since treatment completion, between 13 months and 36 months since treatment completion, and ≥37 months since treatment completion) were included. To test for statistical significance, ANOVAs with Tukey post-hoc tests were conducted for the demographic indicators of race and time since treatment completion. A t-test was used to test for statistically significant differences based on gender identification. Again, since the sample was recruited through two different sites, additional analyses testing for the presence of interactions between each of the three demographic subgroups and the recruitment site were conducted using general linear models.

Each demographic category (i.e., racial identification, gender identification, and time since treatment completion) was tested separately, meaning that three general linear models were constructed. Though reported separately, all key outcomes (i.e., cancer storyline seeking during treatment, cancer storyline seeking after treatment, cancer coping via entertainment media, the impact of cancer, and boundary expansion) in the study were tested together, as the outcome variables, in each model.

Finally, a sensitivity analysis was conducted to determine if the multiple recruitment sites affected the results of the above research questions. First, a general linear model was constructed to determine the effect of recruitment source on the study's key variables (i.e., cancer coping via entertainment media, the impact of cancer, boundary expansion, and cancer storyline seeking). Then, because the demographics of each sample differed by recruitment site, three additional general linear models were constructed to determine if an interaction effect existed between demographic indicator (i.e., racial identification, gender identification, and time since treatment completion) and recruitment source. The presence of an interaction effect would indicate that the analyses described above should be adjusted.

Results

After cleaning both data sets, the total sample included 108 participants. The majority (n = 68; 63.0%) were recruited from Prolific. For the purposes of reporting, the entire sample is described below, regardless of recruitment source. Demographics detailed by recruitment source, as well as demographics for the full sample, can be found in Table 3.1.

Study participants were mostly White (n = 72; 62.1%), had completed treatment (n = 76; 70.4%), and were in long-term survivorship (i.e., more than three years had passed since

treatment completion; n = 44, 40.7%). Participants were between the ages of 18 and 39 (M = 30.28, SD = 5.82), and half of the sample identified as female (n = 54; 50%). Cervical cancer was the most reported diagnosis (n = 16; 13.6%), and participants were between the ages of 15 and 36 when diagnosed (M = 24.44, SD = 5.58).

Entertainment Media Use Related to the Cancer Experience

Participants generally reported neither purposefully seeking nor purposefully avoiding cancer storylines in entertainment narratives (RQ1a-b). Participants' mean scores hovered around three on a five-point scale for cancer storyline seeking both during (M_{during} = 3.09, SD_{during} = 1.31) and after treatment (M_{after} = 3.25, SD_{after} = 1.22). Participants who had completed treatment (n = 88) reported purposefully seeking cancer storylines in entertainment narratives after they had finished their treatment more than during treatment. Per a paired samples t-test, $t(87) = -2.71$, $p = .004$, Hedges' $g_{av} = 1.25$ (see Lakens, 2013), participants more purposefully sought cancer storylines *after* treatment (M_{after} = 3.25, SD_{after} = 1.22) than *during* cancer treatment (M_{during} = 2.98, SD_{during} = 1.27).

Demographic Variation in Entertainment Media Use

In response to RQ1c, there were significant differences in cancer storyline seeking among participants' racial and gender groups, as well as time since treatment completion (see Table 3.2).

Participants who identified as Black or African American reported significantly greater cancer storyline seeking than did participants who identified as White and participants who identified as another race. There were significant differences in reported cancer storyline seeking **during** cancer treatment among the three groups, $F(2, 103) = 7.89$, $p < .001$, partial $\eta^2 = .13$. A

Tukey post-hoc test found that Black participants reported significantly greater purposeful cancer storyline seeking during treatment than did White participants, but there were no significant differences between participants who identified as White and those who identified as another race, nor were there significant differences between those who identified as Black and those who identified as another race. However, there were also significant differences among the three groups in cancer storyline seeking **after** cancer treatment, $F(2, 85) = 13.19$, $p < .001$, partial $\eta^2 = .24$. A Tukey post-hoc test found that Black participants reported significantly greater levels of cancer storyline seeking after treatment than did White participants. Black participants also reported significantly greater levels of cancer storyline seeking after treatment than did participants of another race. No differences were found between White participants and participants of another race.

Participants who identified as female reported significantly higher seeking of cancer storylines than those who identified as male. This difference was significant both during cancer treatment, $t(102) = 2.36$, $p = .020$, $\eta^2 = .05$, and after cancer treatment, $t(84) = 3.08$, $p = .003$, $\eta^2 = .10$.

Participants who were 37 months or more from treatment completion reported significantly less purposeful cancer storyline seeking after treatment than those who were 12 months or less since cancer completion. There were no significant differences in cancer storyline seeking during cancer treatment among the four time since treatment completion groups, $F(3, 102) = 2.32$, $p = .080$. On the other hand, there were significant differences in cancer storyline seeking after treatment among the groups, $F(3, 84) = 2.91$, $p = .039$, partial $\eta^2 = .09$. A Tukey's post-hoc test indicated that participants who reported completing treatment in the past 0 – 12 months reported significantly more cancer storyline seeking after treatment than those who

reported completing treatment 37 months or more prior to participating in the survey. There were no significant differences among the other groups.

Because the participants in the sample came from two different recruitment sites, subgroup analyses were also performed to examine the effect of recruitment site on cancer storyline seeking. Though a first general linear model (Pillai's Trace = .43; $F(5, 82) = 12.46$, $p < .001$), with recruitment source set as the predictor, and cancer storyline seeking during and after treatment set as the outcomes, indicated a significant effect on cancer storyline seeking after treatment ($p \leq .001$), it was possible that this was, in reality, a reflection of the demographic differences reported earlier. Thus, three additional general linear models were conducted to probe potential interaction effects between recruitment source and demographic indicators.

The first model, with racial identification and recruitment source set as the predictors and cancer storyline seeking, both during and after treatment, set as the outcomes, indicated no significant interaction effect, Pillai's Trace = .109; $F(10, 158) = 0.92$, $p = .521$. The second model, with gender identification and recruitment source set as the predictors and cancer storyline seeking, both during and after treatment, set as the outcomes, indicated no significant interaction effect, Pillai's Trace = .029; $F(5, 78) = 0.47$, $p = .801$. The third model, with time since treatment completion and recruitment source set as the predictors and cancer storyline seeking, both during and after treatment, set as the outcomes, indicated no significant interaction effect, Pillai's Trace = .122; $F(15, 234) = .662$, $p = .820$.

Entertainment Media Use Starts Conversations

More than half of all participants reported that they used something they encountered in an entertainment narrative to start a conversation with a friend about their cancer experience

(RQ2a-b). Both during and after treatment (n_{during} = 55, 51.9%; n_{after} = 50, 56.8%), "friends" was the top group with which participants reported starting conversations. In fact, the top four categories were consistent both during cancer treatment and after cancer treatment (see Table 3.3). In addition to friends, nearly half of participants reported that they used something they encountered in an entertainment narrative to start a conversation about their cancer experience with one or more family members (n_{during} = 45, 42.5%; n_{after} = 39, 44.3%), and nearly a third of participants reported starting a conversation with one or more fellow survivors (n_{during} = 30, 28.3%; n_{after} = 22, 25.0%).

However, almost two in five participants reported that they did not start a conversation about their cancer experience based on something they encountered in an entertainment narrative (n_{during} = 42, 39.6%; n_{after} = 33, 37.5%). More participants reported starting a conversation about their experience with acquaintances or co-workers following cancer treatment (n_{after} = 19, 21.6% vs. n_{during} = 17, 16.0%); on the other hand, participants reported greater use of entertainment media helping to start a conversation with their treatment team during treatment (n_{during} = 25, 23.6% vs. n_{after} = 9, 10.2%).

Coping with Cancer Via Entertainment Media

Exactly half or slightly more than half of participants reported using entertainment media in the preceding three months to emotionally process their cancer experience (RQ3). Specifically, half of participants either agreed or strongly agreed that they used media in the prior three months to "get a thorough understanding of [my] feeling about cancer" (n = 54; 50.0%) and to "realize [my] feelings about cancer are valid and important" (n = 54; 50.0%). More than half of participants agreed that media use in the preceding three months helped them "acknowledge [my] emotions about cancer" (n = 57; 52.8%). Finally, a roughly equal number of participants

(40 – 45%) agreed or disagreed that they used media in the prior three months to "figure out what [I'm] really feeling about cancer."

Approximately half of participants reported not using entertainment media in the preceding three months to make meaning around their cancer experience. Specifically, more than half of participants disagreed that they've been using media to "look for something good in having experienced cancer" (n = 58; 53.7%) and nearly half of participants disagreed that they've used media to "try to see cancer in a more positive light" (n = 51; 47.2%). Participants were generally ambivalent about the remaining two meaning-making coping items; about as many participants agreed as disagreed (40 – 45%) that they had used entertainment media in the past three months to "reflect on the good and the bad of cancer" and to "find meaning in the cancer experience."

The Impact of Entertainment Media Exposure on Young Adult Cancer Survivors

Thus far, the results of this survey reveal that entertainment media is an important outlet in the lives of young adult cancer survivors. Having established this importance, though, prompts a second question: What is the **impact** of this exposure on young adult cancer survivors? The remaining research questions address this subject.

Forming a Cancer Coping Scale

Participants in this study answered questions about their use of entertainment media to engage in two forms of coping: meaning-making and emotional processing. Because prior research has demonstrated that both are related to improved mental health outcomes among young adult cancer survivors, RQ4 asked if the two separate constructs measured in this survey could be combined into a single scale.

To explore the dimensionality of the meaning-making coping scale and the emotional-processing coping scale, an exploratory factor analysis (EFA) was conducted. Principal axis factoring of the eight items suggested that a one-factor solution best explained the data. The single-factor solution explained 83.6% of the variance, and, because only one factor was extracted, no rotation was used. All eight items loaded on the one factor (values ranged from .86 to .92; see Table 3.4). Thus, in response to RQ4, items assessing meaning-making coping and emotional processing coping form a single, unidimensional scale. For each participant, then, the four items from each of the two original scales were averaged together to form a single score on the *cancer coping scale* ($M = 2.98$, $SD = 1.39$; $\alpha = .97$).

Associations with Cancer Coping via Entertainment Media

The data indicated that there were statistically significant, positive associations among almost all the key variables – impact of cancer, cancer coping, boundary expansion, and cancer storyline seeking – in this study (see Table 3.5).

The association between the positive impact of cancer and engagement in coping through media was strong (Hayes, 2005). In response to RQ5a, as participants reported a more positive impact of cancer on their life goals and sense of purpose, they also reported greater engagement in coping with cancer through media in the preceding three months ($r = .619$, $p < .001$).

The association between boundary expansion and the positive impact of cancer and boundary expansion and engagement in coping with cancer through media was moderate (Hayes, 2005). That is, also in response to RQ5b, as participants reported greater experience of practicing personal roles and abilities other than their own through media in the prior three months, participants reported both a more positive impact of cancer on their sense of purpose and goals in

life ($r = .266$, $p = .005$). Additionally, as participants endorsed greater engagement in boundary expansion in the three months prior, they also reported greater engagement in coping with cancer through media and more engagement in coping with cancer through media ($r = .394$, $p < .001$).

The data indicated significant moderate and positive correlations among cancer storyline seeking during treatment and the impact of cancer ($r = .289$, $p = .003$), cancer coping ($r = .441$, $p < .001$), and boundary expansion ($r = .191$, $p = .049$). In other words, in response to RQ5c, seeking out cancer storylines after treatment had similar effects on the impact of cancer ($r = .326$, $p = .002$) and cancer coping ($r = .502$, $p < .001$), but not for boundary expansion ($r = .058$, $p = .590$). In other words, seeking out cancer storylines **during and after** treatment was related to a more positive impact of cancer and greater engagement in coping via narrative media, whereas only seeking out cancer storylines **during** treatment was associated with greater boundary expansion.

Differences Among Demographic Groups

Participants' reported use of entertainment media to cope with cancer in the prior three months varied significantly by two key demographic indicators: race and time since treatment completion. Thus, in response to RQ6, participants who self-identified as Black or African American reported significantly higher levels of coping with cancer via narrative media than their counterparts who identified as another race. Additionally, participants who completed treatment more than 37 months prior reported significantly lower levels of coping with cancer via media than their more recently treated counterparts. These results are summarized in Table 3.2.

Participants who identified as Black or African American reported significantly higher levels of cancer coping than participants who self-identified as White or self-identified as another race. There were significant differences among the three racial groups in cancer coping via entertainment media, $F(2, 105) = 22.39$, $p < .001$, partial $\eta^2 = .30$. Due to a statistically significant Levene's test [$F(2, 105) = 8.26$, $p < .001$], the Tamhane's T2 post-hoc test was used to explore differences among the groups. Black participants reported significantly greater use of cancer coping via entertainment media than White participants and participants who identified as another race. However, there were no significant differences in cancer coping via media between participants who identified as White and those who identified as another race.

There were no significant differences in coping with cancer through media and participants' gender identity. Results of an independent samples t-test revealed no statistically significant difference between cancer coping via entertainment media scores for participants who identified as male and participants who identified as female, $t(104) = 1.59$, $p = .11$.

Participants who reported completing treatment 37 months or more prior to taking the survey reported statistically significant lower cancer coping via media than all three other groups. The results of a one-way ANOVA indicated significant differences in cancer coping via entertainment media among the four treatment completion groups, $F(3, 104) = 9.72$, $p < .001$, partial $\eta^2 = .22$. A Tukey's post-hoc comparison revealed that participants who completed treatment 37 months or more prior to completing the survey reported significantly less endorsement of coping with cancer via entertainment media all three other groups (i.e., active or not yet started treatment, treatment completion 12 months or less prior, and treatment completion between 13 and 36 months prior). No additional significant differences were found between any of the other groups.

Again, because the participants in the sample came from two different recruitment sites, subgroup analyses were also performed to examine the effect of recruitment site on cancer coping via media, the impact of cancer, and boundary expansion. Though a first general linear model (Pillai's Trace = .43; $F(5, 82) = 12.46$, $p < .001$), with recruitment source set as the predictor, and cancer coping via media, the impact of cancer, and boundary expansion, indicated a significant effect on all three variables ($p \leq .001$ for cancer coping and the impact of cancer; $p = .009$ for boundary expansion), it was once again possible that this was, in reality, a reflection of the demographic differences reported earlier in this section. To address this possibility, three additional general linear models were conducted to probe potential interaction effects between recruitment source and demographic indicators.

The first model, with racial identification and recruitment source set as the predictors and cancer coping, the impact of cancer, and boundary expansion, set as the outcomes, indicated no significant interaction effect between race and recruitment source, Pillai's Trace = .109; $F(10, 158) = 0.92$, $p = .521$. The second model, with gender identification and recruitment source set as the predictors and cancer coping, the impact of cancer, and boundary expansion, set as the outcomes, indicated no significant interaction effect between gender and recruitment source, Pillai's Trace = .029; $F(5, 78) = 0.47$, $p = .801$. The third model, with time since treatment completion and recruitment source set as the predictors and cancer coping, the impact of cancer, and boundary expansion, set as the outcomes, indicated no significant interaction effect between time since treatment completion and recruitment source, Pillai's Trace = .122; $F(15, 234) = .662$, $p = .820$.

Discussion

In an online survey, young adult cancer survivors (ages 18 – 39) reported turning to entertainment media stories to cope with their cancer experience, although the impact of this behavior differed based on demographic identifiers such as race and time since treatment completion. Young adult cancer survivors' responses also revealed that exposure to stories containing a cancer storyline may be particularly beneficial, although seeking out these types of stories may provide the most value after the completion of treatment. Again, the impact of this behavior differed based on the demographic categories of race, gender, and time since treatment completion. Finally, more than half of the respondents reported referring to some aspect of an entertainment story to start a conversation about their individual cancer experience with friends.

Entertainment media stories can help young adult cancer survivors cope with their cancer experience. The more our participants reported using entertainment stories in the previous three months to process their emotions and make meaning surrounding their experience with cancer, the more positive they reported the impact of cancer on their lives. However, both the use of entertainment stories to cope with cancer and the impact of cancer varied according to demographic factors, suggesting that entertainment stories are not a cure-all for adjusting to life as a young adult cancer survivor.

Notably, participants who identified as Black or African American reported greater use of entertainment media stories to cope with cancer and more positive impact of cancer on their sense of purpose and life goals than participants who identified as White or another race. While this result was unexpected given the well-documented racial disparities in survival and late effects outcomes among young adults with cancer (Abrahao et al., 2021; Murphy et al., 2021), these disparities are less common in psychological distress (Perry et al., 2020) and health-related quality of life (Hastert et al., 2021). It is possible that participants who identify as Black or

African American find entertainment stories to be a particularly useful vehicle for coping. The present data supports this interpretation: First, participants who identified as Black or African American also reported significantly more cancer storyline seeking during and after cancer treatment than participants who identified as White. Additionally, there were no differences in reported levels of boundary expansion based on racial identification suggesting that boundary expansion is not an explanation for the differences seen in cancer coping via media and the impact of cancer. Thus, future research should further explore the motivations for, the use of, and the benefits from engaging with entertainment media stories to cope with cancer, especially among people of different racial identities. Conducting in-depth interviews about the role of entertainment media in coping with cancer with young adult cancer survivors who identify as Black or African-American, in particular, would help us better understand the findings presented here.

In addition to differences among racial identity, participants differed based on the amount of time that had passed since treatment completion. Participants who had completed treatment 37 months or more prior to completing the survey reported significantly less use of entertainment narratives to cope with cancer and significantly lower positive impact of cancer on their lives than participants who were closer to the experience of treatment. Because there were no significant differences in cancer coping through media among those in treatment, those who had completed treatment less than 12 months prior, and those who had completed treatment between 13 and 36 months prior, it's possible that there is a natural decrease of day-to-day relevance of cancer around the three-year mark. The fact that positive impact of cancer is also significantly less for these long-term survivors (i.e., 37 months or more) than those in mid-term survivorship (i.e., between 13 and 36 months) could support this interpretation. Some have referred to a

cancer diagnosis as a second chance (Hagen et al., 2007), and it's possible that the long-term emotional trajectory of this event is not linear.

Young adult cancer survivors in this study reported that consuming stories containing a cancer storyline helped in coping with their cancer experience. The more participants reported purposefully seeking out stories that contained cancer storylines, the more positive they reported the impact of cancer on their lives. Though prior research has indicated that young adult cancer survivors dislike seeing cancer in entertainment stories during treatment (Collins et al., 2023), the positive association with the impact of cancer was statistically significant for cancer storyline exposure *both* during treatment and after treatment. Still, though seeking out stories both during and after cancer treatment were significantly, positively associated with the impact of cancer, this association was stronger for stories sought after treatment was completed (Hayes, 2005). These results suggest that seeking out cancer-related storylines may offer the most benefit once treatment has ended, although future research should further explore this possibility. A future research project could compare the effects of young adult cancer survivors' consumption of the same story during treatment and then again after treatment (i.e., a within-subjects design), or randomize some individuals undergoing treatment to receive a story (vs. not) and compare those with a randomized group of individuals exposed to the same story (vs. not) who have already completed treatment (i.e., a between-subjects design). Results of such an experiment or experiments could clarify when the most benefit is truly gained.

Once again, young adult cancer survivors' responses about their cancer-storyline seeking behavior varied significantly based on their self-reported demographic identification. Female participants sought cancer storylines, both during and after treatment, significantly more than male participants. Since previous research has found that females report greater levels of cancer-

related psychosocial distress (McCarthy et al., 2016), this could be a promising way to reach young women. However, there were no significant differences between males and females on coping with cancer via media, the impact of cancer, or boundary expansion. It's possible that these results reflect the reality that correlation does not equal causation, and that, despite the negative feelings that these cancer-related storylines arouse, female participants were able to glean positive impact from some variable not captured in this study. On the other hand, this difference could be a reflection of earlier research finding that television consumption is not associated with cortisol levels for men, but it is for women; that is, women who watch more television have significantly lower average cortisol levels, which is a measure of physiological stress, than women who watch less and this pattern is not reflected among men (Nabi et al., 2016). Perhaps females in the present study sought out more cancer related storylines because they had previously experienced the cortisol-lowering effects of entertainment media consumption. Future research could explore this possibility.

Purposeful cancer storyline seeking also varied significantly based on time since treatment completion; participants who had completed treatment 37 months or more prior to participating in the study reported significantly less endorsement of cancer storyline seeking behavior than those who had completed treatment in the 12 months or less prior to the study. This could also support the interpretation that memories of the day-to-day of the cancer experience have faded by the time these individuals reach long-term survivorship. While prior research has found that psychological improvements occur in as little as 18 months post-treatment (Bradford et al., 2022), it's possible that this improvement decreases over time. Indeed, one study found no differences in psychological functioning between five-year and 10-year survivors (Gotze et al., 2018), suggesting that there may be some stability after many years have

passed. Alternatively, these findings could be a reflection of the need for additional resources and processing opportunities in the first year following the end of treatment, as is called for in the extant literature (Elsbernd et al., 2018; Husson et al., 2017; Lea et al., 2020). Future research should further explore these potential differences among young adult cancer survivors in various stages of their journey.

Finally, more than half of all participants in our study reported using something they saw in a book, movie, or TV to start a conversation about their cancer experience with a friend. More than 40% also started a conversation with family members. Prior research suggests that young adult cancer survivors have trouble in talking about their cancer, especially with peers (Breuer et al., 2017; Darabos et al., 2022; Janin et al., 2018). Peers, with a lack of experience around cancer and other life-threatening illnesses, may react with disinterest or inappropriate responses (Iannarino et al., 2017); the possibility of these responses often keeps young adult cancer survivors from discussing their experience (Janin et al., 2018). To address these issues, existing research has called for ways to empower young adult cancer survivors to express their support-related wants and to talk about their cancer experience (Darabos et al., 2022); that the majority of participants in our study reported already in engaging in this behavior, through entertainment media stories, suggests that this is a natural and accessible vehicle by which young adults cancer survivors can initiate these conversations. Yet, the details of what these conversations look like – and how young adult cancer survivors benefit from them – is still unknown. A future research project could further probe this topic by collecting quantitative or qualitative information about these conversations. Alternatively, these conversations could be recorded in the treatment center and content analyzed for conversational markers such as tone, content, and valence. Furthermore,

additional research should explore how and when healthcare professionals can support and enhance these conversations.

This project is among the first to systematically examine the effect of entertainment media stories on young adult cancer survivors' coping process. Results demonstrate that this is a fruitful area of future research. However, some limitations of the research must be taken into consideration. First, this was a cross-sectional survey. Data was collected at a single time point, which precludes our ability to make assertions about causality. Additionally, some of the conclusions presented here depend on correlational data and the comparison of correlational results; the method and appropriateness of such comparisons has been debated (Hayes, 2005). Furthermore, the survey utilized a convenience sample. While participants were recruited from two different sources – and those different sources yielded different types of participants – people who agreed to complete the study, whether through social media or through Prolific may differ significantly from the overall population of young adult cancer survivors. Additionally, there may be some differences by recruitment source not fully accounted for in the analysis presented above. Finally, despite having a detailed protocol to account for bots, it is always possible that the protocol failed to catch *all* bot responses from social media. Nonetheless, this research is an important first step in understanding the potential of entertainment media stories in psychosocial oncology.

Conclusion

In an online survey, young adult cancer survivors reported turning to entertainment media stories to cope with their cancer experience over the prior three months. The use of these stories to cope differed by several key demographic characteristics, including racial and gender identity and time since treatment. Overall, the data suggests that there is an association between the use

of entertainment media stories and the impact of cancer. More than half of participants also reported using these stories to start a conversation about their experience with friends. Future research should explore, both qualitatively and quantitatively, the specific motivations and types of use among young adult cancer survivors. The results of this study indicate that entertainment media stories may serve as a new means by which this population could process and explore their cancer experience.

CHAPTER 4: CAN DEPICTIONS OF POSITIVITY RESONANCE CAUSE WILLINGNESS TO SUPPORT A PEER WITH CANCER? EXPERIMENTALLY TESTING THE EFFECTS OF EUDAIMONIC STORIES ON SOCIAL SUPPORT

Young adult cancer survivors (ages 18 – 39) are deeply affected by the lack of effective social support from healthy, same-aged peers, both during and following treatment. Suboptimal social support is associated with greater mental distress (Greup et al., 2018; Kay et al., 2019), less posttraumatic growth (Greup et al., 2018; Kay et al., 2019), and poorer coping skills (Huang et al., 2018) among young adult cancer survivors. Even well-intentioned healthy peers may respond in ways that are unhelpful or harmful to a young adult cancer survivor (Janin et al., 2018; Lang et al., 2020); ill-intentioned healthy peers resort to bullying or ostracism (Kaluarachchi et al., 2020) and self-absorption (Iannarino et al., 2017). Initiatives to address these issues are either time and resource intensive (Harder, 2010; Olsen & Harder, 2009; Olsen & Harder, 2011) or add additional work to the already overloaded young adult cancer survivor (Darabos et al., 2021; Graetz et al., 2019; Hauken & Larsen, 2019).

Stories present a novel means by which to reach healthy peers for the purpose of promoting effective social support. Stories that are *eudaimonic*, or inspirational, can prompt increased willingness to perform altruistic behaviors, such as helping others (Algoe & Haidt, 2009; Oliver et al., 2021; Oliver et al., 2018). Particularly promising are eudaimonic narratives that feature moments of positivity resonance, or interactions of positive emotions, mutual care, and behavioral synchronization (Frederickson, 2016). Consuming a eudaimonic story should produce

effects through a cognitive-emotional process through which the following are prompted in the individual consumer: mixed affect, or the concurrent experience of positive and negative emotions; self-transcendent emotions, or a trio of other-focused emotions encompassing compassion, gratitude, and awe (Stellar et al., 2017); connectedness, or a feeling of closeness towards humanity (Janicke Bowles & Oliver, 2017); and, reflective thoughts or thoughts that reflect on the content and themes of the story (Das et al., 2017; Oliver et al., 2018).

This study experimentally tests whether exposure to eudaimonic story can affect healthy young adults' willingness to support a hypothetical cancer survivor peer. This study also uses a novel definition of eudaimonic media to investigate the mechanisms by which the proposed outcome may occur.

Literature Review

Though nearly every aspect of a young adult's (ages 18 – 39) life is disrupted with a cancer diagnosis, the lack of effective social support from healthy, same-aged peers is particularly deleterious for these young adults. The National Cancer Institute describes someone as a cancer survivor following diagnosis through the balance of his or her life (National Cancer Institute, 2022) and maintaining normal relationships with friends throughout the experience is of the utmost importance to young adult cancer survivors (Kaluarachchi et al., 2020; Kay et al., 2019; Trevino et al., 2013). In fact, young adult cancer survivors in one study ranked these relationships as second only to a cure (Graetz et al., 2019). This is perhaps not surprising given the developmental priorities common to this age group; young adulthood is a time during which the importance of same-age relationships with friends and potential romantic partners is paramount (Arnett, 2000, 2001, 2015). In fact, maintaining normal relationships with same-age

peers enables young adult cancer survivors to blend their identities as young adults and their identity as cancer survivors (Darabos et al., 2021; Kaluarachchi et al., 2020).

The lack of these effective relationships contributes to poor mental health among young adult cancer survivors. Suboptimal social support is associated with greater mental distress in this population (Greup et al., 2018; Kay et al., 2019). Suboptimal social support is also associated with less posttraumatic growth (Greup et al., 2018; Kay et al., 2019) and poorer coping skills, including more denial and behavioral disengagement and less positive reframing and venting of emotions (Huang et al., 2018). Compared to healthy, same-aged peers, young adult cancer survivors are more likely to need mental health services and less likely to be able to afford it (Kaul et al., 2017; Tai et al., 2012), which contributes to additional strain on these young adults' physical health.

Despite the importance of these peer relationships, many young adult cancer survivors report dissatisfaction with their relationships with healthy, same-aged peers following their diagnosis. Notably, this dissatisfaction arises not from the lack of interaction with same-aged peers, but rather by the social constraints, or negative social exchanges both ill-and-well-intentioned (Lepore & Revenson, 2007). For example, young adult cancer survivors who report well-intentioned exchanges with friends and family also report difficulty expressing their true feelings about cancer (Lang et al., 2020) due to fear of unwanted reactions, such as excessive sympathy or undesired pity (Janin et al., 2018). Furthermore, same-aged peers sometimes disregard the impact of cancer following the completion of treatment, a phenomenon that is particularly stressful for the young adult navigating post-treatment life (Kaluarachchi et al., 2020). Young adult cancer survivors also report reduced motivation to see and communicate with well-intentioned friends due to the reminders of missing out on normal life and increased

fatigue preventing participation in shared activities (Kaluarachchi et al., 2020). On the other hand, some young adult cancer survivors perceive their peers as disinterested in talking about cancer, which may be due to a lack of understanding of the experience and its implications (Janin et al., 2018; Kaluarachchi et al., 2020). However, when these peers do engage in conversations about cancer, their support attempts can be characterized by hesitancy, discomfort, self-absorption, and ineptitude (Iannarino et al., 2017). Some same-aged peers may even ostracize or bully the individual with cancer (Kaluarachchi et al., 2020). Young adults who lack an outlet in which to talk about cancer report higher impact of cancer on relationships with their peers than young adult cancer survivors who do have an outlet (Kent et al., 2013). Young adults who are already experiencing depressive symptoms and/or social isolation also report specific needs from opportunities to talk about cancer (Darabos et al., 2021); for example, those with greater depressive symptoms prefer conversations that are open and honest.

Though the social support needs for young adult cancer survivors are relatively well-known, most interventions to date have focused on strengthening the communication skills of the young adult cancer survivor. While young adult cancer survivors agree that they want information about how to talk about the cancer experience with members of their social network (Kent et al., 2013), this approach adds yet another stressor to individuals already managing intense physical and emotional distress (Graetz et al., 2019). A more pragmatic approach may be to educate social support networks to take an active and involved role in offering social support; this view is gaining support in recent literature (Darabos et al., 2021; Hauken & Larsen, 2019; Iannarino et al., 2017). For example, in one study, a specially trained nurse from the cancer clinic met with both the young adult and social network members in clinic (Harder, 2010; Olsen & Harder, 2009; Olsen & Harder, 2011); while both the young adult cancer survivor and the social

network members reported benefits, the intervention was resource intensive and would be difficult to replicate in the US context. Thus, identifying less resource intensive options to educate social network members would disseminate much-needed information to a wider swath of people.

Despite increased attention on the unique needs of young adult cancer survivors, this population still faces mental health struggles due to the suboptimal social support provided from their healthy peers (Iannarino et al., 2017; Janin et al., 2018; Kaluarachchi et al., 2020). Though interventions to address this issue exist, most encourage the ill young adult to practice and improve their own communication skills; this approach only further burdens individuals already managing intense physical and emotional distress (Graetz et al., 2019). Educating healthy peers can and should be a priority.

Stories Promote Helping Behavior

One way to reach healthy peers for the purposes of education is via entertainment mass media, in the form of *stories*. Stories – also sometimes called *narratives* in the extant literature – depict a main character who wants something but is challenged by another force, whether it be a person or thing (Schmidt, 2005). How the main character does – or does not – overcome this opposing force coheres into a plot, generally consisting of a beginning, a middle, and an end (Green & Brock, 2000; Schmidt, 2005). Stories' consumption prompts "an understanding of people, and how their goal, beliefs and emotions interact with their behaviours [*sic*]" (Mar et al., 2006, p. 696). Because stories are an abstract simulation of a complex social world (Mar & Oatley, 2008), stories are processed the same regardless of their status as fact or fiction (Green et al., 2006). Furthermore, story's medium, (e.g., a television show, a movie, a novel, a comic strip, a podcast, or something else) also does not change its function (Green & Brock, 2000).

Though the form and veracity of the story may not matter for processing, the *content* of the story is a crucial driver of psychological and behavioral effects; content that is *eudaimonic* in nature has been associated with helping behaviors (Algoe & Haidt, 2009; Oliver et al., 2021; Oliver et al., 2018). A eudaimonic narrative is one that, broadly, can be described as inspirational (Raney et al., 2018; Rieger & Klimmt, 2019). Narratives that are eudaimonic "heighten[ed] the awareness and concern for people or issues that are broader than the self" (Oliver et al., 2021, p. 191); themes common to eudaimonic media include the interconnectedness of the world, love and kindness, hope, appreciation of beauty and excellence, gratitude, and encouragement (Janicke Bowles & Oliver, 2017; Oliver et al., 2021). The purpose of eudaimonic content is to inspire people to be better people, contemplate values, and experience profound emotions (Oliver et al., 2018).

Consumption of eudaimonic stories is associated with greater endorsement of prosocial and altruistic motivations (Bartsch et al., 2016; de Leeuw et al., 2022; Ellithorpe et al., 2015; Neubaum et al., 2020; Raney et al., 2018; Tsay-Vogel & Krakowiak, 2016). For example, consuming a eudaimonic narrative led to decreased levels of stigmatization for people with disabilities (Bartsch et al., 2016) and toward diverse others (Oliver et al., 2015), although this effect could not be replicated with a different group of stigmatized individuals (i.e., African-Americans; see Dale et al., 2020). Eudaimonic story consumption is also associated with increased willingness to act prosocially toward general others (Ellithorpe et al., 2015; Neubaum et al., 2020; Raney et al., 2018; Tsay-Vogel & Krakowiak, 2016). Furthermore, exposure to eudaimonic stories has been associated with increased dispositional hope (Prestin, 2013) and increased positive emotions, self-efficacy, social support, and sense of coherence (Reinecke & Rieger, 2021).

Positivity Resonance

Eudaimonic stories may feature moments of positivity resonance. Generally, positivity resonance can be thought of as a "momentary phenomenon through which we feel and become part of something larger than ourselves" (Frederickson, 2016, p. 855). Positivity resonance has three key components: (1) shared positive emotion, (2) mutual care, and (3) biobehavioral synchrony (Frederickson, 2016). Generally, there are ten positive emotions: joy, gratitude, contentment, interest, hope, pride, amusement, inspiration, awe, and love (Fredrickson, 2013). Mutual care is a reciprocal state between interaction partners in which each party invests in the well-being of the other, without expectations or conditions, and in which each party is responsive to the other (Frederickson, 2016). Biobehavioral synchrony involves an attunement of affect and behaviors such as gestures or facial expressions among interaction partners (Frederickson, 2016). Moments of positivity resonance are linked to flourishing mental health (Prinzing et al., 2022), and people who report more moments of positivity resonance also report more prosocial tendencies and fewer self-centered tendencies (Zhou et al., 2022).

Though positivity resonance, by definition, cannot be a mediated experience, it is possible that depictions of positivity resonance within a story could prompt the cognitive and emotional processes seen with other eudaimonic narratives. These narratives demonstrate the interconnectedness of humanity and encourage consumers to consider issues and concerns broader than the self (Oliver et al., 2021). Experiences of positivity resonance encourages interaction partners to sync with one another, both emotionally and behaviorally (Frederickson, 2016). It is possible that the mediated depiction of mutual, beneficial, and positive interactions among characters can prompt this interconnected, self-transcendent responses in viewers or readers.

How Narratives Affect Prosocial Behavior

Evidence suggests that mixed affect (Das et al., 2017; Janicke-Bowles, 2020; Oliver et al., 2012; Tsay-Vogel & Krakowiak, 2016), self-transcendent emotions (Bartsch et al., 2016; Janicke Bowles & Oliver, 2017; Neubaum et al., 2020; Oliver et al., 2012), and reflective thoughts (Bartsch et al., 2014; Bartsch et al., 2016; Khoo, 2016; Oliver et al., 2018) are all essential mechanisms in connecting eudaimonic narrative consumption to ultimate willingness to engage in prosocial behavior.

Mixed Affect. Mixed affect refers to the simultaneous experience of positive and negative emotions. Tsay-Vogel and Krakowiak (2016) described mixed affect as "feelings of warmth, tenderness, sympathy, understanding, and compassion" (p. 580). Physically, individuals experience mixed affect as goose bumps, a lump in the throat, or tears in the eyes (Bartsch et al., 2016; Clayton et al., 2019; Oliver et al., 2012). Psychophysiological data indicates that, in response to a narrative, individuals experience less positive emotional responses and more negative emotional responses until the story's turning point; positive emotions increase once the protagonist overcomes the conflict that defined the story (Clayton et al., 2019).

It is somewhat unclear how mixed affect is related to other constructs in a psychological processing model. Some research suggests that mixed affect co-occurs with elevation, discussed below, and therefore mixed affect and elevation do not impact one another (Oliver et al., 2012; Oliver et al., 2015; Tsay-Vogel & Krakowiak, 2016). The similarity of psychophysiological data of elevation and mixed affect certainly indicates some level of overlap (Clayton et al., 2019). On the other hand, other research suggests that mixed affect occurs before elevation and reflection, both discussed below (Bartsch et al., 2014; Fitzgerald et al., 2020).

Self-Transcendent Emotions. Self-transcendent emotions refer to a trio of emotions that are described as other-focused: compassion, gratitude, and awe (Stellar et al., 2017). Though the self-transcendent emotions are related to positive emotions, the two are distinct; self-transcendent emotions are prompted by recognizing the situation of others (Stellar et al., 2017). As a result, instead of attending to needs of the self, individuals experiencing self-transcendent emotions attend to the needs of others (Stellar et al., 2017).

One self-transcendent emotion of particular importance is *awe*, also called elevation. Elevation is an other-oriented emotion prompted by acts of moral beauty (Algoe & Haidt, 2009); Elevation has distinct physical and cognitive responses (Algoe & Haidt, 2009). Physically, elevated individuals can experience a feeling of warmth and opening in the chest, goosebumps or chills, and tears in their eyes (Algoe & Haidt, 2009; Landis et al., 2009; Oliver et al., 2012; Thomson & Siegel, 2016). Elevated individuals also release oxytocin during elevating experiences (Silvers & Haidt, 2008). After the exposure, elevated individuals focus "their thoughts and motivations on people other themselves, including desires to enhance relationships and to make changes that demonstrate[d] ... moral growth" (Algoe & Haidt, 2009, p. 112).

Connectedness. Connectedness is a feeling of closeness towards others, including family, humanity, and even a higher power (Janicke Bowles & Oliver, 2017). Though consensus generally exists about the physical and emotional consequences of elevation, there is less agreement on how experiencing elevation turns into actual prosocial behavior. Bartsch et al. (2016) found that the effects of elevation on stigmatizing beliefs depended on the type of social comparison participants made, while Algoe and Haidt (2009) reported that choosing to interact with someone actively engaged in the community linked cognitions and motivations to behavior. Armenta et al. (2017) theorized that elevation is related to self-improvement. However, Janicke

Bowles and Oliver (2017) and Oliver et al. (2015) found that connectedness, or feelings of closeness towards others, mediated the relationship between elevation and subsequent motivations, and these results were supported by Moreton et al. (2019) in the environmental context. Since connectedness aligns with the theoretical desire to merge with others proposed by Algoe and Haidt (2009; see also Thomson & Siegel, 2016), it is a mechanism that warrants further empirical exploration.

Reflective Thoughts. Reflective thoughts play an important role in the processing of eudaimonic narratives because this type of content is associated with greater levels of effortful cognitive processing (Das et al., 2017; Oliver et al., 2018). That is, in the terms of the Elaboration Likelihood Model, consuming a eudaimonic narrative creates conditions in which one's elaboration likelihood is high, as opposed to low (Briñol & Petty, 2006; Petty & Cacioppo, 1986); physocphysiological data supports this assertion, as participants in one study allocated more cognitive resources to a eudaimonic video (Clayton et al., 2019).

Yet, how exactly these reflective thoughts lead to behavior change is still unknown. Bartsch et al. (2014) suggests that thinking, or reflecting, about the narrative intensifies the emotions associated with story consumption and, in turn, the intensified emotions stimulate additional thoughts in a reinforcing spiral-type effect. However, additional research would need to confirm this assertion.

Predicting Behavior from Intentions. Though mixed affect, self-transcendent emotions, connectedness, and reflective thoughts are generally well-established mechanisms that lead to a willingness to engage in prosocial behavior, willingness, or intentions, do not always equate to real-world performance of the behavior (Costa et al., 2020; Hong & Lee, 2020). The Theory of Planned Behavior (TPB) is a theoretical framework by which to connect intentions to action

(Ajzen, 2002, 2015). The TPB posits that a person's attitudes, or evaluation of the behavior, their subjective norms, or their evaluation of others' evaluations of the behavior, and their perceived behavioral control, or their evaluation of the ease or difficulty of their ability to perform the behavior, predicts a person's behavior.

However, prosocial behavior, such as engaging in social support toward young adult cancer survivors, may be a different type of behavior. Engaging in social support can be a time-consuming activity marked, perhaps, by moments of unease. Though not a perfect parallel, blood donation may be a similar type of activity, as it is also a time-consuming activity marked by moments of unease. In research on blood donation behavior, the extended TPB has helped explain additional variance in behavior (Costa et al., 2020). The extended TPB includes moral norms, or a person's evaluation of responsibility to perform the behavior, self-identity, or a person's evaluation of the self as a person who performs a given action, self-efficacy, or a person's confidence in their ability to perform a particular behavior, and other constructs such as altruism and anticipated regret (Armitage & Conner, 2001; Costa et al., 2020; Hyde et al., 2013). Research with young adults found that self-efficacy explained the most variance in participant's intention to give blood, with attitude as the second-most explanatory construct (Costa et al., 2020; Giles et al., 2004); attitudes and self-efficacy have also been positively associated with intentions to donate blood and organs (Hyde et al., 2013). Thus, self-efficacy, attitudes, and moral norms may further our understanding of the effect of exposure on both willingness to provide social support, as well as how that willingness could turn into real-world behavior.

In summary, stories are an ideal outlet by which to educate healthy peers because they inspire prosocial behavior. Consumption of eudaimonic stories, or stories that depict the interconnectedness of the world, love and kindness, and hope (Janicke Bowles & Oliver, 2017;

Oliver et al., 2021), has been associated with greater endorsement of prosocial and altruistic motivations (Ellithorpe et al., 2015; Neubaum et al., 2020; Raney et al., 2018; Tsay-Vogel & Krakowiak, 2016). These prosocial outcomes occur through the psychological mechanisms of mixed affect (Bartsch et al., 2016; Clayton et al., 2019; Oliver et al., 2012), self-transcendent emotions (Algoe & Haidt, 2009; Stellar et al., 2017), connectedness (Janicke Bowles & Oliver, 2017) and reflective thoughts (Bartsch et al., 2014; Bartsch et al., 2016; Das et al., 2017). Self-efficacy, attitudes and moral norms toward the prosocial behavior could help us better understand how willingness to perform the prosocial behavior is reflective of future, real-world behavior.

The Present Study

This study examines whether exposure to a eudaimonic narrative can affect young adults' willingness to provide effect social support to a hypothetical peer with cancer. Using a three-condition, randomized experiment, this study will investigate the effect of eudaimonic stories on willingness to provide support, as well as examine how the mechanisms of mixed affect, self-transcendent emotions, connectedness, and reflective thoughts do or do not elicit the eventual outcome; additionally, the role of the behavioral mechanisms of self-efficacy toward providing support, attitudes toward providing support, and moral norms toward providing support will be examined. The following hypotheses and research questions are proposed:

1. Hypothesis 1: Participants who consume a eudaimonic narrative will report higher levels of willingness to engage in the provision of social support than those who consume the control narrative.
2. Hypothesis 2: Participants who consume a eudaimonic narrative will report higher levels of (a) mixed affect, (b) self-transcendent emotions, (c) connectedness, (d) reflective

thoughts, (e) self-efficacy, (f) attitudes, and (g) moral norms than those who consume the control narrative.

3. Hypothesis 3: The effect of a eudaimonic narrative on willingness to engage in the provision of social support will be mediated by (a) mixed affect, (b) self-transcendent emotions, (c) connectedness, (d) reflective thoughts, (e) self-efficacy, (f) attitudes, and (g) moral norms.
4. Research Question 1: Do participants who consume the eudaimonic narrative containing depictions of positivity resonance differ on reported levels of (a) mixed affect, (b) self-transcendent emotions, (c) connectedness, (d) reflective thoughts, (e) self-efficacy, (f) attitudes, (g) moral norms, and (h) willingness to engage in the provision of social support than those who consume the eudaimonic narrative without the depiction of positivity resonance?

Methods

To test whether exposure to eudaimonic narratives increase willingness to provide social support to young adult cancer survivors among healthy peers, a randomized, three-condition, between-subjects online experiment was conducted. The University of North Carolina Institutional Review Board reviewed the study prior to launch (IRB #22-2700).

Participants

An a priori power analysis, calculated with G*Power 3.1 (Faul et al., 2007), indicated that a sample size between 325 and 350 was needed to achieve 0.80 statistical power, assuming a Cohen's *f* effect size between 0.15 and 0.17. These effect sizes were estimated using the results reported in Fitzgerald et al. (2020) and Janicke-Bowles (2020). Participants in both studies were

recruited from online panels (e.g., Qualtrics and MTurk), although approximately 100 participants in Fitzgerald et al.'s (2020) study were undergraduate students.

Fitzgerald et al. (2020) randomly assigned participants to one of three narrative conditions; the endings of the narratives differed, with the protagonist either getting or losing his dream job after a devastating tornado. Measures of mixed affect, moral elevation, willingness to volunteer, willingness to donate, and willingness to share the story were collected. Effect size was calculated through G*Power (Faul et al., 2007) using the means and standard deviations of willingness to volunteer for each condition, as this outcome was like the willingness to engage in social support behaviors in the present study. In Janicke-Bowles's (2020) study, participants were exposed to one of two eudaimonic film conditions, and then they completed measures of inspiration, elevation, mixed affect, contemplation, need satisfaction, and self-centeredness. Effect size was calculated through G*Power (Faul et al., 2007) using the reported partial η^2 of the effect of film condition on mixed affect, an outcome of interest in the present study (*partial* η^2 = .022; Janicke-Bowles, 2020). Mixed affect was also selected because there were statistically significant differences based on the manipulation, whereas the effect of film condition on inspiration and elevation was non-significant (Janicke-Bowles, 2020).

Participants in this study were recruited from two sources: Most participants were recruited through the undergraduate student research participant pool at a large, public Southeastern university. Participants received course credit in exchange for participation, and recruitment occurred through an online portal in which potential participants viewed the study title and a brief description. Because participation dwindled after the first 200 participants completed the study, an additional recruitment arm was added through Cloud Research Connect. Cloud Research Connect is a new online research panel run by Cloud Research. Like other

online research panels such as Amazon MTurk and Prolific, potential participants viewed the study title and a brief description and then consented (or didn't) to participate in the study.

Stimuli

Prior work on eudaimonic stories suggested that certain types of storylines should be avoided. For example, stories that contain a triumph over tragedy ending produce more positive emotions and moral elevation than those that end negatively (Fitzgerald et al., 2020). Similarly, stories that emphasize death over life elicit more negative responses than vice versa (Rieger & Hofer, 2017). In other words, the results of these two studies suggest that, though the content of eudaimonic media may be sad and even tragic, the content is most effective when there is some redemption or hope at the end of the story. Furthermore, content that is perceived as inauthentic, manipulative, corny, and/or stupid is likely to not be taken seriously (Oliver et al., 2021). Issues of inauthenticity and manipulation may be especially important in relation to eudaimonic media as content creators use techniques like the supercrip narrative to mold the story (Bartsch et al., 2016); not only do narratives like this threaten to perpetuate outdated stereotypes through pity, but they can also be detrimental to the very group a content creator may be trying to help. Furthermore, overt entreaties can come off as manipulative, causing the reactance sometimes common in narrative persuasion (Moyer-Gusé, 2008; Moyer-Gusé et al., 2012).

Conceptual Definition of Stimuli

Conceptually, the stimuli narratives were either eudaimonic – that is, they were either broadly inspirational and included themes such as the interconnectedness of the world, love and kindness, hope, appreciation of beauty and excellence, gratitude, and encouragement (Janicke Bowles & Oliver, 2017; Oliver et al., 2021) – or they were not.

The eudaimonic narrative, specifically, also depicted episodes of positivity resonance. As explained earlier, positivity resonance has three key components: (1) shared positive emotion, (2) mutual care, and (3) biobehavioral synchrony (Frederickson, 2016). Mutual care is a reciprocal state among interaction partners in which each party invests in the well-being of the other, without expectations or conditions, and in which each party is responsive to the other; biobehavioral synchrony involves an attunement of affect and behaviors such as gestures or facial expressions among interaction partners (Frederickson, 2016).

Stimuli Operationalization

To operationalize the conceptual definition of the stimuli, a general search for commercially available films featuring characters who were within the upper adolescent and/or young adult age range (ages 17 – 20) was conducted. Given the researcher's frequent consumption of these movies, especially throughout the preceding pandemic lockdown, most potential titles came from recently viewed movies on popular streaming services.

The first step was to select the eudaimonic narrative. This narrative had to feature at least some of the key eudaimonic themes (e.g., interconnectedness of the world, love and kindness, hope, appreciation of beauty and excellence, gratitude, and encouragement; Janicke Bowles & Oliver, 2017; Oliver et al., 2021), contain a redemption or hope arc, and seem authentic (e.g., Oliver et al., 2021). Furthermore, the eudaimonic narrative had to contain at least one instance of positivity resonance, and each instance had to contain all three components of the concept: (1) shared positive emotion, (2) mutual care, and (3) biobehavioral synchrony (Frederickson, 2016). Additionally, the narrative had to maintain its structure once the instance of positivity resonance was excluded, as it would be in the comparison condition. Finally, aligned with best practices for studying message manipulations and resulting outcomes, the priority was to find a narrative in

which the eudaimonic themes and depictions of positivity resonance were properties of the narratives themselves, not states evoked in potential participants (O'Keefe, 2003).

The film selected for the eudaimonic narrative was *Finding You* (Baugh, 2021), a film based on the 2011 book *There You'll Find Me* (Jones, 2011). The movie features a young woman rediscovering her passion for the violin while studying abroad in an Ireland coastal village. While there, she also begins a new relationship with a movie star, deals with the untimely death of her brother, and helps a dying senior citizen. These storylines highlighted themes of love and kindness, excellence, gratitude, hope, and interconnectedness. The candidate scene containing depictions of positivity resonance was one in which Finley, the main character, plays her violin with a friend at a local pub. Finley has been studying violin performance with this friend, who she initially wrote off as the town drunk. The scene is filled with positive emotion and mutual care, as well as biobehavioral synchrony. Though the movie is billed as a "Christian-based film" and some Catholic iconography was prominent due to the film's setting in Ireland, overt references to any one religion were not present.

To contrast the eudaimonic narrative, an active control narrative was desired. That is, rather than provide participants assigned to the control condition no message at all, the control narrative was selected to be the antithesis of the eudaimonic narrative. As such, the goal was to select a narrative that did not contain eudaimonic themes (e.g., the interconnectedness of the world, love and kindness, hope, appreciation of beauty and excellence, gratitude, and encouragement; Janicke Bowles & Oliver, 2017; Oliver et al., 2021). Due to the phsyical violence common to an action or thriller movie, the researcher investigated commercially available action films featuring characters who were within the upper adolescent and/or young adult age range (ages 17 – 20). Unfortunately, there were not many options within this category.

Movies that did not feature an adolescent or young adult protagonist were immediately discarded as to dissimilar to the eudaimonic narrative. Movies that were a part of a superhero franchise were also discarded as too dissimilar to the eudaimonic narrative. Films that contained action and/or violence but had clear eudaimonic arcs, such as the Hunger Games franchise, were also discarded.

After creating an extensive list of films that did not contain the intrinsic message properties antithetical to a eudaimonic narrative, *Abduction* (Singleton, 2011) was selected for the control narrative. The movie features a high-school senior who discovers that he is adopted; his biological parents were former CIA operatives who were planning to expose rogue agents and were killed. For his safety, the young man was given to adoptive parents to protect him, but due to a school project on missing children revealing his identity, the rogue agents have found his location and are pursuing him. The young man is forced to work with the CIA to bring the terrorists to justice. Though the movie was widely disliked by critics and audiences (Rotten Tomatoes, n.d.), *Abduction* was deemed to be the least dissimilar to the eudaimonic narrative, while also being the best representation of properties antithetical to the eudaimonic narrative; in other words, *Abduction* contained the most gratuitous violence while also being set in the real world and featuring an adolescent protagonist.

Once the narratives were selected, the films were obtained on DVD and then digital files were created using Handbrake at the Media and Design Center at the UNC Chapel Hill Libraries. The digital files were cut using Adobe Premiere and uploaded to the Panopto website in a secure folder for participant viewing.

Each film was edited in a way that conveyed the beginning, the middle, and the end. The main character overcame a conflict, as it is this narrative structure that is essential to the

proposed effects. The editing removed the secondary plots, as has been done in past narrative research (Chung & Slater, 2013; Khoo, 2016; Knobloch-Westerwick et al., 2012; Rieger & Hofer, 2017). The final, edited version of the treatment narrative (i.e., *Finding You* **with** the depictions of positivity resonance), was 44 minutes in length. The final, edited version of the comparison narrative (i.e., *Finding You* **without** the depictions of positivity resonance) was 40 minutes in length. The final, edited version of the control narrative (i.e., *Abduction*) was 41 minutes in length.

Because the narratives were selected due to their inclusion of intrinsic message properties aligned with the conceptual definition of a eudaimonic narrative, positivity resonance, and a non-eudaimonic narrative, no narrative pretesting was conducted. Furthermore, aligned with best practices, no manipulation checks were included in the post-experiment questionnaire, as asking about participants' perceptions and/or psychological states would not "appropriately asses[ed]" the message manipulation within the experiment (O'Keefe, 2003, p. 258).

Experimental Procedure

Participants recruited from the undergraduate research participant pool and Cloud Research Connect followed the same experimental procedure. Interested individuals were given a Qualtrics link to access the study. In the online consent form, participants were informed that they wouldn't know the true purpose of the study until after their participation and that the study may cause emotional distress. Participants were informed that they can leave the study at any time without penalty. Debriefing materials included contact information for on-campus psychological counseling services and the new national mental health service line; participants recruited from Cloud Research Connect were only given the information for the new national mental health service line.

Once participants consented to participate in the study, they were randomly assigned to view one of the three narratives: the eudaimonic narrative with depictions of positivity resonance (the treatment condition), the eudaimonic narrative without depictions of positivity resonance (the comparison condition), or the control narrative (the control condition). Clips were hosted on Panopto, a video-hosting site. Each video was embedded into the Qualtrics questionnaire for viewing, although participants had the ability to enlarge the clip to full screen if desired.

Measures

After viewing the stimuli, participants in all conditions responded to items measuring the following constructs: mixed affect, connectedness, reflective thoughts, self-transcendent emotions, willingness to provide social support, and behavioral predictors. Demographics were also collected. All participants answered the mixed affect, connectedness, reflective thoughts, and self-transcendent emotions constructs in a random order, and items within these constructs were also presented in a random order. Participants then responded to items measuring willingness to provide social support, behavioral predictors, and demographics in that fixed order, although items within these constructs were randomized to prevent potential order effects. A comprehensive list of measures is available in Appendix 4.1.

Mixed Affect

Participants' positive and negative emotions (M_{mixed} = 1.32, SD_{mixed} = 1.32, $\alpha_{positive}$ = .917, $\alpha_{negative}$ = .861) were assessed with the Modified Differential Emotions Scale (mDES; Fredrickson, 2013). The mDES captures a wider range of positive states than other measures, such as PANAS (Fredrickson, 2013; Watson et al., 1988). The mDES scale consists of 10 positive and 10 negative emotions, all of which are presented in groups of three. For example,

two positive trios included: “Grateful, appreciative, or thankful” and “Joyful, glad, or happy”; two negative trios included: “Scared, fearful, or afraid” or “Ashamed, humiliated, or disgraced”. Items followed the stem “While I was watching, I felt …”. Response options ranged from *strongly disagree*, coded as 1, to *strongly agree*, coded as 5.

Since higher responses on the positive items indicated greater positive emotions and higher responses on the negative items indicated greater negative emotions, each participant’s mean negative emotion scores was subtracted from their mean positive emotion score for one, overall mixed affect score. Positive scores on this combined item reflected greater presence of positive emotions, while negative scores reflected greater presence of negative emotions.

Connectedness

Connectedness towards three groups – close others, a higher power, and friends – was assessed (M = 3.58, SD = 1.01, α= .939) with nine items adapted from Janicke Bowles and Oliver (2017) and Janicke and Ramasubramanian (2017). All items followed the stem “The story I just viewed …” and were measured with a five-point, Likert-type scale ranging from *strongly disagree*, coded as 1, to *strongly agree*, coded as 5. Higher scores corresponded to higher perceived connectedness.

Each of the three groups contained three items. The items assessing connectedness towards close others included: “Made me realize the importance of relationships”; “Made me feel how important human bonds are”; and “Made me think that love and kindness to others are the key to a fulfilling life.” The items measuring connectedness towards a higher power were: “Made me feel like I can merge with a power or force greater than myself”, “Made all things appear to be part of a larger whole”; and “Made me feel like there is a higher power connecting

everything in life." Finally, the items measuring connectedness towards friends included: "Made me want to be with my friends"; "Made me thankful for my friends"; and "Made me think about the importance of friends".

Reflective Thoughts

Reflective thoughts (M = 3.34, SD = 1.11, α = .919) were assessed with five items adapted from Bartsch (2012) and Bartsch et al. (2014; 2016). All items followed the stem "The story I just viewed …" and were measured with a five-point, Likert-type scale ranging from *strongly disagree*, coded as 1, to *strongly agree*, coded as 5. Items included: "Inspired me to think about meaningful issues"; "Helped me to better understand other people"; and "Encouraged me to focus on things that are important to me." Higher scores indicated greater presence of reflective thoughts.

Self-Transcendent Emotions

The presence of self-transcendent emotions (M = 4.02, SD = 0.60, α = .885) was assessed with 15 items adapted from McCullough et al. (2002) and Shiota et al. (2006). Five items assessed compassion, five items assessed awe, and five items assessed gratitude. All items were measured with a five-point, Likert-type scale ranging from *strongly disagree*, coded as 1, to *strongly agree*, coded as 5.

Sample items included: "When I see someone hurt or in need, I feel a powerful urge to take care of them"; "I feel wonder almost every day"; and "If I had to list everything that I felt grateful for, it would be a very long list." Higher scores reflected greater presence of self-transcendent emotions.

Willingness to Engage in Support Activities

Willingness to engage in social support activities (M = 4.52, SD = 0.46, α = .843) was assessed with 14 items adapted from the extant literature (Breuer et al., 2017; Darabos et al., 2021; Junkins et al., 2020; Kaluarachchi et al., 2020; McDonnell et al., 2020). Participants were instructed to imagine that a friend had been recently diagnosed with cancer; participants then indicated their willingness to perform certain activities. Items followed the stem "I would be willing to …" and sample items included: "Listen to them without expressing my own opinion"; "Spend time with them at home", "Talk about things unrelated to cancer"; and "Treat them the same as I did before cancer." All items were measured on a five-point, Likert-type scale ranging from *strongly disagree*, coded as 1, to *strongly agree*, coded as 5. Higher scores reflected greater willingness to engage in social support activities.

Behavioral Predictors

Predictors of participants' behavioral follow-through were assessed with 12 items from the extended Theory of Planned Behavior (Armitage & Conner, 2001; Costa et al., 2020; Hyde et al., 2013). Participants' self-efficacy, attitudes, and moral norms toward providing support activities were assessed. Higher scores were reflective of greater self-efficacy, more positive attitudes, and higher moral norms toward providing support to a hypothetical friend with cancer.

Participants' *self-efficacy* toward providing support (M = 4.16, SD = 0.75, α = .731) was assessed with three items adapted from Armitage and Conner (2001), Costa et al. (2020), and Hyde et al. (2013). Items were measured on a five-point, Likert-type scale ranging from *strongly disagree*, coded as 1, to *strongly agree*, coded as 5. Participants were asked to indicate their agreement or disagreement with the following statements: "I would be capable of providing support to my friend"; "It would be easy to provide support to my friend"; and "I have complete control over the support that I would provide to my friend".

Participants' attitudes toward providing support (M = 4.24, SD = 0.66, α = .725) were assessed with six items adapted from Armitage and Conner (2001), Costa et al. (2020), and Hyde et al. (2013). Items followed the stem "Providing support to my friend would be …" and were measured with a five-point, semantic differential scale. Items included: "Unpleasant-pleasant"; "Useless-Useful"; "Not Rewarding-Rewarding"; "Stressful-Relaxing"; "Harmful-Beneficial"; and "Unnecessary-Necessary". Higher scores were reflective of more favorable attitudes toward providing support.

Participants' *moral norms* toward providing support (M = 4.68, SD = 0.53, α = .823) were assessed with three items adapted from Armitage and Conner (2001), Costa et al. (2020), and Hyde et al. (2013). Items followed the stem "Providing support to my friend is …" and were measured on a five-point, Likert-type scale ranging from *strongly disagree*, coded as 1, to *strongly agree*, coded as 5. Items included: "A moral obligation I have"; "In accordance with my principles"; and "Aligned with my values." Higher scores were reflective of greater moral norms toward providing support.

Demographics

Finally, all participants were asked to report their age, race and ethnicity, and gender identification. Since the items in the questionnaire dealt with cancer specifically, participants were also asked to report their experience with cancer. This single item asked "Have you, anyone in your family, or any of your friends been diagnosed with cancer? Please check all that apply." Response options included self, parents, grandparents, siblings, friends, and classmates. Two write-in responses were also available, one for family members (e.g., aunts, uncles, etc.) and one for non-family members (e.g., neighbors, teammates, etc.).

Data Analysis Plan

Data analysis was completed using SPSS 28 and the PROCESS Macro, version 4 (Hayes, 2018). Data cleaning took place first, with time to complete the experiment and straight-lining responses as two of the primary criteria for potentially removing a response.

Once the data was cleaned, composite variables were created. First, the reliability of each potential scale was checked. The reliability of each scale was deemed acceptable ($\alpha \geq .725$; Hayes, 2005). For all scales, at least two-thirds of the items needed to be completed in each construct to be included in the analysis.

Following the computation of scale reliabilities, scales for mixed affect, connectedness, reflective thoughts, perceived elaboration, willingness to engage in social support, and self-transcendent emotions were created. Mixed affect was calculated using the mDES measure, with each participant's mean negative emotion scores subtracted from their positive emotion score to create a single, overall emotion score. Items from connectedness, reflective thoughts, self-transcendent emotions, and willingness to engage in social support activities were averaged to create a single, averaged score on each of the three constructs for each participant. Finally, responses to each behavioral predictor construct (self-efficacy, attitudes, and moral norms) were averaged to create a score for each of the three constructs. These constructs were not combined.

After each variable in the analysis is calculated, variables were checked for the presence of outliers, as well as threats to tests of statistical inference, such as skewness and kurtosis. No corrective actions were taken.

For the purposes of the analyses, some of the data was collapsed. Hypotheses 1and 2 asked about the effects of a eudaimonic narrative versus the control narrative; in this study, two

conditions saw the eudaimonic narrative. In other words, whether the narrative contained or didn't contain depictions of positivity resonance was unrelated to the narrative's eudaimonic status. Thus, responses from participants who saw the eudaimonic narrative containing depictions of positivity resonance (i.e., the treatment condition) and responses from participants who saw the eudaimonic narrative without depictions of positivity resonance (i.e., the comparison condition) were combined into one eudaimonic narrative condition. To answer Hypothesis 1, an independent groups t-test was conducted. The independent variable was the narrative condition (eudaimonic vs. control), and the dependent variable was reported willingness to engage in the provision of social support. To answer Hypothesis 2, an independent groups t-test was also computed. The independent variable was the narrative condition (eudaimonic vs. control), and the dependent variables were mixed affect, self-transcendent emotions, connectedness, reflective thoughts, self-efficacy, attitudes, and moral norms.

While Hypothesis 3 also asked about the collapsed narrative conditions (i.e., the eudaimonic narratives, both with positivity resonance and without positivity resonance) versus control, Hayes' PROCESS macro was used to test the proposed mediation effect of mixed affect, self-transcendent emotions, connectedness, reflective thoughts, self-efficacy, attitudes, and moral norms; these mediating variables were set as parallel mediators due to the lack of clear evidence supporting a sequential process in prior research (Bartsch et al., 2016; Nabi & Prestin, 2020; Reinecke & Rieger, 2021). Thus, using Hayes' PROCESS Model 4, narrative condition (eudaimonic vs. control) was set as the independent variable. Mixed affect, self-transcendent emotions, connectedness, reflective thoughts, self-efficacy, attitudes, and moral norms were set as mediating variables. The outcome was willingness to engage in the provision of social support. The parallel mediation model for this hypothesis can be found in Figure 4.1.

Finally, for Research Question 1, the effect of the depiction of positivity resonance was explored. The question here was whether viewing a eudaimonic narrative containing these depictions of positivity resonance differed significantly from viewing a eudaimonic narrative not containing these depictions. Thus, responses the two groups (treatment and comparison**) were not collapsed**; this represents the only time in the analysis that the two eudaimonic narrative conditions (i.e., with positivity resonance and without positivity resonance) were analyzed separately. To answer this question, a third independent groups t-test was conducted. The independent variable was the eudaimonic narrative with positivity resonance vs. the eudaimonic narrative without positivity resonance, and the dependent variable was willingness to engage in the provision of social support. A second parallel mediation model was constructed using Hayes' PROCESS macro, model 4. The independent variable was the eudaimonic narrative condition (i.e., the eudaimonic narrative with positivity resonance vs. the eudaimonic narrative without positivity resonance), and the dependent variable was willingness to engage in the provision of social support. The mediating variables were mixed affect, self-transcendent emotions, connectedness, reflective thoughts, self-efficacy, attitudes, and moral norms. Again, due to the lack of clear support for a sequential effect among these mediating variables, all mediators were set as parallel in the model (Bartsch et al., 2016; Nabi & Prestin, 2020; Reinecke & Rieger, 2021).

Results

Participants (N = 454) were primarily female (n = 290, 63.9%) and White (n = 340, 74.9%). Participants recruited from the undergraduate research pool were a little younger (M = 19.61, SD = 1.72), while participants recruited from Cloud Research Connect were older (M = 31.40, SD = 4.82). On average, participants were about 25 years old (M = 24.36, SD = 6.68).

More than a third of participants reported a grandparent had experienced cancer (n = 167, 36.8%), and a little more than a quarter of participants reported no experience with cancer at all (*n* = 126, 27.8%). Demographic information, sorted by recruitment source, can be found in Table 4.1.

There were no significant differences in willingness to engage in social support behaviors between participants who consumed a eudaimonic narrative (i.e., the eudaimonic narrative with the depiction of positivity resonance **and** the eudaimonic narrative without the depiction of positivity resonance) and participants who consumed the control narrative, $t(452) = -1.01$, $p = .312$ (see Table 4.2). Since there was no significant difference between participants who viewed a eudaimonic narrative and those who viewed the control narrative, Hypothesis 1 was **not** supported.

Participants who viewed a eudaimonic narrative reported significantly higher feelings of mixed affect, greater feelings of connectedness, and more engagement in reflective thought than those who viewed the control narrative. Independent groups t-tests, with narrative condition set as the predictor variable and (a) mixed affect, (b) self-transcendent emotions, (c) connectedness, (d) reflective thoughts, (e) self-efficacy, (f) attitudes, and (g) moral norms set as the dependent variables, were conducted. Participants who viewed a eudaimonic narrative (either with the depiction of positivity resonance or without the depiction of positivity resonance) reported significantly higher *mixed affect*, or the experience of positive and negative emotions, than those who viewed the control narrative, $t(452) = 9.72$, $p < .001$, $\eta^2 = 0.17$. Therefore, Hypothesis 2(a) was supported. On the other hand, there were no significant differences among participants based on narrative type for *self-transcendent emotions*, or feelings of awe, gratitude, and compassion, $t(452) = 0.08$, $p = .937$. Hypothesis 2(b) was not supported. However, participants who viewed a

eudaimonic narrative (either with the depiction of positivity resonance or without the depiction of positivity resonance) reported significantly greater *connectedness*, or the experience of feeling connected to others and a higher power, than those who viewed the control narrative, $t(452) = 4.38$, $p < .001$, $\eta^2 = 0.04$. Participants who viewed a eudaimonic narrative (either with the depiction of positivity resonance or without the depiction of positivity resonance) also reported significantly more *reflective thoughts*, or the act of engaging in thought based on the film, than participants who viewed the control narrative, $t(452) = 5.99$, $p < .001$, $\eta^2 = 0.08$. Hence, Hypotheses 2c and 2d were supported. Finally, there were no significant differences among participants based on narrative type for *self-efficacy*, or feelings of ability to provide support, $t(452) = 0.50$, $p = .616$, *attitudes*, or belief in the benefits of providing support, $t(451) = -1.24$, $p = .214$, nor *moral norms*, or beliefs that providing support is a moral good, $t(452) = -1.33$, $p = .186$, leaving Hypotheses 2e, 2f, and 2g not supported.

Given the lack of a direct effect of assigned film condition on willingness to provide social support, there was no mediation effect. However, because the analysis was already planned, a parallel mediation model using Hayes' PROCESS macro was constructed with mixed affect, connectedness, and reflective thoughts included as parallel mediators of narrative condition (i.e., eudaimonic vs. control; the predictor variable) on willingness to engage in social support behaviors (the dependent variable; see Figure 4.1). A parallel mediation model (i.e., PROCESS Model 4) was built due to the lack of clear evidence supporting a sequential process in prior research (Bartsch et al., 2016; Nabi & Prestin, 2020; Reinecke & Rieger, 2021). Though Hypothesis 3a – 3g included (a) mixed affect, (b) self-transcendent emotions, (c) connectedness, (d) reflective thoughts, (e) self-efficacy, (f) attitudes, and (g) moral norms, self-transcendent emotions, self-efficacy, attitudes, and moral norms were excluded from the model given the lack

of significant differences between the two narrative conditions on these outcomes. Since there was no direct effect, it is perhaps unsurprising that the results of this analysis indicated a lack of mediation effect. Neither mixed affect (b = -0.01, p = .690, CI [-0.04, 0.03]), nor connectedness (b = 0.04, p = .238, CI [-0.02, 0.10]), nor reflective thoughts (b = -0.02, p = .371, CI [-0.08, 0.03]) mediated the relationship between narrative condition (i.e., a eudaimonic narrative – with and without depictions of positivity resonance – vs. control narrative) and willingness to engage in social support. Thus, Hypotheses 3a – 3g were **not** supported.

There were no significant differences between participants exposed to the eudaimonic narrative containing depictions of positivity resonance and those exposed to the eudaimonic narrative without depictions positivity resonance (see Table 4.1). Independent groups t-tests, with the presence of positivity resonance (i.e., the eudaimonic narrative containing depictions of positivity resonance vs. the eudaimonic narrative without depictions of positivity resonance) set as the independent variable and willingness to engage in the provision of social support, as well as (a) mixed affect, (b) self-transcendent emotions, (c) connectedness, (d) reflective thoughts, (e) self-efficacy, (f) attitudes, and (g) moral norms set as the dependent variable, were conducted. Again, participants who consumed the eudaimonic film containing depictions of positivity resonance reported no significant difference in willingness to engage in supportive behavior than those who consumed the eudaimonic film without the depictions positivity resonance, $t(291)$ = 0.04, p = .969. Additionally, there were no significant differences between participants who consumed either eudaimonic narrative (i.e., with vs. without positivity resonance) on measures of (a) mixed affect, $t(291)$ = -1.10, p = .271, (b) self-transcendent emotions, $t(291)$ = -0.13, p = .901, (c) connectedness, $t(291)$ = -1.00, p = .320, (d) reflective thoughts, $t(291)$ = 0.15, p = .883, (e) self-efficacy, $t(291)$ = -1.49, p = .138, (f) attitudes, $t(290)$ = -1.04, p = .302, or (g) moral

norms, $t(291) = -0.29$, $p = .775$. Given the lack of *any* significant differences between the eudaimonic narrative with depictions of positivity resonance and the eudaimonic narrative without depictions of positivity resonance, the planned parallel mediation model was not constructed. Thus, in response to RQ1a- RQ1h, there were no significant differences between the eudaimonic narrative containing positivity resonance and the eudaimonic narrative without positivity resonance.

Discussion

Young adults, ages 18 – 39, participated in a randomized, three-condition, online experiment; those who viewed a eudaimonic film reported significantly higher levels of mixed affect, connectedness, and reflective thoughts than those who viewed a control (i.e., action) film. There were no differences between the conditions, though, on levels of self-transcendent emotions, self-efficacy, attitudes, or moral norms. Furthermore, there were no differences in participants' willingness to engage in social support activities between the conditions, and there was no mediation effect. Finally, there were no significant differences between participants who viewed a eudaimonic film with positivity resonance and those who viewed a eudaimonic film without positivity resonance.

In the present study, consumption of a eudaimonic media narrative produced greater mixed affect, or feelings of positive and negative emotions, higher levels of feelings of connectedness, or feelings of attachment to others and a higher power, and more reflective thoughts, or thoughts about the self and the world, than consumption of a non-eudaimonic media narrative. These findings offer supporting evidence for claims made in previous research (Bartsch et al., 2014; Das et al., 2017; Oliver et al., 2018). Especially in an era filled with divisiveness, the ability to elicit feelings of humanity's interconnectedness through film could

have beneficial downstream effects for society. Furthermore, experiencing mixed affect has been associated with increased desire to engage in moral behavior and lead a meaningful life (Oliver et al., 2012), both of which could have larger societal benefits.

On the other hand, the lack of significant differences among study participants on measures of self-transcendent emotions runs contrary to the existing literature. Self-transcendent emotions refer to a trio of emotions, including awe, gratitude, and compassion; individuals who experience self-transcendent emotions attend to the needs of others instead of the needs of the self (Stellar et al., 2017). As such, self-transcendent emotions are usually referred to as other-oriented emotions (Janicke-Bowles, 2020). In prior research, these self-transcendent emotions were reported following consumption of a eudaimonic media narrative (Bartsch et al., 2016; Janicke Bowles & Oliver, 2017; Tsay-Vogel & Krakowiak, 2016); in the present study, participants who viewed the eudaimonic films did not report significantly greater feelings of self-transcendent emotions than those who viewed the control film. Yet, further examination of these results in the extant literature reveals an interesting pattern. In this literature, connectedness, or a feeling of closeness towards others and a higher power, is often mentioned in conjunction with self-transcendent emotions, as both connectedness and self-transcendent emotions are other (or outward) focused processes. Prior studies have demonstrated that connectedness mediates the relationship between elevation (i.e., elevation produced after eudaimonic media exposure) and subsequent emotions (Janicke Bowles & Oliver, 2017; Oliver et al., 2015). Additionally, connectedness has been referred to as an element of a self-transcendent eudaimonic media experience (Oliver et al., 2018). In the present study, though, participants who saw a eudaimonic film reported significantly greater feelings of connectedness than those who saw a control film; there were no significant differences, though, between participants in either condition on

reported self-transcendent emotions. These results suggest that self-transcendent emotions and connectedness, despite sharing a focus outside of the self, differ in some meaningful way. What that difference is, though, is unclear based on the data collected, meaning that further distinguishing between the two concepts – both theoretically and operationally – should be a priority for future research.

The lack of significant difference between participants who saw the eudaimonic film and those who saw the control film on the prosocial outcome, willingness to engage in social support activities, also diverges from existing literature (Ellithorpe et al., 2015; Neubaum et al., 2020; Raney et al., 2018; Tsay-Vogel & Krakowiak, 2016). Since Ellithorpe et al. (2015) found an interaction effect of perceived choice of eudaimonic media consumption and prosocial behavior, it's possible that effect of eudaimonic media consumption did not ultimately "work" because the participants in this study were not given the perception of choice. However, closer examination of the social support items used in this study indicate that the lack of effect may be most likely due to the presence of a ceiling effect. In this study, more than 70 percent of respondents selected "strongly agree" for six of the twelve social support items. For the remaining six items, 80 percent of respondents selected either "agree' or "strongly agree." Though participants' responses to moral norms were also quite skewed (skew = -2.03), indicating that it's possible that these participants very strongly believe that it is their moral norm to provide this type of support, it is also highly likely that the ceiling effect in the data is due to some sort of social desirability bias. On the other hand, it's also possible that this ceiling effect is indicative of a larger issue in which young adults feel confident in their willingness to provide social support if the diagnosis remains in the hypothetical. Since the mean score on the self-efficacy measure was also greater than 4 (out of a possible 5), this seems like a logical interpretation. Most likely, both

explanations – social desirability bias as well as confidence in the hypothetical – contributed to the pattern of results reported here.

Contrary to the existing literature, mixed affect, connectedness, and reflective thought did not mediate the relationship between consumption of a eudaimonic media film (versus control film) and willingness to provide social support. While these results may, in part, be due to the ceiling effect within the outcome described above, the positive psychology literature offers another explanation that could be important for future research projects on this topic. In an intervention exploring the relationship between positivity resonance and prosocial behavior, Zhou et al. (2022) found that only the intervention group encouraging social connections among weak ties, or "social contacts that have little history and low intimacy", reported higher mean levels of prosocial tendencies (p. 31); participants in the strong ties group, or participants who were encouraged to have contact with friends and family, did not report higher mean levels of prosocial relationships following the intervention. The connectedness measure used in this study asked participants to report feelings toward close others, friends, and a higher power. While the items measuring feelings toward close others was relatively non-specific (i.e., items didn't necessarily refer to weak ties or strong ties), friends would be considered strong ties. Potentially, focusing solely on weak ties would have changed the pattern of results reported here. Future research investigating the relationship between connectedness and prosocial behavior may want to differentiate between weak ties and strong ties. One obvious possibility for future research is to duplicate the present study but randomize some participants to a questionnaire about "weak ties" and others to a questionnaire about "strong ties." Additional questions about moral obligations may add to the understanding of why differences could appear.

The present study revealed no significant differences on any of the measures between the two eudaimonic film conditions. That is, participants who consumed the eudaimonic narrative containing positivity resonance depictions and participants who consumed the eudaimonic narrative without those depictions reported similar levels of mixed affect, self-transcendent emotions, connectedness, reflective thoughts, self-efficacy, attitudes, moral norms, and willingness to engage in social support activities. One explanation for this lack of effect is that perhaps the manipulation was not drastic enough to create an effect. Overall, the difference between the two stimuli amounted to four minutes of movie time. Furthermore, the positivity resonance scenes mostly depicted biobehavioral synchrony and shared positive emotion among the main characters. Since mutual care was present throughout many scenes, it's possible that the potential difference between the two versions was weakened. On the other hand, it's also possible that seeing mediated positivity resonance produces no discernible effect. Frederickson (2016) argues that positivity resonance can only be experienced in person. Perhaps seeing positivity resonance on screen is no different than not seeing it on screen because it is still a secondhand experience. Future research can and should further probe these possibilities. One obvious approach for future research is to cognitively test not only the stimuli used here, but other stories featuring eudaimonic themes. Cognitive testing would facilitate insights as to what exactly participants were reacting to in each version – was it the scenes marked as "positivity resonance" or something else? Furthermore, cognitive testing could probe the potential effect of seeing positivity resonance on the screen or the page. What, exactly, are consumers reacting to when they see these depictions? Understanding these elements could make it easier for future research to select and use stimuli, as O'Keefe (2003) and others have, for years, called for selecting

stimuli according to the intrinsic properties of the message and not the resulting psychological state in the majority of participants.

Like all research, this study has some limitations that should be discussed. First, participants in this study were primarily female and primarily White. While this is an issue faced with the use of most undergraduate research participant pools, it is important to note that the results presented here are not reflective of the wide diversity of the general population. Furthermore, participants were primarily recruited from a department comprised of journalism, advertising, and public relations majors. Again, these individuals are most likely not reflective of the wide diversity of the general population of college students. Additionally, this was a cross-sectional, online experiment. Data was collected at a single time point, meaning the results presented here may or may not reflect the long-term relationships among these variables. The online nature of the experiment means that it's likely that participants experienced distractions or were multitasking during data collection. Finally, there is no way to ensure that participants watched the entire film clip in their assigned condition.

While not a limitation per se, the selection and editing process of the films does need to be mentioned. Using commercial feature films did increase the external validity of this experiment, and that is a strength of the research reported here. However, editing a two-hour film into a forty-minute film may have altered the flow of the story in a way that inhibited participants from understanding the full story. Additionally, editing decisions were made alone by the primary investigator; it is possible that a different investigator would have made different editing choices, which could have produced different results. These are limitations of the stimuli that must be considered when understanding the results of the research presented here. As is

often called for in media effects research, more guidance on the process of selecting, editing, and presenting stimuli is needed in the field.

Conclusion

This project contributes to the literature on the effects of eudaimonic media in several ways. First, results indicated that participants who consumed a eudaimonic media narrative reported higher mixed affect, greater connectedness, and more reflective thoughts than participants who consumed a control narrative. These results suggest an important distinction between connectedness and self-transcendent emotions not reported in previous research. Second, the study's inclusion of positivity resonance as a potential distinction among eudaimonic narratives was unique. While the results did not suggest statistical differences between the two eudaimonic narrative conditions, the theoretical argument for understanding the effects of depictions of positivity resonance remain, and future investigation into this concept could have important implications for research on eudaimonic media narratives. Finally, the stimuli in this study were derived from commercially available, full length feature films, which increased the results' external validity.

CHAPTER 5: CONCLUSION

Young adult cancer survivors (ages 18 – 39) face a variety of challenges related to their illness. Many of these challenges are unique to young adult cancer survivors and are not seen in pediatric or older adult populations because of the developmental milestones common to young adulthood (Arnett, 2000, 2001, 2015). For example, typical developmental tasks such as establishing independence from the family of origin, finishing secondary and postsecondary education, establishing a career, and meeting and choosing a romantic partner can be interrupted by cancer (Wong et al., 2017). Uncertainty based on these disruptions are a contributing factor to the high rates of suboptimal mental health symptoms seen among young adult cancer survivors; in fact, nearly a third of this population suffers from symptoms of posttraumatic stress disorder, distress, and/or anxiety (McCarthy et al., 2016; Rosenberg et al., 2018). Uncertainty arising from a lack of meaning from the cancer experience is also a key cause of these symptoms (Darabos & Ford, 2020; Husson et al., 2017; Odh et al., 2016).

A cancer diagnosis in young adulthood mobilizes a wide variety of informal caregivers, including friends, colleagues, romantic partners, and classmates, are involved in social, instrumental, and emotional support provision (Junkins et al., 2020; Juth et al., 2015; Kay et al., 2019; Kent et al., 2012). The diversity of these informal caregivers reflects the developmental period of young adulthood (Arnett, 2000, 2001, 2015), but can be a cause of distress among young adult cancer survivors. Many young adult cancer survivors report difficulty expressing their true feelings about cancer to friends and/or family due to fear of unwanted reactions, such

as excessive sympathy or undesired pity (Janin et al., 2018; Lang et al., 2020). This suboptimal social support is associated with greater mental distress and less posttraumatic growth (Greup et al., 2018; Kay et al., 2019).

To date, interventions designed to help young adult cancer survivors and their informal caregivers address these wide variety of challenges have failed to produce scalable, successful interventions (Devine et al., 2018; Telles, 2021; Warner et al., 2016). One shortcoming of these interventions is the exclusion of media effects as a potential solution in improving psychosocial health for this population. This dissertation purposefully and systematically integrated research on the effects of stories, or narratives, in a way that addresses – and improves – suboptimal mental health among young adult cancer survivors. The empirical studies reported here also created new knowledge around the use and effects of entertainment narrative media consumption for both young adult cancer survivors and their healthy peers.

First, this research project made the case for considering narrative media effects in addressing suboptimal mental health among young adult cancer survivors. Narrative media was defined as *stories*, in the form of television shows, movies, and books. Prior research has demonstrated that stories can facilitate coping, with stress and anxiety (Eden et al., 2020; Nabi & Prestin, 2020; Nabi et al., 2017; Nabi et al., 2016; Nabi et al., 2022; Reinecke & Rieger, 2021; Rieger et al., 2014) and can support attainment of basic psychological needs, such as competence, insight, and meaning in life (Hadden & Smith, 2017; Ryan & Deci, 2017; Slater et al., 2014). Eudaimonic stories, or inspirational stories (Oliver & Raney, 2011; Oliver et al., 2021; Oliver et al., 2018), can also inspire young adults to engage in prosocial behavior (Ellithorpe et al., 2015), with some effects lasting over time (Neubaum et al., 2020). Thus, as argued in

Chapter 2, stories can improve the lives of young adult cancer survivors by addressing two particularly devastating social and emotional challenges: (1) Uncertainty about the impact of the cancer on their identity and meaning in life; and (2) Suboptimal social support from healthy peers, or friends, classmates, coworkers, and other same-aged members of young adults' social circles.

Then, aimed at addressing young adult cancer survivors' struggle with identity reformulation and meaning making following a cancer diagnosis, a quantitative, online survey was conducted. Results of the survey revealed that this population is indeed turning to entertainment media stories to cope with their cancer experience. The use of these stories differed by reported racial and gender identity and time since treatment completion. Using media to cope with cancer was positively associated with a positive impact of cancer. Additionally, more than half of participants reporting using these stories to start a conversation specifically about the cancer experience with friends. Since the results of the survey indicate that young adult cancer survivors are using entertainment media stories to cope with their cancer experience, future research should explore, both qualitatively and quantitatively, the specific motivations and types of media use among young adult cancer survivors. Plus, the feasibility and acceptability of interventions using this media should be explored further.

Finally, to address the suboptimal provision of social support from healthy peers toward young adult cancer survivors, a three-condition, randomized, online experiment with healthy young adults was conducted. The results of the study indicated that participants who consumed a eudaimonic media narrative reported higher mixed affect, greater connectedness, and more reflective thoughts than participants who consumed a control narrative. However, there were no differences between the two narratives in reported self-transcendent emotions, self-efficacy,

attitudes, moral norms, and willingness to engage in social support activities. The results suggest an important distinction between connectedness and self-transcendent emotions not reported in previous research on the effects of eudaimonic media exposure. Additionally, while the results did not find statistical differences between the two eudaimonic narrative conditions, the theoretical argument for understanding the effects of depictions of positivity resonance remain, and future investigation into this concept could have important implications for research on eudaimonic media narratives. Furthermore, additional research connecting mixed affect, connectedness, and reflective thought to prosocial behavior, especially among the healthy peers of young adult cancer survivors, should be pursued.

The research presented here demonstrates that the effects of narrative media are not inconsequential to young adult cancer survivors; in fact, young adult cancer survivors are already coping with their experience through entertainment media and engagement in this behavior is associated with a greater positive impact of cancer. Additionally, encouraging healthy young adults to consume eudaimonic narratives (i.e., broadly, inspirational) can promote greater mixed affect, interconnectedness with others, and higher levels of reflective thought. Naturally, future research is needed to explore the mechanisms behind these findings, as well as how to best translate these one-time studies into long-term interventions. Nonetheless, the data presented here indicates that integrating narrative entertainment media into psychosocial care for young adult cancer survivors could potentially improve their overall quality of life.

TABLES

Table 3.1

Sample Demographics by Recruitment Source

	Social Media / ResearcforMe@UNC		Prolific		Full Sample	
	n	%	*n*	%	*n*	%
Current age *M* (*SD*)	26.83	4.58	32.31	5.52	30.28	5.82
Age at diagnosis *M* (*SD*)	22.85	4.70	25.37	5.87	24.44	5.58
Gender						
Female	17	42.5	37	54.4	54	50.0
Male	23	57.5	29	42.6	52	48.1
Non-binary / Prefer not to say	0	0	2	3.0	2	1.8
Race [a]						
White	10	25.0	62	91.2	72	62.1
Black or African-American	28	70.0	1	1.5	29	25.0
Other	3	7.5	12	17.6	15	12.9
Diagnosis [a]						
Other cancer	12	30.0	35	51.5	45	38.1
Cervical	6	15.0	10	14.7	16	13.6
Breast	10	25.0	5	7.4	15	12.7
Leukemia	7	17.5	4	5.9	11	9.3
Thyroid	1	2.5	8	11.8	9	7.6
Brain	3	7.5	5	7.4	8	6.8
Non-Hodgkin Lymphoma	1	2.5	6	8.8	7	5.9
Testicular	3	7.5	4	5.9	7	5.9
Treatment status						
Completed treatment	22	55.0	54	79.4	76	70.4
On-going therapies	5	12.5	9	13.2	14	13.0
In treatment	12	30.0	1	1.5	13	12.0
Chronic disease	1	2.5	2	2.9	3	2.8
Not yet started treatment	0	0	2	2.9	2	1.9
Time since treatment completion						
≥ 37 months	5	12.5	39	57.4	44	40.7
13 months - 36 months	12	30.0	15	22.1	27	25.0
Active or not yet started treatment	15	37.5	9	13.2	24	22.2
≤ 12 months	8	20.0	5	7.4	13	12.0

Note. [a] Participants could check all that applied; total does not equal 100%.

Table 3.2

Differences in Key Variables by Demographic Subgroups

Variable	Race [a]					Gender				Time since treatment completion					
	White	Black	Other	F	*p*	Male	Female	t	*p*	In treatment	≤12 mos	13 – 36 mos	≥37 mos	F	*p*
Impact of cancer	3.81[b]	4.30[bc]	3.67[c]	5.03	.008	3.95	3.94	0.09	.932	4.00	4.11	4.26[i]	3.61[i]	4.78	.004
Cancer coping	2.52[d]	4.23[de]	2.54[e]	22.39	< .001	3.23	2.80	1.59	.115	3.29[j]	3.81[k]	3.55[l]	2.22[jkl]	9.72	< .001
Boundary expansion	3.77	4.17	3.69	2.82	.064	3.89	3.88	0.07	.945	3.80	3.95	3.93	3.86	0.18	.913
Cancer storyline seeking															
During treatment	2.78[f]	3.86[f]	2.93	7.89	<.001	**3.43**	**3.70**	**2.36**	**.020**	3.43	3.62	3.12	2.75	2.32	.080
After treatment	2.98[g]	4.37[gh]	2.73[h]	13.19	<.001	**2.85**	**2.93**	**3.08**	**.003**	3.40	3.92[m]	3.46	2.91[m]	2.91	.039

Note. Sharing a superscript indicates a significant difference. [a] Tamhane's post-hoc test used for cancer coping due to a significant Levene's statistic ($p < .001$).

Table 3.3

Conversations started with supporters based on entertainment narratives

	During Cancer Treatment		After Cancer Treatment	
	n	%	*n*	%
Friend(s)	55	51.9	50	56.8
Family member(s)	45	42.5	39	44.3
No conversation	42	39.6	33	37.5
Other survivor(s)	30	28.3	22	25.0
Treatment team (Oncologists, surgeons, nurses, etc.)	25	23.6	9	10.2
Acquaintance(s) or Coworkers	17	16.0	19	21.6
Mental health treatment team (Nurse navigator, social worker, therapist, etc.)	15	14.2	8	9.1

Note. Participants could check more than one option, so totals do not equal 100%.

Table 3.4

Exploratory Factor Analysis: Meaning Making and Emotional Processing Coping

Item	F_1
Look for something good in having experienced cancer	.887
Try to see cancer in a more positive light	.851
Reflect on the good and the bad of cancer	.920
Find meaning in the cancer experience	.914
Figure out what I'm really feeling about cancer	.915
Get a thorough understanding of my feelings about cancer	.919
Realize my feelings about cancer are valid and important	.879
Acknowledge my emotions about cancer	.897

Table 3.5

Bivariate Correlations: Key Variables

Variable	(1)	(2)	(3)	(4)	(5)	*M*	*SD*
(1) Impact of cancer	1.00	.619***	.266**	.289**	.326**	3.92	0.78
(2) Cancer coping		1.00	.394***	.441***	.502***	2.98	1.39
(3) Boundary expansion			1.00	.191*	.058	3.86	0.83
(4) Cancer storyline seeking during treatment [a]				1.00	.714***	3.09	1.31
(5) Cancer storyline seeking after treatment [a]					1.00	3.25	1.22

Note. [a] Ms and SDs reported are reverse coded; *$p < .05$; **$p < .01$; ***$p < .001$

Table 4.1

Sample Demographics by Recruitment Source

	Undergraduate Research Pool		Cloud Research Connect		Full Sample	
	n	%	n	%	n	%
Current age *M* (*SD*)	19.61	1.72	31.40	4.82	24.36	6.68
Gender						
Female	217	80.1	73	39.9	290	63.9
Male	51	18.8	103	56.3	154	33.9
Non-binary	3	1.1	7	3.8	10	2.2
Race & Ethnicity [a]						
White	215	79.3	125	68.3	340	74.9
Black or African-American	19	7.0	28	15.3	47	10.4
Asian	47	17.3	20	10.9	67	14.8
Native American or Native Hawaiian	2	0.8	4	2.2	6	1.3
Other	6	2.2	8	4.4	14	3.1
Hispanic	30	11.1	29	15.8	59	13.0
Experience with Cancer [a]						
Self	2	0.7	4	2.2	6	1.3
Parent or guardian	30	11.1	49	26.8	79	17.4
Grandparent	105	38.7	62	33.9	167	36.8
Siblings	3	1.1	5	2.7	8	1.8
Other family	60	22.1	26	14.2	86	18.9
Friend	47	17.3	29	15.8	76	16.7
Classmate	16	5.9	24	13.1	40	8.8
Other (non-family)	35	12.9	10	5.5	45	9.9
None	73	26.9	53	29.0	126	27.8

Note. [a] More than one option could be selected.

Table 4.2

Effect of Narrative Condition on Key Variables

Variable	Narrative Condition		t	*p*
	Eudaimonic	Control		
Willingness to engage in social support	4.50	4.55	-1.01	.312
Mixed affect	1.72	0.58	9.72	< .001
Self-transcendent emotions	4.02	4.02	0.08	.937
Connectedness	3.73	3.30	4.38	< .001
Reflective thoughts	3.57	2.92	5.99	< .001
Self-efficacy	4.17	4.13	0.50	.616
Attitudes	4.21	4.29	-1.24	.214
Moral norms	4.66	4.72	-1.33	.186

Note. Mixed affect was created by subtracting a mean negative emotion score from a mean positive emotion score. All other variables were averaged.

Table 4.3

Effect of Positivity Resonance on Key Variables

Variable	Eudaimonic Condition		t	*p*
	With positivity resonance	Without positivity resonance		
Willingness to engage in social support	4.50	4.50	0.04	.969
Mixed affect	1.64	1.80	-1.10	.271
Self-transcendent emotions	4.02	4.03	-0.13	.901
Connectedness	3.67	3.78	-1.00	.320
Reflective thoughts	3.58	3.56	0.15	.883
Self-efficacy	4.10	4.23	-1.49	.138
Attitudes	4.16	4.25	-1.04	.302
Moral norms	4.65	4.67	-0.29	.775

Note. Mixed affect was created by subtracting a mean negative emotion score from a mean positive emotion score. All other variables were averaged.

FIGURES

Figure 3.1

Advertisement Created for Social Media

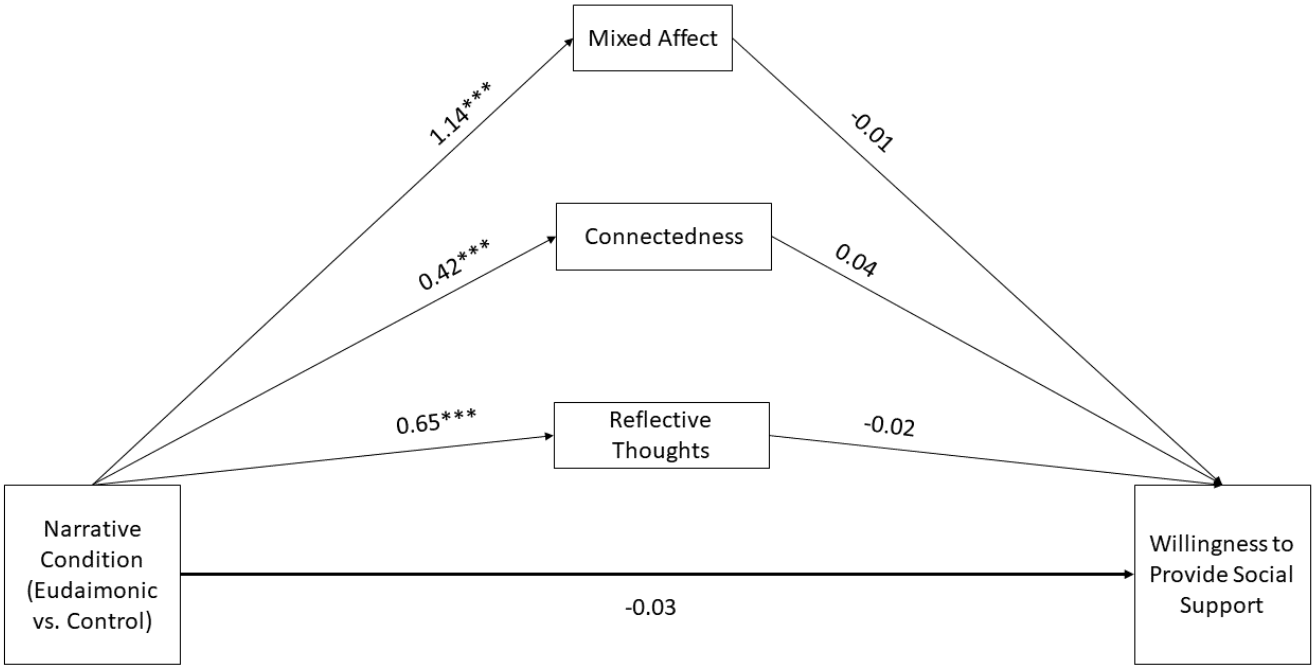
Full Recruitment Text: Researchers at the University of North Carolina are seeking people to participate in an online survey. We want to know more about the television/streaming, movie, and book consumption habits of young adults who have experienced cancer.

Figure 3.2

Advertisement Placement on Instagram

Figure 4.1

Parallel Mediation Model Comparing Effects of Eudaimonic vs. Non-Eudiamonic Narrative



APPENDIX 3.1: SURVEY MEASURES

CLOSE-ENDED ITEMS		OPEN-ENDED ITEMS			
Construct	**# of Items**	**Construct**	**# of Items**		
Screener	12				
Impact of Cancer - AYA	9				
Media Consumption	6	Cancer Storyline Responses	1		
Coping via Media	8				
Boundary Expansion	10	Explain Media Coping	1		
Fraud Checks	5				
TOTAL	78	**TOTAL**	3	**GRAND TOTAL**	**81**
Projected Time	9 min			**Projected Time**	**< 15 min**

Q#	Construct	Item	Response	Notes
		Consent and Eligibility		
	Browser information	This question will record the recipient's browser information. It will not be displayed to the user.		
0-1	Prompt	This study is about … Before we begin, we want to ask you a few questions to make sure you are eligible to participate in this study.	**[Program "no ballot stuffing" so can't repeat the screener.]**	
	Bot Detection: Qualtrics Features	Record following information (Not displayed to user) 1. IP address 2. Latitude 3. Duration 4. Recaptcha 5. RelevantIDDuplicate 6. Relevant IDFraud Score 7. Qualtrics Spam Flagger		

0-2	Age	How old are you?	**Open-ended** [content validation to only #s 10–110]	Must be 18-39 to be eligible
0-3	Diagnosis	**[Page break]** What cancer diagnosis have you received? Check all that apply.	1 = Brain tumor 2 = Breast 3 = Cervical 4 = Colon 5 = Hodgkin Lymphoma 6 = Leukemia 7 = Lung 8 = Non-Hodgkin Lymphoma 9 = Ovarian 10 = Rectal 11 = Sarcoma 12 = Testicular 13 = Thyroid 14 = Uterine/Endometrial 15 = Other [text entry] 16 = Prefer not to answer 17 = I have never had a cancer diagnosis	Must select 1-15 to be eligible
0-4	Diagnosis age	Did you receive a cancer diagnosis between the ages of 15-39?	1 = Yes 2 = No	Must select 1 to be eligible
0-5	Age	**[Page Break]** At what age were you diagnosed?	**Open-ended [content validation to only #s 10–110]**	Must be 15-39 to be eligible
0-6	Treatment status	Which of the following best describes your current treatment status?	1 = In treatment 2 = Completed treatment 3 = On-going therapies (hormonal, immunotherapy, etc.) 4 = Chronic disease (in/out of treatment) 5 = Not yet started treatment	Must select anything BUT 5 or 6 to be eligible

			6 = Prefer not to answer	
0-7	Treatment start	**[Page break; Show if Treatstatus ≠ 5 or 6]** When did you start cancer treatment? Please report as MM/DD/YYYY. If you can't remember the exact date, feel free to put "01" in the DD slots.	Open-ended	Content validated to date format
0-8	Treatment end	**[Page break; Show if Treatstatus = 2 or 3]** When did you **complete** your cancer treatment excluding ongoing or maintenance therapies? Please report MM/YYYY. If you'd like to explain further, feel free to type in the box after your response.	Open-ended	
0-09	Ethnicity	**[Page break]** Are you of Hispanic, Latino, or Spanish origin?	1 = Yes 2 = No 3 = Prefer not to answer	
0-10	Race	What race do you consider yourself to be? (*Please select all that apply*)	1 = American Indian or Alaska Native 2 = Asian 3 = Black or African American 4 = Native Hawaiian or other Pacific Islander 5 = White 6 = Other [allow text entry] 7 = Prefer not to answer	
0-11	DOB	**[Page break]** What is your date of birth? Use the MM/DD/YYYY format.	Open-ended	Content validated to date format
0-12	Gender	**[Page break]** Select the option that best describes your gender.	1=Female 2=Male 3=Nonbinary or gender queer 4=Questioning	From Noel.

			5=Prefer not to say	
0-13	Transgender	Do you identify as transgender?	1=Yes 2=No 3=Prefer not to say	From Noel.
	Ineligible	**[If participants are not eligible, then directed to the end of survey with the following message:]** Thank you for your interest in completing an online survey. Unfortunately, based on your responses, you are ineligible at this time.		Eligible if age is between 18-39 AND diagnosis is between 1-15 AND diagnosis age is Yes.
0-14	Consent	**[Page break]** See consent form. **Appendix A.**		Must be yes to continue. If no, end survey.
	EOS2	**[If participants do not consent, then directed to the end of survey with the following message:]** Thank you for your time. Because you did not consent to participate in this study, your participation is not allowed.		

#	Impact of Cancer AYA (IOC-AYA)	Response Options	Notes
Prompt	Please read the following statements and indicate how much you agree or disagree with each.		Husson & Zebrack, 2017; Only part of the entire scale – two of the four positive subscales; "Health behavior" and "Health Literacy" seemed irrelevant; In Park & George (2013)'s definition, these are **meanings made**
Sense of Purpose and Life Goals [Positive]			
1-1	I feel that I can achieve my goals in life	1 = Strongly disagree … 5 = Strongly agree	Husson & Zebrack, 2017
1-2	I have a sense of hope for the future	1 = Strongly disagree … 5 = Strongly agree	Husson & Zebrack, 2017

1-3	I feel like I have goals in my life	1 = Strongly disagree … 5 = Strongly agree	Husson & Zebrack, 2017
1-4	I feel like I have a purpose in life	1 = Strongly disagree … 5 = Strongly agree	Husson & Zebrack, 2017
Identity [Positive]			
1-5	Good things have come out of having had cancer	1 = Strongly disagree … 5 = Strongly agree	Husson & Zebrack, 2017
1-6	I learned something about myself because of having had cancer	1 = Strongly disagree … 5 = Strongly agree	Husson & Zebrack, 2017
1-7	Cancer is part of who I am, the person I am today	1 = Strongly disagree … 5 = Strongly agree	Husson & Zebrack, 2017
1-8	It is helpful for me to talk about having had cancer	1 = Strongly disagree … 5 = Strongly agree	Husson & Zebrack, 2017
1-9	I feel a special bond with people with cancer	1 = Strongly disagree … 5 = Strongly agree	Husson & Zebrack, 2017
Fraud Question			
1-10	**[Page break]** Our favorite color is Carolina Blue. Please tell us that your favorite color is red.	Open-ended question	

#	Coping through Media	Response Options	Notes
Prompt	**[Program in matrix]** Think about when you watched movies or TV shows or read books in the past three (3) months. Please indicate how much you agree or disagree with the following statements. In the following questions, **"media"** refers to movies, TV (or streaming) shows, and books, and "using" refers to watching or reading. STEM: In the past three (3) months, I've been using media to …		Meaning-making processes, which include a variety of coping strategies, such as those measured by the Brief COPE and through emotional approach coping (see Park, 2013)

Meaning-Making Coping			
3-1	Look for something good in having experienced cancer	1 = Strongly disagree … 5 = Strongly agree	Adapted from Eden et al., 2020, which adapted from Carver, 1997
3-2	Try to see cancer in a more positive light	1 = Strongly disagree … 5 = Strongly agree	Adapted from Eden et al., 2020
3-3	Reflect on the good and the bad of cancer	1 = Strongly disagree … 5 = Strongly agree	New; Added from qual interviews (Collins et al., 2022)
3-4	Find meaning in the cancer experience		Adapted from Eden et al., 2020
Emotional processing / Emotional approach coping			
3-5	Figure out what I'm really feeling about cancer		Stanton et al., 2000; Darabos et al., 2021; Emotional processing subscale only
3-6	Get a thorough understanding of my feelings about cancer		Stanton et al., 2000; Darabos et al., 2021; Emotional processing subscale only
3-7	Realize my feelings about cancer are valid and important		Stanton et al., 2000; Darabos et al., 2021; Emotional processing subscale only
3-8	Acknowledge my emotions about cancer		Stanton et al., 2000; Darabos et al., 2021; Emotional processing subscale only
Fraud Question			
3-9	**[Page break]** What is your date of birth? Use the MM/DD/YYYY format.	Open-ended	Content validated to date format

#	BOUNDARY EXPANSION	Response Options	Notes
Prompt	**[Page Break]** Think about when you watched movies or TV shows or read books in the past three (3) months. Please indicate how much you agree or disagree with the following statements. STEM: When I watched movies or TV shows or read books in the past three (3) months, I experienced what it was like to …		Khoo et al., 2021, based on Johnson et al., 2016
4-1	Have relationships between people that are different from the relationships in your life?	1 = Strongly disagree 2 = Disagree 3 = Neither agree nor disagree 4 = Agree 5 = Strongly agree	
4-2	Relate to others in ways different than you normally do yourself?	1 = Strongly disagree … 5 = Strongly agree	
4-3	Get to know people you would never otherwise know?	1 = Strongly disagree … 5 = Strongly agree	
4-4	Have skills and abilities that are different from your own?	1 = Strongly disagree … 5 = Strongly agree	
4-5	Have emotional and interpersonal skills that are different from your own?	1 = Strongly disagree … 5 = Strongly agree	
4-6	Do things the characters did, that you haven't done before?	1 = Strongly disagree … 5 = Strongly agree	
4-7	Be in a time and a place other than where you are now?	1 = Strongly disagree … 5 = Strongly agree	
4-8	Face situations and challenges other than those in your own life?	1 = Strongly disagree … 5 = Strongly agree	
4-9	Have someone else's thoughts and feelings?	1 = Strongly disagree … 5 = Strongly agree	
4-10	Be someone else (that is, one or more of the characters in the story)?	1 = Strongly disagree … 5 = Strongly agree	
Fraud Question			
4-11	**[Page break]**	Open-ended	Fraud detection question

	Our favorite animal is a Ram. Please tell us that your favorite animal is a dog.		
Coping via media: Open-ended			
4-12	**[Page break]** What are the characteristics of a narrative that has helped you cope with cancer? In other words, what is the title of the book, movie, or television show and what was it about that narrative (e.g., story, characters, imagery, etc.) that helped you?	Open-ended	New

#	CANCER MEDIA CONSUMPTION	Response Options	Notes
Prompt	**[Page Break]** Think about when you watched movies or TV shows or read books **during** your cancer treatment. How much do you agree or disagree with the following statement?		
5-1	**During cancer treatment**, I purposefully avoided media with a cancer storyline.	1 = Strongly disagree (I purposefully ***sought*** media with cancer storyline) 2 = Somewhat disagree 3 = Neither disagree nor agree 4 = Somewhat agree 5 = Strongly agree (I purposefully ***avoided*** media with cancer storyline)	NEW; Adapted from qual interviews (Collins et al., 2022)
5-2	**During cancer treatment**, I used something I saw in a movie, TV show, or book to start a conversation about my cancer experience with … Check all that apply.	1 = Family members 2 = Friends 3 = Acquaintances or Coworkers 4 = Other survivors 5 = Treatment team (oncologists, surgeons, nurses, etc.)	NEW; Adapted from qual interviews (Collins et al., 2022)

		6 = Nurse navigator/ social worker/therapist 7 = Other (please explain) 8 = I did not start a conversation	
Prompt	**[Page Break]** Think about when you watched movies or TV shows or read books **after** your cancer treatment. How much do you agree or disagree with the following statement?		
5-3	**After cancer treatment**, I purposefully avoided media with a cancer storyline.	1 = Strongly disagree (I purposefully ***sought*** media with cancer storyline) 2 = Somewhat disagree 3 = Neither disagree nor agree 4 = Somewhat agree 5 = Strongly agree (I purposefully ***avoided*** media with cancer storyline)	NEW; Adapted from qual interviews (Collins et al., 2022)
5-4	**After cancer treatment**, I used something I saw in a movie, TV show, or book to start a conversation about my cancer experience with … Check all that apply.	1 = Family members 2 = Friends 3 = Acquaintances or Coworkers 4 = Other survivors 5 = Treatment team (oncologists, surgeons, nurses, etc.) 6 = Nurse navigator/ social worker/therapist 7 = Other (please explain) 8 = I did not start a conversation	NEW; Adapted from qual interviews (Collins et al., 2022)
5-5	**[Page Break]** In your own words, how did you respond when you watched a movie or TV show or read a book **that featured a cancer storyline**? Why?	Open-ended	
Organizational Meaning-Making			

5-6	Are you connected to any local, state, or national cancer organizations? Examples are organizations such as Stupid Cancer, Young Survivor Coalition, Cactus Cancer Society, First Descents, etc.	1 = Yes 2 = No 3 = Not sure	If =1, proceed to 5-7; otherwise go to 5-9
5-7	Have you ever before participated in programming or events held by local, state, or national cancer organizations?	1 = Yes 2 = No 3 = Not Sure	If =1, proceed to 5-8; otherwise skip to 5-9
5-8	How frequently do you participate in programming held by these organizations?	1 = Never 2 = Seldom 3 = Sometimes 4 = Often 5 = Almost always	
Fraud Question			
5-9	**[Page break]** What is your date of birth? Use the MM/DD/YYYY format.	Open-ended	Content validated to date format
Compensation			
5-10	**[Page break]** Please provide your e-mail address if you'd like to be entered in a drawing for one of 80 $50 gift cards	Open-ended	MUST be in the same Qualtrics because Bot responses shouldn't be entered for the compensation

APPENDIX 3.2: BOT DETECTION & REMOVAL PROCEDURES

Question Number	Text	Response Flagged If
	Qualtrics Features	
	Qualtrics Spam Flagger	Flagged by Qualtrics
	IP address	Duplicate
	Latitude	Duplicate
	Duration	± 2 SD from M
	Recaptcha	< 0.5
	RelevantIDDuplicate	= true
	Relevant IDDuplicate Score	>= 75
	Relevant IDFraud Score	>= 30
DELETE IF:	3 or more of the above Qualtrics features are flagged	
	Additional Variables	
0-3	**[Open-ended; content validation to only #s 10–110]** How old are you?	Inconsistency between numerical age and DOB
0-11; 2-8; 3-19; 5-5	**[Open-ended; content validation to MM/DD/YYYY format]** What is your date of birth? Use the MM/DD/YYYY format.	Inconsistency across responses
2-1 – 2-3	Think about when you watched movies or TV shows or read books **during** your cancer treatment. About how often do you think you engaged with each of those media outlets?	Straight Lining: Answering all the same way to matrix items
3-1 – 3-18	Think about when you watched movies or TV shows or read books **during** your cancer treatment. Please indicate how much you agree or disagree with the following statements. In the following questions, **"media"** refers to movies, TV (or streaming) shows, and books.	Straight Lining: Answering all the same way to matrix items

DELETE IF:	Inconsistency occurs two or more times on the age and DOB variables Straight lining on one or more matrix set	
	Open-Ended Responses	
1-10	**[Open-ended question]** Our favorite color is Carolina Blue. Please tell us that your favorite color is red.	Response is anything other than red
2-7	**[Open-ended question]** In your own words, how did you respond when you watched a movie or TV show or read a book **that featured a cancer storyline**? Why?	Non-sensical or off-topic responses or more than three misspelled, yet common words (incorrect usage, such as their, there, and they're, does not count)
4-11	**[Open-ended]** Our favorite animal is a Ram. Please tell us that your favorite animal is a dog.	Response is anything other than dog
5-4	**[Open-ended]** In your own words, did watching movies or TV or reading books help you cope with cancer? If so, how?	Non-sensical or off-topic responses or more than three misspelled, yet common words (incorrect usage, such as their, there, and they're, does not count)
DELETE IF:	Any of the open-ended responses are flagged	

APPENDIX 4.1: EXPERIMENT MEASURES

TIMING GRID		
Measure	**Number of Items**	**Time**
Stimuli		~20 – 30 mins
Mixed Affect (mDES)	20	
Connectedness	9	
Reflective Thoughts	5	
Self-Transcendent Emotions	15	
Perceived Elaboration	2	
Willingness to Help	12	
Extended TPB (Attitudes, self-efficacy, and moral norm)	13	
Demographics	6	
Total ITEMS	82	~12 mins
Total TIME		~35 – 45 mins

Informed Consent & Stimuli		
Informed Consent		
	1 = I do agree to participate 2 = I **do not** agree to participate	Must = 1 to continue
Stimuli		
[Random Assignment to 1 of 3 conditions]		
TR	Finding You (with positivity resonance)	
CP	Finding You (without positivity resonance)	
CN	Abduction	

Post-Test Measures

Stimuli-Specific Questions			
Programming	**[Program each construct separately; randomize order except for perceived elaboration, which will stay constant at the end of this section]**		
mDES			
Prompt	**[Program in Matrix]** How much you agree or disagree that you experienced of each of the following feelings *while watching* the excerpt? **STEM:** While I was watching the movie, I felt …		*Modified the instructions to fit the experiment
1	Amused, fun-loving, or silly	1 = Strongly disagree 2 = Disagree 3 = Neither agree nor disagree 4 = Agree 5 = Strongly agree	Frederickson, 2013
2	Angry, irritated, or annoyed	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
3	Ashamed, humiliated, or disgraced	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
4	Awe, wonder, or amazement	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
5	Contemptuous, scornful, or disdainful	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
6	Disgust, distaste, or revulsion	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
7	Embarrassed, self-conscious, or blushing	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
8	Grateful, appreciative, or thankful	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
9	Guilty, repentant, or blameworthy	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
10	Hate, distrust, or suspicion	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
11	Hopeful, optimistic, or encouraged	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
12	Inspired, uplifted, or elevated	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
13	Interested, alert, or curious	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
14	Joyful, glad, or happy	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
15	Love, closeness, or trust	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
16	Proud, confident, or self-assured	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
17	Sad, downhearted, or unhappy	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
18	Scared, fearful, or afraid	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
19	Serene, content, or peaceful	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013
20	Stressed, nervous, or overwhelmed	1 = Strongly Disagree … 5 = Strongly Agree	Frederickson, 2013

Scoring: Use single items to assess specific emotions or create overall positive and negative emotion scores by computing the mean of 10 positive and 10 negative emotions, respectively.			
Connectedness			
Prompt	**[Page break; Program in Matrix]** Please indicate your level of agreement or disagreement with the following statements. **STEM:** The movie I just watched …		Removed 20 items; kept those that most aligned with study goals
Connectedness towards Close Others			
1	Made me realize the importance of relationships	1 = Strongly disagree 2 = Disagree 3 = Neither agree nor disagree 4 = Agree 5 = Strongly agree	Janicke & Oliver, 2017
2	Made me feel how important human bonds are	1 = Strongly Disagree … 5 = Strongly Agree	Janicke & Oliver, 2017
3	Made me think that love and kindness to others are the key to a fulfilling life	1 = Strongly Disagree … 5 = Strongly Agree	Janicke & Oliver, 2017 *Edited wording
Connectedness towards a Higher Power			
4	Made me feel like I can merge with a power or force greater than myself	1 = Strongly Disagree … 5 = Strongly Agree	Janicke & Oliver, 2017
5	Made all things appear to be part of a larger whole	1 = Strongly Disagree … 5 = Strongly Agree	Janicke & Oliver, 2017
6	Made me feel like there is a higher power connecting everything in life	1 = Strongly Disagree … 5 = Strongly Agree	Janicke & Oliver, 2017
Connectedness towards Friends			
7	Made me want to be with my friends	1 = Strongly Disagree … 5 = Strongly Agree	Janicke & Oliver, 2017 *Editing wording (family -> friends)
8	Made me thankful for my friends	1 = Strongly Disagree … 5 = Strongly Agree	Janicke & Oliver, 2017 *Editing wording (family -> friends)

9	Made me think about the importance of friends	1 = Strongly Disagree … 5 = Strongly Agree	Janicke & Oliver, 2017 *Editing wording (family -> friends)
Reflective Thoughts			
Prompt	**[Page break; Program in Matrix]** Please indicate your level of agreement or disagreement with the following statements about the clip you just viewed. **STEM:** The movie I just watched…		
1	Inspired me to think about meaningful issues	1 = Strongly Disagree 2 = Disagree 3 = Neither agree nor disagree 4 = Agree 5 = Strongly Agree	Bartsch et al., 2014; Bartsch, 2012; Bartsch et al., 2016
2	Made me think about myself	1 = Strongly Disagree … 5 = Strongly Agree	Bartsch et al., 2014; Bartsch, 2012; Bartsch et al., 2016
3	Helped me to better understand other people	1 = Strongly Disagree … 5 = Strongly Agree	Bartsch et al., 2014; Bartsch, 2012; Bartsch et al., 2016
4	Encouraged me to focus on things that are important to me	1 = Strongly Disagree … 5 = Strongly Agree	Bartsch et al., 2014; Bartsch, 2012; Bartsch et al., 2016
5	Inspired new insights for me	1 = Strongly Disagree … 5 = Strongly Agree	Bartsch et al., 2014; Bartsch, 2012; Bartsch et al., 2016
Self-Transcendent Emotions			
Prompt	Please read each statement and how much you agree or disagree that the statement reflects you.		
Compassion			
1	It's important to take care of people who are vulnerable	1 = Strongly Disagree 2 = Disagree 3 = Neither agree nor disagree 4 = Agree 5 = Strongly Agree	Shiota et al., 2006
2	When I see someone hurt or in need, I feel a powerful urge to take care of them	1 = Strongly Disagree … 5 = Strongly Agree	

3	Taking care of others gives me a warm feeling inside	1 = Strongly Disagree … 5 = Strongly Agree	
4	I often notice people who need help	1 = Strongly Disagree … 5 = Strongly Agree	
5	I am a very compassionate person	1 = Strongly Disagree … 5 = Strongly Agree	
Awe			
6	I often feel awe	1 = Strongly Disagree … 5 = Strongly Agree	Shiota et al., 2006
7	I see beauty all around me	1 = Strongly Disagree … 5 = Strongly Agree	
8	I feel wonder almost every day	1 = Strongly Disagree … 5 = Strongly Agree	
9	I often look for patterns in the objects around me	1 = Strongly Disagree … 5 = Strongly Agree	
10	I seek out experiences that challenge my understanding of the world	1 = Strongly Disagree … 5 = Strongly Agree	
Gratitude			
11	I have so much in life to be thankful for	1 = Strongly Disagree … 5 = Strongly Agree	McCullough et al., 2002
12	If I had to list everything that I felt grateful for, it would be a very long list	1 = Strongly Disagree … 5 = Strongly Agree	
13	I am grateful to a wide variety of people	1 = Strongly Disagree … 5 = Strongly Agree	
14	As I get older, I find myself more able to appreciate the people, events, and situations that have been part of my life history	1 = Strongly Disagree … 5 = Strongly Agree	
15	Long amounts of time can go by before I feel grateful to something or someone **[REVERSE SCORED]**	1 = Strongly Disagree … 5 = Strongly Agree	

Individual-Specific Questions			
Notes	**[Program each construct separately; Order of presentation constant as presented here]**		
Willingness to Engage in Support Activities			
Prompt	**[Program in Matrix]** Imagine a friend of yours has been diagnosed with cancer. Please indicate your agreement or disagreement with the following statements. **STEM:** If a friend of mine had cancer, I would …		
1	Ask about their physical health	1 = Strongly disagree 2 = Disagree 3 = Neither agree nor disagree 4 = Agree 5 = Strongly agree	New
2	Ask about their mental health	1 = Strongly disagree … 5 = Strongly agree	New
3	Spend time with them in the hospital	1 = Strongly disagree … 5 = Strongly agree	New
4	Spend time with them at home	1 = Strongly disagree … 5 = Strongly agree	New
5	Talk to or text with them on the phone	1 = Strongly disagree … 5 = Strongly agree	New
6	Go with them to appointments	1 = Strongly disagree … 5 = Strongly agree	New
7	Bring them gifts	1 = Strongly disagree … 5 = Strongly agree	New
8	Listen to them without expressing my own opinion	1 = Strongly disagree … 5 = Strongly agree	New
9	Bring them food	1 = Strongly disagree … 5 = Strongly agree	New

10	Play games with them	1 = Strongly disagree … 5 = Strongly agree	New
11	Talk about things unrelated to cancer	1 = Strongly disagree … 5 = Strongly agree	New
12	Treat them the same as I did before cancer	1 = Strongly disagree … 5 = Strongly agree	New
(Extended) Theory of Planned Behavior Constructs			
Self-Efficacy			
Prompt	Imagine that a friend of yours has been diagnosed with cancer. How much do you agree or disagree with the following statements about the types of activities mentioned in the prior section:		
1	I would be capable of providing support to my friend	1 = Strongly disagree … 5 = Strongly agree	
2	It would be easy for me to provide support to my friend	1 = Strongly disagree … 5 = Strongly agree	
3	I have complete control over the support that I would provide to my friend	1 = Strongly disagree … 5 = Strongly agree	
Attitudes Toward Behavior			
Prompt	**STEM:** Providing support to my friend would be …		
4	Unpleasant … Pleasant	1 = Unpleasant … 5 = Pleasant	Armitage & Conner, 2001; Hyde et al., 2013; Costa et al., 2020
5	Useless … Useful	1 = Useless … 5 = Useful	Armitage & Conner, 2001; Hyde et al., 2013; Costa et al., 2020
6	Not rewarding … Rewarding	1 = Not rewarding … 5 = Rewarding	Costa et al., 2020
7	Stressful … Relaxing	1 = Stressful … 5 = Relaxing	Costa et al., 2020
8	Harmful … Beneficial	1 = Harmful … 5 = Beneficial	Armitage & Conner, 2001; Hyde et al., 2013; Costa et al., 2020
9	Unnecessary … Necessary	1 = Unnecessary … 5 = Necessary	Armitage & Conner, 2001; Hyde et al., 2013; Costa et al., 2020
Moral Norm			
Prompt	**[Program in Matrix]**		

	STEM: Providing support to my friend is …		
10	A moral obligation I have	1 = Strongly disagree … 5 = Strongly agree	Armitage & Conner, 2001; Hyde et al., 2013; Costa et al., 2020
11	In accordance with my principles	1 = Strongly disagree … 5 = Strongly agree	Armitage & Conner, 2001; Hyde et al., 2013; Costa et al., 2020
12	Aligned with my values	1 = Strongly disagree … 5 = Strongly agree	Armitage & Conner, 2001; Hyde et al., 2013; Costa et al., 2020
Demographics			
Prompt	**[Page Break]** Finally, please answer the following demographic questions. Don't leave the questionnaire before entering your names and PIDs for research pool credit.		
1	How old are you? Please answer in whole numbers only.	**Open-ended** [content validation to only #s 10–110]	
2	**[Page break]** Are you of Hispanic, Latino, or Spanish origin?	1 = Yes 2 = No 3 = Prefer not to say	
3	What race do you consider yourself to be? (*Please select all that apply*)	1 = American Indian or Alaska Native 2 = Asian 3 = Black or African American 4 = Native Hawaiian or other Pacific Islander 5 = White 6 = Other [allow text entry] 7 = Prefer not to say	
4	**[Page break]** Select the option that best describes your gender.	1=Female 2=Male 3=Nonbinary or gender queer 4=Questioning 5=Prefer not to say	From Noel.

5	Do you identify as transgender?	1=Yes 2=No 3=Prefer not to say	From Noel.
6	**[Page Break]** We'd like to know about your experience with cancer. Have you, anyone in your family, or any of your friends been diagnosed with cancer? Please check all that apply.	1 = Yes, Self 2 = Yes, Parent or guardian 3 = Yes, Grandparent 4 = Yes, Sibling(s) 5 = Yes, Other family member (write in) 6 = Yes, Friend 7 = Yes, Classmate 8 = Yes, Other non-family member (write in) 8 = No 9 = Prefer not to say	
Research Pool Information			
Prompt	**[Page Break; Send to separate Qualtrics to collect names and PIDs for the research pool]** The following information is being collected so that you get credit for participating in the research pool. This information will not be stored with your responses, and it will be deleted once the semester is over.		
1	**Please enter your LAST NAME**	Open-ended	
2	**Please enter your FIRST NAME**	Open-ended	
3	**Please enter your UNC PID NUMBER**	Open-ended	

REFERENCES

Abrahao, R., Huynh, J. C., Benjamin, D. J., Li, Q. W., Winestone, L. E., Muffly, L., & Keegan, T. H. M. (2021). Chronic medical conditions and late effects after acute myeloid leukaemia in adolescents and young adults: A population-based study. *International Journal of Epidemiology*, *50*(2), 663-674. https://doi.org/10.1093/ije/dyaa184

Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the Theory of Planned Behavior. *Journal of Applied Social Psychology*, *32*(4), 665-683. https://doi.org/10.1111/j.1559-1816.2002.tb00236.x

Ajzen, I. (2015). The theory of planned behaviour is alive and well, and not ready to retire: a commentary on Sniehotta, Presseau, and Araujo-Soares. *Health Psychol Rev*, *9*(2), 131-137. https://doi.org/10.1080/17437199.2014.883474

Algoe, S. B., & Haidt, J. (2009). Witnessing excellence in action: the 'other-praising' emotions of elevation, gratitude, and admiration. *Journal of Positive Psychology, 4*(2), 105-127. https://doi.org/10.1080/17439760802650519

Armenta, C. N., Fritz, M. M., & Lyubomirsky, S. (2017). Functions of positive emotions: Gratitude as a motivator of self-improvement and positive change. *Emotion Review, 9*(3), 183-190. https://doi.org/10.1177/1754073916669596

Armitage, C. J., & Conner, M. (2001). Social cognitive determinants of blood donation. *Journal of Applied Social Psychology*, *31*(7), 1431-1457. https://doi.org/10.1111/j.1559-1816.2001.tb02681.x

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*(5), 469-480. https://doi.org/10.1037/0003-066x.55.5.469

Arnett, J. J. (2001). Conceptions of the transition to adulthood: Perspectives from adolescence through midlife. *Journal of Adult Development, 8*(2), 133 - 143.

Arnett, J. J. (2015). College students as emerging adults. *Emerging Adulthood, 4*(3), 219-222. https://doi.org/10.1177/216769681558742

Aubin, S., Rosberger, Z., Hafez, N., Noory, M. R., Perez, S., Lehmann, S., Batist, G., & Kavan, P. (2019). Cancer!? I don't have time for that: Impact of a psychosocial intervention for young adults with cancer. *Journal of Adolescent & Young Adult Oncology*, *8*(2), 172-189. https://doi.org/10.1089/jayao.2017.0101

Austenfeld, J. L., & Stanton, A. L. (2004). Coping through emotional approach: A new look at emotion, coping, and health-related outcomes. *Journal of Personality*, *72*(6), 1335-1363. https://doi.org/10.1111/j.1467-6494.2004.00299.x

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*. Prentice-Hall.

Bartsch, A. (2012). Emotional gratification in entertainment experience: Why viewers of movies and television series find it rewarding to experience emotions. *Media Psychology, 15*(3), 267-302. https://doi.org/10.1080/15213269.2012.693811

Bartsch, A., Kalch, A., & Oliver, M. B. (2014). Moved to think: The role of emotional media experiences in stimulating reflective thoughts. *Journal of Media Psychology, 26*(3), 125-140. https://doi.org/10.1027/1864-1105/a000118

Bartsch, A., Oliver, M. B., Nitsch, C., & Scherr, S. (2016). Inspired by the Paralympics: Effects of empathy on audience interest in para-sports and on the destigmatization of persons with disabilities. *Communication Research, 45*(4), 525-553. https://doi.org/10.1177/0093650215626984

Baugh, B. (Director). (2021). *Finding you* [Film]. Red Sky Studios.

Bell, C. J., Spruit, J. L., & Kavanaugh, K. L. (2020). Exposing the risks of social media recruitment in adolescents and young adults with cancer: #Beware. *Journal of Adolescent and Young Adult Oncology, 9*(5), 601 - 607.

Benish-Weisman, M., Wu, L. M., Weinberger-Litman, S. L., Redd, W. H., Duhamel, K. N., & Rini, C. (2014). Healing stories: Narrative characteristics in cancer survivorship narratives and psychological health among hematopoietic stem cell transplant survivors. *Palliative & Supportive Care, 12*(4), 261-267. https://doi.org/10.1017/S1478951513000205

Bonus, J. A., Watts, J., & Francemone, C. J. (2022). When "meaningless" means more: Biographic resonance and audience appreciation of popular entertainment. *Journal of Communication*. https://doi.org/10.1093/joc/jqac028

Bradford, N. K., McDonald, F. E. J., Bibby, H., Kok, C., & Patterson, P. (2022). Psychological, functional and social outcomes in adolescent and young adult cancer survivors over time: A systematic review of longitudinal studies *Psycho-Oncology*, *31*(9), 1448-1458. https://doi.org/10.1002/pon.5987

Breuer, N., Sender, A., Daneck, L., Mentschke, L., Leuteritz, K., Friedrich, M., Nowe, E., Stobel-Richter, Y., & Geue, K. (2017). How do young adults with cancer perceive social support? A qualitative study. *Journal of Psychosocial Oncology, 35*(3), 292-308. https://doi.org/10.1080/07347332.2017.1289290

Briñol, P., & Petty, R. E. (2006). Fundamental processes leading to attitude change: Implications for cancer prevention communications. *Journal of Communication, 56*(Suppl_1), S81-S104. https://doi.org/10.1111/j.1460-2466.2006.00284.x

Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the brief COPE. *International Journal of Behavioral Medicine, 4*(1), 92 - 100.

Chung, A. H., & Slater, M. D. (2013). Reducing stigma and out-group distinctions through perspective-taking in narratives. *Journal of Communication*, 894-911. https://doi.org/10.1111/jcom.12050

Clayton, R. B., Raney, A. A., Oliver, M. B., Neumann, D., Janicke-Bowles, S. H., & Dale, K. R. (2019). Feeling transcendent? Measuring psychophysiological responses to self-transcendent media content. *Media Psychology, 24*(3), 359-384. https://doi.org/10.1080/15213269.2019.1700135

Coletti, D. J., & Kane, N. S. (2016). Assessing and enhancing psychosocial functioning. In *Care of adults with chronic childhood conditions* (pp. 365-376). https://doi.org/10.1007/978-3-319-43827-6_25

Collins, M. K. R., Lazard, A. J., Hedrick McKenzie, A. M., & Varma, T. (2023). "It's nothing like cancer": Young adults with cancer reflect on memorable entertainment narratives. Health Communication, 1-11. https://doi.org/10.1080/10410236.2023.2174403

Costa, A. R., Alves, H., & Paço, A. (2020). Explanatory factors of blood-giving in young adults: An extended theory of planned behaviour model. *International Journal of Nonprofit and Voluntary Sector Marketing*, *25*(4), Article e1674. https://doi.org/10.1002/nvsm.1674

Dale, K. R., Janicke-Bowles, S. H., Raney, A. A., Oliver, M. B., Huse, L. K., Lopez, J., Reed, A., Seibert, J., & Zhao, D. (2020). Awe and stereotypes: Examining awe as an intervention against stereotypical media portrayals of African Americans. *Communication Studies, 71*(4), 699-707. https://doi.org/10.1080/10510974.2020.1754264

Darabos, K., Berger, A. J., & Ford, J. S. (2021). "Empathy without sympathy": An analysis of support-related preferences among young adult cancer survivors. *Journal of Psychosococial Oncology*, 1-16. https://doi.org/10.1080/07347332.2021.1914271

Darabos, K., & Ford, J. S. (2020). "Basically, you had cancer and now you don't": Exploring the meaning of being a "cancer survivor" among adolescents and young adult cancer survivors. *Journal of Adolescent & Young Adult Oncology, 9*(4), 534-539. https://doi.org/10.1089/jayao.2019.0176

Darabos, K., Renna, M. E., Wang, A. W., Zimmermann, C. F., & Hoyt, M. A. (2020). Emotional approach coping among young adults with cancer: Relationships with psychological distress, posttraumatic growth, and resilience. *Psychooncology*. https://doi.org/10.1002/pon.5621

Das, E., Nobbe, T., & Oliver, M. B. (2017). Moved to act: Examing the role of mixed affect and cognitive elaboration in "accidental" narrative persuasion. *International Journal of Communication, 11*, 4907 - 4923.

de Leeuw, R. N. H., van Woudenberg, T. J., Green, K. H., Sweijen, S. W., van de Groep, S., Kleemans, M., Tamboer, S. L., Crone, E. A., & Buijzen, M. (2022). Moral beauty during the COVID-19 pandemic: Prosocial behavior among adolescents and the inspiring role of the media. *Communication Research*. https://doi.org/10.1177/00936502221112804

Devine, K. A., Viola, A. S., Coups, E. J., & Wu, Y. P. (2018). Digital health interventions for adolescent and young adult cancer survivors. *JCO Clinical Cancer Informatics, 2*, 1-15. https://doi.org/10.1200/cci.17.00138

Eden, A. L., Johnson, B. K., Reinecke, L., & Grady, S. M. (2020). Media for coping during COVID-19 social distancing: Stress, anxiety, and psychological well-being. *Frontiers in Psychology, 11*(3388). https://doi.org/10.3389/fpsyg.2020.577639

Ellithorpe, M. E., Ewoldsen, D. R., & Oliver, M. B. (2015). Elevation (sometimes) increases altruism: Choice and number of outcomes in elevating media effects. *Psychology of Popular Media Culture, 4*(3), 236-250. https://doi.org/10.1037/ppm0000023

Elsbernd, A., Pedersen, K. J., Boisen, K. A., Midtgaard, J., & Larsen, H. B. (2018). "On your own": Adolescent and young adult cancer survivors' experience of managing return to secondary or higher education in Denmark. *Journal of Adolescent and Young Adult Oncology, 7*(5), 618-625. https://doi.org/10.1089/jayao.2018.0058

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*(2), 175-191.

Fitzgerald, K., Green, M. C., & Paravati, E. (2020). Restorative narratives: Using narrative trajectory for prosocial outcomes. *The Journal of Public Interest Communications, 4*(2). https://doi.org/10.32473/jpic.v4.i2.p51

Frederickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*(3), 218 - 226.

Frederickson, B. L. (2016). Love: Positivity resonance as a fresh, evidence-based perspective on an age-old topic. In L. F. Barrett, M. Lewis, & J. M. Haviland-Jones (Eds.), *Handbook of Emotions* (4th ed. ed., pp. 847 - 858). Guilford Press.

Fredrickson, B. L. (2013). Positive emotions broaden and build. In P. Devine & A. Plant (Eds.), *Advances in Experimental Social Psychology* (Vol. 47, pp. 1-53). Elsevier. https://doi.org/10.1016/b978-0-12-407236-7.00001-2

Giles, M., McClenahan, C., Cairns, E., & Mallet, J. (2004). An application of the Theory of Planned Behaviour to blood donation: The importance of self-efficacy. *Health Education Research*, *19*(4), 380-391. https://doi.org/10.1093/her/cyg063

Gotze, H., Taubenheim, S., Dietz, A., Lordick, F., & Mehnert, A. (2018). Comorbid conditions and health-related quality of life in long-term cancer survivors: Associations with demographic and medical characteristics. *Journal of Cancer Survivorship*, *12*(5), 712-720. https://doi.org/10.1007/s11764-018-0708-6

Graetz, D., Fasciano, K., Rodriguez-Galindo, C., Block, S. D., & Mack, J. W. (2019). Things that matter: Adolescent and young adult patients' priorities during cancer care. *Pediatric Blood Cancer, 66*(9), e27883. https://doi.org/10.1002/pbc.27883

Green, M. C., & Brock, T. C. (2000). The role of transportation in the persuasiveness of public narratives. *Journal of Personality and Social Psychology, 79*(5), 701-721. https://doi.org/10.1037//0022-3514.79.5.701

Green, M. C., Garst, J., Brock, T. C., & Chung, S. (2006). Fact versus fiction labeling: Persuasion parity despite heightened scrutiny of fact. *Media Psychology, 8*(3), 267-285. https://doi.org/10.1207/s1532785xmep0803_4

Greup, S. R., Kaal, S. E. J., Jansen, R., Manten-Horst, E., Thong, M. S. Y., van der Graaf, W. T. A., Prins, J. B., & Husson, O. (2018). Post-traumatic growth and resilience in adolescent and young adult cancer patients: An overview. *Journal of Adolescent and Young Adult Oncology, 7*(1), 1-14. https://doi.org/10.1089/jayao.2017.0040

Griffin, M., Martino, R. J., LoSchiavo, C., Comer-Carruthers, C., Krause, K. D., Stults, C. B., & Halkitis, P. N. (2021). Ensuring survey research data integrity in the era of internet bots. *Quality & Quantity*, 1-12. https://doi.org/10.1007/s11135-021-01252-1

Hadden, B. W., & Smith, C. V. (2017). I gotta say, today was a good (and meaningful) day: Daily meaning in life as a potential basic psychological need. *Journal of Happiness Studies, 20*(1), 185-202. https://doi.org/10.1007/s10902-017-9946-y

Hagen, B., Grant-Kalischuk, R., & Sanders, J. (2007). Disappearing floors and second chances: Men's journeys of prostate cancer. *International Journal of Men's Health*, *6*(3), 201 - 223.

Haluska, H. B., Jessee, P. O., & Nagy, M. C. (2002). Sources of social support: Adolescents with cancer. *Oncology Nursing Forum, 29*(9), 1317-1324. https://doi.org/10.1188/02.ONF.1317-1324

Hammond, C., & Teucher, U. (2017). An abundance of selves: Young adults' narrative identities while living with cancer. *Cancer Nursing, 40*(1), 58-65. https://doi.org/10.1097/ncc.0000000000000344

Hanghoj, S., Pappot, H., Hjalgrim, L. L., Hjerming, M., Visler, C. L., & Boisen, K. A. (2019). Helping others: Reasons for participation in service user involvement initiatives from the perspective of adolescents and young adults with cancer. *Journal of Adolescent and Young Adult Oncology, 8*(5), 534-539. https://doi.org/10.1089/jayao.2019.0014

Harder, O. (2010). Network focused nursing: Development of a new concept. *Advances in Nursing Science, 33*(4), 272 - 284.

Hastert, T. A., McDougall, J. A., Strayhorn, S. M., Nair, M., Beebe-Dimmer, J. L., & Schwartz, A. G. (2021). Social needs and health-related quality of life among African American cancer survivors: Results from the Detroit Research on Cancer Survivors study. *Cancer*, *127*(3), 467-475. https://doi.org/10.1002/cncr.33286

Hauken, M. A., & Larsen, T. M. B. (2019). Young adult cancer patients' experiences of private social network support during cancer treatment. *Journal of Clinical Nursing, 28*(15-16), 2953-2965. https://doi.org/10.1111/jocn.14899

Hayes, A. F. (2005). *Statistical methods for communication science*. Lawrence Erlbaum Associates.

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). The Guilford Press.

Head, K. J., & Iannarino, N. T. (2019). "It changed our outlook on how we want to live": Cancer as a transformative health experience for young adult survivors and their family members. *Qualitative Health Research, 29*(3), 404-417. https://doi.org/10.1177/1049732318800674

Hoffman, M. A., Lent, R. W., & Raque-Bogdan, T. L. (2012). A social cognitive perspective on coping with cancer. *The Counseling Psychologist*, *41*(2), 240-267. https://doi.org/10.1177/0011000012461378

Hong, J. M., & Lee, W. N. (2020). The stages-of-change approach for prosocial behavior: Message tailoring to encourage blood donation. *Journal of Applied Social Psychology*, *51*(3), 219-236. https://doi.org/10.1111/jasp.12727

Huang, I. C., Jones, C. M., Brinkman, T. M., Hudson, M. M., Srivastava, D. K., Li, Y., Robison, L. L., & Krull, K. R. (2018). Development of the functional social network index for adolescent and young adult cancer survivors. *Cancer, 124*(10), 2220-2227. https://doi.org/10.1002/cncr.31278

Husson, O., & Zebrack, B. (2017a). Perceived impact of cancer among adolescents and young adults: Relationship with health-related quality of life and distress. *Psycho-Oncology, 26*, 1307 - 1315.

Husson, O., & Zebrack, B. (2017b). Psychometric evaluation of an adolescent and young adult module of the impact of cancer instrument. *Journal of Adolescent and Young Adult Oncology, 6*(7), 159 - 170.

Husson, O., Zebrack, B. J., Aguilar, C., Hayes-Lattin, B., & Cole, S. (2017). Cancer in adolescents and young adults: Who remains at risk of poor social functioning over time? *Cancer, 123*(14), 2743-2751. https://doi.org/10.1002/cncr.30656

Hyde, M. K., Knowles, S. R., & White, K. M. (2013). Donating blood and organs: Using an extended theory of planned behavior perspective to identify similarities and differences in individual motivations to donate. *Health Education Research*, *28*(6), 1092-1104. https://doi.org/10.1093/her/cyt078

Iannarino, N. T. (2018). "It's my job now, I guess": Biographical disruption and communication work in supporters of young adult cancer survivors. *Communication Monographs, 85*(4), 491-514. https://doi.org/10.1080/03637751.2018.1468916

Iannarino, N. T., Scott, A. M., & Shaunfield, S. L. (2017). Normative social support in young adult cancer survivors. *Qualitative Health Research, 27*(2), 271-284. https://doi.org/10.1177/1049732315627645

Janicke-Bowles, S. H. (2020). Self-centeredness as a response to narratives with few self-transcendent elicitors. *Communication Research Reports, 37*(4), 137-148. https://doi.org/10.1080/08824096.2020.1789579

Janicke-Bowles, S. H., Raney, A. A., Oliver, M. B., Dale, K. R., Jones, R. P., & Cox, D. (2019). Exploring the spirit in U.S. audiences: The role of the virtue of transcendence in inspiring media consumption. *Journalism & Mass Communication Quarterly, 98*(2), 428-450. https://doi.org/10.1177/1077699019894927

Janicke Bowles, S. H., & Oliver, M. B. (2017). The relationship between elevation, connectedness, and compassionate love in meaningful films. *Psychology of Popular Media Culture, 6*(3), 274 - 289.

Janicke, S. H., & Ramasubramanian, S. (2017). Spiritual media experiences, trait transcendence, and enjoyment of popular films. *Journal of Media and Religion, 16*(2), 51-66. https://doi.org/10.1080/15348423.2017.1311122

Janin, M. M. H., Ellis, S. J., Wakefield, C. E., & Fardell, J. E. (2018). Talking about cancer among adolescent and young adult cancer patients and survivors: A systematic review. *Journal of Adolescent and Young Adult Oncology, 7*(5), 515-524. https://doi.org/10.1089/jayao.2017.0131

Johnson, B. K., Ewoldsen, D. R., & Slater, M. D. (2015). Self-control depletion and narrative: Testing a prediction of the TEBOTS model. *Media Psychology, 18*(2), 196-220. https://doi.org/10.1080/15213269.2014.978872

Johnson, B. K., Slater, M. D., Silver, N. A., & Ewoldsen, D. R. (2016). Entertainment and expanding boundaries of the self: Relief from the constraints of the everyday. *Journal of Communication, 66*(3), 386-408. https://doi.org/10.1111/jcom.12228

Jones, J. (2011). *There you'll find me*. Nelson, Thomas, Inc.

Jones, J. K., Kamani, S. A., Bush, P. J., Hennessy, K. A., Marfatia, A., & Shad, A. T. (2010). Development and evaluation of an educational interactive CD-ROM for teens with cancer. *Pediatric Blood Cancer*, *55*(3), 512-519. https://doi.org/10.1002/pbc.22608

Junkins, C. C., Kent, E., Litzelman, K., Bevans, M., Cannady, R. S., & Rosenberg, A. R. (2020). Cancer across the ages: A narrative review of caregiver burden for patients of all ages. *Journal of Psychosocial Oncology, 38*(6), 782-798. https://doi.org/10.1080/07347332.2020.1796887

Kaluarachchi, T., McDonald, F., Patterson, P., & Newton-John, T. R. O. (2020). Being a teenager and cancer patient: What do adolescents and young adults with cancer find valuable and challenging with their friends and cancer peers? *Journal of Psychosocial Oncology, 38*(2), 195-209. https://doi.org/10.1080/07347332.2019.1672847

Kaul, S., Avila, J. C., Mutambudzi, M., Russell, H., Kirchhoff, A. C., & Schwartz, C. L. (2017). Mental distress and health care use among survivors of adolescent and young adult cancer: A cross-sectional analysis of the National Health Interview Survey. *Cancer, 123*(5), 869-878. https://doi.org/10.1002/cncr.30417

Kay, J. S., Juth, V., Silver, R. C., & Sender, L. S. (2019). Support and conflict in relationships and psychological health in adolescents and young adults with cancer. *Journal of Health Psychology, 24*(4), 502-517. https://doi.org/10.1177/1359105316676629

Kent, E. E., Parry, C., Montoya, M. J., Sender, L. S., Morris, R. A., & Anton-Culver, H. (2012). "You're too young for this": Adolescent and young adults' perspectives on cancer survivorship. *Journal of Psychosocial Oncology, 30*(2), 260 - 279.

Kent, E. E., Smith, A. W., Keegan, T. H., Lynch, C. F., Wu, X. C., Hamilton, A. S., Kato, I., Schwartz, S. M., & Harlan, L. C. (2013). Talking about cancer and meeting peer survivors: Social information needs of adolescents and young adults diagnosed with cancer. *Journal of Adolescent and Young Adult Oncology, 2*(2), 44-52. https://doi.org/10.1089/jayao.2012.0029

Khoo, G. S. (2016). Contemplating tragedy raises gratifications and fosters self-acceptance. *Human Communication Research, 42*, 269 - 291.

Khoo, G. S., Oh, J., & Nah, S. (2021). Staying-at-home with tragedy: Self-expansion through narratives promotes positive coping with identity threat. *Human Communication Research, 47*(3), 309-334. https://doi.org/10.1093/hcr/hqab005

Knobloch-Westerwick, S., Gong, Y., Hagner, H., & Kerbeykian, L. (2012). Tragedy viewers count their blessings: Feeling low on fiction leads to feeling high on life. *Communication Research, 40*(6), 747-766. https://doi.org/10.1177/0093650212437758

Koenig Kellas, J., Castle, K. M., Johnson, A. Z., & Cohen, M. Z. (2021). Cancer as communal: Understanding communication and relationships from the perspectives of survivors, family caregivers, and health care providers. *Health Communication, 36*(3), 280-292. https://doi.org/10.1080/10410236.2019.1683952

Kumar, A. R., & Schapira, L. (2013). The impact of intrapersonal, interpersonal, and community factors on the identity formation of young adults with cancer: A qualitative study. *Psychooncology, 22*(8), 1753-1758. https://doi.org/10.1002/pon.3207

Lacalle, C. (2015). Young people and television fiction: Reception analysis. *Communications, 40*(2), 237 - 255. https://doi.org/10.1515/commun-2015-0006

Lacalle, C., & Simelio, N. (2017). Television fiction and online communities: An analysis of comments on social networks and forums made by female viewers. *Critical Studies in Media Communication, 34*(5), 449-463. https://doi.org/10.1080/15295036.2017.1358820

Laing, C. M., Moules, N. J., Estefan, A., & Lang, M. (2017). Stories that heal: Understanding the effects of creating digital stories with pediatric and adolescent young adult oncology patients. *Journal of Pediatric Oncology Nursing, 34*(4), 272 - 282.

Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: A practical primer for t-tests and ANOVAs. *Frontiers in Psychology*, *4*, 863. https://doi.org/10.3389/fpsyg.2013.00863

Landis, S. K., Sherman, M. F., Piedmont, R. L., Kirkhart, M. W., Rapp, E. M., & Bike, D. H. (2009). The relation between elevation and self-reported prosocial behavior: Incremental validity over the Five-Factor Model of Personality. *The Journal of Positive Psychology, 4*(1), 71-84. https://doi.org/10.1080/17439760802399208

Lang, M. J., Dort, J. C., Stephen, J., Lamont, L., & Giese-Davis, J. (2020). Narrative-informed, emotion-focused psychotherapy in synchronous, online chat groups for adolescents and young adults with cancer: A proof-of-concept study. *Journal of Adolescent & Young Adult Oncology, 9*(6), 676-682. https://doi.org/10.1089/jayao.2020.0030

Lazard, A. J., Collins, M. K. R., Hedrick, A., Horrell, L. N., Varma, T., Love, B., Valle, C. G., & Benedict, C. (2021). Initiation and changes in use of social media for peer support among young adult cancer patients and survivors. *Psychooncology*. https://doi.org/10.1002/pon.5758

Lazard, A. J., Collins, M. K. R., Hedrick, A., Varma, T., Love, B., Valle, C. G., Brooks, E., & Benedict, C. (2021, Sep 2). Using social media for peer-to-peer cancer support: Interviews with young adults with cancer. *JMIR Cancer, 7*(3), e28234. https://doi.org/10.2196/28234

Lea, S., Gibson, F., & Taylor, R. M. (2019). The culture of young people's cancer care: A narrative review and synthesis of the UK literature. *European Journal of Cancer Care, 28*(3), e13099. https://doi.org/10.1111/ecc.13099

Lea, S., Martins, A., Fern, L. A., Bassett, M., Cable, M., Doig, G., Morgan, S., Soanes, L., Whelan, M., & Taylor, R. M. (2020). The support and information needs of adolescents and young adults with cancer when active treatment ends. *BMC Cancer, 20*(1), 697. https://doi.org/10.1186/s12885-020-07197-2

Lenhart, J., Dangel, J., & Richter, T. (2020). The relationship between lifetime book reading and empathy in adolescents: Examining transportability as a moderator. *Psychology of Aesthetics, Creativity, and the Arts*. https://doi.org/10.1037/aca0000341

Lepore, S. J., & Revenson, T. A. (2007). Social constraints on disclosure and adjustment to cancer. *Social and Personality Psychology Compass, 1*(1), 313 - 333.

Madill, A., & Goldmeier, R. (2003). *EastEnders*: Texts of female desire and community. *International Journal of Cultural Studies, 6*(4), 471 - 494.

Mar, R. A., & Oatley, K. (2008). The function of fiction is the abstraction and simulation of social experience. *Perspectives on Psychological Science, 3*(3), 173 - 192.

Mar, R. A., Oatley, K., Hirsh, J., dela Paz, J., & Peterson, J. B. (2006). Bookworms versus nerds: Exposure to fiction versus non-fiction, divergent associations with social ability, and the simulation of fictional social worlds. *Journal of Research in Personality, 40*(5), 694-712. https://doi.org/10.1016/j.jrp.2005.08.002

McCarthy, M. C., McNeil, R., Drew, S., Dunt, D., Kosola, S., Orme, L., & Sawyer, S. M. (2016). Psychological distress and posttraumatic stress symptoms in adolescents and young adults with cancer and their parents. *Journal of Adolescent and Young Adult Oncology, 5*(4), 322-329. https://doi.org/10.1089/jayao.2016.0015

McCullough, M. E., Emmons, R. A., & Tsang, J. A. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology, 82*(1), 112-127. https://doi.org/10.1037//0022-3514.82.1.112

McDonnell, G. A., Shuk, E., & Ford, J. S. (2020). A qualitative study of adolescent and young adult cancer survivors' perceptions of family and peer support. *Journal of Health Psychology, 25*(5), 713-726. https://doi.org/10.1177/1359105318769366

Moreton, S. G., Arena, A., Hornsey, M. J., Crimston, C. R., & Tiliopoulos, N. (2019). Elevating nature: Moral elevation increases feelings of connectedness to nature. *Journal of Environmental Psychology, 65*(101332).

Moy, P., & Murphy, J. (2016). Problems and prospects in survey research. *Journalism & Mass Communication Quarterly, 93*(1), 16 - 37. https://doi.org/10.1177/1077699016631108

Moyer-Gusé, E. (2008). Toward a theory of entertainment persuasion: Explaining the persuasive effects of entertainment-education messages. *Communication Theory*, *18*(3), 407- 425. https://doi.org/10.1111/j.1468-2885.2008.00328.x

Moyer-Gusé, E., Jain, P., & Chung, A. H. (2012). Reinforcement or reactance? Examining the effect of an explicit persuasive appeal following an entertainment-education narrative. *Journal of Communication*, *62*(6), 1010-1027. https://doi.org/10.1111/j.1460-2466.2012.01680.x

Murphy, C. C., Lupo, P. J., Roth, M. E., Winick, N. J., & Pruitt, S. L. (2021). Disparities in cancer survival among adolescents and young adults: A population-based study of 88000 patients. *Journal of the National Cancer Institute*, *113*(8), 1074-1083. https://doi.org/10.1093/jnci/djab006

Myrick, J. G., & Pavelko, R. L. (2017). Examining differences in audience recall and reaction between mediated portrayals of mental illness as trivializing versus stigmatizing. *Journal of Health Communication*, *22*(11), 876-884. https://doi.org/10.1080/10810730.2017.1367338

Nabi, R., & Prestin, A. (2020). Media prescriptions: Exploring the therapeutic effects of entertainment media on stress relief, illness symptoms, and goal attainment. *Journal of Communication, 70*(2), 145-170. https://doi.org/10.1093/joc/jqaa001

Nabi, R. L., Pérez Torres, D., & Prestin, A. (2017). Guilty pleasure no more: The relative importance of media use for coping with stress. *Journal of Media Psychology, 29*(3), 126-136. https://doi.org/10.1027/1864-1105/a000223

Nabi, R. L., Prestin, A., & So, J. (2016). Could watching TV be good for you? Examining how media consumption patterns relate to salivary cortisol. *Health Communication, 31*(11), 1345-1355. https://doi.org/10.1080/10410236.2015.1061309

Nabi, R. L., Wolfers, L. N., Walter, N., & Qi, L. (2022). Coping with COVID-19 stress: The role of media consumption in emotion-and problem-focused coping. *Psychology of Popular Media*.

National Cancer Institute. (2022). *Survivorship terms*. U.S. Department of Health and Human Services, National Institutes of Health. https://cancercontrol.cancer.gov/ocs/definitions

Neubaum, G., Krämer, N. C., & Alt, K. (2020). Psychological effects of repeated exposure to elevating entertainment: An experiment over the period of 6 weeks. *Psychology of Popular Media, 9*(2), 194-207. https://doi.org/10.1037/ppm0000235

Odh, I., Lofving, M., & Klaeson, K. (2016). Existential challenges in young people living with a cancer diagnosis. *European Journal of Oncology Nursing, 24*, 54 - 60.

O'Keefe, D. J. (2003). Message properties, mediating states, and manipulation checks: Claims, evidence, and data analysis in experimental persuasive message effects research. *Communication Theory*, *13*(3), 251 - 274.

Oliver, M. B., Hartmann, T., & Woolley, J. K. (2012). Elevation in response to entertainment portrayals of moral virtue. *Human Communication Research, 38*(3), 360-378. https://doi.org/10.1111/j.1468-2958.2012.01427.x

Oliver, M. B., Kim, K., Hoewe, J., Chung, M. Y., Ash, E., Woolley, J. K., & Shade, D. D. (2015). Media-induced elevation as a means of enhancing feelings of intergroup connectedness. *Journal of Social Issues, 71*(1), 106-122. https://doi.org/10.1111/josi.12099

Oliver, M. B., & Raney, A. A. (2011). Entertainment as pleasurable and meaningful: Identifying hedonic and eudaimonic motivations for entertainment consumption. *Journal of Communication, 61*, 984 - 1004.

Oliver, M. B., Raney, A. A., Bartsch, A., Janicke Bowles, S. H., Appel, M., & Dale, K. R. (2021). Model of inspiring media. *Journal of Media Psychology, 33*(4), 191 - 201.

Oliver, M. B., Raney, A. A., Slater, M. D., Appel, M., Hartmann, T., Bartsch, A., Schneider, F. M., Janicke-Bowles, S. H., Krämer, N., Mares, M. L., Vorderer, P., Rieger, D., Dale, K. R., & Das, E. (2018). Self-transcendent media experiences: Taking meaningful media to a higher level. *Journal of Communication, 68*(2), 380-389. https://doi.org/10.1093/joc/jqx020

Olsen, P. R., & Harder, I. (2009). Keeping their world together: Meanings and actions created through network-focused nursing in teenager and young adult cancer care. *Cancer Nursing, 32*(6), 493 - 502.

Olsen, P. R., & Harder, I. (2011, Apr). Caring for teenagers and young adults with cancer: A grounded theory study of network-focused nursing. *Eur J Oncol Nurs, 15*(2), 152-159. https://doi.org/10.1016/j.ejon.2010.07.010

Park, C. L., Edmondson, D., Fenster, J. R., & Blank, T. O. (2008). Meaning making and psychological adjustment following cancer: The mediating roles of growth, life meaning, and restored just-world beliefs. *Journal of Consulting and Clinical Psychology*, *76*(5), 863-875. https://doi.org/10.1037/a0013348

Park, C. L., & George, L. S. (2013). Assessing meaning and meaning making in the context of stressful life events: Measurement tools and approaches. *The Journal of Positive Psychology*, *8*(6), 483-504. https://doi.org/10.1080/17439760.2013.830762

Park, C. L., Pustejovsky, J. E., Trevino, K., Sherman, A. C., Esposito, C., Berendsen, M., & Salsman, J. M. (2019). Effects of psychosocial interventions on meaning and purpose in

adults with cancer: A systematic review and meta-analysis. *Cancer*, *125*(14), 2383-2393. https://doi.org/10.1002/cncr.32078

Patterson, P., & McDonald, F. E. (2015). "Being mindful": Does it help adolescents and young adults who have completed cancer treatment? *Journal of Pediatric Oncology Nursing, 32*(4), 189-194. https://doi.org/10.1177/1043454214563401

Peer, E., Rothschild, D., Gordon, A., Evernden, Z., & Damer, E. (2022). Data quality of platforms and panels for online behavioral research. *Behavior Research Methods*, *54*(4), 1643-1662. https://doi.org/10.3758/s13428-021-01694-3

Perks, L. G. (2018). Media marathoning through health struggles: Filling a social reservoir. Journal of Communication Inquiry, 43(3), 313-332. https://doi.org/10.1177/0196859918814826

Perry, L. M., Hoerger, M., Sartor, O., & Robinson, W. R. (2020). Distress among African American and White adults with cancer in Louisiana. *Journal of Psychosocial Oncology*, *38*(1), 63-72. https://doi.org/10.1080/07347332.2019.1634176

Petty, R. E., & Cacioppo, J. T. (1986). *Communication and persuasion : Central and peripheral routes to attitude change*. Springer-Verlag.

Potts, R., Belden, A., & Reese, C. (2008). Young adults' retrospective reports of childhood television viewing. *Communication Research*, *35*(1), 39 - 60.

Potts, R., & Seger, J. (2013). Validity of adults' retrospective memory for early television viewing. *Communication Methods and Measures*, *7*(1), 1-25. https://doi.org/10.1080/19312458.2012.760731

Pozzar, R., Hammer, M. J., Underhill-Blazey, M., Wright, A. A., Tulsky, J. A., Hong, F., Gundersen, D. A., & Berry, D. L. (2020). Threats of bots and other bad actors to data quality following research participant recruitment through social media: Cross-sectional questionnaire. *Journal of Medical Internet Research, 22*(10), e23021. https://doi.org/10.2196/23021

Prinzing, M. M., Zhou, J., West, T. N., Le Nguyen, K. D., Wells, J. L., & Fredrickson, B. L. (2022). Staying 'in sync' with others during COVID-19: Perceived positivity resonance mediates cross-sectional and longitudinal links between trait resilience and mental health. *The Journal of Positive Psychology, 17*(3), 440 - 455. https://doi.org/10.1080/17439760.2020.1858336

Raney, A. A., Janicke, S. H., Oliver, M. B., Dale, K. R., Jones, R. P., & Cox, D. (2018). Profiling the audience for self-transcendent media: A national survey. *Mass Communication and Society, 21*(3), 296-319. https://doi.org/10.1080/15205436.2017.1413195

Reinecke, L., & Rieger, D. (2021). Media entertainment as a self-regulatory resource: The recovery and resilience in entertaining media use (R2EM) model. In P. Vorderer & C.

Klimmt (Eds.), *The Oxford Handbook of Entertainment Theory* (pp. 755 - 779). Oxford University Press.

Rieger, D., & Hofer, M. (2017). How movies can ease the fear of death: The survival or death of the protagonists in meaningful movies. *Mass Communication and Society, 20*(5), 710-733. https://doi.org/10.1080/15205436.2017.1300666

Rieger, D., & Klimmt, C. (2019). The daily dose of digital inspiration 2: Themes and affective user responses to meaningful memes in social media. *New Media & Society, 21*(10), 2201-2221. https://doi.org/10.1177/1461444819842875

Rieger, D., Reinecke, L., Frischlich, L., & Bente, G. (2014). Media entertainment and well-being: Linking hedonic and eudaimonic entertainment experience to media-induced recovery and vitality. *Journal of Communication, 64*, 456 - 478.

Robb, S. L., Burns, D. S., Stegenga, K. A., Haut, P. R., Monahan, P. O., Meza, J., Stump, T. E., Cherven, B. O., Docherty, S. L., Hendricks-Ferguson, V. L., Kintner, E. K., Haight, A. E., Wall, D. A., & Haase, J. E. (2014). Randomized clinical trial of therapeutic music video intervention for resilience outcomes in adolescents/young adults undergoing hematopoietic stem cell transplant: A report from the Children's Oncology Group. *Cancer*, *120*(6), 909-917. https://doi.org/10.1002/cncr.28355

Rosenberg, A. R., Bradford, M. C., Bona, K., Shaffer, M. L., Wolfe, J., Baker, K. S., Lau, N., & Yi-Frazier, J. (2018). Hope, distress, and later quality of life among adolescent and young adults with cancer. *Journal of Psychosocial Oncology*, *36*(2), 137-144. https://doi.org/10.1080/07347332.2017.1382646

Rosenberg, A. R., Bradford, M. C., McCauley, E., Curtis, J. R., Wolfe, J., Baker, K. S., & Yi-Frazier, J. P. (2018). Promoting resilience in adolescents and young adults with cancer: Results from the PRISM randomized controlled trial. *Cancer*, *124*(19), 3909-3917. https://doi.org/10.1002/cncr.31666

Rosenberg, A. R., Yi-Frazier, J. P., Eaton, L., Wharton, C., Cochrane, K., Pihoker, C., Baker, K. S., & McCauley, E. (2015). Promoting resilience in stress management: A pilot study of a novel resilience-promoting intervention for adolescents and young adults with serious illness. *Journal of Pediatric Psychology*, *40*(9), 992-999. https://doi.org/10.1093/jpepsy/jsv004

Rosenberg, A. R., Zhou, C., Bradford, M. C., Salsman, J. M., Sexton, K., O'Daffer, A., & Yi-Frazier, J. P. (2021). Assessment of the Promoting Resilience in Stress Management intervention for adolescent and young adult survivors of cancer at 2 years: Secondary analysis of a randomized clinical trial. *JAMA Network Open*, *4*(11), e2136039. https://doi.org/10.1001/jamanetworkopen.2021.36039

Rotten Tomatoes. (n.d.). *Abduction*. Retrieved April 3, 2023, from https://www.rottentomatoes.com/m/abduction_2011

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory : Basic psychological needs in motivation, development, and wellness*. The Guilford Press.

Sansom-Daly, U. M., Wakefield, C. E., Ellis, S. J., McGill, B. C., Donoghoe, M. W., Butow, P., Bryant, R. A., Sawyer, S. M., Patterson, P., Anazodo, A., Plaster, M., Thompson, K., Holland, L., Osborn, M., Maguire, F., O'Dwyer, C., De Abreu Lourenco, R., Cohn, R. J., & The Recapture Life Working, P. (2021). Online, group-based psychological support for adolescent and young adult cancer survivors: Results from the Recapture Life randomized trial. *Cancers (Basel), 13*(10). https://doi.org/10.3390/cancers13102460

Schmidt, V. (2005). *The story structure architect: A writer's guide to building dramatic situations & compelling characters*. Writer's Digest Books.

Shiota, M. N., Keltner, D., & John, O. P. (2006). Positive emotion dispositions differentially associated with Big Five personality and attachment style. *The Journal of Positive Psychology, 1*(2), 61-71. https://doi.org/10.1080/17439760500510833

Silver, N., & Slater, M. D. (2019). A safe space for self-expansion: Attachment and motivation to engage and interact with the story world. *Journal of Social and Personal Relationships, 36*(11-12), 3492-3514. https://doi.org/10.1177/0265407519826345

Silvers, J. A., & Haidt, J. (2008). Moral elevation can induce nursing. *Emotion, 8*(2), 291-295. https://doi.org/10.1037/1528-3542.8.2.291

Singleton, J. (Director). (2011). *Abduction* [Film]. Vertigo Entertainment.

Slater, M. D., Johnson, B. K., Cohen, J., Comello, M. L. G., & Ewoldsen, D. R. (2014). Temporarily expanding the boundaries of the self: Motivations for entering the story world and implications for narrative effects. *Journal of Communication, 64*(3), 439-455. https://doi.org/10.1111/jcom.12100

Sodergren, S. C., Husson, O., Robinson, J., Rohde, G. E., Tomaszewska, I. M., Vivat, B., Dyar, R., Darlington, A. S., & Group, E. Q. o. L. (2017). Systematic review of the health-related quality of life issues facing adolescents and young adults with cancer. *Quality of Life Research, 26*(7), 1659-1672. https://doi.org/10.1007/s11136-017-1520-x

Stanton, A. L., Danoff-Burg, S., Cameron, C. L., Bishop, M., Collins, C. A., Kirk, S. B., Sworowski, L. A., & Twillman, R. (2000). Emotionally expressive coping predicts psychological and physical adjustment to breast cancer. *Journal of Consulting and Clinical Psychology*, *68*(5), 875-882. https://doi.org/10.1037/0022-006x.68.5.875

Stanton, A. L., Kirk, S. B., Cameron, C. L., & Danoff-Burg, S. (2000). Coping through emotional approach: Scale construction and validation. *Journal of Personality and Social Psychology*, *78*(6), 1150-1169. https://doi.org/10.1037//0022-3514.78.6.1150

Stellar, J. E., Gordon, A. M., Piff, P. K., Cordaro, D., Anderson, C. L., Bai, Y., Maruskin, L. A., & Keltner, D. (2017). Self-transcendent emotions and their social functions: Compassion, gratitude, and awe bind us to others through prosociality. *Emotion Review, 9*(3), 200-207. https://doi.org/10.1177/1754073916684557

Tai, E., Buchanan, N., Townsend, J., Fairley, T., Moore, A., & Richardson, L. C. (2012). Health status of adolescent and young adult cancer survivors. *Cancer, 118*(19), 4884-4891. https://doi.org/10.1002/cncr.27445

Telles, C. M. (2021). A scoping review of literature: What has been studied about adolescents and young adults (AYAs) with cancer? *Cancer Treatment and Research Communications, 27*, 100316. https://doi.org/10.1016/j.ctarc.2021.100316

Thomson, A. L., & Siegel, J. T. (2016). Elevation: A review of scholarship on a moral and other-praising emotion. *The Journal of Positive Psychology, 12*(6), 628-638. https://doi.org/10.1080/17439760.2016.1269184

Trevino, K. M., Fasciano, K., Block, S., & Prigerson, H. G. (2013). Correlates of social support in young adults with advanced cancer. *Support Care Cancer, 21*(2), 421-429. https://doi.org/10.1007/s00520-012-1536-2

Tsay-Vogel, M., & Krakowiak, K. M. (2016). Inspirational reality TV: The prosocial effects of lifestyle transforming reality programs on elevation and altruism. *Journal of Broadcasting & Electronic Media, 60*(4), 567-586. https://doi.org/10.1080/08838151.2016.1234474

Warner, E. L., Kent, E. E., Trevino, K. M., Parsons, H. M., Zebrack, B. J., & Kirchhoff, A. C. (2016). Social well-being among adolescents and young adults with cancer: A systematic review. *Cancer, 122*(7), 1029-1037. https://doi.org/10.1002/cncr.29866

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*(6), 1063 - 1070.

Wong, A. W. K., Chang, T. T., Christopher, K., Lau, S. C. L., Beaupin, L. K., Love, B., Lipsey, K. L., & Feuerstein, M. (2017). Patterns of unmet needs in adolescent and young adult (AYA) cancer survivors: In their own words. *Journal of Cancer Survivorship, 11*(6), 751-764. https://doi.org/10.1007/s11764-017-0613-4

Yi, J., & Zebrack, B. (2010). Self-portraits of families with young adult cancer survivors: Using photovoice. *Journal of Psychosocial Oncology, 28*(3), 219-243. https://doi.org/10.1080/07347331003678329

Zamora, E. R., Yi, J., Akter, J., Kim, J., Warner, E. L., & Kirchhoff, A. C. (2017). 'Having cancer was awful but also something good came out': Post-traumatic growth among adult

survivors of pediatric and adolescent cancer. *European Journal of Oncology Nursing, 28*, 21-27. https://doi.org/10.1016/j.ejon.2017.02.001

Zhang, A., Wang, K., Zebrack, B., Tan, C. Y., Walling, E., & Chugh, R. (2021). Psychosocial, behavioral, and supportive interventions for pediatric, adolescent, and young adult cancer survivors: A systematic review and meta-analysis. *Critical Reviews in Oncology / Hematology, 160*, 103291. https://doi.org/10.1016/j.critrevonc.2021.103291

Zhou, J., Prinzing, M. M., Le Nguyen, K. D., West, T. N., & Frederickson, B. L. (2022). The goods in everyday love: Positivity resonance builds prosociality. *Emotion, 22*(1), 30 – 45.