The Relationship Between Virtues, Psychosocial Adaptation, and Work for People with Cancer

By

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Dedication

I dedicate this dissertation to my family and all the professors, colleagues, and peers who have blessed me with their love, support, and guidance throughout my life, academic and otherwise. This dissertation is also dedicated to all cancer survivors and their loved ones.

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Abstract

The number of people living with and surviving cancer is growing on account of improved screening, early detection, and medical treatments (Mewes et al., 2012). Many cancer diagnoses emerge during prime employment years. There are mixed findings in the literature on the rates and benefits of cancer survivors returning to work. Similarly, the research on job satisfaction of cancer survivors is varied, with some identifying high levels of work satisfaction (Mehnert & Koch, 2013; Nachreiner et al., 2007) and others reporting lower levels of job satisfaction (Amir et al., 2007; Johnsson et al., 2011). Side effects of cancer treatment (Kamal et al., 2017; Mehnert, 2011; Todd et al., 2011) and lower vocational satisfaction of cancer survivors (Høyer et al., 2012; Johnsson et al., 2009) have been found to correlate with poorer work-related outcomes. Cognitive, physical, psychological, financial, and existential challenges can result from either from cancer or treatment. Given these changes in functioning and reevaluation of life priorities that many cancer survivors face, values pertaining to work can change. Such shifts in priorities are part of the psychosocial adjustment to cancer and can preserve and improve quality of life.

Importantly, the way such values are lived out is through behaviors and actions that are in accordance with said values. These behavioral manifestations are virtues. Specifically, there are five virtues, as conceptualized by Kim, McMahon and colleagues (2016) in their Virtue-Based Psychosocial Adaptation Model: Committed Action, Emotional Transcendence, Practical Wisdom, Integrity, and Courage. The unique and personal enactment of each of these virtues culminates in virtuous living or flourishing.

The purpose of this study was to examine the role of virtues and psychosocial adaptation in the satisfaction with labor market participation that cancer survivors experience. Simple

mediation analyses demonstrated that committed action serves as a mediator for the other virtues. Subsequent parallel mediation analyses found adaptive and non-adaptive reactions to cancer mediate the relationship between virtues and satisfaction with labor market participation. Findings of this study extend the literature on virtues in the context of psychosocial adaptation for people with cancer. Implications for practices and future research are discussed.

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CHAPTER ONE: Introduction

Statement of the Problem

According to the National Cancer Institute (National Institutes of Health [NIH], 2020), as of 2019, there are almost 17 million survivors of cancer in the United States, and this number is projected to continue to increase to 22.2 million by 2030. Of those living with cancer, 44.5% of cancer of any body organ is diagnosed in people before age 65 (NIH, 2020), the prime age of working adults. With a significant proportion of people being diagnosed in their prime working years and enhanced survival rates, cancer survivors and individuals with cancer are increasingly in the workforce (Blinder & Gany, 2019).

Costs of cancer care are on the rise (Iragorri et al., 2021). These costs, along with limited employment, contribute to the rising levels of financial toxicity, or "the financial burden or financial hardship experienced by cancer survivors because of cancer and its treatment" (Mols et al., 2020, p.5693). The cost of care, including peripheral costs due to loss of income and out-of-pocket costs, contributes to the financial burden individuals with cancer and their families face (Richard et al., 2018). This burden is a common concern among people with cancer, including those who are insured (Richard et al., 2018; Stump et al., 2013). The loss of income is evidenced by a significantly higher loss of productivity at work compared to those without a cancer history (Zheng et al., 2016). Kamal et al. (2017), in a systematic review, found disease progression or severity, missed work due to side effects of treatment, cognitive impairments as a side effect of treatment, and heavy loads and work pace to negatively impact work productivity. In particular, chemotherapy treatments were associated with longer leave from work and delays in returning to work, including an increased likelihood of not returning to work.

Employment has an important influence on quality of life for people with disabilities (Kober & Eggleton, 2005). For people with cancer, work can also positively influence their quality of life (Blinder & Gany, 2019; Timperi et al., 2013) by promoting a sense of identity, normalcy, and control (Blinder et al., 2012; Glare et al., 2017; Peteet, 2000). However, employment rates are lower for those with cancer compared to their counterparts without (de Boer et al., 2009; Sun et al., 2017). There are many variables that have been identified by researchers to influence work outcomes for people with cancer. In their review of the literature, Sun et al. (2017) found the most commonly identified factors could be grouped into (a) health and well-being, (b) symptoms and functioning, (c) work demands and work environment, (d) societal and cultural factors, and (e) individual characteristics.

When considering the interaction between work and health/well-being for persons with cancer, Sun et al. (2017) identify low self-rated health and global well-being as having negative correlations with work. Contrastingly, those who had returned to work reported higher life satisfaction. Both mental and physical symptoms have been shown to contribute to poorer work outcomes, especially fatigue, depression, pain, and cognitive impairment. Lavigne et al. (2008) found hot flashes and fatigue to be the two most important health factors to influence work productivity for breast cancer survivors. Work demands, including stress from work, lack of perceived support at work, and flexibility of work, were found to be factors that influenced work productivity. Such things as poor familial support and negative societal attitudes are some of the societal and cultural factors influencing work productivity (Sun et al., 2017). Bouknight et al. (2006) found job characteristics, including the perceived willingness of employers to provide accommodations, influence one's decision to return to work. Finally, characteristics pertinent to the individual, including a decreased desire to maintain the occupation, poor coping skills, higher

disease stage, and specific treatments, were some of the numerous factors influencing one's ability to work (Sun et al., 2017). Age has also been found to impact one's decision to return to work, with younger workers being more likely to return than older workers (Bouknight et al., 2006).

For many with cancer, work in and of itself can be therapeutic, providing a sense of purpose and a way to leave the "sick role" to feel recovered (see, for instance, Tiedtke et al., 2012, which provides first-person accounts from breast cancer survivors). It is necessary to recognize, however, that while work is an important part of life for people with and without cancer, it is not always the most central or desirable domain in one's life after being diagnosed with cancer. People may choose early retirement, change career paths, or leave the workforce (Blinder & Gany, 2019). These changes may lead to one feeling more fulfilled with their life and in accordance with their values. Drolet et al. (2005) found a change in values in women who survived cancer, including attaching less value to work. This is part of a larger phenomenon of re-evaluating priorities in life after a cancer diagnosis (Thornton, 2002).

It is precisely the shift in priorities or this change in values that led this researcher to consider virtues or the behavioral manifestations of values (Kim, McMahon, et al., 2016) and their relationship to psychosocial adaptation to CID and satisfaction with labor market participation. In order to understand and analyze the relationships between virtues and work, the present study relies on the Virtues-Based Psychosocial Adaptation Model (V-PAM; Kim et al., 2011; Kim, McMahon et al., 2016), with virtues serving as the personal factor of interest. The V-PAM asserts that, with a supportive environment and collaborators, individuals with disabilities can harness the five virtues of courage, integrity, committed action, practical wisdom, and emotional transcendence to adapt to their disability in pursuit of a virtue-based life.

There are many personal factors that influence the experience of cancer and subsequent outcomes, including sociodemographic identities (e.g., age; Bouknight et al., 2006), and clinical cancer status (e.g., higher disease stage; Mehnert, 2011). However, there is a paucity of research on people with cancer that intentionally explores the connection between virtues, or commitment to and action on one's values, psychosocial adaptation to cancer, and satisfaction with participation in the workforce after a cancer diagnosis. Therefore, this study explores the personal factor of virtues to understand its relationships to psychosocial adaptation and satisfaction with labor market participation. To this end, this work is situated and conceptualized with several complementary frameworks.

Theoretical Frameworks

ICF Model of Disability

One of the most widely accepted frameworks for understanding disability is the World Health Organization's (WHO) International Classification of Functioning, Disability, and Health (ICF; Chan & Ditchman, 2013; Chan et al., 2009; WHO, 2001). This biopsychosocial model of disability offers rehabilitation professionals an integrative conceptual framework for disability (Chan & Ditchman, 2013; Chan et al., 2019). Specifically, the ICF model conceptualizes the disability experience by analyzing four relevant constructs: 1) body functions and structures; 2) activities and participation; 3) personal factors; and 4) environmental factors. The first two are directly related to the health condition and are considered to be components of health. The latter two are classified as contextual factors. Importantly, this framework conceptualizes these components as interrelated; in other words, each individual component influences and is impacted by the remaining components. In essence, function and activity interact with contextual factors to affect participation, which is considered the "ultimate goal of rehabilitation (i.e., to

return people with disabilities to active, productive lives and successful integration into family and community life)" (p. 31). For the purposes of this study, the personal factors of virtues were explored in detail while controlling for demographic variables (personal factors), cancer-specific variables (health condition and body functions), functional disability (activities), and psychosocial adaptation to understand satisfaction with labor market participation (participation). The ICF provides a context for where this study is situated within the World Health Organization's conceptualization of health and functioning.

Model of Work for People with Cancer

A parallel structure developed specifically for people with cancer in work. Steiner et al. (2004) proposed a conceptual model of work after cancer that mapped out the work outcomes of people with cancer as influenced by cancer-specific clinical variables (i.e., cancer site, stage, prognosis, and treatment); symptom status; functional status; and general health perceptions. According to Steiner and colleagues, a linear process occurs between each variable in the model. For instance, they purported that clinical variables of cancer directly influence the types and intensity of symptoms one experiences, which in turn impacts one's functional status, including mental and physical limitations. One's functional status subsequently influences self-ratings of perceptions of health, which subsequently impacts work outcomes. Simultaneously, characteristics of the individual and the physical and social environments both directly influence work outcomes as well as indirect influence through their interaction with the previously stated variables. Each of these components contributes to the subsequent work outcomes of people with cancer, including the domains of whether or not someone is working; and if working, the work intensity; the role and content of work; and the economic status. Importantly, the characteristics of the individual, as proposed by Steiner and colleagues, included sociodemographics, medical

comorbidity, and personal goals and values. This study seeks to expand the knowledge of other personal characteristics, principally virtues, and their role in work outcomes.

The model has limitations as it currently stands. Primarily, this model does not account for the reciprocal relationships between the components. For instance, it has been demonstrated that work environments and participation can influence symptom status (Theorell et al., 2015). This structure parallels the ICF in ways that allow for recognition of these bidirectional relationships as well as cancer-specific influences on work outcomes. Therefore, this conceptual model of work for people with cancer will be interlaid with the ICF model. However, the benefit of having a cancer-specific framework is considered critical for this study. In this way, the limitations of Steiner and colleagues' (2004) model will be accounted for by the strengths of the ICF model, with cancer as the primary foci.

Theoretical Frameworks of Psychosocial Adaptation to Disability

Livneh and Antonak's Psychosocial Adaptation to CID

Livneh and Antonak (1997; Livneh, 2001) proposed an ecological stage model of psychosocial adaptation to chronic illness and disability that is widely used within the field of rehabilitation. The adaptation process is contextualized within an individual's personal experiences, resources, and environment, or what Livneh and Antonak define as antecedents. These antecedents then inform the process of psychosocial adaptation, characterized by Livneh and Antonak as reactions to disability. Specifically, there are eight distinct stages or reactions: shock, anxiety, denial, depression, internalized anger, externalized hostility, acknowledgment, and adjustment (Livneh & Antonak, 1990). The authors purported that certain responses are more likely to occur early in the process following onset, particularly shock and anxiety. Other reactions are more likely to manifest later in the process, including acknowledgment and

adjustment. These reactions, or stages, must be worked through for individuals to continue in the adaptation process. Through this adaptation process, individuals can obtain certain outcomes; the primary one of interest is increased quality of life. Livneh and Antonak's model of disability considers how one's background and contextual factors (antecedents) influence and inform the stages of adaptation and how one moves through them (reactions of the adaptation process) to ultimately lead to one's quality of life (outcomes).

Present in each of these theoretical frameworks is the importance of accounting for and understanding the influence of personal factors (in the context of the ICF; "antecedents" in Livneh and Antonak's model; "characteristics of the individual" in Steiner and colleagues' model). It is these personal factors that are highlighted in this study. Specifically, the personal factor of virtues.

Virtues-Based Psychosocial Adaptation Model

Virtues have been the subject of philosophers for centuries. Only relatively recently in the long history of virtues has it been the subject of interest for positive psychologists, and even more recently have rehabilitation counselors and researchers incorporated it into their purview. Virtues' prominent place in positive psychology is predicated on Peterson and Seligman's Values in Action (VIA) framework (2004). The name of this model aptly defines virtues as the behavioral manifestations of values (Kim, McMahon et al., 2016). The six higher-order virtues (transcendence, courage, practical wisdom, humanity, temperance, and justice) are the overarching organizing structure for 24 character strengths. These character strengths are of primary interest within the model. The manner in which these character strengths are measured by the VIA provides individual character strength scores, not higher-order virtue scores. In fact, Flowers (2005) claims that the VIA's conceptualization of virtues is flawed in its cursory

interpretation of virtues. Furthermore, the piecemeal nature of applying individual character strengths to each situation may be ineffective (Kim, Keck et al., 2018). The VIA framework provides virtues with an unearned spotlight because it is poorly conceptualized (Fowers, 2005); it is a hollow understanding of virtues. Rather what is needed in each situation is to employ the higher-order virtues as a conductor orchestrating when, how, and how much of each character's strength to use in any given situation.

Kim and colleagues (2011; Kim, McMahon, et al., 2016) have developed a framework to conceptualize and operationalize virtues and their place in psychosocial adaptation to chronic illness and disability. The Virtues-Based Psychosocial Adaptation Model (V-PAM; Kim et al., 2011; Kim, McMahon et al., 2016) is rooted in Aristotle's virtue ethics. There are five central components of Aristotle's work: (a) a teleological worldview (there is no action inherently right or wrong; its value depends on context); (b) Nicomachean ethics (the goal of humanity is happiness); (c) voluntarism (there must be action for virtue to exist); (d) practical wisdom (action must be informed by one's best judgment); and (e) realism (action must be realized based on current life context). In this way, the model conceptualizes the psychosocial adaptation process as offering "a constructive mindset that views disability as a new opportunity (teleological worldview, Nicomachean ethic perspective), and to deliver a course of action (voluntarism) based on the contextual understanding of an individual's life circumstances (practical wisdom & realism)" (Kim et al., in press, p. 6). This model of psychosocial adaptation to disability centers around the five primary virtues of practical wisdom, courage, integrity, committed action, and emotional transcendence. Each virtue has been conceptually linked to the psychosocial adaptation process. For example, practical wisdom serves as a base from which consumers and providers can thoughtfully and realistically understand limitations and manage uncertainty.

Courage functions as the inner strength to confront the situation. Integrity acts as a mechanism for being steadfast and honest. Committed action serves as a motivator and the mechanism in which action is carried out. Finally, emotional transcendence is what balances emotion, thought, and action in order for growth and learning to be possible.

Practical wisdom, courage, and integrity are described in the analogy by Kim, McMahon, et al. (2016) as being the "requisite equipment" that exists within an individual before the psychosocial adaptation process, with committed action being the road one takes. Emotional transcendence is the opportunity for growth in the form of transcendent experiences. Much like other positive psychological constructs, the model ascribes that people have within themselves a capacity to grow and mature their virtues. As Kim, McMahon, et al. (2016) describe, "each Committed Action, however small, strengthens our core values and furthers the conversion of these values to virtues" (p.50). In this sense, virtues are malleable through virtuous actions that are in pursuit of one's goals and in line with one's values. Rehabilitation counselors can take a virtue-informed approach to support consumers through the adaptation process to work towards a meaningful, flourishing life. Kim, Hawley et al. (2018) asserted that rehabilitation counselors can directly use the virtues in their own work (e.g., use Practical Wisdom to choose appropriate evidence-based practices) as well as by encouraging consumers to use the virtues to cope with and adapt to disability (e.g., use Committed Action to carry out the treatment plan).

Virtues, as described by Emmons (2003), are what "enables a person to effectively pursue conduct directed toward higher purposes and goals that might be a productive approach to take" (p.120). In this way, the virtue-based life that the V-PAM has conceptualized as the road to psychosocial adaptation allows people to set goals and pursue personally significant goals. These goals may be vocationally oriented, family-oriented, or something else entirely. That is for

individuals with cancer themselves to determine. For that reason, it is this researcher's goal to better understand how virtues impact the satisfaction of people with cancer in their participation in the labor market.

Contribution to the Field

The proposed research study emerged from this researcher's clinical experience working with individuals with cancer who share the process of deciding whether or not to work, a process wrought with emotions and both known and unknown consequences to one's social, financial, and existential domains of life. By gaining insight into the nature and impact of psychosocial adaptation and virtues on satisfaction with engagement with work, rehabilitation counselors can better understand the complexity of the process people with life-changing diagnoses make regarding work. Specifically, the insights from this study provide a better understanding of the individual factor of virtues.

As depicted above, each virtuous action that is realized in accordance with one's goals and values strengthens the underlying virtue. Two evolutions of thought exist in understanding virtues: Peterson and Seligman's (2004) VIA framework and Kim, McMahon, and colleagues' (2016) V-PAM. In the former, virtues and character strengths are conceptualized as malleable characteristics within an individual that can be strengthened and molded through intervention. In the latter, virtues are more stable traits that are grown through the lifetime, solidifying with each life experience and action (J. H. Kim, personal communication, March 23, 2023). However, virtues can be impacted by significant life events (e.g., the onset of a disability). This author believes that convergence between these two conceptualizations of virtues is possible through a recognition of the relative (and increasing) stability of virtues throughout one's lifespan with the possibility for a significant life event to shift one's virtues. Thereby interventions that promote

virtuous action can influence how much of each virtue one possesses and is able to employ in pursuit of the psychosocial adaptation process. Understanding which virtues play a role in supporting satisfaction with labor market participation could inform when and how to intervene in the growth of certain virtues. The study of virtues in people with cancer is one stroke of a brush on the still elusive picture of psychosocial adaptation to cancer.

Purpose of the Study

Currently, there is a paucity of research in the realm of the influence of virtues on vocational outcomes specific to people with cancer. The present research study explores virtues and psychosocial adaptation to CID and satisfaction with labor market participation. Understanding and analyzing the relationships between these variables relies on the V-PAM (Kim et al., 2011; Kim, McMahon et al., 2016), with virtues serving as the personal factor of interest. The V-PAM asserts that, with a supportive environment and collaborators (e.g., family, friends, rehabilitation service providers, etc.), individuals with disabilities can harness the five virtues of courage, integrity, committed action, practical wisdom, and emotional transcendence to adapt to their disability in pursuit of a virtue-based life.

Research Questions

- **Research question 1**. How do the five virtues (i.e., committed action, practical wisdom, integrity, courage, emotional transcendence) predict satisfaction with labor market participation?
- **Research question 2**. How does psychosocial adaptation (i.e., “non-adaptive reactions”, denial, and “adaptive reactions”) affect the relationship between virtues and satisfaction with labor market participation?

CHAPTER TWO: Literature Review

The purpose of this study is to understand the relationships between virtues, psychosocial adaptation, cancer symptomatology, and satisfaction with labor market participation in people with cancer. This chapter presents a review of the relevant literature in the following manner: (a) cancer, (b) psychosocial adaptation, and (c) virtues in the psychosocial adaptation process. The first section provides a broad overview of cancer, the impact of the disease and its treatment on functioning, the impact of cancer on priorities and values, and engagement with work for people with cancer. The second portion explores the psychosocial adaptation research broadly and as it relates to people with cancer. The final section explores the role of virtues in the context of psychosocial adaptation to chronic illness and disability.

Cancer

Cancer is a collection of related diseases, with more than 100 types of cancer having been identified thus far, that can originate from any organ in the body (National Cancer Institute (NCI), 2021). These diseases cause some cells in the body to grow and multiply uncontrollably, spreading to other areas of the body. This uncontrollable growth tends to coalesce into lumps of tissue called tumors, which can be either cancerous (malignant) or non-cancerous (benign). If cancerous tumors spread to other areas of the body to form a new tumor, the cancer has metastasized. Not all cancers involve tumors; blood cancers typically do not. Cancer can be categorized by the site of origin (e.g., brain cancer, lung cancer) or the type of cell that formed them (e.g., epithelial cell or squamous cell). Cancer diagnoses are also accompanied by the stage, which refers broadly to the extent of one's cancer (NCI, 2022a). Staging systems vary by cancer type, but one such system used for many types of cancer is called the TNM system. The TNM measures the size and extent of the primary tumor (T), the number of lymph nodes impacted by

the cancer (N), and whether or not the cancer has metastasized (M). Stage 0 refers to the presence of abnormal cells but an absence of spreading; this may become cancer. Stages 1 through III indicate the presence of cancer, with an increasing indication of the size and spread of cancer to nearby tissue. Stage IV is the last stage, indicating that cancer has spread across the body. Thus, the higher numbers mean that the cancer is more advanced.

Cancer treatment varies greatly depending on the type and stage of cancer (NCI, 2022b). Some common forms of traditional or Western treatment include chemotherapy, hormone therapy, immunotherapy, radiation therapy, stem cell transplant, surgery, and targeted therapy. Some types of complementary and alternative medicine (CAM) include mind-body therapies (e.g., tai chi, hypnosis), biologically based practices (e.g., botanicals, dietary supplements), body-based practices (e.g., massage therapy, chiropractic therapy), energy healing (e.g., reiki, therapeutic touch), and whole medical systems (e.g., ayurvedic medicine from India, traditional Chinese medicine; NCI, 2022c). Each of these treatments comes with side effects. Some CAMs have been evaluated for safety and efficacy, but not all (e.g., not all herbal and dietary supplements are approved by the U.S. Food and Drug Administration).

Screening, early detection, and medical treatments for cancer have greatly improved over the past several decades (Mewes et al., 2012). Given these improvements, there will be a disproportionate growth of cancer survivors to new cancer cases and deaths due to cancer (Stubblefield et al., 2013). Along with this increase in the number of cancer survivors, the focus on cancer survivorship has grown in the general society as well as in research and practice realms (Nekhlyudov et al., 2017). While prevalence and age of diagnosis vary greatly based on the type and site of cancer, approximately 44.5% of new cancer diagnoses occur before age 65 (NIH, n.d.). This accounts for the entire career development and the vast majority of employment

years for most individuals. More and more people entering the workforce will be living with or survivors of cancer as the treatments and maintenance therapies continue to improve.

However, employment rates are lower for those with cancer compared to their counterparts without (de Boer et al., 2009; Sun et al., 2017). These lower rates have been attributed to a number of reasons, including early retirement or health problems either due to symptoms of the cancer itself or side effects from the treatment(s) (e.g., chemotherapy, radiation, surgery, etc.). In fact, scholars have found that the majority of people with cancer fail to return to their state of well-being from before the cancer diagnosis (Harrington et al., 2010; Hewitt et al., 2003). Given the physical and psychosocial ramifications of experiencing cancer, cancer survivors are faced with challenging choices in terms of life engagement and participation. This can be specifically challenging in terms of career and occupational pursuits. The next section will elucidate the impact of cancer on functioning in various life domains.

Impact of Cancer

Life is affected in all areas by a cancer diagnosis (Binkley et al., 2012), regardless of cancer type, stage, or treatment received (Stark et al., 2012). Not only during treatment when side effects emerge, and functioning can be impacted by the harsh realities of existing treatments, but also after treatment is over. The difficulty in returning to the original state of well-being could be due to either the cancer itself or its treatment. Symptoms come from cancer's impact on the body as well as the exposure to its traditional treatments (chemotherapy, surgery, and radiation; Ness et al., 2006). Regardless of the source, the experience of symptoms and their interference with functioning has been described as "symptom burden" in the literature (Burkett & Cleeland, 2007; Cleeland, 2007; Deshields et al., 2014). Importantly, the severity of symptoms and the distress provoked by them may or may not correlate with each other, hence the

importance of assessing symptom burden rather than simply relying on the severity of such symptom presentation (Stark et al., 2012).

Deshields et al. (2014) provided insight into the effect of symptom burden on quality of life, noting that symptom burden consistently and negatively correlated with quality. In this study, 90% of participants reported at least one or more symptoms. For many, multiple symptoms often emerge rather than in isolation (Laird et al., 2011). Thus, symptom burden manifests differently for each person and can be impacted by the cancer site (e.g., prostate patients reporting the lowest symptom burden; Deshields et al., 2014), the type of treatment (e.g., deep vein thrombosis more likely for people receiving chemotherapy; lymphedema more likely after surgery or if radiation damages lymph node; Centers for Disease Control and Prevention, 2022), and comorbid conditions (e.g., greater symptom burden for people with comorbid conditions such as hypertension and anxiety/depression; Ritchie et al., 2017).

Cancer survivors' self-report and medical records report a broad milieu of cancer symptoms. However, research has been able to identify symptoms that are most frequently experienced. Teunissen et al. (2007) identified 37 symptoms in their systematic review of the literature on symptom presence and intensity of incurable cancers. The top five symptoms identified by the 25,074 patients included in the final review included fatigue, pain, lack of energy, weakness, and appetite loss. Harrington and colleagues performed a systematic review of cancer symptom burden and found that the most commonly reported symptoms across all cancers and treatments were fatigue, depression, and anxiety, each of which had potential effects on functioning and quality of life (2010). In their review of 37 studies, Wu and Harden (2015) found similar symptoms in cancer survivors (across various types of malignancies): fatigue, depression or mood disturbance, sleep disruption, pain, and cognitive impairment.

Not only do these symptoms impact functioning during treatment, but they have also been found to be persistent after treatment has ended (Burkett & Cleeland, 2007; Wu & Harden, 2015). In fact, it has been noted that for some cancer survivors, their ratings of symptom severity remain high and are similar to those undergoing cancer treatment (Shi et al., 2011). In Shi et al.'s (2011) population-based study, 92% of survivors of cancer expressed experiencing residual symptoms, and 31% reported high symptom severity. Some symptoms, such as fatigue, depression, anxiety, pain, and cognitive limitations, have been found to persist for years after the initial diagnosis (Mao et al., 2007; Schroevers et al., 2004; Stein et al., 2008), up to ten years post-diagnosis (Harrington et al., 2010). Furthermore, the presence of such symptoms post-treatment can exacerbate fears of illness progression or recurrence (Koch et al., 2013; Simard et al., 2013).

Financial Impact of Cancer

Financial hardships and distress (commonly referred to as "financial toxicity") have been associated with cancer patients and survivors in the U.S. (Banegas et al., 2016). "Financial toxicity" has been defined as "the economic changes caused by treatments and disease to patients" (de Souza et al., 2014, p.3249). This financial toxicity is in part due to cancer care costs that are on the rise in the U.S. and are only projected to rise dramatically, which will continue to place the burden on cancer survivors (Mariotto et al., 2020; National Cancer Institute, 2022). A consequence of this is that survivors are going into debt (33%) or filing for bankruptcy (3%) due to their cancer diagnosis (Banegas et al., 2016). These financial concerns are commonly reported among cancer survivors (Stump et al., 2013). Ultimately, financial hardships can negatively affect quality of life (Casilla-Lennon et al., 2018; Tran & Zafar, 2018).

Impact of Cancer on Physical Functioning

Physical symptoms and side effects from cancer and its treatment are commonplace. Such symptoms include fatigue, pain, nausea, lymphedema, and chemotherapy-induced peripheral neuropathy, among many others. Binkley et al. (2012) reported on the lived experiences of people with breast cancer and the functional limitations that occur because of such symptoms in all areas of life, including work. These symptoms can persist for years after diagnosis and treatment (Harrington et al., 2010; Mao et al., 2007; Schroevers et al., 2004; Stein et al., 2008). For the purposes of this review, fatigue and pain are explored in greater detail.

Fatigue. Fatigue is a common symptom of cancer and a side effect of its treatment that has been documented in the research as a significant, negative influence on functioning (Curt et al., 2000; Luctkar-Flude et al., 2007; Lokker et al., 2013). Lokker et al. (2013) reported fatigue, among other symptoms, as having the highest prevalence in a sample of people with incurable head and neck cancer (81% of participants experiencing fatigue). Curt et al. (2000) reported on the experiences of people with cancer who had undergone chemotherapy. Fatigue was the second most common side effect of chemotherapy reported by the 379 patients interviewed (18%) but was identified as having the greatest impact on functioning.

Pain. Pain is one of the most common symptoms experienced by people undergoing cancer treatment (Patrick et al., 2004). For people with head and neck cancer, pain has been identified as the second highest reported symptom (75% reporting experiencing pain; Lokker et al., 2013). In their review of the literature, Stark et al. (2012) assert that pain tends to present in more advanced stages of cancer and is thus more likely to be accompanied by other symptoms. Pain has been found to interfere with activities of daily living and is associated with lower levels of quality of life (Patrick et al., 2004; Stark et al., 2012).

Impact of Cancer on Psychological Functioning

Somatic symptoms are the most regularly identified symptoms for people with cancer (Lokker et al., 2013). However, there is evidence that psychosocial symptoms are common. Lokker et al. (2013) noted the top five psychosocial symptoms as worrying, sadness, tenseness, depressed mood, and powerlessness, each endorsed by at least 50% of the participants. Zabora et al. (2001) identified differences in the prevalence of psychosocial symptoms by cancer site, with higher rates reported by lung (highest scores for overall distress), pancreatic cancer (highest scores for anxiety and depression), and Hodgkin's lymphoma (highest scores for hostility), and the lowest rates reported by gynecological cancers. Depression and anxiety, two of the most common psychosocial symptoms, will be explored in greater detail.

Depression. Depression has been identified as one of the most common side effects of cancer and its treatment (Linden et al., 2012; Patrick et al., 2004). Linden et al. (2012) found that cancer type, gender, and age were predictors of increased levels of depression. In general, people who are younger and who are female appear to be at greater risk of higher levels of depression (Linden et al., 2012; Yi & Syrjala, 2017). However, for some cancers, there appears to be a U-shaped relationship with age, with middle-aged adults at the highest risk (Linden et al., 2012). People with lung cancer were found to have the highest prevalence rates of depression. However, Smith (2015) asserts that depression continues to be underdiagnosed in people with cancer. In part, this has been attributed to the differences between depression in people without cancer and people with cancer (Smith, 2015).

Anxiety. Anxiety has been found to be common in people with cancer, both during active cancer and in survivorship. Interestingly, researchers have noted that there are differences in anxiety between people who solely have psychiatric presentations and those who also have a chronic physical illness (Dinkel & Herschbach, 2018; Herschbach et al., 2005). Particularly,

those with chronic physical illnesses, like cancer, “are confronted with a continual and real threat; their reactions are neither irrational nor inappropriate” (p.506). One example of this continual and real threat has been identified by researchers as fear of progression (FoP) which is one of the most common distress symptoms (Dinkel & Herschbach, 2018). FoP has been defined by Dinkel and Herschbach (2018) as “patients’ fear that the illness will progress with all its biopsychosocial consequences or that it will recur” (p.15). While the threat may not be irrational nor inappropriate, FoP can become dysfunctional and affect functioning (Dinkel & Herschbach, 2018). Studies have reported prevalence rates of moderate to high FoP ranging from 47% to 56% in people with active cancer diagnoses (Myers et al., 2013; Savard & Ivers, 2013; van den Beuken-van Everdingen et al., 2008) and 24% to 70% in cancer survivors (Mehnert et al., 2009; Thewes et al., 2012). FoP can be fueled by the presence of lingering physical symptoms (Koch et al., 2013; Simard et al., 2013).

Impact of Cancer on Cognitive Functioning

Cognitive functioning has also been found to be a common complaint of people with cancer, one that persists after treatment ends (Denlinger et al., 2014). Processes that can be affected include learning, memory, attention, and speed of information processing (Monje & Dietrich, 2011), and have been noted on both subjective and objective measures (Moore, 2014). Over and above individual differences, people with cancer are 40% more likely to report cognitive concerns compared to their cancer-free counterparts (Jean-Pierre et al., 2011). Different cognitive domains have been found to be affected at different time points along the cancer journey (e.g., visual-spatial skills are affected post-diagnosis and pre-chemotherapy, while processing speed is affected longer-term post-treatment; Moore, 2014).

Cognitive Impairment. Cognitive deficits are frequently the result of certain types of cancer treatment, particularly during chemotherapy and radiation (Denlinger et al., 2014; Monje & Dietrich, 2011; Pendergrass et al., 2018). While commonly referred to as "chemobrain," cancer treatment-related cognitive impairment has also been found in people in remission (Denlinger et al., 2014; Janelsins et al., 2014; Moore, 2014; Von Ah et al., 2013). Cognitive processes (e.g., memory, executive functioning, etc.) are necessary for all aspects of life and, thus, can have direct effects on daily functioning, quality of life, and work ability (Pendergrass et al., 2018).

Impact of Cancer on Priorities and Values

Traumatic experiences, including receiving a cancer diagnosis, can have a powerful impact on someone. It can have more intangible consequences, like changes in one's philosophy in life, as well as tangible consequences, such as changes to participation in activities like work. Simply put, "cancer often involves a challenge to basic world assumptions of order and fairness, while cancer treatment may introduce new physical limitations and social constraints… which may lead to increased feelings of loss and worry of recurrence" (Naus et al., 2009, p.1354-1355). work has been identified as a reprieve from the "sick role" that many people with cancer experience (Tiedtke et al., 2012). However, work is not a priority for everyone. Thornton (2002) purported that there is a larger phenomenon of re-evaluating priorities in life after a cancer diagnosis. This psychological shift in priorities and values, or "response shift" (introduced by Sprangers and Schwartz, 1999), is seen as a part of the adjustment process to a new life situation, including a cancer diagnosis. By shifting one's values to a new life domain, quality of life can theoretically be preserved and improved. However, while for many instances, this shift can be adaptive and positive for the adjustment process (Sharpe et al., 2005), for some domains, this

shift may not be reasonable. Although not directly under the purview of this study, it will be very important to take into consideration other psychosocial reactions. For example, Benedict et al. (2020) explored the experiences of adolescent and young adult female cancer survivors regarding family-building after cancer. Many expressed feeling "pissed off," hurt, and anxious at the potentially limited options for fertility and family building. In this case, supported decision-making with relevant professionals (e.g., reproductive counselors, therapists, etc.) was suggested to navigate feelings of uncertainty and distress.

Time Orientation

Lang and Carstensen (2002) explored the relationship between social relationships and goals for people with differing levels of future time perspectives. They purported that individuals who view their life as being limited (as can be the case for people with cancer) prioritize emotionally meaningful and short-term goals. Whereas people who view their life as being open-ended prioritize goals that are future-oriented (i.e., engaging in goals that will result in greater utility in the distant future), including such goals as acquiring knowledge, making contacts that may serve in the future, and pursuing vocational interests. While not cancer-specific in their review of time perspective, the insights from Lang and Carstensen (2002) can be useful in understanding priorities for people with cancer. Regardless of the prognosis, a cancer diagnosis often leads to a time of turmoil (Petrie et al., 1999) and can provoke someone to assess their mortality (Strack et al., 2010). Those who remain in a state of limited time orientation (i.e., focus on mortality) may be drawn to defensive behaviors, like increasing self-esteem, that protect against the fear of death and seek extrinsic goals (Strack et al., 2010). On the other hand, people may orient to intrinsic goals to grow and satisfy existential needs (Strack et al., 2010).

However, time orientation can, to a lesser extent, vacillate between “good” and “bad” days, as proposed by Charmaz (1991). Specifically, illness severity and intrusiveness can influence the amount of control one experiences; on good days, control is high, and transcendence of the self is possible, while on bad days, control is low, and illness takes “a center-stage presence in his or her life” (Livneh et al., 2019, p.69).

Therefore, it is necessary to recognize that priorities shift with the emergence of a cancer diagnosis and, depending on the individual, work may or may not be a central domain for them. Considering the time orientation, those who continue to view life as being open-ended may choose vocational pursuits. For those who view life as limited, work may or may not be a priority. For some, it may provide the emotionally meaningful relationships that many seek; for others, it may hinder said relationships from being nurtured. Blinder and Gany (2019) found that people with cancer may choose to retire early, change career paths, or leave the workforce entirely. These changes may lead to one feeling more fulfilled with their life and in accordance with their values. Drolet et al. (2005) found a change in values in women who survived cancer, including attaching less value to work. Strack et al. (2010) reported similar changes in priorities among a heterogeneous group of cancer patients, particularly a decrease in concerns related to career and recognition achievements. Overall, a shift towards focusing on meaningful relationships is a prominent theme found in the shift in priorities among people with cancer (Petrie et al., 1999; Strack et al., 2010).

Stages, Phases, and Priority Changes

Priorities have been assessed in a number of ways and at different time points in a person’s journey with cancer. Specifically, studies look at the shift in priorities upon being diagnosed with cancer (e.g., Strack et al., 2010), the priorities at stake in treatment decisions

(e.g., Benedict et al., 2020; Roe et al., 2014; Sharp et al., 1999), and others have considered how priorities change after treatment (e.g., Sharpe et al., 2005; Windon et al., 2019).

After Diagnosis. Strack et al. (2010) researched priority shifts after diagnosis, finding participants valued present-oriented concerns like enjoying life and valuing one's time, as well as changes in life philosophy. Sharpe et al. (2005) reported a similar shift for people recently diagnosed with metastatic cancer. Specifically, they found that certain domains increased in their importance as the illness progressed (i.e., health, family, psychological), whereas other domains decreased in importance (i.e., social, leisure, independence). Work remained relatively stable yet low on priority across all three time points.

Treatment Decisions. Researchers have also assessed the priorities of individuals when making treatment decisions. Roe et al. (2014) explored the importance of swallowing for people with head and neck cancer, with findings consistent with other studies of the strong association between dysphagia and health-related quality of life. Benedict et al. (2020) presented their understanding of the lived experiences of adolescents and young women regarding the importance of family-building in making decisions about treatment (e.g., taking steps to preserve fertility before treatment).

After Treatment. Priorities have been evaluated as people move along their cancer journey, including once treatment has been completed. Sharpe et al. (2005) reported increasing importance in certain areas of life (e.g., health, family) and decreasing importance in others (e.g., social, leisure) as people with advanced cancer progress. Windon et al. (2019) provided insight into priorities for people with human papillomavirus-associated oropharyngeal cancer. In particular, they were interested in how priorities change between the time of diagnosis and post-treatment. Windon et al. reported that participants' priorities at diagnosis were centered around

cure and survival and that priorities did not shift after treatment. The oncological focus (e.g., cure, survival) outranked non-oncologic priorities (e.g., continuing to work, financial concerns, changes in mood) at both diagnosis and post-treatment time points. Continuing to work, however, consistently ranked at a moderate level of concern. Furthermore, they found a wide range of priorities, indicating that priorities are specific to each individual. Together, these findings indicate that, while work is of moderate importance, there are other factors that may take precedence in the life of a person with cancer.

Cancer and Work

Work has long been established as an important life domain that provides individuals the space to develop self-concept, self-esteem, and life roles and satisfaction (Peteet, 2000). Employment has also been considered an important influence on individuals' quality of life for people with disabilities (Kober & Eggleton, 2005) and cancer specifically (Timperi et al., 2013). Peteet (2000) discusses the meaning of work for cancer survivors. Specifically, the opportunity that work has for survivors to establish (or re-establish) a sense of normalcy, identity, and fairness after a cancer diagnosis. In fact, employment was the focus of one of ten research and practice recommendations for cancer survivorship posed by the Institute of Medicine in 2005 (Hewitt et al., 2006). Nekhlyudov et al. (2017) reflected on the status of this recommendation, noting that, even with increased attention on financial toxicity and the adverse effects of cancer on employment (e.g., discrimination based on cancer status, decreased work productivity and financial burden), there continues to be a need to understand the impact of cancer on employment and to support people in navigating such challenges.

Employment has been found to correlate with improved mental health for people with cancer (Lieb et al., 2022). Scholars have purported that work can be an opportunity for cancer

survivors to develop and practice different, positive coping strategies (Johnsson et al., 2011; Lieb et al., 2022). However, staying employed has been found to be a challenge for cancer survivors (Carlsen et al., 2013; Damkjaer et al., 2011; Hauglann et al., 2012). De Boer et al. (2009) put it succinctly, stating, "Cancer survivorship is associated with unemployment" (p.753). In part, this may be due to adverse effects of treatment and decreased functioning on work productivity (Kamal et al., 2017), negative impacts of symptoms and side effects of cancer and its treatment (e.g., cognitive impairment in Todd et al., 2011; fatigue in Spelten et al. 2003) and unfavorable work-related demands (e.g., manual labor, Mehnert, 2011).

Return to Work for People with Cancer

Return to work (RTW) is a well-researched topic within the cancer literature. It has been operationalized both as an outcome in the form of a response to the question "Are you currently working?" (Bouknight et al., 2006) and as a process described as "a proactive approach initiated by the patient or healthcare professionals to maintain work during treatment or to get RTW … after treatment" (Lamore et al., 2019, p.16). In fact, Lamore et al. (2019) recommend that researchers come to a consensus on a definition for RTW, how to assess RTW, and effective interventions to support cancer survivors in the RTW process.

Regardless of the definition, cancer patients view the process of RTW as providing "a means of regaining a sense of normality, self-concept, and identity" (Hubbard et al., 2013, p.176). The RTW process is not without concerns, however. Tiedtke et al. (2012) qualitatively assessed RTW feelings and thoughts of people with breast cancer, noting concerns about recovery, doubts about acceptance in the workplace, and uncertainty regarding the effort required to return to their job, resulting in an overall ambivalence about future work roles. When work is not possible, cancer survivors have reported losing part of their identity and therefore needing to

readjust to a new daily structure as well as a different perspective on meaning and goals in life (Rasmussen & Elverdam, 2008). However, "despite their ambivalence about the future, it was clear that the women [with cancer] preferred to return to work" (Tiedtke et al., 2012, p.9), which demonstrates the complexity of the RTW process.

Timeframes for RTW vary vastly due to differences in study design and data collection methods (Sun et al., 2017). Sun et al. (2017) determined that most female survivors return to work between the end of treatment and one-year post-treatment. Similarly, RTW rates range from 24% to 94%, with an average rate of 63.5% (Mehnert, 2011). More recently, in a population-based study, Banegas et al. (2016) found that 54% of cancer survivors were working full-time. Regardless of RTW timeframe and rates, one study found that cancer survivors expressed a sense of urgency in RTW, wanting "to return to work as quickly as possible" (Ferrell et al., 2003, p.657). It is crucial to honor consumer preference; if RTW quickly is what cancer survivors want, it is the job of rehabilitation counselors to support that desire.

Benefits of RTW. The benefits of RTW have been noted in the literature. These benefits include personal/psychological benefits, such as "overcoming cancer and regaining normalcy" (Ferrell et al., 2003, p.657), providing a daily structure (Rasmussen & Elverdam, 2008), work being a source of normality, self-concept, and identity (Hubbard et al., 2013), and increased quality of life (Jin & Lee, 2020). There are also work-related benefits, including regaining health insurance coverage through employers (Feuerstein et al., 2010) and higher income to meet the financial burdens that come with cancer care and treatment (Banegas et al., 2016).

Barriers to RTW. Barriers to RTW have been studied extensively by researchers. In Brown and Tai-Seale's (1992) review of the literature, they noted early on that negative attitudes (e.g., employer discrimination, decreased self-image of cancer survivors), behavioral changes,

changes in functional abilities, and financial problems have all posed as barriers to RTW. Later, researchers identified other barriers, such as decreased health-related QoL (HRQoL), cancer-related fatigue, cognitive dysfunction, and depression and anxiety (Ahn et al., 2009; Hansen et al., 2008; Johnsson et al., 2011; Sun et al., 2017). In the systematic literature review performed by Mehnert (2011), work environment (e.g., non-supportive work environment, manual labor) and personal factors (e.g., cancer type with unfavorable prognosis, certain types of treatment, presence of physical symptoms, perceived employer discrimination) were identified as being barriers to RTW.

Barriers can and do manifest differently for each person based on their personal and environmental contexts. Binkley et al. (2012) reported on the challenges women face, in particular when deciding to return to work outside the home. Physical appearance, cognitive functioning (e.g., difficulty concentrating), and physical symptoms (e.g., fatigue, mobility issues) were identified as concerns around women's ability to work.

Vocational (Dis)Satisfaction for People with Cancer

Some scholars have reported high levels of life satisfaction broadly and vocational satisfaction specifically among cancer survivors (Johnsson et al., 2009; Mehnert & Koch, 2013). Mehnert and Koch (2013) assessed the levels of work satisfaction and quality of life in people who had completed cancer rehabilitation. They found that job satisfaction was high overall and significantly correlated with a number of personal factors, including being older, having a higher monthly income, having higher education, and health-related quality of life. Specifically, satisfaction was highest for specific tasks and activities of work, personal achievements, and coworkers. The authors interpreted the high levels of work satisfaction as an indication that work is an adaptive coping strategy for cancer survivors.

As it relates to the previously mentioned shift in focus on meaningful relationships, researchers have observed a positive relationship between return to work and social support from coworkers and supervisors (Nachreiner et al., 2007). Mehnert and Koch (2013) and Taskila et al. (2006) have found cancer survivors to be particularly satisfied with their relations with coworkers.

However, some researchers have found that job satisfaction is lower for survivors. Specifically, those who returned to work in the same employment position reported lowered levels of job satisfaction (Amir et al., 2007). Johnsson et al. (2011) reported that those with lower vocational satisfaction were less likely to RTW; notably, lower vocational satisfaction was the only work-related variable associated with RTW in said study. Importantly, lower vocational satisfaction is correlated with a variety of poor vocational (e.g., job discontinuation, decreased working time after cancer; Høyer et al., 2012; Johnsson et al., 2009) and health outcomes (e.g., mental health, physical health; Barnes et al., 2014) for people with cancer (Nilsson et al., 2016). The mixed findings of high and low vocational satisfaction, and the implications of job satisfaction, indicate a need for rehabilitation counselors to support consumers with cancer in attending to such experiences and working with them to feel fulfilled and satisfied with work.

Vocational Rehabilitation for People with Cancer

Vocational rehabilitation has been recommended as a critical aspect of cancer survivorship plans (Hubbard et al., 2013). Given the high rates of cancer survivors losing or quitting their job within one-year post-diagnosis (Mehnert, 2011), it is clear that there is a need for cancer survivors to receive support in this area. Peteet (2000) recommended that vocational rehabilitation include the opportunity for cancer survivors to reassess their core values and contextualize personal accomplishments to address work-related distress. Chan et al. (2008)

found that cancer survivors who received state VR services were more likely to be employed, particularly those who received counseling, miscellaneous training, rehabilitation, technology services, job search assistance, job placement services, maintenance services, and other services. Hubbard et al. (2013) reported preliminary evidence for the effectiveness of case management vocational rehabilitation for people with breast cancer in reducing sick days. Blinder and Gany (2019) purported that multifaceted consumer-driven interventions (i.e., education, training, VR, and employer accommodations) must be developed to mitigate the negative effects of unemployment for people with cancer.

However, evidence-based rehabilitation interventions that support the return to work for cancer survivors remain scarce (Algeo et al., 2021). In their systematic review and meta-analysis of these interventions for RTW for people with breast cancer, Algeo et al. (2021) found studies lacking with respect to their methodological rigor. Lamore et al. (2019) similarly reported a paucity of effective, well-designed RTW interventions for cancer survivors. More recently, attempts have been made to address these shortcomings. Paltrinieri et al. (2022) used focus groups for cancer survivors and stakeholders (e.g., occupational therapists, physiatrists, psychologists) to adapt the Core Set for Vocational Rehabilitation (CS-VR based on WHO's ICF; 2001) assessment to cancer survivors (CS-VR-Onco). The CS-VR-Onco offers the opportunity for professionals associated with the RTW process a comprehensive assessment for consumers with cancer to begin RTW. Overall, there appears to be a need for more effective and efficacious vocational rehabilitation interventions to support RTW for people with cancer.

Changing Priorities and Work: Satisfaction with Labor Market Participation

People experience meaning and fulfillment in their careers (Steger & Dik, 2010). However, domain-specific meaning (e.g., careers and work) are not the only way to feel fulfilled.

There is also the global-level meaning that can be attained through other outlets. There is a need to broaden the understanding of the importance of work in the lives of cancer survivors to embrace a variety of experiences. To this end, Phillips et al. (2022) proposed the concept of satisfaction with labor market participation, which has been defined by Phillips et al. (2022) as "satisfaction with the amount and adequacy of work opportunities" (p.109).

People with cancer face barriers to employment, including intensive treatment regimens and their side effects, as well as time for recovery (Bouknight et al., 2006). Those with cancer face immediate existential threats to life and are faced with the need to balance personal goals with vocational aspirations and purpose. These changes prompt people with cancer to re-evaluate life goals, priorities, and values, which can include shifts in career goals and pursuits. Together, this indicates the need to allow consumers to decide how important work is to them. Høyer et al. (2012) make the argument that the value cancer survivors hold regarding labor market participation must be considered, given the process of re-evaluating life goals that people experience following a cancer diagnosis. Therefore, satisfaction with labor market participation is an appropriate outcome of interest for this study, given its applicability to people with chronic illness and disability, including cancer, regardless of their current employment status.

Psychosocial Adaptation

Psychosocial adaptation, according to Bishop (2012), is the "complex interactions between one's psychological processes and development and one's social environments, including the wide variety of personal, familial, public, and professional relationships, all of which are influenced by historical, physical, and cultural factors" (p.32). Adaptation, however, is not as straightforward, given the inconsistent use of this term in the literature and how it has been used interchangeably with adjustment and acceptance. Psychosocial adaptation to chronic illness

or disability (CID), therefore, has not been clearly and universally defined. For the purpose of this study, the author has chosen to use the definition of psychosocial adaptation proposed by Livneh and Antonak (1997) in their review of the terminology:

> An evolving, dynamic, general process through which the individual gradually approaches a state of person-environment congruence manifested by: (1) active participation in social, vocational, and avocational pursuits; (2) successful negotiation of the physical environment; and (3) awareness of remaining strengths and assets as well as existing functional limitations. (p.8)

Importantly, psychosocial adaptation is considered a "work in progress" (Livneh, 2022, p.173) rather than an outcome or destination to be achieved. This is in line with Livneh and Antonak's Adaptation to CID Model (1997), which is how psychosocial adaptation to CID is conceptualized in this study.

Livneh and Antonak's Model of Adaptation to CID

The Adaptation to CID Model by Livneh and Antonak (1997; Livneh, 2001) is an ecological model of psychosocial adaptation. The model has since been updated with 20 years of quantitative and qualitative data into the integrated model of psychosocial adaptation to CID (Livneh, 2022). The area of primary modifications is that of the reactions to adaptation to CID. The updated version maintains the three main components, each with their own unique subcomponents: (a) *antecedents*, (b) *process of psychosocial adaptation*, and (c) *outcomes*. The antecedents include (a.1.) *background and triggering events*, such as medical aspects of CID, including genetic dispositions, birth traumas, accidents/injuries, diseases/illnesses, and conditions with aging. The other subcomponent of antecedents is (a.2.) *contextual variables*. These are the (a.2.a.) *biological* (e.g., health status, type of CID, etc.), (a.2.b.) *psychosocial* (e.g.,

personal and social identities, developmental phase, etc.), (a.2.c.) *sociocultural status* (e.g., social/familial roles, cultural understandings of health, wellness, and illness, etc.), and (a.2.d.) *environmental characteristics* (e.g., societal attitudes, economy, etc.) surrounding the individual to influence the onset and subsequent impact of CID.

The next part of the model involves the dynamic process of psychosocial adaptation (Livneh, 2001). The first subcomponent of the process is (b.1.) *CID-related medical status*. Within this subcomponent exist both (b.1.a.) *specific medical status* (e.g., functional limitations, probability of mortality, etc.) and (b.1.b.) *diffuse statuses* (e.g., the uncertainty of future, the unpredictability of condition and functioning, etc.). (b.2.) *Psychosocial reactions to CID* are the second component within the process. Originally conceptualized as stages of psychosocial adaptation (Livneh & Antonak, 1997), Livneh (2022) has since reframed them as "individually determined, clinically observed, and phenomenologically experienced (idiosyncratic) temporal progression of psychodynamic reactions" (p.175). These stages are divided into early or short-term reactions of anxiety and shock, intermediate reactions of mourning, depression, hostility, and aggression, and late or long-term reactions of acceptance, environmental mastery, behavioral adaptation, affective equilibrium, etc. These reactions have been collapsed into the following categories based on phenomenologically observed clinical understandings: anxiety, depression, denial, anger, and acceptance. Divided into two groups, the first four tend to emerge early, then abate, while acceptance tends to increase with time. Alternatively, several of the first four have been seen to fluctuate with time in various conditions.

Contextual variables within the process of psychosocial adaptation act as either mediators, moderators, or interact with the experience and nature of the reaction to CID (Livneh, 2022). These variables can be associated with the type of CID, the body parts that are affected,

the course of the condition, pain, duration, visibility, side effects of medications, and treatment. Variables that are associated with one's identities and their intersections can influence the response to CID and the consequent adaptation. Variables related to one's personality or internal psychological processes play a role. These (b.3.) *generic CID-elicited psychological modalities* include such aspects as (b.3.a.) *appraisal and pre-coping approaches*, (b.3.b.) *coping strategies*, and (b.3.c.) perceptions of CID influence that come from the external environment (e.g., social/attitudinal barriers/facilitators, financial resources).

Psychosocial reactions to CID have been conceptualized as a duality of adaptive (acceptance, adjustment) and non-adaptive reactions (shock, depression, externalized anger, internalized rage), except for denial, which stands alone (Antonak & Livneh, 1991; Livneh et al., 2004). Anxiety, depression, denial, and anger have been found to decrease as time goes on while acceptance increases (Livneh, 2022).

Finally, the outcomes of this model are a complex set of indicators that focus primarily on QOL. There are various aspects to the outcomes of this model. One aspect is the manner in which the outcome is measured (e.g., self-report, professional observation, or report from a person close to the individual). The source and way these outcomes are obtained play a role in how we understand the psychosocial adaptation process, each with benefits and limitations. Similarly, the method of assessment may provide insight through a variety of lenses. A global assessment would yield different results compared to a specific one. Assessing someone within an hour of diagnosis or onset of CID is likely to yield considerably different results compared to an assessment administered three years after. The functional domain that is being assessed is an important consideration: intrapersonal, interpersonal, extrapersonal, and community-level. Finally, the content area, be it affective, cognitive, or behavioral, is a lens that can be adjusted

based on the intended outcome to be measured or a personally salient area to be addressed in the clinical setting.

The ultimate rehabilitation goal, as described by Livneh (2001), is quality of life (QOL). It is a multidimensional construct that encompasses various components, including such constructs as life satisfaction, subjective well-being, and functional level. QOL is measured both subjectively and objectively, thereby proving to be a broad enough outcome of applying to consumers with CID. “Fit” between the subjective and objective realities is said to demonstrate the level of adjustment one has developed. This model divides the QOL outcomes into the (c.1.) *intrapersonal* (i.e., (c.1.a.) *health and biomedical*, and (c.1.b.) psychological areas as measured by observed symptoms, functional abilities/limitations, and subjective experiences); the (c.2.) *interpersonal* (i.e., (c.2.a.) *marital/family*, and (c.2.b.) *peer/social relations areas*); and the (c.3.) *extrapersonal* or community-based (i.e., (c.3.a.) *work settings performance*, (c.3.b.) *living settings performance*, (c.3.c.) *learning settings performance*, and (c.3.d.) *recreational settings performance*). Indicators of these intrapersonal, interpersonal, and extrapersonal outcomes are viewed as a proxy for psychosocial adaptation (e.g., employment status and work productivity; Livneh, 2022). Importantly, Livneh (2022) asserted that a wider understanding of human functioning across life domains is imperative, rather than relying on unidimensional understandings of clinical outcomes.

Bishop’s Disability Centrality Model

Bishop’s Disability Centrality Model (2005) is a QOL model. It is based on Devins’ Illness Intrusiveness model (1983) and a synthesis of other prominent models and commonly accepted components of adaptation. The ideal outcome within this model is increased or restored QOL. Like Livneh and Antonak’s Adaptation to CID model (1997; Livneh, 2001; 2022),

Bishop's model also emphasizes the complex, multidimensionality of the process. The model has four domains that all influence overall QOL. The first is the domain impact, or the extent to which a domain in life has been affected by the onset of CID. The second is domain satisfaction. Values play a vital role in this domain. While one individual may place greater value on their identity as an athlete than their student role, another individual may value the opposite. Therefore, while a spinal cord injury resulting in paraplegia may initially decrease one individual's QOL because they can no longer play sports as they used to, it may have less of an impact on another person whose studies are less impacted by the onset of the disability. This builds on Devins' model in the sense that increased value on a role places greater weight on the resultant QOL. In other words, the onset of CID that negatively impacts one's QOL in a valued role will likely be stronger than the same onset of CID in a lesser valued role. It is not enough to simply note the domain that is impacted; rather, a determination of one's preferences and values needs to be taken into account. Relatedly, the third component is domain importance. The more important a domain, the more it will contribute to overall QOL.

The fourth component of the model is domain control. A reduction in options can lead to a decreased sense of control; fewer options mean less opportunity to enact change, which could diminish QOL. To promote a sense of control, one can learn to manage one's CID and work to lessen its impact on one's self-efficacy. By being an active driver of one's recovery, a sense of control is restored. In so doing, the person who perceives less control in a specific area and now manages their treatment and recovery by making decisions and problem-solving can increase control over that domain. This can spill into other domains, further promoting QOL.

Value change and adaptation are important concepts in this model. A change in overall QOL does not inherently signify or lead to diminished QOL. Rather, one needs to adapt to these

changes. In order to accomplish this, one must either (a) change environmental conditions or (b) change one's own values. The value change concept draws on previous models of psychosocial adaptation to CID (Livneh, 2001; Wright, 1983). The concept of changing values has also been described by Schwartz & Sprangers (1999) as a response shift, in which one modifies internal standards of measurement, changes in domains pertinent to QOL, or redefines QOL to change one's self-evaluation of the status of their QOL.

Psychosocial Adaptation to Cancer

In and of itself, cancer survivorship is a "process of moving from surviving to thriving, is often very gradual and outwardly undramatic compared with treatment and takes a lot of 'working through'" (Dow, 1990, p.514). In many ways, this conceptualization of survivorship complements the process of psychosocial adaptation to CID that is held by rehabilitation counselors. However, much of the research on cancer survivorship and psychosocial adaptation to cancer has been conducted in the fields of nursing, oncology, and medicine. These medical health fields use indicators to measure psychosocial adaptation, such as less negative and more positive mood (Blomberg et al., 2009), better quality of life (Blomberg et al., 2009; Santos et al., 2006; Vargas et al., 2010), social adaptation (Heim et al., 1997), and other specific indicators of negative and positive adaptation, such as less fatigue (Vargas et al., 2010). This understanding of psychosocial adaptation is limited and fails to encompass the complexity that the field of rehabilitation counseling has explored through research and practice and that people with disabilities and chronic illness experience.

Within the field of rehabilitation counseling, psychosocial adaptation to cancer has been explored by some researchers. As described by Livneh (2022), typical psychological reactions to CID have been found in cancer survivors (Carver et al., 1993, as cited in Livneh, 2022).

However, certain reactions have been found to have a fluctuating trend in people with cancer, such as the curvilinear nature of depression and anger and the u-curved nature of anxiety and psychological distress (Stanton & Snider, 1993). However, Livneh (2022) purported that cancer presents unique experiences that people with this condition must attend to in the psychosocial adaptation process, including managing pain and other side effects from treatment, as well as the existential fears of human mortality that a cancer diagnosis tends to elicit from people. Other psychological constructs have been studied as they relate to psychosocial adaptation to cancer. Such constructs include resilience (Park et al., 2021), self-efficacy (Manne et al., 2006), personality (Sobel & Worden, 1979), and coping (Ahadi et al., 2014; Büssing et al., 2007; Dunkel-Schetter et al., 1992; Holland & Holahan, 2003; Livneh, 2000; Stanton & Snider, 1993).

Cancer Survivor Adaptation Model

To attend to the specific and unique aspects that people with cancer experience in the psychosocial adaptation process, Naus et al. (2009) proposed a cancer survivor adaptation (CSA) model. This model draws on other models of psychosocial adaptation for general CID populations (e.g., Livneh, 2001; Wright & Kirby, 1999). Like its predecessor (Livneh, 2001), this model is comprised of three parts: (1) the personal context, (2) the psychosocial adaptation process, and (3) quality of life outcomes. The first component consists of the intrapersonal and interpersonal characteristics of the individual with cancer and provides the context within which said individual engages in adaptation. This dynamic, fluid process primarily relies on cognitive appraisal of personal goals. Such cognitive appraisal combined with self-identity explains adaptation to cancer. Finally, QOL is conceptualized as a multidimensional set of outcomes that span various life domains (i.e., biological, psychological, social, and spiritual), changing as one appraises one's goals. In other words, "quality of life within each life domain may be weighted

according to the individuals' value system" (p.1355), and as one re-appraises each area and subsequent QOL within said domain, this modifies the context within which psychosocial adaptation takes place. Naus and colleagues stated that appropriate and regular assessment of domain centrality must be considered to best support quality of life for cancer survivors. Naus et al.'s overall conceptualization of the process of psychosocial adaptation to cancer survivorship parallels Livneh and Antonak's model (1997; Livneh, 2001), with the additional component of domain importance incorporated from Bishop's (2005) disability centrality model.

Virtues and Psychosocial Adaptation to Chronic Illness and Disability

The conceptualization of virtues began thousands of years ago with philosophers of virtue ethics. The notion of virtues revolved around flourishing and excellence, coming from the Greek word for excellence, *arête*, later translated to the Latin word *virtus* (Bright et al., 2014). As early as 380 B.C.E., humankind understood virtues through philosophers such as Plato. In his Socratic dialogue, *Meno*, Plato depicted virtues as "the desire of things honourable and the power of attaining them." Aristotle, Plato's student, and colleague, became a leader in virtue ethics philosophical understandings, with many more virtue ethics theories drawing from his work (Athanassoulis, n.d.). Ever since, the study of virtues continues to be relevant in philosophy and across disciplines. While the operationalization of virtues continues to vary by discipline (Bright et al., 2014), there tends to be a common thread regarding intent and action. Virtues, as described by Emmons (2003), are what "enables a person to effectively pursue conduct directed toward higher purposes and goals that might be a productive approach to take" (p.120). Similarly, McCullough and Snyder (2000) defined virtues as "any psychological process that consistently enables a person to think and act so as to yield benefits to him or herself and society" (p.1). Kim, Reid, and colleagues (2016) put it simply: Virtues are the behavioral manifestations of values or

how we live out our values. Thus, virtues are considered by many to be the union of intentional, noble pursuits carried out by action.

Virtues and Positive Psychology

Relatively recently, virtues have made their mark on psychology, most notably in Peterson and Seligman's (2004) Classification of Character Strengths and Virtues. Deeply rooted in long-held philosophical traditions, Peterson and Seligman sought to define and categorize a definitive list of virtues. To do so, the authors employed a two-pronged approach: (1) a more empirically driven pursuit in the form of a literature review of virtues that are key for human flourishing, and (2) a more subjective thought-experiment asking, "what strengths and virtues are valued across cultures?" In other words, are there universal virtues that unite all humans? Importantly, challenges have been proposed that question the use of such a universal construct, including Sandage and Hill (2001), who questioned how research on virtues could be contextualized within culture, and who will be privileged and benefit from such research, given that much of the philosophical input and research has been performed within the Western context. (For a full review of the cultural embeddedness of virtues, see Peterson & Seligman, 2004).

Ultimately, Peterson and Seligman (2004) proposed six virtues (or the "High Six"): wisdom, courage, transcendence, humanity, justice, and temperance. They understood that the interpretation of each virtue might vary across cultures (e.g., justice may manifest differently across traditions) but that such direct mapping is unimportant; rather, "coherent resemblance" (p.35) is what is needed and evidenced in these six virtues. Using these higher-order virtues, Peterson and Seligman classify their 24 more specific character strengths. The route to live out

such virtues can be traveled using a variety and combination of specific character strengths housed under each virtue.

However, the focal point of this model, and much of the empirical research, is on character strengths. Fowers (2005) claims that the classification systems failed to have developed an adequate general concept of virtue, resulting in little meaningful development of the higher-order virtues. In fact, Peterson and Seligman (2004) appear to have been all too aware of that from the beginning: "We disavow all intents to propose a taxonomy in the technical sense … a thoughtful classification, even if tentative, will serve the goals of psychology more productively than a flawed taxonomy" (p.7). This lack of a meaningful development of the higher-order virtues, along with the need for special attention on the unique process of psychosocial adaptation, is the reason for the use of the proposed definition of virtues in this study as conceptualized by Kim, McMahon, and colleagues' (2016) Virtue-Based Psychosocial Adaptation Model.

Virtues-Based Psychosocial Adaptation Model

Virtues can be defined as domains of human excellence that require action to exist. In other words, a virtue such as practical wisdom without action that demonstrates practical wisdom is not truly a virtue. For the purpose of this study, the conceptualization of virtues is from Kim, McMahon, and colleagues' (2016) Virtue-Based Psychosocial Adaptation Model (V-PAM). The V-PAM explains psychosocial adaptation to chronic illness and disability using five virtues: (1) *Courage*, (2) *Integrity*, (3) *Practical Wisdom*, (4) *Committed Action*, and (5) *Emotional Transcendence*. These virtues emerged from Aristotle's conceptualization of virtues: integrity from Aristotle's "communal aspects"; practical wisdom; committed action from Aristotle's

"action"; emotional transcendence from Aristotle's "emotional cultivation"; with the addition of courage.

The way in which each virtue contributes to the psychosocial adaptation process is unique. Kim, McMahon, et al. (2016) use the analogy of a person driving down a road, pursuing the destination of *Virtue-Based Living* or flourishing as conceptualized in positive psychology. The individual with a chronic illness or disability, each with their own makeup of biopsychosocial realities, is driving along the road of *Committed Action*; with each passing action and behavior that is consistent with one's virtues, one moves more quickly along the road. In order to do so, the person relies on "the requisite equipment" of courage, integrity, and practical wisdom. These three virtues, though independent constructs, together are the primary vehicle in which the person continues down the road. *Courage* was described as both the ignition and the fuel for momentum to continue to take each action, each step forward, while *integrity* serves as the compass and steering wheel to ensure steadfastness and honesty (Kim, McMahon et al., 2016). *Practical wisdom* is the mechanic to navigate the challenges of life through sound judgment. *Emotional transcendence* manifests as both the lens through which life is experienced as well as the transcendent experiences that present themselves along the way. As the windshield, emotional transcendence allows individuals to remain in the present. As transcendent experiences, this virtue offers unique opportunities to practice gratitude, humor, and spirituality in ways that strengthen resolve and commitment to virtuous living (Kim, McMahon et al., 2016). Along the road, the person will encounter potential collaborators (e.g., family, friends, colleagues, rehabilitation providers, teachers, etc.) that influence the journey and the person's virtuous living. The ultimate goal of this model is *Virtue-Based Living*. Importantly, this is not the same "place" for everyone, and even within one individual, how one lives according to

their virtues can shift throughout one's life. In this way, it is the pursuit that is of import. Thus, psychosocial adaptation is a process or journey, not an outcome or destination.

V-PAM and Vocational Rehabilitation

While there is a paucity of empirical and conceptual research on the link specifically between V-PAM and satisfaction with labor market participation, Kim and colleagues (in press) have begun to describe the theoretical alignment between V-PAM and vocational rehabilitation counseling. Specifically, Kim et al. (in press) discussed the conceptual overlaps between V-PAM and the Minnesota Theory of Work Adjustment (MTWA; Dawis & Lofquist, 1984) tenets. Work is conceptualized within MTWA as an interaction between the person and their vocational environment; Kim and colleagues purported that practical wisdom is essential to understanding how one fits within the work setting and that integrity plays a crucial role in navigating the relationship between the self and the environment. Within MTWA, the individual must carry out tasks specific to any given work environment, which requires courage to try a new task and practical wisdom to master said skill. In order to carry out these tasks and skills, an individual will need certain conditions, including accommodations; asking for accommodations may require courage, while using them consistently requires committed action. Meeting the job expectations demands integrity to ensure ethical and good work is being carried out and committed action to continue to do so day after day. Job tenure is an essential outcome within MTWA, which requires committed action, integrity, and emotional transcendence. Kim and colleagues (in press) purported that while work personalities are more innate, fixed dispositions, virtues are "learned dispositions that can be nurtured through work" (p.24).

The conceptual linkage between work and V-PAM is gaining more attention from researchers (Kim et al., in press). However, there have yet to be theoretical links between V-PAM and satisfaction with labor market participation. This author begins the discussion on this specific aspect of work outcomes based on clinical anecdotes and thought exercises, hoping that future empirical research will be conducted to explore the relationship. Virtues are "learned dispositions" (Kim et al., in press, p.24) that can be measured in terms of human behavior and character traits (Kim et al., in press). Such human behavior and character traits can lend themselves to one's ability to experience and influence one's satisfaction with labor market participation. It requires emotional transcendence to honestly reflect on own's current work-life balance (as discussed in the SLMP; Phillips et al., 2022) and courage to act on and change it. Practical wisdom is fundamental in accurately understanding one's financial situation (e.g., whether one needs more income or financial support, as discussed in the SLMP). Committed action is crucial when considering one's current work or volunteer status and desire for a different one. For instance, specific aspects of committed action, such as hardworking, self-discipline, and persistence, are required for one to believe that they are competent at their work or volunteer efforts and content with their current situation. Finally, specific aspects of integrity, such as honesty, fairness, trustworthiness, and loyalty, may all contribute to living genuinely and consistently within one's moral standards regarding employment. For example, someone may feel unfulfilled in their current work situation, and their moral code is such that they value using their skills and abilities to the best of their ability. Thus, this intentional reflection may play a role in someone's evaluation of their satisfaction with labor market participation and their intent to change it. Each of the five virtues of the V-PAM (committed action, emotional transcendence, practical wisdom, integrity, and courage) all appear to have a role in both understanding one's

current level of satisfaction with labor market participation and potentially in making changes if one is unsatisfied with their current situation.

Summary

Being on the receiving end of the sentence "you have cancer" can be a traumatic experience that is just the beginning of a potentially lifelong process of uncertainty, growth, and survivorship. The psychosocial adaptation to cancer research conducted over the last several decades has primarily originated from adjacent fields rather than rehabilitation counseling itself. Rehabilitation counseling provides a unique approach to the psychosocial adaptation process and embraces a focus on the world of work. Given the expertise and philosophy of this field, rehabilitation counselors and researchers are called upon to take a greater role in understanding and supporting people with cancer through this journey of cancer in interaction with work desires.

However, employment may not be the goal of people living with cancer. Some may find meaning and purpose in other areas of life, given the unique existential challenges that arise when told they have cancer. To this end, it is crucial to broaden the scope of "successful employment outcomes" to hold space for different experiences, preferences, and priorities with respect to work. Operationalizing satisfaction with labor market participation as the primary outcome allows for this inclusion of realities and shifts in priorities and values.

The two distinct yet complementary conceptualizations of virtues by Peterson and Seligman (2004) and Kim et al. (2016) offer insight into the applicability of virtues in rehabilitation interventions. Peterson and Seligman purported that virtues and character strengths are malleable characteristics that can be strengthened through intentional practices. Kim et al. understand virtues as established traits that consolidate with each passing experience and action

(J. H. Kim, personal communication, March 23, 2023). These understandings of virtue are distant echoes of the Socratic dialogues by Plato. Plato's *Meno* and *Protagoras* dialogues each explore the nature of virtues, both asking the question, "Is virtue teachable?" Both Meno and Protagoras engage in dialogue with Socrates, each exchanging opinions and presenting different arguments for and against this question. These writings have been studied over the years, and different conclusions have been drawn as to the answer to this question. Some believe the learnability of virtue won, while others believe that virtue cannot be taught.

This author believes in the possibility that both truths can exist: virtues are both teachable and innate. This type of duality was explored by Livneh and colleagues (2019) in the context of psychosocial adaptation to CID. They found the existence of such duality (e.g., trauma and post-traumatic growth) in the process of psychosocial adaptation. The reaction to and experience of the duality is influenced by processes that are grounded in the time flow. As described by Livneh et al. (2019), the cognitive operations that are at play in the process of adaptation begin with temporally proximal processes that react to the new situation. A temporally distal set of cognitive processes occur later to promote stabilization and adaptation. In this way, we can view virtues as operating in an immediate, trait-like manner to support everyday life, and they can later be harnessed deliberately to promote positive psychosocial adaptation.

Livneh and Martz (2016) recommended more attention be paid to positive personal traits of strengths and virtues of people with CID by disability and rehabilitation researchers and professionals. The V-PAM offers more than a description of the adaptation process; it allows for a path toward psychosocial adaptation. This path is one that rehabilitation counselors have the capacity to influence through guidance and support. Cancer survivors walk this path of committed action using the foundational tools of practical wisdom, courage, integrity, and

emotional transcendence. Ultimately, “There is no virtue without action, and there is no virtue-based adaptation without a course of action to address the challenges that may accompany the onset of disability” (Kim et al., in press, p. 5). This study offers insight into a possible course of action to support the psychosocial adaptation process of people with cancer.

CHAPTER THREE: Methodology

This chapter details the research design, study procedures, sample characteristics, measurement instruments, and statistical analysis.

Research Design

To answer the research questions a quantitative, descriptive, non-experimental survey research design was employed (Heppner et al., 2016). Simple and multiple linear regression (MLR) analyses were used to investigate the role of virtues in satisfaction with labor market participation for people with cancer. As a hypothesis generating exercise, mediation analyses were used to investigate the role of psychosocial adaptation in the relationship between virtues and SLMP and of the virtue committed action as a mediator between the other virtues and SLMP. Descriptive statistics are provided for socio-demographic information (e.g., age, gender) and cancer-specific information (e.g., cancer type, time since diagnosis).

Study Procedures

Participant Recruitment

The study was a cross-sectional sampling design with non-random convenience sampling. The study was approved by UW-Madison Institutional Review Board (IRB; see Appendix A). Data was collected from Prolific, a crowdsourcing data collection tool used to recruit participants for social science research (Kothe & Ling, 2019; Peer et al., 2017; Turner et al., 2020). Prolific is a newer crowdsourcing platform comparable to Amazon's Mechanical Turk (MTurk) and has benefits over MTurk in several ways. Importantly, Prolific was designed to connect participants to academic research studies, while MTurk was designed to function as a survey distribution center (Kothe & Ling, 2019). Turner et al. (2020) found the two crowdsourcing tools to be comparable and time-efficient recruitment platforms for research with

older adults. A significant difference is that MTurk is not a primary product of Amazon and therefore has received little attention for improvements in recent years.

In contrast, Prolific's sole purpose is academic research (Peer et al., 2017). Peer et al. (2017) contended that the participant pool of Prolific is more diverse than MTurk's. Furthermore, Prolific offers guidance and participant rights for payment, while MTurk does not (Palan & Schitter, 2018). This payment guidance lends itself to ethical research practices.

When using any crowdsourcing platform, there is a concern about the validity of the responses compared to in-person research due to the pollution of dishonest participants. Fortunately, there is an additional layer of scrutiny by process of pre-screening participants with Prolific (Palan & Schitter, 2018). This pre-screening is done through questions asked in previous studies and an initial basic information questionnaire when participants sign up for the site. When used with caution and forethought, Smedema (2017) illustrated the utility of such platforms in research with people with disabilities and chronic illnesses. In her discussion on issues in using MTurk, which can be applied to Prolific, she cautioned researchers to be thoughtful and intentional in approaching data collection through this format. With careful attention, Smedema affirmed that, with careful attention, crowdsourcing platforms could provide researchers with large samples of historically difficult-to-reach populations within the disability community.

First, this researcher screened for eligibility using the following criteria: (a) a resident of the United States, (b) 18 years of age and older, (c) comprehends written English at a 6th-grade reading level, and (d) has ever received a cancer diagnosis. Participants were asked whether their cancer was active or in remission. The complete screening tool is available in Appendix B.

Sample Size

To determine the sample size of this study, a power analysis using G*POWER (a software tool to generate power analyses; Faul et al., 2007; Faul et al., 2009) was conducted. The 20 IVs consist of five virtues (courage, practical wisdom, emotional transcendence, integrity, and committed action); and three psychosocial adaptation phases (non-adaptive reactions, denial, and adaptive reactions) regressed on the five virtues (resulting in 15 predictors). Alpha level was set at .05, power at .80, and anticipated effect size, as determined from a review of the literature, at a more conservative effect size estimate of .2, necessitating a sample size of 122.

Participants

The researcher used Prolific's pre-screening tool to target the screening process for this study. The pre-screening tool allows researchers to filter and then be able to target participants who match the desired inclusion criteria. With the inclusion criteria described above, there were found to be 658 eligible individuals who had been active on Prolific within the past 90 days (at the time of survey distribution). The screening process employed by this researcher was able to corroborate Prolific's pre-screening tool. Given the guidance of Prolific to expect a 40-50% response rate, the researcher screened 400 individuals from the 658 eligible individuals. Of the 406 people screened, three people timed out, and three people returned their submissions, leaving 400 screened individuals. Of those 400, 11 did not meet full inclusion criteria (one due to country of residence, one due to lack of English comprehension, and nine due to lack of cancer diagnosis), leaving 389 individuals who were approved for the complete study. Of those 389 people, 250 were invited to take the complete survey. Of those 250 people, 93 did not open the survey, and 11 returned their survey, leaving 146 approved, resulting in a response rate of 58.4%, comparable to the projected response rate of Prolific. Before answering any items, participants provided informed consent. Those who did not provide informed consent were thanked for their

time and redirected to return their submission. The informed consent document can be found in Appendix C.

Measures

The following measures were used in this study.

Demographic Information

A demographic questionnaire was developed for this study. Participants provided self-reported demographic data for the following: age, gender identity, race/ethnicity, relationship status, education, employment status, receipt of governmental benefits, and health insurance. See Appendix D for the complete survey. Socio-demographic information is provided as descriptive statistics.

Cancer-Specific Information

A cancer information questionnaire was developed for this study. Participants provided self-reported cancer-specific data for the following: type/site of cancer, cancer stage as a proxy for severity, cancer status, time since the initial diagnosis, presence of recurrence, time since most recent recurrence, current treatment regimen, presence of symptoms from cancer or its treatment, and severity of symptom burden. See Appendix D for the complete survey cancer-specific information is provided as descriptive statistics.

Psychosocial Adaptation

The Reaction to Illness and Disability Inventory (RIDI; Livneh & Antonak, 1990) is a 60-item self-report with eight scales operationalizing psychosocial adaptation to chronic illness and disability. These scales are Shock (7 items; examples include “I cannot absorb everything that is happening to me”), Anxiety (8 items; “I am about to go to pieces”), Denial (7 items; “I believe my cancer will go away by itself”), Depression (8 items; “my family would be better off

if I were dead"), Internalized Anger (8 items; "My cancer must be a punishment for something I did in the past"), Externalized Hostility (7 items; "I find myself arguing more with people"), Acknowledgment (7 items; "I know my limitations and have learned how to deal with them," and Adjustment (8 items; "Everything in my life is coming together again"). The RIDI was initially designed to measure psychosocial adaptation of people with physical disability, including people with cancer (Livneh & Antonak, 1990). Each item is rated on a 4-point scale, including the following anchors: 1 [*never*], 2 [*seldom*], 3 [*sometimes*], and 4 [*often*]. Responses are then summed to achieve a global score for each scale. Factor analytic studies of the RIDI have created a consensus as to a three-factor structure: (1) non-adaptive reactions (including the Shock, Anxiety, Depression, Internalized Anger, and Externalized Hostility phases), (2) denial (only the Denial phase), and (3) adaptive reactions (including the Acknowledgment and Adjustment phases; (H. Livneh, personal communication, March 22, 2023; Antonak & Livneh, 1991; Livneh et al., 2004). Denial has been determined to be distinguishable from the other two factors in a bifurcated manner, with denial at times being adaptive to cope with the onset of a disability and, at other times, being non-adaptive. Thus, this study utilizes the three factors of non-adaptive reactions, denial, and adaptive reactions as three separate predictors in the regression analyses.

Evidence supports the reliability and validity of this tool (Livneh & Antonak, 1991). The initial analysis determined Cronbach coefficient alpha values ranging from .64 to .89 for each of the eight scales (Livneh & Antonak, 1990). Gender, age, and educational achievement have not been determined to correlate consistently with the RIDI scales (Livneh & Antonak, 1990). However, age at the onset of disability has been found to elicit differentiated scores on the Anxiety, Internalized Anger, and Externalized Hostility scales (Livneh & Antonak, 1990, 1991).

Livneh and Antonak (1990, 1991) reported a correlation of .68 between Linkowski's Acceptance of Disability Scale (1971; Linkowski & Dunn, 1974) and items in the Acknowledgement and Adjustment scales of the RIDI, thereby providing evidence of good criterion-related validity. The purpose of using this instrument in this study is to understand the strength of association with virtues and satisfaction with labor market participation. In this study, the internal consistency reliability estimate (Cronbach's alpha) for each of the three factors was computed to be as follows: Non-Adaptive Reactions Cronbach's alpha = .95; Denial Reaction Cronbach's alpha = .54; and Adaptive Reactions Cronbach's alpha = .75.

Virtues

The Adapted Inventory of Virtues and Strengths (AIVS; Kim, Reid et al., 2016) was created as a 46-item measure with five subscales consisting of the five virtue factors: Courage (5 items; examples include "Bold - Timid"), integrity (11 items; "Unfair - Fair"), Practical Wisdom (11 items; "Prejudiced - Valuing Equality"), Committed Action (7 items; "I give up easily - Persistent"), and Emotional Transcendence (12 items; "Unforgiving - Forgiving"). In a discussion with J. H. Kim (creator of the V-PAM and AIVS; personal communication, March 3, 2022), it was mutually agreed upon to add three items to the Courage scale (8 items for the scale). The additional items are as follows: "Lionhearted - Fainthearted,"; "Fearful - Fearless,"; "Intrepid - Meek." The AIVS was adapted for this study to be a 49-item measure. The AIVS uses a 7-point semantic differential scale, in which the test taker must choose where along the continuum of two opposing adjectives or short phrases they stand. It can be administered in 10-15 minutes. Twenty-four items are reverse-scored to reduce response bias. The reverse-scored items are converted from 1 to 7, 2 to 6, 3 to 5, 5 to 3, 6 to 2, and 7 to 1 to be added to the other

items in the scale for the scale score. The raw scores are used for each scale, with higher scores indicating greater levels of each virtue.

The empirical research using the AIVS has shown acceptable to high reliability, with Cronbach coefficient alphas of .78 (Committed Action), .84 (Emotional transcendence), .78 (Practical Wisdom), .78 (Integrity), and .77 (Courageousness; Kim, Reid et al., 2016; Kim et al., 2018; Kim et al., 2021). Kim, Reid et al. (2016) demonstrated content and face validity of the AIVS through the use of trained item writers and expert review panels. They also determined construct validity through correlations of the AIVS subscales with measures of life satisfaction (ranging from non-significant correlation of .12 to moderate correlation of .47), resilience (ranging from moderate correlation of .37 to high correlation of .69), and well-being (ranging from non-significant correlation of .03 to moderate correlation of .46). Furthermore, Kim, Reid et al. (2016) assessed the criterion-related validity through a multiple regression analysis to measure the relationship of virtues and resilience with 61% of the variance in one's resilience explained by virtue scores. The purpose of using this instrument in this study is to operationalize the five virtues to use them as unique and individual predictors in the regression analyses. In this study, the internal consistency reliability estimate (Cronbach's alpha) for each of the scales was computed to be as follows: Courage scale Cronbach's alpha = .89; Integrity scale Cronbach's alpha = .79; Practical Wisdom scale Cronbach's alpha = .81; Emotional Transcendence scale Cronbach's alpha = .88; and Committed Action Cronbach's alpha = .83.

Satisfaction with Labor Market Participation

Satisfaction with Labor Market Participation (SLMP; Phillips et al., 2022) is a nine-item measure with two subscales: satisfaction with the amount of work (5 items; examples include "I wouldn't change my current work-life balance even if presented with a new opportunity" and "I

have been given all the work opportunities I need") and satisfaction with the autonomy of work (4 items; "I have always felt that I could choose to be employed if I wanted to" and "Whether through volunteer efforts or employment, I am able to contribute outside of the home as much as I would like"). It uses a 5-point Likert scale with anchors from 1 (*strongly disagree*) to 5 (*strongly agree*). Two of the items are reverse-scored. Scores from each item are then summed to determine the scale scores. Higher scores indicate greater satisfaction with labor market participation.

The SLMP has initial evidence of adequate test-retest reliability (16 months between measurements), with a correlation of .74 across time points for the total scale (not a statistically significant change, with $p = .68$). Investigations regarding the SLMP's convergent and divergent validity with related factors have indicated a high correlation (.92) between labor market satisfaction total scale and less robust correlation (-.47) between satisfaction with the amount of work and stress. Furthermore, both subscales were significant predictors of satisfaction with life, indicating predictive validity. Correspondence with the creator of SLMP (B. Phillips, personal communication, October 19, 2022) helped this researcher further operationalize the variable and provide permission to use the scale. The purpose of using this instrument in this study is to operationalize satisfaction with participants' current participation in the workforce in the regression analyses as the outcome of interest. To this end, the global score of the SLMP was used as the DV in the regression analyses. This study computed the internal consistency reliability estimate (Cronbach's alpha) as .86.

Pilot Testing

This questionnaire was pilot tested by three rehabilitation counseling experts to ensure clarity of items. Minimal qualifications of experts were defined as (1) a master's in

Rehabilitation Counseling, (2) completed Ph.D. coursework in Rehabilitation Counselor Education program, and (3) three years of exposure to vocational rehabilitation. No data from this piloting procedure was used in the final analyses.

Summary

The measures used in this study are summarized in Table 4.3 with the following information: number of items, ranges of possible item values, scoring, and Cronbach's alpha reliability estimates of internal validity from the present study sample. The complete questionnaire can be found in Appendix D.

Data Analysis

The Statistical Package for Social Sciences (SPSS-Version 29) was used for analyses. Data were analyzed using data screening procedures, descriptive statistics, and multiple linear regression analyses to investigate the research questions. Descriptive statistics, including measures of central tendency (mean), normality (kurtosis and skewness), and dispersion (standard deviation), were computed for all independent (IVs) and dependent variables (DVs). Demographic characteristics and categorical variables are described in frequencies, percentages, means, and standard deviations. To establish internal consistency reliability, Cronbach's alpha estimates were computed for each instrument used in the study (see Table 4.3).

Additionally, all data were screened for missing data, outliers, and multicollinearity. The data are summarized in tables that depict the socio-demographic and cancer-specific characteristics of the study sample, psychosocial adaptation, virtues, and satisfaction with labor market participation. The scores and internal consistencies are presented for each of the selected instruments. Each variable is presented with the intercept and standard deviations. All inter-correlations are presented in an intercorrelation matrix.

Missing Data

Missing data is a common problem in data analysis (Cohen et al., 2003) and must be addressed by considering four factors: (1) amount of missing data, (2) sample size, (3) reasons for the missing data, and (4) number of researchers who will use the dataset. Managing missing data requires an individualized approach based on the factors mentioned earlier. While there are several options for managing missing data (e.g., dropping variables, dropping participants, simple imputation, and multiple imputation), the best scientific approach is to reduce the missing data as much as possible. Therefore, participants in this study who have a large percentage of missing data (>15%) were dropped from the analysis, and a simple imputation method using regression to handle missing data at the item level for measures with missing values (<15% was used to estimate the missing values for the rest of the participants). This approach offers the advantage of maintaining sample size for participants who answered at least 85% of the items (and therefore statistical power) and sample representativeness.

In the present study, no standardized measure was found to have missing items at the scale level. Some variables had varying degrees of missing values at the item level. Percentages of missing values for the standardized measures of variables of interest in the study at the item level ranged from 0% to 0.7%, with a total of three missing data values. In the non-standardized measure of symptom severity rating, 58.9% of the participants reported no symptoms, leaving only 58 people reporting symptoms; thus, analysis was not performed using this variable.

It is essential to assess for patterns of missing data, given that missing data systematically can result in biased parameter estimates (Fox-Wasylyshyn & El-Masri, 2005). The missing values on study variables were completely missing at random, as evidenced by a non-significant Little MCAR Chi-square test (Chi-Square = .000, DF = 255, Sig. = 1.000). Almost any

procedure for handling missing data yields similar results if 5% or less of values are missing randomly from a dataset (Tabachnick & Fidell, 2007). The Expectation-Maximization (EM) algorithm was used in SPSS to impute the missing values. The EM algorithm is mathematically equivalent to the maximum likelihood using an iterative procedure to produce the best parameter estimates. The EM has two steps: In the first EM step, starting values of the parameters are obtained by constructing a series of regression equations based on the means and covariance matrix. In the second EM step, new parameter values are calculated using the newly imputed data and the original observed data (Fox-Wasylyshyn & El-Masri, 2005; Schlomer et al., 2010). The symptom severity variable was excluded in the missing data treatment procedure of EM as this variable had more than 10% of missing responses.

Outliers

An outlier is an extreme value that does not conform to the rest of the data (Cohen et al., 2003). Such a case can significantly influence the estimates of regression coefficients, standard errors, and overall prediction and, consequently, must be addressed. The present study used Cook's distance (*Cook's D*) to identify outliers. Participants with identified outliers of *Cook's D* greater than the cut-off value of $4/(N - k - 1$; Chatterjee & Hadi, 2009) were deleted from the analysis and final sample. For this study, the cut-off value was (4/146-14-1) = .03. Using this value, six participants were deleted, resulting in a final sample size of 140.

Multiple Linear Regression Analyses

Simple and multiple linear regression (MLR) analyses (Cohen et al., 2003) were employed to test the hypothesized relationships (i.e., determine the correlation) between each of the five virtues (courage, emotional transcendence, integrity, committed action, and practical wisdom) and the outcome variable (i.e., satisfaction with labor market participation). According

to Hoyt et al. (2008), regression analysis is appropriate for exploring the relationships between predictor variables and the outcome of interest.

Mediator Analysis

Mediator analyses were used to test the hypothesized influence of psychosocial adaptation to chronic illness and disability on the relationship between virtues and satisfaction with labor market participation. Mediator analysis tests the presence and extent of an intervening variable between the IV and DV, resulting in an indirect effect of the IV on the DV through the mediating variable (Hoyt et al., 2006). This analysis type is useful in theory-building and clinical applications (Hoyt et al., 2008). This study employs mediation analyses for theory generation in hopes of eventuating in exploring causal paths in future studies.

Control for Type I Error Inflation

Given that 14 separate analyses were conducted in this study, spurious results due to alpha inflation were a possibility. The Benjamini-Hochberg (BH; Benjamini & Hochberg, 1995) correction was employed to control for type I error inflation. The BH procedure controls the false discovery rate (FDR) by considering the expected proportion of false positives among the total number of rejected hypotheses (type I error). The alpha was initially set at .05 for all equations.

Of the 14 separate analyses (five simple linear regressions, four simple mediation analyses, and five multiple linear analyses, each with three mediators) and the bivariate correlations between study variables, 102 *p*-values were produced. Of the 102 *p*-values, 74 were originally found to be significant at an alpha of .05. Using the BH correction, adjusted *p*-values were computed for each analysis. To make the computations, all *p*-values must be ranked in ascending order. Once ranked, the formula $p(k)*m/k$ is used to calculate the next step in the correction procedure, where $p(k)$ is the sorted *p*-value, m is the number of *p*-values in the list,

and *k* is the rank. Once calculated, the BH-adjusted *p*-values can be attained starting with the largest *p*-value, which remains the same, and continuing until reaching the smallest *p*-value. If the calculated *p(k)*m/k* is larger than the previously calculated adjusted *p*-value, the previous *p*-value is used, resulting in a list of adjusted *p*-values that goes from lowest to highest. Of the 74 *p*-values originally found to be significant, only six became non-significant with the adjusted *p*-values. See Table 3.1 for all computations of the BH correction.

Table 1

Benjamini-Hochberg Correction Results

Analysis Test	**Rank (*k*)**	***p*-values**	***p(k)* m/k***	**Adjusted *p*-value**	**Significance**
Parallel Mediation Analyses CA: AD a	1	0	0.000	0.000	***
Parallel Mediation Analyses CA: c	2	0	0.000	0.000	***
Parallel Mediation Analyses Cou: Ad a	3	0	0.000	0.000	***
Parallel Mediation Analyses Cou: Ad b	4	0	0.000	0.000	***
Parallel Mediation Analyses ET: Ad a	5	0	0.000	0.000	***
Parallel Mediation Analyses ET: Non-Ad a	6	0	0.000	0.000	***
Parallel Mediation Analyses ET: Ad b	7	0	0.000	0.000	***
Parallel Mediation Analyses ET: c	8	0	0.000	0.000	***
Parallel Mediation Analyses Int: Ad a	9	0	0.000	0.000	***
Parallel Mediation Analyses Int: Non-Ad a	10	0	0.000	0.000	***
Parallel Mediation Analyses Int: Ad b	11	0	0.000	0.000	***
Parallel Mediation Analyses PW: Ad a	12	0	0.000	0.000	***
Parallel Mediation Analyses PW: Ad b	13	0	0.000	0.000	***
Simple Mediation Analysis Cou: Cou a	14	0	0.000	0.000	***
Simple Mediation Analysis Cou: CA b	15	0	0.000	0.000	***
Simple Mediation Analysis ET: ET a	16	0	0.000	0.000	***
Simple Mediation Analysis ET: ET c	17	0	0.000	0.000	***
Simple Mediation Analysis Int: Int a	18	0	0.000	0.000	***
Simple Mediation Analysis Int: CA b	19	0	0.000	0.000	***
Simple Mediation Analysis PW: CA b	20	0	0.000	0.000	***
Simple Mediation Analysis PW: PW a	21	0	0.000	0.000	***
Simple Mediation Analysis ET: CA b	22	0.0004	0.002	0.002	**
Correlation: Ad Non-Ad	23	0.001	0.004	0.002	**
Correlation: CA Ad	24	0.001	0.004	0.002	**

Correlation: CA Cou	25	0.001	0.004	0.002	**
Correlation: CA ET	26	0.001	0.004	0.002	**
Correlation: CA Int	27	0.001	0.004	0.002	**
Correlation: CA Non-Ad	28	0.001	0.004	0.002	**
Correlation: CA PW	29	0.001	0.004	0.002	**
Correlation: Cou Ad	30	0.001	0.003	0.002	**
Correlation: Den Ad	31	0.001	0.003	0.002	**
Correlation: ET Ad	32	0.001	0.003	0.002	**
Correlation: ET Cou	33	0.001	0.003	0.002	**
Correlation: ET Int	34	0.001	0.003	0.002	**
Correlation: ET Non-Ad	35	0.001	0.003	0.002	**
Correlation: ET PW	36	0.001	0.003	0.002	**
Correlation: Int Ad	37	0.001	0.003	0.002	**
Correlation: Int Non-Ad	38	0.001	0.003	0.002	**
Correlation: SLMP Ad	39	0.001	0.003	0.002	**
Correlation: SLMP CA	40	0.001	0.003	0.002	**
Correlation: SLMP ET	41	0.001	0.002	0.002	**
Correlation: SLMP Non-Ad	42	0.001	0.002	0.002	**
Correlation: PW Ad	43	0.001	0.002	0.002	**
Correlation: PW Cou	44	0.001	0.002	0.002	**
Correlation: PW Int	45	0.001	0.002	0.002	**
Multiple Linear Regression CA	46	0.001	0.002	0.002	**
Parallel Mediation Analyses CA: Non-Ad a	47	0.001	0.002	0.002	**
Parallel Mediation Analyses Cou: Non-Ad b	48	0.001	0.002	0.002	**
Parallel Mediation Analyses ET: Non-Ad b	49	0.001	0.002	0.002	**
Parallel Mediation Analyses Int: Non-Ad b	50	0.001	0.002	0.002	**
Parallel Mediation Analyses PW: Non-Ad b	51	0.001	0.002	0.002	**
Simple Linear Regression CA	52	0.001	0.002	0.002	**
Simple Linear Regression ET	53	0.001	0.002	0.002	**
Correlation: SLMP Cou	54	0.002	0.004	0.003	**
Correlation: PW Non-Ad	55	0.002	0.004	0.003	**
Parallel Mediation Analyses CA: Non-Ad b	56	0.002	0.004	0.003	**
Parallel Mediation Analyses Cou: c	57	0.002	0.004	0.003	**
Parallel Mediation Analyses PW: Non-Ad a	58	0.002	0.004	0.003	**
Simple Linear Regression Cou	59	0.002	0.003	0.003	**
Simple Mediation Analysis Cou: Cou c	60	0.002	0.003	0.003	**
Correlation: SLMP PW	61	0.004	0.007	0.006	**
Parallel Mediation Analyses CA: AD b	62	0.004	0.007	0.006	**
Parallel Mediation Analyses PW: c	63	0.004	0.006	0.006	**

Simple Linear Regression PW	64	0.004	0.006	0.006	**
Simple Mediation Analysis PW: PW c	65	0.004	0.006	0.006	**
Parallel Mediation Analyses CA: c'	66	0.022	0.034	0.034	*
Correlation: Int Cou	67	0.023	0.035	0.035	*
Correlation: SLMP Den	68	0.033	0.050	0.050	*
Correlation: ET Den	69	0.038	0.056	0.055	++
Parallel Mediation Analyses ET: Den a	70	0.038	0.055	0.055	++
Correlation: SLMP Int	71	0.044	0.063	0.061	++
Parallel Mediation Analyses Int: c	72	0.044	0.062	0.061	++
Simple Linear Regression Int	73	0.044	0.061	0.061	++
Simple Mediation Analysis Int: Int c	74	0.044	0.061	0.061	++
Correlation: Den Non-Ad	75	0.079	0.107	0.107	+
Parallel Mediation Analyses Cou: c'	76	0.148	0.199	0.199	+
Correlation: Int Den	77	0.187	0.248	0.245	+
Parallel Mediation Analyses Int: Den a	78	0.187	0.245	0.245	+
Correlation: Cou Non-Ad	79	0.307	0.396	0.391	+
Parallel Mediation Analyses Cou: Non-Ad a	80	0.307	0.391	0.391	+
Multiple Linear Regression ET	81	0.387	0.487	0.487	+
Multiple Linear Regression Int	82	0.428	0.532	0.532	+
Parallel Mediation Analyses ET: c'	83	0.455	0.559	0.559	+
Simple Mediation Analysis ET: ET c'	84	0.464	0.563	0.562	+
Parallel Mediation Analyses Int: c'	85	0.468	0.562	0.562	+
Correlation: CA Den	86	0.492	0.584	0.573	+
Parallel Mediation Analyses CA: Den a	87	0.492	0.577	0.573	+
Parallel Mediation Analyses CA: Den b	88	0.494	0.573	0.573	+
Simple Mediation Analysis Int: Int c'	89	0.5785	0.663	0.663	+
Parallel Mediation Analyses Cou: Den b	90	0.667	0.756	0.756	+
Correlation: Cou Den	91	0.695	0.779	0.771	+
Parallel Mediation Analyses Cou: Den a	92	0.695	0.771	0.771	+
Parallel Mediation Analyses PW: Den b	93	0.729	0.800	0.800	+
Parallel Mediation Analyses Int: Den b	94	0.748	0.812	0.812	+
Parallel Mediation Analyses ET: Den b	95	0.756	0.812	0.812	+
Parallel Mediation Analyses PW: c'	96	0.776	0.825	0.825	+
Correlation: PW Den	97	0.838	0.881	0.872	+
Parallel Mediation Analyses PW: Den a	98	0.838	0.872	0.872	+
Simple Mediation Analysis PW: PW c'	99	0.8543	0.880	0.880	+
Multiple Linear Regression Cou	100	0.871	0.888	0.888	+
Multiple Linear Regression PW	101	0.946	0.955	0.955	+
Simple Mediation Analysis Cou: Cou c'	102	0.9961	0.996	0.996	+

Note. *** $p < .001$; ** $p < .01$; * $p < .05$; $^{+}$ indicates no significance; $^{++}$ indicates change from significant to not significant; CA = committed action; ET = emotional transcendence; PW = practical wisdom; Int = integrity; Cou = courage; Non-Ad = non-adaptive reactions; Ad = adaptive reactions; Den = denial reaction.

Linear and Multiple Statistical Assumptions

Linear and multiple regression analyses have seven inherent assumptions: (a) linearity in the variables, (b) correct specification of the independent variables (IVs), (c) no measurement error in the IVs, (d) independence of residuals, (e) homoscedasticity, (f) normality, and (g) multicollinearity (Cohen et al., 2003).

Linearity in the variables is the first assumption of multiple regressions. This assumption can be tested by reviewing scatterplots to ascertain whether a linear relationship exists. Should this assumption be violated, inaccurate representations of population estimates can occur. The scatterplots demonstrate a relationship between the dependent variable and the independent variable. For this study, a scatterplot was used to examine linearity. The scatterplot resulted in a relationship scattered around zero between the standardized independent and dependent variables, suggesting a linear relationship.

Correct specifications of the IVs is the second assumption. While related to the first, this assumption focuses on the IVs in the regression equation, assuming that all relevant variables from the theory are included in the regression, that said variables are all properly measured, and that the form of each variable has been adequately measured. This assumption, if met, ensures unbiased population estimates and estimates of regression coefficients. A series of scatterplots were examined and found to meet this assumption.

No measurement error in the IVs is the third assumption. If this assumption is violated, the estimate of the correlations will be biased. Internal consistency reliability estimates (Cronbach's alpha) for each scale were computed and presented as Cronbach's alpha.

Residuals being independent of each other is the fourth assumption. Should this assumption be violated, this could result in biased estimates of the regression coefficients, standard errors, significance tests, and confidence intervals. The Durbin-Watson test was used to examine violations of independence of residuals and revealed a value of 1.773. A value near 2 (between 1.5 and 2.5) indicates independence of residuals (Durbin & Watson, 1951).

Homoscedasticity, or constant variance of residuals, is the fifth assumption of multiple regressions. Homoscedasticity refers to the assumption that the relationship between predictors and outcome variables is the same for the entire range of the dependent variable. If heteroscedasticity occurs, the standard errors, and thus significance tests and confidence intervals, become biased. In other words, the error variances are constant. If violated, there would be a pattern of higher errors for some portion(s) of the range compared to others (i.e., heteroscedasticity). Various tests determine whether this assumption is met (e.g., Goldfeld-Quandt test, Glejser test, Park test). If heteroscedasticity is determined, the common weighted least squares regression strategy could be employed. For this study, the scatterplot demonstrated that homoscedasticity was reasonable.

Normality, or normal distribution of each variable data plot, is the sixth assumption. This assumption can be tested through a review of scatterplots to ascertain the presence of non-normality and formal tests of skewness and kurtosis. The tests used to assess normality include a histogram of standardized residuals, a normal probability plot, Kolmogorov-Smirnov, and other normality tests. Should this assumption be violated, it is possible to directly manipulate the data

to make the random errors approximate normal by transforming them. Another way is to use a fitting criterion (e.g., maximum likelihood). Transforming the data could address both this assumption as well as the following.

This study assessed univariate normality by examining the skewness and kurtosis of each variable. Absolute skewness values above three and kurtosis values above seven can be regarded as severely skewed and severe kurtosis, respectively (Kline, 2015). In this study, criteria for skewness and kurtosis were determined to be between -3.0 and 3.0 and -7.0 and 7.0, respectively. All study variables were normally distributed, as evidenced in Table 4.3.

Multicollinearity, or high correlation between two or more IVs, is the final assumption. If multicollinearity is present, it is difficult to distinguish between the individual effects of each IV on the DV. Multicollinearity was examined using variance inflation factors (VIF). A VIF score of less than 10 is acceptable (Hair et al., 1995). VIF values ranged from 1.24 to 2.95 suggesting no multicollinearity.

When there are violations of these assumptions and no strategies are taken to mitigate them when applying statistical analysis techniques, there can be serious consequences, including Type I and Type II errors (Hoekstra et al., 2012). These errors could result in inappropriate interpretations of effect sizes and future research and practice recommendations. Therefore, researchers must plan for and address any violations of assumptions to the statistical analysis procedure so that in the event of a violation, researchers can respond accordingly to ensure ethical and appropriate research is carried out.

Regarding the present research study, after reviewing relevant measures, there is no evidence of violating the assumptions mentioned above.

CHAPTER FOUR: Results

This study aimed to explore the relationships between virtues, psychosocial adaptation, and satisfaction with labor market participation among cancer survivors. Demographic and cancer-specific characteristics were calculated. Bivariate correlations were performed to examine relationships between variables of interest in this study. Regression analyses were used to examine research question 1. Mediation models were tested to examine the mediating effect of committed action on other virtues and satisfaction with labor market participation to examine research question 1. Mediation models were tested to examine the interaction effect of psychosocial adaptation reactions (i.e., non-adaptive reactions, denial, and adaptive reactions) and virtues on satisfaction with labor market participation for research question 2.

Participant Characteristics

Participant Demographic Characteristics

Descriptive statistics for the participants' demographic characteristics are presented in Table 4.1. Participants ranged in age from 22 to 82, averaging 53.5 (SD = 13.86). The sample was comprised of 87 women (62.1%), 52 men (37.1%), and one who preferred not to say (.7%). In terms of race and ethnicity, 123 participants identified as White (87.9%), followed by 10 participants identified as multiracial or biracial (7.1%), six participants identified as Asian American, Asian, or Pacific Islander (4.3%), six participants identified as Native American or Alaskan Native (4.3%), six participants identified as being of Hispanic or Latino descent (4.3%), five participants identified as Black or African American (3.6%), and one participant who preferred not to respond (.7%; some participants responded to multiple categories). Regarding relationship status, 80 individuals reported being married/partnered (57.1%), followed by 31

reporting as single (22.1%), 19 reporting as divorced or separated (13.6%), nine reporting as widowed (6.4%), and one who preferred not to say (.7%).

In terms of education, 50 participants reported having earned a bachelor's degree (35.7%), 34 a master's degree or higher (24.3%), 26 an associate's degree or vocational/technical certificate (18.6%), 18 postsecondary education but no degree (12.9%), 13 a high school graduate or equivalency certificate (9.3%), and one secondary education with no high school diploma (.7%). Regarding employment status, 56 reported working full-time (40.0%), 29 reported being retired (20.7%), 23 reported being self-employed (16.4%), 17 reported being employed part-time (12.1%), ten reported being unemployed and not looking (7.1%), seven reported some other employment status (5.0%; including four "disabled"), five reported being unemployed and looking (3.6%), three reported being a student (2.1%), and one person preferred not to answer (.7%; some participants reported having multiple employment statuses). Regarding public support, 110 participants reported not receiving any type of public support (78.6%). Of those who reported receiving some type of public support, 11 reported receiving Supplemental Nutrition Assistance Program (SNAP; 7.9%), 10 reported Social Security Disability Insurance (SSDI; 7.1%), eight reported Supplemental Security Income (SSI; 5.7%), and five reported receiving social security benefits for retirement (3.6%), with some reporting having received multiple forms of public support. For insurance, 62 reported receiving insurance through an employer (own or spouse's; 44.3%), 38 reported receiving insurance through Medicare (27.1%), 19 reported receiving insurance through the Affordable Care Act (13.6%), 12 reported receiving insurance through Medicaid (8.6%), four reported that they do not have health insurance (2.9%), three reported receiving insurance through the VA (2.1%), two preferred not to say (1.4%), and

one reported receiving insurance through another means (.7%), with some reporting multiple forms of insurance.

Table 2

Participant Demographic Characteristics

Variable		**n (%)**	**Mean (SD)**
Age			53.5 (13.86)
Gender identity			
	Male	52 (37.1)	
	Female	87 (62.1)	
	Prefer not to say	1 (.7)	
Race/ethnicity			
	African American	5 (3.6)	
	Asian American, Asian, or Pacific Islander	6 (4.3)	
	White	123 (87.9)	
	Latino/Hispanic	6 (4.3)	
	Native American or Alaskan Native	6 (4.3)	
	Bi-racial or multi-racial	10 (7.1)	
	Prefer not to say	1 (.7)	
Relationship status			
	Single	31 (22.1)	
	Married or partnered	80 (57.1)	
	Separated or divorced	19 (13.6)	

	Widowed	9 (6.4)	
	Prefer not to say	1 (.7)	
Education attainment			
	Secondary education with no high school diploma	1 (.7)	
	High school diploma or equivalent	13 (9.3)	
	Postsecondary education but no degree	18 (12.9)	
	Associate's degree or vocational/technical certificate	26 (18.6)	
	Bachelor's degree	50 (35.7)	
	Master's degree or higher	34 (24.3)	
Employment status			
	Employed fulltime	56 (40.0)	
	Employed part time	17 (12.1)	
	Retired	29 (20.7)	
	Self-employed	23 (16.4)	
	Unemployed and not looking	10 (7.1)	
	Unemployed and looking	5 (3.6)	
	Student	3 (2.1)	
	Other	7 (5.0)	
	Prefer not to say	1 (.7)	
Receiving governmental benefits status for cancer diagnosis			
	None	110 (78.6)	

	SNAP	11 (7.9)	
	SSDI	10 (7.1)	
	SSI	8 (5.7)	
	Social security for retirement	5 (3.6)	
Insurance			
	Insurance through employer	62 (44.3)	
	Medicare	38 (27.1)	
	Affordable Care Act	19 (13.6)	
	Medicaid	12 (8.6)	
	No health insurance	4 (2.9)	
	VA insurance	3 (2.1)	
	Other	1 (.7)	
	Prefer not to say	2 (1.4)	

Participant Cancer Characteristics

Descriptive statistics for the participants' cancer characteristics are presented in Table 4.2. Cancer type/site ranged widely, with the greatest number of participants (41) reporting breast cancer (29.3%), followed by 20 reporting skin cancers (14.3%), 19 reporting gastrointestinal cancers (e.g., anal, colon, esophageal, liver, pancreatic, rectal; 13.6%), 12 reporting gynecologic cancers (e.g., cervical, ovarian, uterine; 8.6%), nine reporting head and neck cancers (6.4%), eight reporting thyroid cancer (5.7%), seven reporting testicular cancer (5.0%), six reporting prostate cancer (4.3%), and 40 reported other types/sites of cancer (28.6%), each type with only one to five participants. Thirty-eight participants reported having stage 0 cancer (27.1%), 34 participants reported having stage 1 cancer (24.3%), 24 reported having stage II cancer (17.1%), 9 reported having stage III cancer (6.4%), 18 reported having stage IV cancer

(12.9%), and 17 reported not knowing their stage (12.1%). One hundred twenty-four participants reported that they consider themselves to be in remission, currently cancer-free, or have no evidence of disease (NED; 88.6%), 13 reported having a current/active cancer diagnosis (9.3%), and three reported other (2.1%), including one who had surgery and is unsure if they have cancer still, one who has had a recurrence in symptoms which leads them to think they have active cancer, and one who is "in wait and watch." Most participants are within five years of their initial cancer diagnosis (53; 37.9%), followed by 45 participants diagnosed five to ten years ago (32.1%), 12 participants diagnosed ten to 15 years ago (8.6%), 15 participants diagnosed 15 to 20 years ago (10.7%), and 15 participants diagnosed over 20 years ago (10.7%). Thirty-one people reported having a recurrence of their cancer (22.1%), 20 of whom within the past five years.

Regarding current treatment, 78 reported receiving no treatment/intervention (55.7%), 22 reported having had surgery (15.7%), 15 reported receiving chemotherapy (10.7%), 13 reported receiving radiation (9.3%), 13 reported receiving immunotherapy (9.3%), 11 reported another form of intervention/treatment (7.9%), six reported hormone therapy (4.3%), and six reported receiving complementary and alternative medicine (CAM; 4.3%). Most participants reported that they had not experienced any symptoms in the last seven days (82; 58.6%). Among those who did report symptoms, the highest endorsed symptom was fatigue (35; 25.0%), followed by 31 for pain (22.1%), 18 for neuropathy (12.9%), 14 for nausea (10.0%), 13 for cognitive impairment (9.3%), 12 for diarrhea (8.6%), 12 for constipation (8.6%), and nine other symptoms (6.4%). Given that most participants reported that they did not experience symptoms, the response rate for symptom severity was low, with 58.6% missing.

Table 3

Participant Cancer-Specific Characteristics

Variable		**n (%)**	**Mean (SD)**
Cancer type/site			
	Breast cancer	41 (29.3)	
	GI cancers (e.g., anal, colon, esophageal, liver, pancreatic, rectal)	20 (13.6)	
	Gynecologic cancers (e.g., cervical, ovarian, uterine)	12 (8.6)	
	Head and neck cancers	9 (6.4)	
	Thyroid cancer	8 (5.7)	
	Testicular cancer	7 (5.0)	
	Prostate cancer	6 (4.3)	
	Lymphoma	4 (2.86)	
	Leukemia	4 (2.86)	
	Hodgkins disease	4 (2.86)	
	Non-Hodgkins disease	4 (2.86)	
	Brain cancer	4 (2.86)	
	Endometrial cancer	4 (2.86)	
	Other ($n \leq 3$)	16 (11.4)	
Cancer stage			
	0	38 (27.1)	
	I	34 (24.3)	
	II	24 (17.1)	
	III	9 (6.4)	

	IV	18 (12.9)	
	Do not know stage	17 (12.1)	
Cancer status			
	Current/active cancer diagnosis	13 (9.3)	
	In remission, currently cancer-free, or no evidence of disease (NED)	124 (88.6)	
	Other	3 (2.1)	
Time since initial cancer diagnosis			10.6 (9.5)
Time since most recent recurrence			3.6 (3.0)
Current treatment regimen			
	Chemotherapy	15 (10.7)	
	Radiation	13 (9.3)	
	Immunotherapy	13 (9.3)	
	Surgery	22 (15.7)	
	Alternative/complementary	6 (4.3)	
	Hormone therapy	6 (4.3)	
	None	78 (55.7)	
	Other	11 (7.9)	
Symptoms from cancer or its treatment			
	Pain	31 (22.1)	
	Fatigue	35 (25.0)	
	Cognitive impairment	13 (9.3)	
	Nausea	14 (10.0)	

	Neuropathy	18 (12.9)	
	Diarrhea	12 (8.6)	
	Constipation	12 (8.6)	
	None	82 (58.6)	
	Other	9 (6.4)	

Table 4

Measurement Scale Summary

Scale name	**Independent variables**	**Number of items**	**Range**	**Mean (SD)**	**Cronbach's alpha**	**Skewness**	**Kurtosis**
Adapted Inventory of Virtues and Strengths (AIVS)		49					
	Committed Action	7	7-49	38.44 (6.54)	.83	-.88	.66
	Emotional Transcendence	12	12-84	65.60 (11.16)	.88	-.72	.35
	Practical Wisdom	11	11-77	59.61 (8.47)	.81	-.32	.36
	Integrity	11	11-77	63.1 (6.91)	.79	-.72	1.01
	Courage	8	8-56	36.31 (8.38)	.89	.23	-.13
Reactions to Impairment and Disability Inventory (RIDI)		60					
	Non-Adaptive Reactions	38	38-152	63.74 (19.60)	.95	.67	-.18
	Denial Reaction	7	7-28	12.58	.54	.23	-.28

				(3.23)			
	Adaptive Reactions	15	15-60	45.05 (6.58)	.75	-.45	.11
	Dependent variable						
Satisfaction with Labor Market Participation		9	9-45	24.14 (6.93)	.86	.14	-.33

Correlation Analyses

Regarding research questions 1 and 3, bivariate correlation analyses were conducted. All three of the psychosocial adaptation reactions were found to be significantly associated with SLMP: Non-Adaptive Reactions (r = -.41, adjusted BH $p < .01$) and Adaptive Reactions (r = .50, adjusted BH $p < .01$) and Denial Reaction (r = .18, adjusted BH $p < .05$) after employing the BH correction. After employing the BH correction, all virtues, except Integrity (r = .17, adjusted BH $p > .05$), were also significantly correlated with SLMP: Committed Action (r = .44, adjusted BH $p < .01$), Emotional Transcendence (r = .35, adjusted BH $p < .01$), Practical Wisdom (r = .24, adjusted BH $p < .01$), and Courage (r = .26, $p < .01$). All other correlation coefficients between the variables used in the regression analyses are presented in Table 4.4.

Table 5

Correlation Matrix of Study Variables (N = 140)

Variables	1	2	3	4	5	6	7	8	9
1. Non-Adaptive Reactions	1								
2. Denial Reaction	-.15^{+}	1							
3. Adaptive Reactions	-.37**	.29**	1						
4. Committed Action	-.29**	.06^{+}	.60**	1					

5. Emotional Transcendence	-.30**	.18++	.56**	.70**	1				
6. Practical Wisdom	-.26**	.02+	.39**	.52**	.56**	1			
7. Integrity	-.31**	.11+	.34**	.47**	.50**	.39**	1		
8. Courage	-.09+	.03+	.36**	.59**	.45**	.43**	.19*	1	
9. Satisfaction with Labor Market Participation	-.41**	.18*	.50**	.44**	.35**	.24**	.17++	.26**	1

Note. Pearson Correlation. Significance is determined with BH corrected *p*-values. ** Correlation is significant at the .01 level (2-tailed); * Correlation is significant at the .05 level (2-tailed); + indicates no significance; ++ indicates change from significant to not significant with BH correction.

Linear Regression Analyses

Simple Linear Regression

Regarding research question 1, simple linear regression analyses were conducted. All virtues were found to be significant predictors of SLMP: Committed Action (*b* = .44), Emotional Transcendence (*b* = .35), Practical Wisdom (*b* = .24), and Courage (*b* = .26). Before employing the BH correction Integrity had been found significant at alpha of .05, but after the BH correction, Integrity became non-significant. All simple linear regression analysis results are reported in Table 4.5.

Table 6

Simple Linear Regression Analyses Results (N = 140)

Independent variables	**Direct effect on dependent variable *β*; [95% CI]**
Committed Action	.44**; [.31, .63]
Emotional Transcendence	.35**; [.12, .32]
Practical Wisdom	.24**; [.06, .33]
Integrity	.17++; [.00, .34]
Courage	.26**; [.08, .35]

Note. *** $p < .001$; ** $p < .01$; * $p < .05$; + indicates no significance; ++ indicates change from significant to not significant with BH correction.

Multiple Linear Regression

Regarding research question 1, multiple linear regression analyses were conducted. Only one virtue (Committed Action) was found to have a significant relationship with DV. The entire model with all five virtues resulted in an R2 of .20. All multiple linear regression analysis results were reported in Table 4.6.

Table 7

Multiple Linear Regression Analyses Results (N = 140)

Variable	**R^2**	***B***	**SE B**	***β***
Virtues				
Committed action		.44	.13	.41**
Emotional transcendence		.06	.07	.10
Practical wisdom		.01	.08	.01
Integrity		-.07	.09	-.07
Courage		-.01	.08	-.02
Satisfaction with Labor Market Participation	.204			

Note. *** $p < .001$; ** $p < .01$; * $p < .05$; + indicates no significance; ++ indicates change from significant to not significant with BH correction.

Mediation Analyses

Simple Mediation

Simple mediation analyses guided by Baron and Kenny's (1986) three-step approach were conducted to respond to research question 1. All simple mediation analysis results are

reported in Table 4.7. Committed action fully mediated the relationships between three other virtues (Emotional Transcendence, Practical Wisdom, and Courage) and SLMP. Integrity did not have a statistically significant relationship with SLMP after employing the BH correction, so Committed Action does not mediate it.

Table 8

Summary of Simple Mediation Analyses Results (N = 140)

IVs	**Mediator**	**Step 1: Effect of IV on mediator (path a) *β*; [95% CI]**	**Step 2: Effect of IV on DV (path c) *β*; [95% CI]**	**Step 3: Direct effect of mediator on DV (path b) *β*; [95% CI]**	**Direct effect of IV on DV (path c') *β*; [95% CI]**	**Indirect effects (paths *ab*); *β*; [95% CI]**
Emotional Transcendence	Committed Action	.72***; [.34, .48]	.35***; [.12, .32]	.39**; [.19, .64]	.08^{+}; [-.08, .18]	.27; [.13, .42]
Practical Wisdom		.52***; [.29, .51]	.24**; [.06, .33]	.44***; [.28, .69]	.02^{+}; [-.13, .16]	.23; [.13, .34]
Integrity		.47***; [.30, .58]	.17^{++}; [.004, .34]	.47***; [.31, .68]	-.05^{+}; [-.22, .12]	.22; [.14, .31]
Courage		.59***; [.36, .57]	.26**; [.08, .35]	.45***; [.27, .67]	.00^{+}; [-.16, .16]	.26; [.15, .39]

Note. *** $p < .001$; ** $p < .01$; * $p < .05$; $^{+}$ indicates no significance; $^{++}$ indicates change from significant to not significant with BH correction. Indirect effects (paths *ab*) do not have *p*-values.

Parallel Mediation

Parallel mediation analysis guided by Baron and Kenny's (1986) three-step approach was conducted to answer research question 2. Parallel mediation analyses were conducted for the five virtues (Committed Action, Emotional Transcendence, Practical Wisdom, Integrity, and Courage) with the three psychosocial adaptation reactions as mediators (non-adaptive, denial, and adaptive reactions).

Committed Action

As seen in Table 4.8, Committed Action was significantly associated with two mediators, including non-adaptive reactions (*b* = -.29 and adaptive reactions (*b* = .60), but was not associated with denial (*b* = .06). Next, Committed Action was found to be significantly associated with SLMP (*b* = .44). Non-adaptive reactions (*b* = -.24) and adaptive reactions (*b* = .28) were significantly associated with SLMP after controlling for Committed Action. The *b* for the relationship between Committed Action and SLMP was reduced from .44 to .21 after including the mediators. However, this relationship was still significant, indicating that non-adaptive reactions and adaptive reactions were found to partially mediate the relationship between Committed Action and SLMP. To test the indirect effect of Committed Action on SLMP through the mediators, 5,000 bootstrapping samples were used, and the 95% CIs were checked for each mediator. The bootstrapping test demonstrated that only the indirect paths for non-adaptive (*ab* = .07; 95% CI [.02, .13]) and adaptive reactions (*ab* = .17; 95% CI [.07, .27]) were significant since 95% CIs for these two mediators did not include zero.

Emotional Transcendence

As seen in Table 4.9, Emotional Transcendence was significantly associated with only two mediators, including non-adaptive reactions (*b* = -.30) and adaptive reactions (*b* = .56). While the denial reaction was initially found significant, after employing the BH correction, it became not significant. Next, Emotional Transcendence was found to be significantly associated with SLMP (*b* = .35). Non-adaptive reactions (*b* = -.25) and adaptive reactions (*b* = .37) were significantly associated with SLMP after controlling for Emotional Transcendence. The *b* for the relationship between Emotional Transcendence and SLMP was reduced from .35 to .07 after including the mediators. This relationship became non-significant, indicating that non-adaptive

reactions and adaptive reactions were found to fully mediate the relationship between Emotional Transcendence and SLMP. To test the indirect effect of Emotional Transcendence on SLMP through the mediators, 5,000 bootstrapping samples were used, and the 95% CIs were checked for each mediator. The bootstrapping test demonstrated that only the indirect paths for non-adaptive (*ab* = .08; [.03, .14]) and adaptive reactions (*ab* = .21; [.11, .32]) were significant since 95% CIs for these two mediators did not include zero.

Practical Wisdom

As seen in Table 4.10, Practical Wisdom was significantly associated with only two mediators, including non-adaptive reactions (*b* = -.26) and adaptive reactions (*b* = .39), but was not associated with denial (*b* = .02). Next, Practical Wisdom was found to be significantly associated with SLMP (*b* = .24). Only non-adaptive reactions (*b* = -.26) and adaptive reactions (*b* = .39) were significantly associated with SLMP after controlling for Practical Wisdom. The *b* for the relationship between Practical Wisdom and SLMP was reduced from .24 to .02 after including the mediators. This relationship became non-significant, indicating that non-adaptive reactions and adaptive reactions were found to fully mediate the relationship between Practical Wisdom and SLMP. To test the indirect effect of Practical Wisdom on SLMP through the mediators, 5,000 bootstrapping samples were used, and the 95% CIs were checked for each mediator. The bootstrapping test demonstrated that only the indirect paths for non-adaptive (*ab* = .07; [.02, .13]) and adaptive reactions (*ab* = .15; [.08, .24]) were significant since 95% CIs for these two mediators did not include zero.

Integrity

As seen in Table 4.11, Integrity was significantly associated with only two mediators, including non-adaptive reactions (*b* = -.31) and adaptive reactions (*b* = .34). However, it was not

associated with denial (*b* = .11). Next, Integrity was initially found to be significantly associated with SLMP (*b* = .17), but after the BH correction became non-significant. Only non-adaptive reactions (*b* = -.27) and adaptive reactions (*b* = .42) were significantly associated with SLMP after controlling for Integrity. The *b* for the relationship between Integrity and SLMP was reduced from .17 to -.06 after including the mediators. This relationship was not significant to begin with, so no mediating relationship was found between Integrity and SLMP. To test the indirect effect of Integrity on SLMP through the mediators, 5,000 bootstrapping samples were used, and the 95% CIs were checked for each mediator. The bootstrapping test demonstrated that only the indirect paths for non-adaptive (*ab* = .08; [.03, .15]) and adaptive reactions (*ab* = .14; [.07, .22]) were significant since 95% CIs for these two mediators did not include zero.

Courage

As seen in Table 4.12, Courage was significantly associated with only one mediator, adaptive reactions (*b* = .36), but was not associated with non-adaptive reactions (*b* = -.09) or denial (*b* = .03). Next, Courage was found to be significantly associated with SLMP (*b* = .26). Only non-adaptive reactions (*b* = -.27) and adaptive reactions (*b* = .36) were significantly associated with SLMP after controlling for Courage. The *b* for the relationship between Courage and SLMP was reduced from .26 to .11 after including the mediators. This relationship became non-significant, indicating that adaptive reactions were found to fully mediate the relationship between Courage and SLMP. Given that the relationship between non-adaptive reactions and Courage was insignificant (path *a*), non-adaptive reactions were not found to be a mediator. To test the indirect effect of Courage on SLMP through the mediators, 5,000 bootstrapping samples were used, and the 95% CIs were checked for each mediator. The bootstrapping test

demonstrated that only the indirect path for adaptive reactions (*ab* = .13; [.06, .20]) was significant since 95% CIs for this mediator did not include zero.

Table 9

Parallel Mediation Regression Analyses for Committed Action (N = 140)

Mediators	**Step 1: Effect of IV on mediators (path a)** ***β;*** **[95% CI]**	**Step 3: Direct effect of mediators on DV (path b)** ***β;*** **[95% CI]**	**Indirect effects (paths *ab*); *β;* [95% CI]**
Non- adaptive reactions	-.29**; [-1.34, -.37]	-.24**; [-.14, -.03]	.07; [.02, .13]
Denial	.06^{+}; [-.05, .11]	.05^{+}; [-.21, .42]	.003^{+}; [-.01, .02]
Adaptive reactions	.60***; [.47, .74]	.28**; [.09, .49]	.17; [.07, .27]

Note. Step 2: Total effect of Committed Action on SLMP (β = .44***; 95% CI [.31, .63]; path c). Direct effect of Committed Action on SLMP (β = .21*; 95% CI [.03, .40]; path c'). *** $p < .001$; ** $p < .01$; * $p < .05$; $^{+}$ indicates no significance; $^{++}$ indicates change from significant to not significant with BH correction. Indirect effects (paths *ab*) do not have *p*-values.

Figure 1

Parallel Mediation Regression Analyses for Committed Action (N = 140)

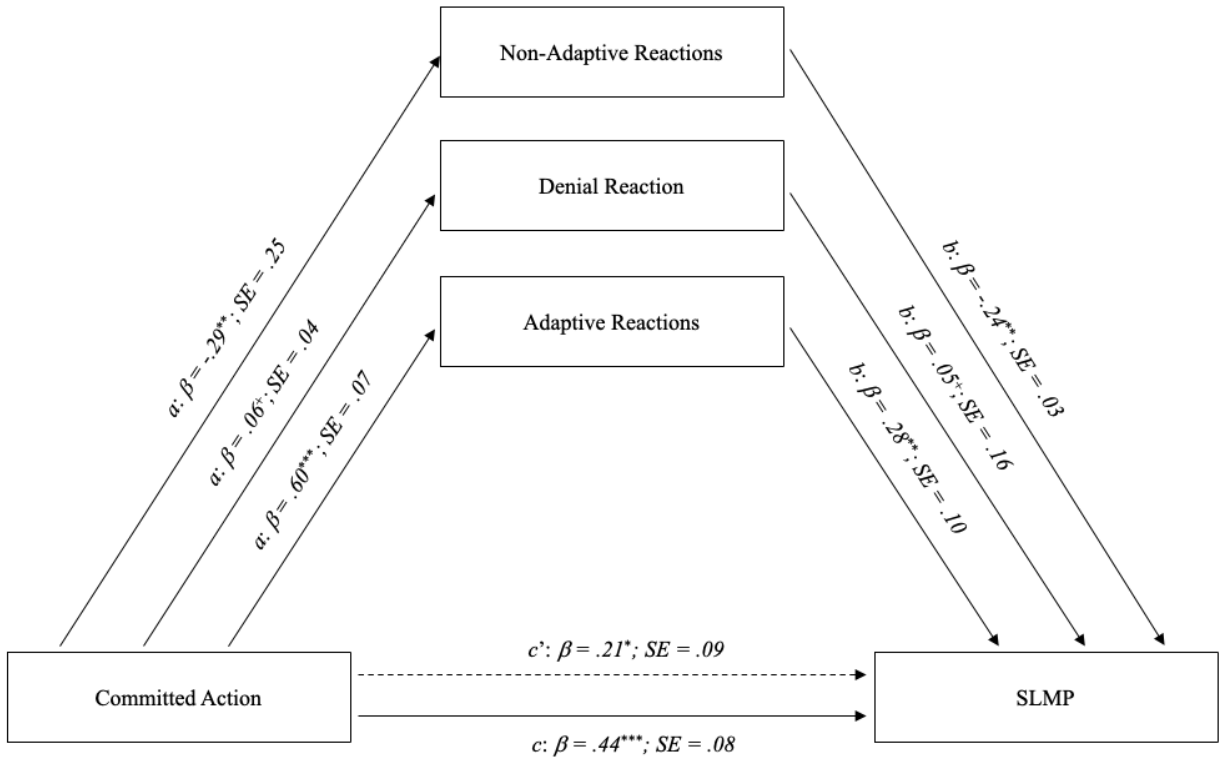


Table 10

Parallel Mediation Regression Analyses for Emotional Transcendence (N = 140)

Mediators	**Step 1: Effect of IV on mediators (path a) *β*; [95% CI]**	**Step 3: Direct effect of mediators on DV (path b) *β*; [95% CI]**	**Indirect effects (paths *ab*); *β*; [95% CI]**
Non- adaptive reactions	-.30***; [-.81, -.24]	-.25**; [-.14, -.04]	.08; [.03, .14]
Denial	.18^{++}; [.003, .10]	.02^{+}; [-.27, .37]	.004^{+}; [-.02, .03]
Adaptive reactions	.56***; [.25, .41]	.37***; [.20, .58]	.21; [.11, .32]

Note. Step 2: Total effect of Emotional Transcendence on SLMP (β = .35***; 95% CI [.12, .32]; path c). Direct effect of Emotional Transcendence on SLMP (β = .07^{+}; 95% CI [-.07, .15]; path c'). *** p < .001; ** p < .01; * p < .05; $^{+}$ indicates no significance; $^{++}$ indicates change from significant to not significant with BH correction. Indirect effects (paths *ab*) do not have *p*-values.

Figure 2

Parallel Mediation Regression Analyses for Emotional Transcendence (N = 140)

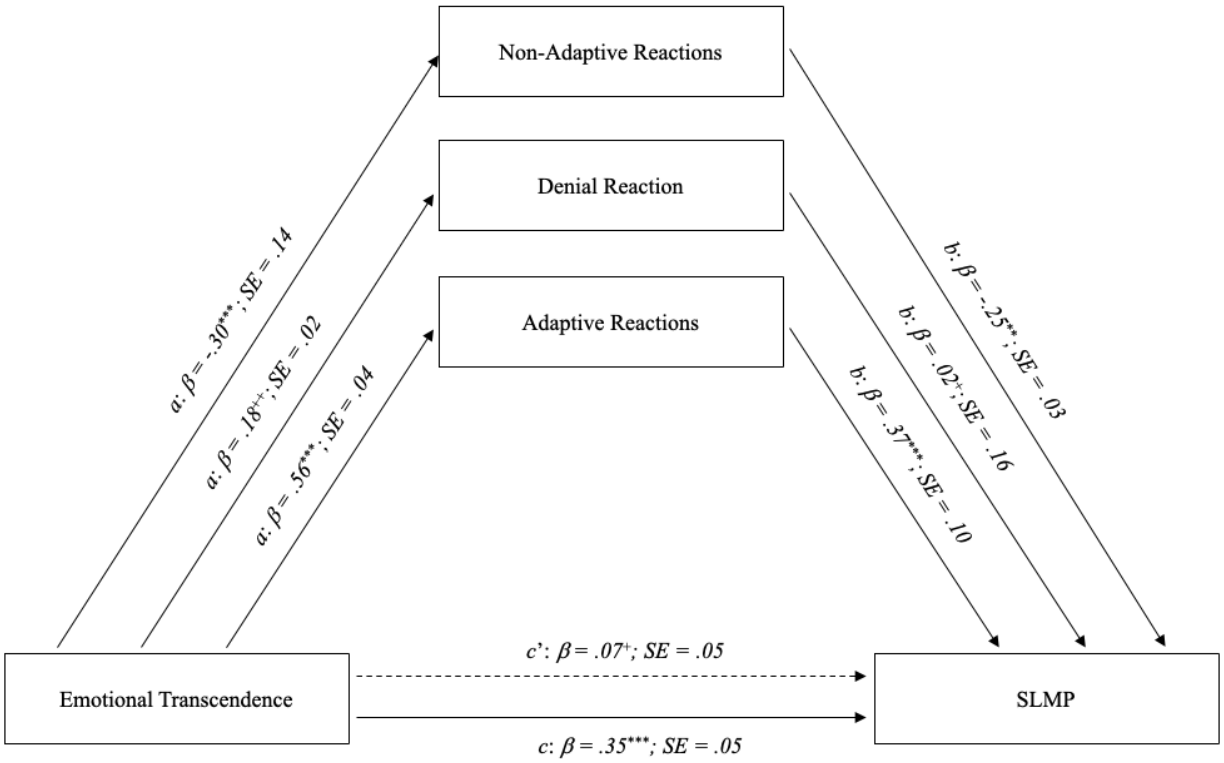


Table 11

Parallel Mediation Regression Analyses for Practical Wisdom (N = 140)

Mediators	**Step 1: Effect of IV on mediators (path a) *β*; [95% CI]**	**Step 3: Direct effect of mediators on DV (path b) *β*; [95% CI]**	**Indirect effects (paths *ab*); *β*; [95% CI]**
Non- adaptive reactions	-.26**; [-.97, -.22]	-.26**; [-.15, -.04]	.07; [.02, .13]
Denial	.02+; [-.06, .07]	.03+; [-.26, .38]	.00+; [-.01, .02]
Adaptive reactions	.39***; [.18, .42]	.39***; [.24, .59]	.15; [.08, .24]

Note. Step 2: Total effect of Practical Wisdom on SLMP (β = .24**; 95% CI [.06, .33]; path c).

Direct effect of Practical Wisdom on SLMP (β = .02+; 95% CI [-.11, .15]; path c'). *** p < .001;

** $p < .01$; * $p < .05$; + indicates no significance; ++ indicates change from significant to not significant with BH correction. Indirect effects (paths *ab*) do not have *p*-values.

Figure 3

Parallel Mediation Regression Analyses for Practical Wisdom (N = 140)

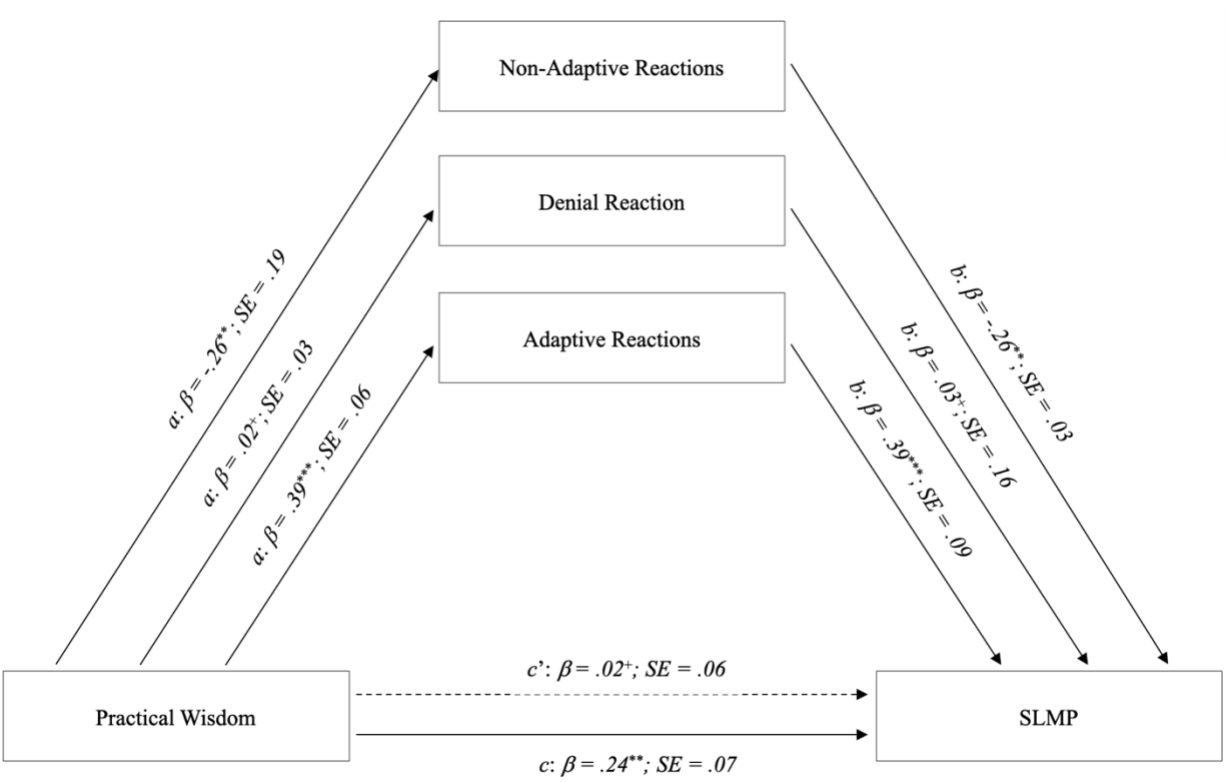


Table 12

Parallel Mediation Regression Analyses for Integrity (N = 140)

Mediators	**Step 1: Effect of IV on mediators (path a) *β*; [95% CI]**	**Step 3: Direct effect of mediators on DV (path b) *β*; [95% CI]**	**Indirect effects (paths *ab*); *β*; [95% CI]**
Non- adaptive reactions	-.31***; [-1.33, -.42]	-.27**; [-.15, -.04]	.08; [.03, .15]
Denial	.11+; [-.03, .13]	.02+; [-.27, .37]	.003+; [-.02, .03]
Adaptive reactions	.34***; [.17, .47]	.42***; [.27, .61]	.14; [.07, .22]

Note. Step 2: Total effect of Integrity on SLMP (β = .17^{++}; 95% CI [.004, .34]; path c). Direct effect of Integrity on SLMP (β = -.06^{+}; 95% CI [-.21, .10]; path c'). *** p < .001; ** p < .01; * p < .05; $^{+}$ indicates no significance; $^{++}$ indicates change from significant to not significant with BH correction. Indirect effects (paths *ab*) do not have *p*-values.

Figure 4

Parallel Mediation Regression Analyses for Integrity (N = 140)

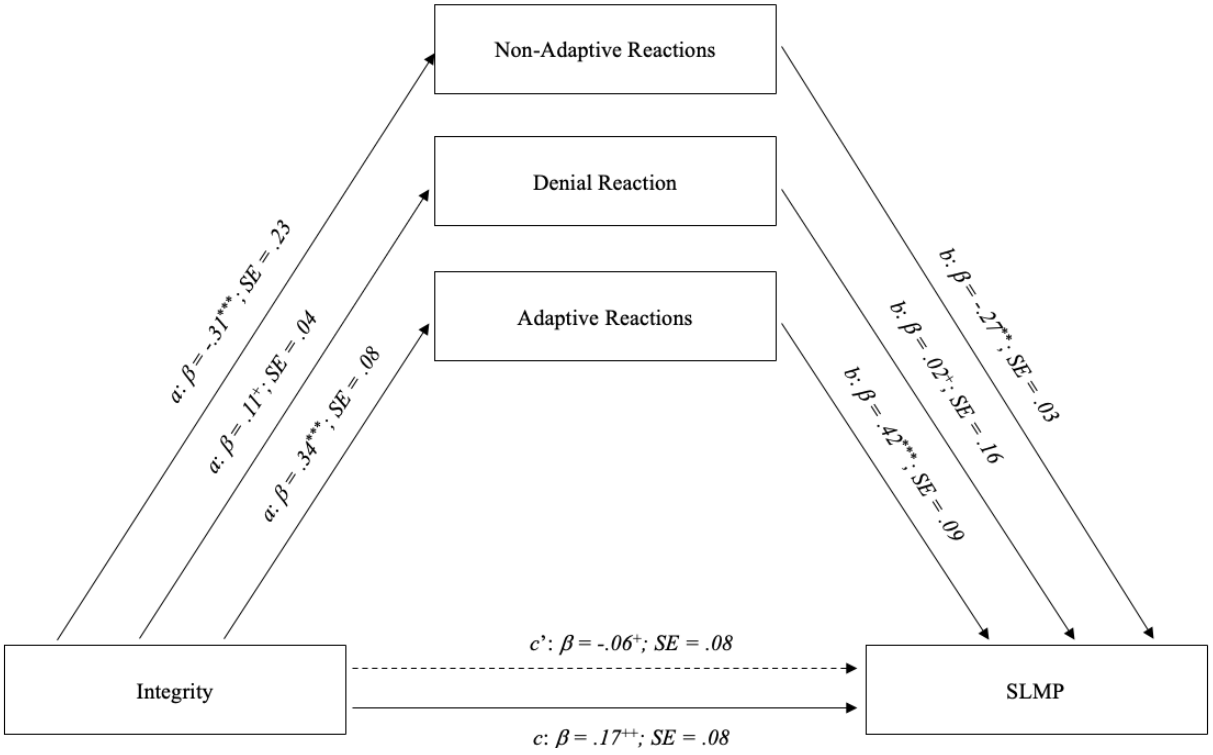


Table 13

Parallel Mediation Regression Analyses for Courage (N = 140)

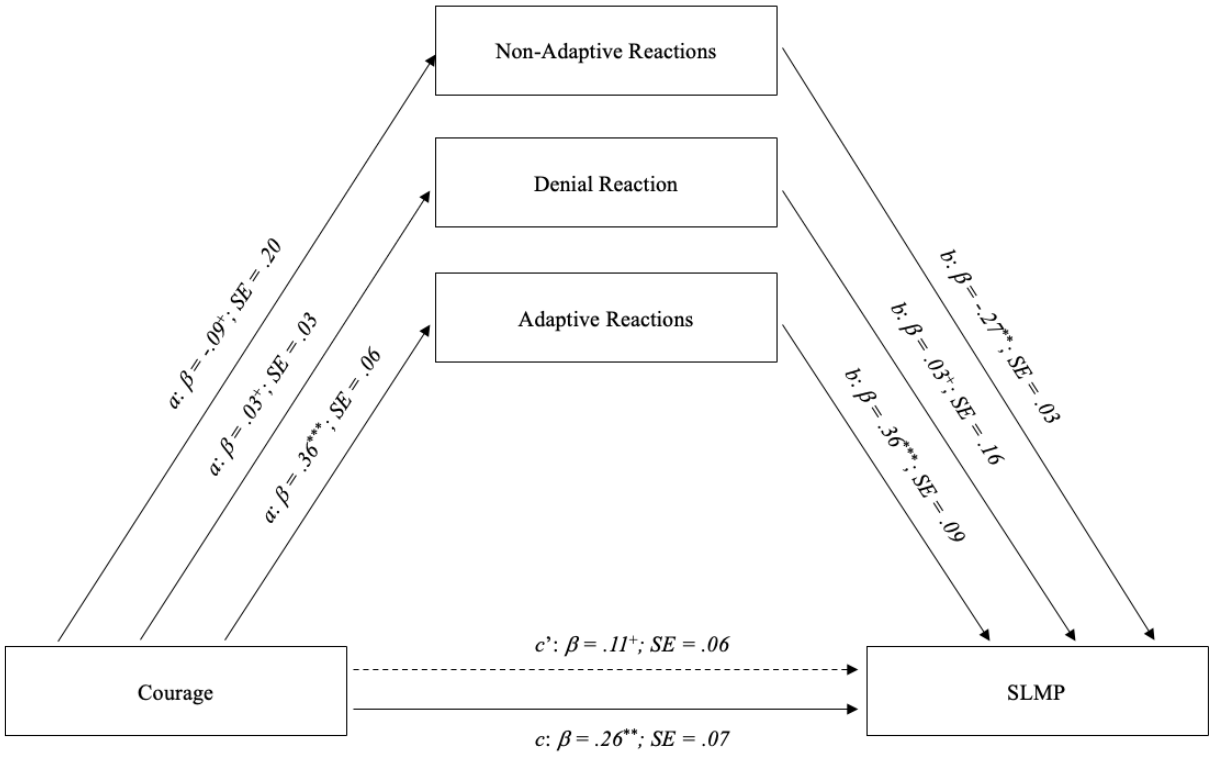
Mediators	**Step 1: Effect of IV on mediators (path a) *β*; [95% CI]**	**Step 3: Direct effect of mediators on DV (path b) *β*; [95% CI]**	**Indirect effects (paths *ab*); *β*; [95% CI]**
Non- adaptive reactions	-.09^{+}; [-.60, .19]	-.27**; [-.15, -.04]	.02^{+}; [-.03, .08]
Denial	.03^{+}; [-.05, .08]	.03^{+}; [-.25, .38]	.001^{+}; [-.02, .02]

Adaptive reactions	.36***; [.16, .40]	.36***; [.20, .55]	.13; [.06, .20]

Note. Step 2: Total effect of Courage on SLMP (β = .26**; 95% CI [.08, .35]; path c). Direct effect of Courage on SLMP (β = .11^{+}; 95% CI [-.03, .22]; path c'). *** $p < .001$; ** $p < .01$; * $p < .05$; $^{+}$ indicates no significance; $^{++}$ indicates change from significant to not significant with BH correction. Indirect effects (paths *ab*) do not have *p*-values.

Figure 5

Parallel Mediation Regression Analyses for Courage (N = 140)



CHAPTER FIVE: Summary, Discussion, and Implications

This chapter presents a summary of the significant findings of this study, followed by a review of the limitations that affect the interpretation of these findings. Finally, implications for clinical practice and future research will be discussed.

Summary of Findings

Demographic and Cancer-Specific Information

The current sample mirrored the general U.S. cancer survivor population in several regards and differed in other aspects. In terms of age, the current sample had an average age of 53.5 years and a median age of 56 years. Nationally, the median age of a cancer diagnosis is 66 years (SEER*Explorer, 2023), indicating that the study sample tended to be younger. Given the use of technology for recruitment and survey distribution, which may have inhibited older adults from taking this survey, the younger sample is understandable. Regarding gender identity, the study showed a similar trend to the general population, with more females living with cancer than males (SEER*Explorer, 2023). As of 2020, females living with cancer made up 5.6% of the U.S. population compared to their male counterparts at 4.8%, with a ratio of 1.2 to 1. However, the current sample differed in the ratio of 1.7 to 1, indicating a slightly higher proportion of women in this study. For racial and ethnic identities, this study sample is consistent with the national rate of new cancer cases, with more White individuals being diagnosed than any other race (SEER*Explorer, 2023). However, this rate is marginally higher than the group with the next highest rate, African American; the current sample had a disproportionate number of White participants compared to other races.

Regarding employment, the sample for this study is slightly lower (40.0%) than some estimates that 54% of cancer survivors are employed full-time (Banegas et al., 2016).

Interestingly, a significant proportion of the sample reported being self-employed (16.4%). Blinder and Gany (2020) reviewed the literature on employment among cancer survivors. They noted limited research on self-employment among cancer survivors, but what does exist indicates that survivors who had been self-employed were more likely to return to work and more likely to be working longer hours than their employee counterparts (Blinder & Gany, 2020). For education, this sample had a significant proportion of participants with a bachelor's degree or higher (60%). Larsen et al. (2020) found an association between educational attainment and certain forms of cancer. Specifically, those with the highest levels of education were more likely to have melanoma (both sexes) and prostate or breast cancer (males and females, respectively). This study sample was consistent with such findings: high educational attainment and the most reported cancers being breast cancer (29%) and skin cancer (14.3%). Conversely, those with higher education were less likely to have lung cancer (Larsen et al., 2020), and in the current study, only three people reported having lung cancer.

In terms of types of cancer, the current sample was consistent with the general population, with breast cancer as the most common cancer diagnosis (NCI, n.d.). However, the sample differed from the general population for the second most common cancer, prostate cancer, which was not the second most common cancer in this study (NCI, n.d.). Regarding cancer survivorship, there was a higher percentage of participants considered to be in remission, cancer-free, or with no evidence of disease compared to those with active cancer. Similarly, a significant number of people reported having stages 0 and I. This information, combined with the low proportion of African Americans in this study, is consistent with the racial disparities documented in the literature. Miller et al. (2022) reported that Black individuals are less likely to be diagnosed at stage I than their White counterparts for most cancers, especially for female

breast cancer and endometrial cancer. Furthermore, most of the sample was within five years of their initial cancer diagnosis (37.9%). Among all ages in the U.S. population of cancer survivors, the five-year survival rate is 68.7%.

Regression Analyses

Consistent with the literature review, most study variables were significantly correlated with SLMP, except integrity and denial. While initially found to be significant, the relationship became non-significant after controlling alpha inflation with the BH correction. For variables significantly associated with the DV, the directions were consistent with anticipated relationships; specifically, non-adaptive psychosocial reactions were negatively correlated with the outcome variable, while four of the virtues and adaptive reactions were positively correlated with the DV.

After establishing correlations between variables of the study and SLMP, simple linear regression analyses were conducted to explore research question one by investigating the relationships between the virtues (as measured by the AIVS; Kim, Reid et al., 2016) and SLMP (Phillips et al., 2022). After employing the BH correction, four virtues (committed action, emotional transcendence, practical wisdom, and courage) had significant direct effects on the dependent variable. Only integrity was not found to have a significant direct effect on SLMP. Once these relationships had been established, all five virtues were entered as predictors into a multiple linear regression analysis. With all five virtues in the model, only committed action retained a significant relationship with SLMP, indicating a mediating role of this virtue to the others.

Mediation Analyses

After finding that three virtues (emotional transcendence, practical wisdom, and courage) were significant predictors of SLMP in the simple linear regression analyses, the multiple linear regression analyses results suggested a mediating role of committed action for all other virtues, given that the relationships became non-significant in the whole model. To test this, simple mediation analyses were conducted to explore this mediating role. After adding in the mediator of committed action, the originally significant relationship between predictor and outcome (path c) became insignificant (path c'). However, the predictor to mediator and mediator to outcome become significant (paths *ab*), indicating a full mediation of committed action on other virtues to SLMP.

To address research question two, parallel mediation analyses were conducted for each of the virtues as predictors in separate analyses, each of which were tested for mediation by psychosocial adaptation levels of non-adaptive reactions, denial reaction, and adaptive reactions (as measured by the RIDI; Livneh & Antonak, 1990). Results for each of the five parallel mediation analyses found adaptive reactions fully mediate (emotional transcendence, practical wisdom, and courage) or partially mediate (committed action) the relationships between virtues and SLMP. Non-adaptive reactions were also found to mediate fully for emotional transcendence and practical wisdom and partially for committed action between such virtues and SLMP. Denial was not found to be a significant mediator for any of the virtues. Importantly, terminations of causality were not within the purview of these mediation analyses. Rather, the mediation analyses were merely a hypothesis generating exercise to shed light on strengths of association between variables to be further investigated.

Adaptive reactions mediate the relationship between virtues and SLMP. This mediating relationship is consistent with Sandage and Hill's call for virtue researchers to focus on virtues as

constructs that support functioning, flourishing, and well-being (2001). They caution against returning to a "victimology" framework of the psychology of virtues, arguing for a postmodern, strengths-based approach congruent with the foundation of rehabilitation counseling. However, it is clear that non-adaptive reactions mediate the relationship between several virtues and satisfaction with labor market participation. In many ways, this reflects the rehabilitation counseling philosophy of maintaining a strengths-based approach to enhance strengths, assets, and resources while also attending to and mitigating adverse impacts on functioning.

Limitations

This study adds insights to the literature on psychosocial adaptation of cancer survivors in the vocational context. However, as with any research study, there are limitations in this present study that must be addressed. First, the data was descriptive and cross-sectional, not allowing for causal interpretation. Specifically, the relationship between predictors and outcome variables cannot be explained as causal.

Second, all data were collected via self-report measures subject to response bias, such as social desirability. There may have been systematic error of measurement in which participants with cancer responded concerning their perceptions of their psychosocial adaptation reactions, virtues, and satisfaction with labor market participation, which could reduce the generalizability of the findings.

Third, participants completed the questionnaire online. This form of assessment may have filtered out cancer survivors who have higher functioning or higher socioeconomic status, as the use of such technology requires access to the internet and digital devices. Further, those who use this technology may have higher educational attainment. In reviewing participant education levels, most of the sample (60%) had a bachelor's degree or higher. As a proxy for

socioeconomic status, governmental benefits were measured, with 78.6% reported not receiving public support. The fact that most of the sample does not receive public support might suggest that participants have greater access to community resources and have higher functioning. Overall, individuals with lower educational attainment and/or socioeconomic status appear to have been underrepresented.

Fourth, the representativeness of the sample could be a limiting factor. The convenience sampling method was used to recruit participants, which can limit generalizability. Previous research has demonstrated the utility and benefits of social science research recruitment using Prolific (Stanton et al., 2022; Turner et al., 2020) and is comparable or superior to the regularly used platform by Amazon, MTurk, regarding representativeness, ethical guidance, and validity (Palan & Schitter, 2018; Peer et al., 2017). However, even with the additional layer of pre-screening that Prolific provides, caution should be taken when using crowdsourcing platforms (Smedema, 2017).

As discussed in this chapter, several differences exist between the study sample and the general cancer survivor population, indicating that caution should be used when interpreting the findings. Additionally, only people residing within the United States who understand English were included in the study. These differences between the study sample and the broader cancer survivor population may indicate that underserved or disadvantaged individuals with more significant functional limitations, low education, and employment may have been more likely to be omitted from the survey. These considerations and differences could hinder the generalizability of the study to the greater cancer survivor population.

Fifth, given that many of the variables are related, it would be beneficial to collect larger sample sizes to find the unique effects of each predictor. Additionally, longitudinal studies and

larger participant pools would be essential to extend and further examine the findings from this study.

Sixth, two of the standardized measures were modified. The language in the RIDI was changed from “my impairment” to “my cancer.” Cancer survivors report a wide range of responses when asked about their disability identity, from rejecting to affirming (Magasi et al., 2022). To account for those who do not consider themselves “impaired,” the RIDI was modified to target participants’ reactions to their cancer. This modification was approved by the creator of the RIDI (H. Livneh, personal communication, March 22, 2023). While changes to a standardized instrument can cause concern, Cronbach’s alpha reliability estimates for internal consistency were calculated for each of the three factors. Two factors (non-adaptive and adaptive) showed good to excellent reliability estimates (.95 and .75, respectively). At the same time, denial was found to have poor reliability (.54). The low-reliability coefficient could be due to the possibility of measuring as a multidimensional construct or simply lacking items. The low Cronbach’s alpha could result from de-standardizing the measure’s language and is considered a limitation.

The AIVS was also modified for the current study by adding three items. This modification was done in collaboration with the creator (J. H. Kim, personal communication, March 23, 2023), who recommended that more items be added to the Courage scale given the previously low internal consistency reliability estimates for this scale using crowdsourcing data collection methods. While this could be a concern, Cronbach’s alpha for the Courage scale was very good (.89), indicating that the additional items added to the reliability estimate of this scale.

Finally, there is a possibility that important variables were not included in the analysis. The lack of such variables would lead to an incomplete picture of the satisfaction that cancer

survivors experience with their participation in the labor market. These limitations could impact the interpretation and utilization of the study results.

Discussion and Implications

The role of committed action as a mediator is consistent with conceptual understandings of virtues as values in *action* (Kim, Reid et al., 2016; Peterson & Seligman, 2004). Those actions must be driven by honorable intentions of emotional transcendence, practical wisdom, integrity, and courage, but they cannot exist without action. Importantly, committed action is "a constant and persistent demonstration of virtuous behavior" (Kim, McMahon et al., 2016, p.47-48) rather than a single action in one moment.

Interestingly, it has been proposed that practical wisdom may be the "master virtue" (Schwartz & Sharpe, 2006). Through a review of Aristotelian views of virtues and from the framework of virtues and character strengths presented by Peterson and Seligman (2004), Schwartz and Sharpe (2006) purported that practical wisdom is essential in orchestrating all character strengths to pursue virtuous living. Practical wisdom guides people in knowing when and to what extent, and in what context each of the other virtues should be harnessed. However, Kim, Lee, and colleagues (2021) distinguish between the theoretical basis of the V-PAM (i.e., Aristotelian virtue ethics) and the measurement of practical wisdom in the AIVS. In their scale, they reconceptualized this virtue "in terms of cognitive function that enables situational decision making relevant to behavioral (e.g., courage and committed action), relational (e.g., integrity), and emotional and reflective aspects (e.g., emotional transcendence) of human functioning" (p.330).

The theoretical foundations of virtue ethics and conceptual understandings of the very nature of virtues can exist concurrently; practical wisdom may be the decision-maker or the

mechanic, as depicted in the V-PAM metaphor by Kim, McMahon, and colleagues (2016), but it requires the mechanism of committed action in order to exist in one's life. To return to the metaphor of the V-PAM, the mechanic (practical wisdom) uses and manipulates the navigation system (integrity) to navigate the challenges of life and decides when and how much to push the gas (courage). However, there is no mechanic without the road (committed action). In this way, committed action is the mechanism through which all other virtues manifest in one's life.

Overall, there were relatively high correlations between virtues, consistent with previous findings (Kim et al., 2022), and from a theoretical standpoint, each of the virtues is part of human flourishing. The high correlation between committed action and courage (.59) is consistent with conceptualizing these; both are behavioral aspects of virtues (Kim, Lee et al., 2021). Similarly, the high correlation between practical wisdom and emotional transcendence (.56) is consistent with previous findings (Kim, Lee et al., 2021). They found that practical wisdom conceptually differs from emotional transcendence in its encompassing the cognitive function upon which the other virtues can manifest in behavioral, relational, emotional, and reflective aspects of human functioning. In contrast, emotional transcendence encompasses the emotional and reflective aspects, but results still implied a need for theoretical refinement of the two.

The relatively higher correlations between Committed Action and Emotional Transcendence with SLMP corroborate findings from Kim, Gonzalez, and colleagues (2021) in their study on validating the AIVS. Specifically, they found higher correlations between Committed Action, Emotional Transcendence, and general life satisfaction than the other virtues. Kim, Gonzalez, and colleagues' (2021) purported that Courage, Practical Wisdom, and Integrity are the precursors that allow an individual with a CID to address the situational barriers in front

of them, while Committed Action and Emotional Transcendence are more salient when considering future and ideal living situations. In this way, perhaps Committed Action and Emotional Transcendence are more salient in considering cancer survivors' satisfaction with labor market participation.

Integrity did not surface as a significant predictor of SLMP in any of the analyses. The non-significance of integrity is consistent conceptually with the basis of this study. Integrity is the moral compass, yet deciding to engage in the labor market may not necessarily be ethically charged for cancer survivors. Ultimately, there is no greater integrity to working than not working. Instead, how cancer survivors engage with this process is most acutely born out of committed action, emotional transcendence, practical wisdom, and courage. As discussed previously, committed action is the mechanism through which cancer survivors carry out virtuous acts. Emotional transcendence, particularly spirituality, plays a vital role for people with cancer and can even improve their quality of life (Balboni et al., 2010). In addition to evidence found in the literature, anecdotal experiences of the researcher support this conclusion; spiritual and existential needs and preferences are guiding lights for many cancer survivors. Practical wisdom is a critical part of the decision-making process for labor market engagement; rational evaluation of one's situation and negotiating one's needs with preferences are the responsibility of practical wisdom. Finally, courage plays an integral part in labor market participation; it takes courage to face the unpredictable fears that come with a cancer diagnosis as well as in work. Cancer treatment can make work challenging (Kamal et al., 2017; Mehnert, 2011; Todd et al., 2011), and courage can support individuals in addressing such difficulties. As described by Kim, McMahon et al. (2016), courage is the virtue that manifests the plan developed through practical wisdom in one's life.

Correlations between denial and other study variables are understandably low given the low internal consistency reliability estimate of the denial reaction in the RIDI in the present study (Cronbach's alpha = .54). This low estimate is understandable for two reasons. First, the denial reaction, being just one scale of the RIDI, has the lowest number of items (seven items) of any of the measures used for analysis in this study. Shorter tests produce lower coefficient alphas (Cortina, 1993; Streiner, 2003). Second, prior research has consistently found denial to be intermediate between the two polar sets of non-adaptive and adaptive reactions (Antonak & Livneh, 1991; Livneh et al., 2004). Denial is independent of the other reactions, whereas the non-adaptive reactions have been found to be prerequisites to the adaptive reactions (Antonak & Livneh, 1991). The findings from this study regarding the internal consistency of the denial reaction of the RIDI are consistent with prior research that denial is bifurcated into an adaptive and non-adaptive component (Livneh et al., 2004). The adaptive side of denial is its utility as a coping strategy that allows for distraction so individuals can experience respite from reality.

In contrast, the non-adaptive side of denial keeps individuals from facing reality and moving forward with life. Both engagement- and disengagement-type coping are adaptive in people with cancer (Livneh, 2000). In fact, coping strategies have been found to play both a direct role in psychosocial adaptation outcomes (which can include work outcomes) and a mediating role between personal characteristics (Livneh, 2000).

Furthermore, Livneh et al. (2004) noted the temporal nature of the adaptiveness of denial. Specifically, the adaptive nature of denial is crucial in the early stages of psychosocial adaptation following the onset of disability or chronic illness (Livneh et al., 2004). This is consistent with results from this study, given that the amount of time since participants' most recent cancer diagnosis (either initial or recurrence) ranged widely from one month to 50 years. Time since

onset may be a critical factor in understanding the results of the denial scores for the present study. Given the low reliability of the denial scale, results must be interpreted with caution. However, there is reason to believe that denial as an intermediate coping strategy may mediate (Livneh, 2000). Denial, or repression or blunting, was the strongest correlation variable to lower reported distress levels in women who had a mastectomy (Meyerowitz, 1983, as cited in Livneh, 2000). Thus, further exploration is warranted.

Implications for Clinical Practice

Psychosocial adaptation to a chronic illness or disability can be lifelong (Bishop et al., 2023; Livneh et al., 2019; Smedema et al., 2022). Based on the current findings that psychosocial adaptation reactions (adaptive and non-adaptive) mediate between virtues and SLMP, it will be beneficial for rehabilitation counselors to support consumers through the psychosocial adaptation process through disability adjustment counseling (DAC). DAC has been a centerpiece of the field of rehabilitation counseling since its beginning (Bishop et al., in press) and consistently is identified as such in role and function studies (Berven, 1979; Frain et al., 2016; Leahy et al., 2003; Muthard & Salomone, 1969; Wright et al., 1987). In a study surveying practicing CRCs, Bishop et al. (in press) found that two-thirds of CRCs provide DAC, and 45% believe more time should be spent providing DAC services to consumers. Notably, “career assessment, maintenance, and transition” was one of the most identified focus areas among CRCs who provided DAC, indicating a close relationship between psychosocial adaptation and vocational goals. Together with the findings from the present study, DAC may be essential for cancer survivors to both facilitate psychosocial adaptation and to support cancer survivors in uncovering their priorities and goals concerning participation in the labor market.

Furthermore, Bishop et al. (in press) found that few CRCs employ disability-specific, psychosocial adaptation to CID models to engage in DAC. To this end, the V-PAM is one framework for rehabilitation counselors to engage in DAC. In their replication study of the original V-PAM (Kim, McMahon, et al., 2016), Kim, Gonzalez, et al. (2021) found that it can differentiate psychosocial adaptation across those with high, intermediate, and low psychosocial adaptation. Interestingly, the specific sample characteristics have been found to influence the effect of each virtue. For example, integrity was a stronger predictor of adaptation for younger samples. At the same time, courage was more important for graduating college students with disabilities (Kim, 2017, as cited by Kim, Gonzalez et al., 2021). Perhaps for cancer survivors, particular virtues, such as committed action, are more important when faced with the acute awareness of one's mortality. In contrast, others are less salient, such as integrity, when considering one's centrality of work in the face of mortality.

Cancer survivors in this sample appear to have moderate satisfaction with labor market participation, with a mean score of 24.1 (possible scores range from 9-45). Virtues comprise 20.4% of the variation explained by SLMP scores for this sample ($R2 = .204$). By using the SLMP measurement tool developed by Phillips and colleagues (2022), this research endeavor allowed for honoring consumer preferences. Not all individuals have work as a priority, especially after receiving a cancer diagnosis. Rehabilitation counselors are called upon to avoid value imposition (CRCC, 2017, code A.4.). This includes the value that some rehabilitation counselors may hold that "'work is always better' and 'more work is better'" (Phillips et al., 2022, p.109). To honor the CRC code of ethics, rehabilitation counselors must support cancer survivors in exploring their values, priorities, and needs around work.

Virtues have been conceptualized in different ways within the social sciences. According to Peterson and Seligman (2004), virtues can be promoted through interventions that shape the character strengths of each virtue. As conceptualized by Kim, McMahon et al. (2016) in the V-PAM, virtues are seen as more stable traits that are reinforced and fixed throughout our lives. The seemingly conflicting conceptualizations of the malleability of virtues can co-exist in their duality. Virtues may operate in a trait-like manner to support everyday life and may later be harnessed deliberately to promote positive psychosocial adaptation. Findings from this study provide preliminary insights into the future creation of virtue-based interventions to support the psychosocial adaptation to cancer for cancer survivors and their engagement with the labor market. More research is needed to understand better virtues' malleability and how they are impacted by life-changing events, such as receiving a cancer diagnosis or any other chronic illness or disability.

Directions for Future Research

First and foremost, future research will need to seek out more representative samples regarding race/ethnicity, gender diversity, socioeconomic status, and cancer stages. The present sample provides limited insight into the understanding of virtues, psychosocial adaptation, and satisfaction with labor market participation in people of minoritized racial/ethnic backgrounds, with gender-diverse identities, and those of lower socioeconomic status. Future research must be conducted to understand the intersection of such social locations. Similarly, exploring the specific needs of people with different prognoses/stages of cancer is crucial to understand how to support them in their satisfaction with labor market participation. Those who have more advanced cancer stages (stages III and IV), with a perspective of their time is limited, may place more emphasis on immediate, emotionally meaningful goals rather than long-term career goals

(Lang & Carstensen, 2002). Understanding the unique needs of people at each stage will be important in moving forward with virtues as an intervention.

Given the lack of research on the connection between virtues and labor market participation in cancer survivors, it is warranted to continue exploring related aspects. This study contributes to the existing literature by examining the role of virtues and psychosocial adaptation on cancer survivors' satisfaction with labor market participation. More studies are warranted to understand cancer survivors' experiences of these virtues and changes in priorities that have been found in the literature that suggest changes in priorities of work (Drolet et al., 2005; Petrie et al., 1999; Strack et al., 2010; Thornton, 2002).

Given the insufficient data on symptom burden severity, it is warranted to study this subsequently. Upon review of the sample, it is understandable that there was limited data; many people were not currently receiving treatment and were years out from their diagnosis. It would behoove researchers to explore the interaction between the manifestation and experience of symptom burden and its interaction with virtues in the context of labor market participation. To do so, researchers must sample those undergoing active cancer treatment or those recently completed treatment. Previous research has shown that symptoms from cancer or its treatment can persist years after initial diagnosis and treatment (Harrington et al., 2010; Mao et al., 2007; Schroevers et al., 2004; Stein et al., 2008).

Further exploration of the interaction between denial and virtues is warranted, given the low reliability of the denial reaction in this sample. As described by Livneh, denial has been studied extensively as a coping strategy among people with cancer, with competing findings on its impact on health and functioning, with some reporting higher levels of distress while others higher levels of well-being and psychological adjustment, and some finding links between

shorter survival rates. In comparison, others found longer-term survivability for people with higher levels of denial (2000). Specifically, it will be prudent to explore when and in what conditions denial benefits psychosocial adaptation and functioning and how denial interacts with or inhibits the expression of virtues. Relatedly, exploring how work may serve as a vehicle for denial as a coping strategy could be interesting.

Closely related is the experience of ambivalence that many people with cancer experience (Tarbi & Meghani, 2019). This "roller coaster ride" (Asgeirsdottir et al., 2014, p.616) takes cancer survivors from the highs of hope, meaning, and connectedness to the lows of fear, loss, and grief (Tarbi & Meghani, 2019). Initially introduced by van Gennep over a century ago (1960, originally published in 1909) in the anthropological context of "rites of passage," liminality has since been applied to psychology fields. It has been defined as "the psychological process of transitioning across boundaries and borders" (Larson, 2014). The boundaries and borders can vary from the interpersonal level to the intrapsychic level to the spiritual level (Larson, 2014). These boundaries and borders have been described as the liminal space or "the threshold to something unknown" (Ekwall et al., 2007, p.275). Van Gennep (1960) and subsequent understandings of liminality (see Campbell, 1949 for greater discussion on the stages of Departure, Initiation, and Return) have three phases to this process of "becoming:" the rites of separation (pre-liminal rites), the rites of transition (liminal rites), and the rites of incorporation (post-liminal rites). Through the liminality framework, future research can explore how to facilitate resilience before entering the pre-liminal space, fortify and build skills to meet the challenges of the liminal space, and support the reintegration of the post-liminal space. Researchers have explored liminality to understand the cancer survivorship process (Adorno, 2015; Blows et al., 2012; Dauphin et al., 2020; Little et al., 2022; Wilson, 2020). Future research

should explore the virtues and other factors (e.g., meaning-making, ability to cope with uncertainty, etc.) that support someone through the liminal spaces and processes that arise with a cancer diagnosis and subsequent survivorship.

Existential experiences and challenges to basic world assumptions occur daily among cancer survivors (Naus et al., 2009; Tarbi & Meghani, 2019). A direction to explore is the spiritual aspect of this experience and its influence on the priorities and virtues of cancer survivors. Other coping strategies (e.g., positive reframing and active coping strategies to prepare for death; Tarbi & Meghani, 2019) and relevant constructs should be explored as well, including vocational self-efficacy, meaning and purpose in life, hope, and identity/cancer survivor centrality following a cancer diagnosis. Virtues can be harnessed to navigate the "existential turning point" (Missel & Birkelund, 2011, p.298) and beyond into survivorship.

This research supports the incorporation of virtues in the context of work, particularly in honoring consumer choice of whether to work. Importantly, this conceptualization is not just for cancer survivors but for any other conditions or experiences that lead someone to re-evaluate priorities in life. In fact, in their review of the Survey of Consumer Expectations, Faberman et al. (2022) found a trend in the general population that there is an overall lower willingness to work that started before the COVID-19 pandemic but was accentuated during the height of the pandemic. Therefore, future research should explore SLMP and virtues in other disability communities.

However, priorities and values in one's life are undoubtedly not the only factors in the decision to work. Without financial means, it may be impossible for someone to leave the labor market entirely. Importantly for many is the consideration for health insurance. In the U.S., health insurance for many is tied primarily to their employer. If they leave the labor market, they

may have to seek insurance elsewhere that is less desirable and potentially more expensive. However, leaving one's work may not be an option for cancer survivors with expensive medical needs. For this sample, almost half of the participants (44.3%) reported receiving insurance through an employer (either their own or their spouse). On the other hand, those receiving Social Security Disability Insurance or Supplemental Security Income may be disincentivized from working due to fears of losing health benefits and disability payments (Drake et al., 2020). Thus, a holistic evaluation of the many influential factors must be done rather than sole reliance on exploring the re-evaluated priorities when researching satisfaction with labor market participation in consumers with disabilities.

Additionally, longitudinal studies should be employed to understand the temporal nature of such constructs as virtues and psychosocial adaptation to understand when and in what conditions these may be more salient and adaptive. The current study, combined with these future directions, can facilitate the development of virtue-based psychosocial adaptation interventions that would support the satisfaction with labor market participation of cancer survivors.

Conclusions

In the year 2023 alone, almost 2 million people in the U.S. are expected to hear some variation of the words "you have cancer" (SEER*Explorer, 2023), joining more than 18 million Americans who have a cancer history (Miller et al., 2022). Survival rates continue to improve as technology and medicine advance the capacity for early detection and treatment (Mewes et al., 2012), and currently, the 5-year survival rate is almost 70% (SEER*Explorer, 2023). With the increase of cancer survivors in the U.S., coupled with the low employment rates (de Boer et al., 2009; Sun et al., 2017) and mixed findings of satisfaction with work outcomes (Amir et al.,

2007; Høyer et al., 2012; Johnsson et al., 2011; Mehnert & Koch, 2013; Taskila et al., 2006), there is a need to explore possibilities to support the satisfaction with labor market participation for cancer survivors.

Priorities shift for people with cancer (Sharpe et al., 2005; Tiedtke et al., 2012), and while for some, work may be a source of meaning (Steger & Dik, 2009) or a way to leave the "sick role" (Tiedtke et al., 2012), for others, work may not be of highest priority (Drolet et al., 2005; Thornton, 2002). Høyer et al. (2012) encouraged researchers and clinicians to honor cancer survivors' value on labor market participation to best support those reevaluating life goals. Altogether, this implies that satisfaction with labor market participation is an ethical work outcome for cancer survivors.

These values and priorities are lived out through the virtues of committed action, emotional transcendence, practical wisdom, integrity, and courage (Kim, McMahon et al., 2016). These five virtues are the basis of the Virtues-Based Psychosocial Adaptation Model created by Kim and colleagues (Kim et al., 2011; Kim, McMahon et al., 2016) that was designed to describe and provide a framework for rehabilitation counselors to support consumers with CID through the process of psychosocial adaptation in pursuit of virtuous living.

Findings from this study provided support for the complex nature of the role of virtues and psychosocial adaptation in understanding satisfaction with labor market participation that cancer survivors experience. Results demonstrated committed action's unique mediating role for the relationships between the other four virtues and satisfaction with labor market participation. Further, adaptive and non-adaptive psychosocial reactions also mediate the relationships between virtues and satisfaction with labor market participation, allowing rehabilitation counselors to intervene and support cancer survivors on several levels to best support psychosocial adaptation

to cancer. This study provided preliminary evidence as to the utility of the V-PAM in supporting SLMP for cancer survivors. Denial and other personal constructs such as cancer identity/centrality, vocational self-efficacy, hope, coping, and tolerance of ambiguity must be explored in future longitudinal and experimental studies guided by the V-PAM to further understand the adaptation process and SLMP for cancer survivors.

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Appendices

Appendix A: Institutional Review Board Approval

Minimal Risk Research IRB
3/16/2023

Submission ID number:	2023-0213
Title:	The Relationship Between Virtues, Psychosocial Adaptation, and Work for People with Cancer
Principal Investigator:	David Rosenthal
Point-of-contact:	Hannah Fry
IRB Staff Reviewer:	Sherry Holcomb

The MRR IRB conducted a review of the above referenced initial application. The study was determined to meet the criteria for exempt human subjects in accordance with the following category(ies) as defined under 45 CFR 46:

(2)(i) Tests, surveys, interviews, or observation (non-identifiable)

If this study falls under VA regulations, you must get final approval from the VA Research & Development Committee prior to starting research activities.

NOTE: If the research under this exemption application becomes subject to FDA regulations, or other changes are made that could affect the exemption status, you must contact the IRB as the IRB's exemption determination may no longer apply.

You have identified the following financial sources to support the research activities in this IRB application:

None.

If this information is incorrect, please submit a change to modify your application as appropriate.

To access the materials the IRB reviewed and accepted as part of the exemption determination, please log in to your ARROW account and view the documents tab in the submission's workspace.

Although the human subjects research described in the ARROW application referenced above was determined to meet the federal criteria for exemption and thus does not require continuing review, please be aware of your responsibilities related to the conduct of the research and when additional IRB review is required. Prior to starting research activities, please review the Principal Investigator and Study Team Responsibilities in the Investigator Manual, which

includes a description of the types of changes that must be submitted to ensure the research continues to comply with the conditions of the exemption and/or category(ies) of exemption.

If you have general questions, please contact the Minimal Risk Research IRB at 608-263-2362. For questions related to this submission, contact the assigned staff reviewer.

Appendix B: Study Screening Questionnaire

In this preliminary study, I will ask you to answer some questions to determine eligibility for studies on cancer and virtues. The survey consists of four (4) questions and will take no longer than one (1) minute to complete. There are no requirements for taking part in this study, only answer the questions as honestly as you can. Thank you for your interest in this study.

1	Are you a resident of the U.S.?	☐ Yes ☐ No
2	Are you 18 years of age or older?	☐ Yes ☐ No
3	Have you ever been diagnosed with cancer?	☐ Yes ☐ No
4	Do you comprehend written English?	☐ Yes ☐ No

Appendix C: Informed Consent

University of Wisconsin - Madison Research

Participant Information and Consent Form

Study Title: The Relationship Between Virtues, Psychosocial Adaptation, and Work for People with Cancer

Principal Investigator: David Rosenthal, Ph.D., CRC

Department: Rehabilitation Psychology and Special Education

Phone: (608) 320-6031

Email: drosenthal@education.wisc.edu

Co-Principal Investigator: Hannah Fry, M.S., CRC, LPC-IT, SAC-IT

Department: Rehabilitation Psychology and Special Education

Email: hfry@wisc.edu

Description of the research

David Rosenthal and Hannah Fry at UW-Madison are doing a research study about the relationships between virtues, psychosocial adaptation to chronic illness/disability, and satisfaction with labor market participation for adults with cancer. We invite you to participate in this study. You have been asked to participate because you are an adult (age 18 or older) who resides in the U.S. and understands written English, with a cancer diagnosis.

What will my participation involve?

If you choose to be in the study, we will ask you to provide your informed consent and then complete an online survey. The survey will help us learn more about virtues, psychosocial adaptation, and satisfaction with labor market participation for people with cancer. The survey will take about 20-25 minutes for you to complete.

Are there any risks to me?

The risks of participating include breach of confidentiality and privacy associated with online surveys.

Are there any benefits to me?

There are no direct benefits to you from participation in this study. However, the results can inform researchers' and rehabilitation counselors' understanding of current practice, rehabilitation counselor education, and how to better support individuals with cancer.

How will I be compensated?

If you decide to participate in the study, you will receive $5.50 to compensate you for your time.

How will my confidentiality be protected?

This study is confidential. Neither your name nor any other identifiable information will be published. Only the approved research personnel will have access to the data.

Whom should I contact if I have questions?

Being in this study is voluntary. You may ask any questions about the research at any time. If you have questions, concerns, or complaints, or think that participating in the research has hurt you, talk to the research team or contact the Principal Investigator David Rosenthal, Ph.D., CRC at (608) 320-6031.

If you have any questions about your rights as a research participant or have complaints about the research study or study team, call the confidential research compliance line at 1-833-652-2506. Staff will work with you to address concerns about research participation and assist in resolving problems.

If you decide not to participate or to withdraw from the study, you may do so without penalty.

In order to complete the survey, you must indicate below that you have read and understood this consent information and would like to continue to the survey. By selecting this, you are indicating that you have read this consent form, have had an opportunity to ask any questions, and are voluntarily consenting to participate in this research study. Thank you for your time and participation in this study.

I have read and understood this consent information and would like to continue to the survey.

- o Yes
- o No

Appendix D: Study Questionnaire

Demographic Information Questionnaire

1	***Age***	What is your current age? (In years)	[__]
2	***Gender***	What is your gender identity?	☐ Woman ☐ Man ☐ Non-binary ☐ Other not listed here (please specify): [__] ☐ Prefer not to say
3	***Race/ethnicity***	What is your race/ethnicity? (Select all that apply)	☐ Asian or Pacific Islander ☐ Asian American ☐ Black or African American ☐ Native American or Alaskan Native ☐ White ☐ Multiracial or biracial ☐ Other not listed here (please specify): [__] ☐ Hispanic/Latino ☐ Prefer not to say
4	***Relationship status***	What is your marital status?	☐ Married/Partnered ☐ Single ☐ Separated ☐ Divorced ☐ Widowed ☐ Prefer not to say
5	***Education attainment***	What is the highest level of education you have attained?	☐ No formal schooling ☐ Elementary education (grades 1-8) ☐ Secondary education, no high school diploma (grades 9-12) ☐ Special education

			certificate of completion/diploma or in attendance ☐ High school graduate or equivalency certificate (regular education students) ☐ Postsecondary education, no degree ☐ Associate degree or Vocational/Technical certificate ☐ Bachelor's degree ☐ Master's degree or higher
6	***Employment status***	What is your current employment status? (Please select all that apply)	☐ Employed full-time ☐ Employed part-time ☐ Employed on temporary leave ☐ Self-employed ☐ Unemployed and looking ☐ Unemployed and not looking ☐ Retired ☐ Student ☐ Other not listed here (please specify): [__] ☐ Prefer not to say
7	***Governmental benefits***	Do you receive any of the following forms of monthly public support? (Please check all that apply)	☐ Social Security Disability Insurance (SSDI) ☐ Supplemental Security Income (SSI) ☐ Temporary Assistance for Needy Families (TANF) ☐ Supplemental Nutrition Assistance Program (SNAP)

			☐ Veteran's Disability Benefits ☐ Workers' Compensation ☐ Other public support (please specify): [__] ☐ None ☐ Prefer not to say
8	***Health insurance***	How do you pay for your healthcare? (Please check all that apply)	☐ I do not have health insurance ☐ I am on medical assistance only ☐ I have insurance through my employer ☐ I have Medicare ☐ I have Medicaid ☐ I have insurance through the Affordable Care Act (Marketplace) ☐ I pay out of pocket ☐ Other not listed here (please specify): [__] ☐ Prefer not to say

Cancer-Specific Information Questionnaire

1	***Type/site of cancer***	What type(s)/site(s) of cancer do you have?	[__]
2	***Cancer stage***	What is the stage of your most concerning cancer?	☐ I ☐ II ☐ III ☐ IV ☐ I do not know my stage
3	***Cancer status***	Which of the following most accurately describes your current cancer status?	☐ I am considered to be in remission, cancer-free, or no evidence of disease (NED) ☐ I have a current/active diagnosis of cancer ☐ Other (please specify)

4	***First diagnosis***	How long has it been since your first cancer diagnosis? (In months)	[__]
5	***Most recent recurrence***	If you have had a recurrence or been diagnosed with a new cancer, how long has it been since your most recent diagnosis?	☐ I have not had a recurrence or been diagnosed with a new cancer, so this does not apply. ☐ I have had a recurrence or been diagnosed with a new cancer. (Please indicate months): [__]
6	***Current treatment regimen***	What type of treatment are you currently receiving?	☐ Chemotherapy ☐ Radiation ☐ Immunotherapy ☐ Surgery ☐ Alternative/complementary medicine/interventions ☐ None ☐ Other [__]
7	***Cancer symptomatology?***	Which of the following cancer symptoms (either from the cancer itself or from its treatment) have you experienced within the last 7 days? (Choose all that apply)	☐ Pain ☐ Fatigue ☐ Cognitive Impairment or "Chemo Brain" ☐ Neuropathy ☐ Nausea ☐ Diarrhea ☐ Constipation ☐ Other (please specify): [__] ☐ I haven't experienced any symptoms within the last 7 days
8	***Severity of symptoms***	Thinking of your cancer symptoms (e.g., pain, fatigue, cognitive impairment, etc.), how would you rate your symptoms within the last 7 days?	☐ Not severe at all ☐ Mild ☐ Moderate ☐ Severe ☐ Very severe

Psychosocial Adaptation

Reactions to Illness and Disability Inventory (RIDI; Livneh & Antonak, 1990)

Instructions: Below are some questions about reactions you may or may not have experienced regarding your cancer. Please answer these as honestly as you can. If you are unsure about an answer, choose the answer that you first thought of. There are no "right" or "wrong" answers.

1	2	3	4
Never	Seldom: (less than four times per month)	Sometimes: (approximately five to ten times per month)	Often: (ten or more times per month)

1	Since I was diagnosed with cancer, I'm less interested in other people.	1	2	3	4
2	If I became a better person, my problems would be cured.	1	2	3	4
3	Since I was diagnosed with cancer, I cry more often than I used to.	1	2	3	4
4	When I look back on what has happened to me, I feel bitter.	1	2	3	4
5	God will cure me, if I improve my behavior and follow God's ways.	1	2	3	4
6	I am a failure as a person.	1	2	3	4
7	I'm satisfied with my present abilities despite my cancer.	1	2	3	4
8	Since I was diagnosed with cancer, I have attacks of panic.	1	2	3	4
9	My cancer must be a punishment for something I did in the past.	1	2	3	4
10	I'm embarrassed by my physical appearance.	1	2	3	4
11	There are more important things in my life than those that my cancer prevents me from doing.	1	2	3	4
12	I have difficulty finding a reason to get up in the morning.	1	2	3	4
13	If I were nicer to people, I would regain my abilities.	1	2	3	4
14	I'm rearranging some life priorities.	1	2	3	4
15	Although I'm restricted in certain ways, there is still much I am able to	1	2	3	4

	do.				
16	My life is empty.	1	2	3	4
17	I find myself trembling without any apparent reason.	1	2	3	4
18	It makes my blood boil to have somebody talk about my cancer.	1	2	3	4
19	I have been through a crisis and feel I understand things better.	1	2	3	4
20	I feel that nothing will ever be the same again.	1	2	3	4
21	Since I was diagnosed with cancer, I have periods of hot or cold spells.	1	2	3	4
22	I'm certain that I will be completely cured.	1	2	3	4
23	When I look at other people, I'm eaten up with jealousy.	1	2	3	4
24	I'm so restless I cannot sit still.	1	2	3	4
25	Nobody is going to tell me what to do.	1	2	3	4
26	I get mad enough to smash things.	1	2	3	4
27	When I look in the mirror, I see myself and not cancer.	1	2	3	4
28	My mind goes blank.	1	2	3	4
29	I feel lonely even when with friends.	1	2	3	4
30	Everything in my life is coming together again.	1	2	3	4
31	Since I was diagnosed with cancer, I have periods of nausea.	1	2	3	4
32	I blame myself for what happened to me.	1	2	3	4
33	I find myself asking: "Why did this happen to me?"	1	2	3	4
34	I feel frozen, unable to move.	1	2	3	4
35	I'm seeking new meaning for my life.	1	2	3	4
36	I'm interested in getting socially involved with other people.	1	2	3	4
37	I feel that there is nothing I can do to help myself.	1	2	3	4
38	I cannot believe that this is happening to me.	1	2	3	4
39	I got a raw deal out of life.	1	2	3	4

40	I don't mind accepting help if I need it.	1	2	3	4
41	I will soon be just like I was before.	1	2	3	4
42	Since I was diagnosed with cancer, I have periods when my heart pounds.	1	2	3	4
43	I think it's all a nightmare from which I will soon awaken.	1	2	3	4
44	Since I was diagnosed with cancer, I have periods of breathlessness.	1	2	3	4
45	I'm impatient with the medical treatment recommended for me.	1	2	3	4
46	I realize that my cancer is part of me, but I don't let it interfere with my life.	1	2	3	4
47	I feel like getting even with someone.	1	2	3	4
48	I feel like screaming at others.	1	2	3	4
49	I feel confused about what is happening to me.	1	2	3	4
50	I believe that nothing is wrong with me.	1	2	3	4
51	I'm interested in forming new friendships.	1	2	3	4
52	I believe that my cancer will go away by itself.	1	2	3	4
53	Since I was diagnosed with cancer, I have nightmares.	1	2	3	4
54	I find myself arguing more with people.	1	2	3	4
55	Despite my cancer, I can do most things people without cancer can do.	1	2	3	4
56	I cannot absorb everything that is happening to me.	1	2	3	4
57	It makes me angry when people try to help me or do things for me.	1	2	3	4
58	I'm interested in making plans for my future.	1	2	3	4
59	It is difficult to keep my mind on one thing.	1	2	3	4
60	I can cope with almost all problems I face.	1	2	3	4

Scoring:

- Shock scale:
    - n = 7

    - Range of scale score: 7 to 28
    - Items: 28, 34, 38, 43, 49, 56, 59
- Anxiety scale:
    - n = 8
    - Range of scale score: 8 to 32
    - Items: 8, 17, 21, 24, 31, 42, 44, 53
- Denial scale:
    - n = 7
    - Range of scale score: 7 to 28
    - Items: 2, 5, 13, 22, 41, 50, 52
- Depression scale:
    - n = 8
    - Range of scale score: 8 to 32
    - Items: 1, 3, 6, 12, 16, 20, 29, 37
- Internalized anger scale:
    - n = 8
    - Range of scale score: 8 to 32
    - Items: 4, 9, 10, 23, 26, 32, 33, 39
- Externalized hostility scale:
    - n = 7
    - Range of scale score: 7 to 28
    - Items: 18, 25, 45, 47, 48, 54, 57
- Acknowledgement scale:

    - n = 7
    - Range of scale score: 7 to 28
    - Items: 14, 19, 35, 36, 40, 51, 58
- Adjustment scale:
    - n = 8
    - Range of scale score: 8 to 32
    - Items: 7, 11, 15, 27, 30, 46, 55, 60

Three factors

- Non-adaptive reactions
    - Shock scale + Anxiety scale + Depression scale + Internalized Anger scale + Externalized Hostility scale
- Denial reaction
    - Denial scale
- Adaptive reactions
    - Acknowledgement scale + Adjustment scale

Virtues

Adapted Inventory of Virtues and Strengths (AIVS; Kim, Reid et al., 2016)

Instructions: For the following items, read each word and select the bubble closest to the word that you think most accurately describes you. Please be honest; there are no "right" or "wrong" answers.

1	Hateful	1	2	3	4	5	6	7	Loving
2	Bold	1	2	3	4	5	6	7	Timid
3	Lazy	1	2	3	4	5	6	7	Hardworking
4	Honest	1	2	3	4	5	6	7	Dishonest
5	Curious	1	2	3	4	5	6	7	Apathetic
6	Unfair	1	2	3	4	5	6	7	Fair
7	Unfunny	1	2	3	4	5	6	7	Funny
8	I believe life has meaning	1	2	3	4	5	6	7	I believe life is meaningless
9	Uninventive	1	2	3	4	5	6	7	Inventive
10	Modest	1	2	3	4	5	6	7	Arrogant
11	Unforgiving	1	2	3	4	5	6	7	Forgiving
12	Self-disciplined	1	2	3	4	5	6	7	Undisciplined
13	I am receptive to new ideas	1	2	3	4	5	6	7	I am not receptive to new ideas
14	Submissive	1	2	3	4	5	6	7	Commanding
15	Energetic	1	2	3	4	5	6	7	Lifeless
16	Biased	1	2	3	4	5	6	7	Unbiased
17	Sensible	1	2	3	4	5	6	7	Nonsensical
18	I give up easily	1	2	3	4	5	6	7	Persistent
19	Trustworthy	1	2	3	4	5	6	7	Untrustworthy

20	I disregard beauty	1	2	3	4	5	6	7	I admire beauty
21	Prejudiced	1	2	3	4	5	6	7	Valuing equality
22	Optimistic	1	2	3	4	5	6	7	Pessimistic
23	Open-minded	1	2	3	4	5	6	7	Close-minded
24	Unscholarly	1	2	3	4	5	6	7	Scholarly
25	Playful	1	2	3	4	5	6	7	Serious
26	Thankful	1	2	3	4	5	6	7	Unthankful
27	Boastful	1	2	3	4	5	6	7	Humble
28	Courageous	1	2	3	4	5	6	7	Cowardly
29	Uninterested	1	2	3	4	5	6	7	Interested
30	Affectionate	1	2	3	4	5	6	7	Unaffectionate
31	Light-hearted	1	2	3	4	5	6	7	Somber
32	Imprudent	1	2	3	4	5	6	7	Prudent
33	I appreciate excellence	1	2	3	4	5	6	7	I disregard excellence
34	Perseverant	1	2	3	4	5	6	7	I quit easily
35	Grateful	1	2	3	4	5	6	7	Ungrateful
36	Incautious	1	2	3	4	5	6	7	Cautious
37	Loyal	1	2	3	4	5	6	7	Disloyal
38	Fearful	1	2	3	4	5	6	7	Brave
39	Unenthusiastic	1	2	3	4	5	6	7	Enthusiastic
40	Humourous	1	2	3	4	5	6	7	Humorless
41	Careless	1	2	3	4	5	6	7	Careful
42	Unspiritual	1	2	3	4	5	6	7	Spiritual
43	Caring	1	2	3	4	5	6	7	Uncaring
44	Impulsive	1	2	3	4	5	6	7	Self-controlled
45	Creative	1	2	3	4	5	6	7	Uncreative

46	Follower	1	2	3	4	5	6	7	Leader
47	Lionhearted	1	2	3	4	5	6	7	Fainthearted
48	Fearful	1	2	3	4	5	6	7	Fearless
49	Intrepid	1	2	3	4	5	6	7	Meek

Scoring:

- Items 2, 4, 5, 8, 10, 12, 13, 15, 17, 19, 22, 23, 25, 26, 28, 30, 31, 33, 34, 35, 37, 40, 43, 45, 47, 49 are reverse scored.
- Committed action scale:
    - n = 7
    - Range of scale score: 7 to 49
    - Items: 3, 12, 18, 24, 29, 33, 34
- Emotional transcendence scale:
    - n = 12
    - Range of scale score: 12 to 84
    - Items: 1, 8, 11, 15, 20, 22, 26, 30, 35, 39, 42, 43
- Practical wisdom scale:
    - n = 11
    - Range of scale score: 11 to 77
    - Items: 5, 7, 9, 13, 16, 21, 23, 25, 31, 40, 45
- Integrity scale:
    - n = 11
    - Range of scale score: 11 to 77
    - Items: 4, 6, 10, 17, 19, 27, 32, 36, 37, 41, 44

- Courage scale:
    - n = 8
    - Range of scale score: 8 to 56
    - Items: 2, 14, 28, 38, 46, 47, 48, 49

Satisfaction with Labor Market Participation

Satisfaction with Labor Market Participation (SLMP) Survey (Phillips et al., 2022)

Instructions: Please read each question carefully and select the answer that you feel describes you most accurately.

1	2	3	4	5
Very unlike me	Unlike me	Neither like me, nor unlike me	Somewhat like me	Very like me

1	I am happy with my current work-life balance.	1	2	3	4	5
2	Whether working or not, I need more income or financial support than I currently receive.	1	2	3	4	5
3	Whether through volunteer efforts or employment, I am able to contribute outside of the home as much as I would like.	1	2	3	4	5
4	I wouldn't change my current work-life balance even if presented with a new opportunity.	1	2	3	4	5
5	I have no interest in changing my current level of work or volunteer efforts.	1	2	3	4	5
6	I hope that I could have something more than my current situation when it comes to work.	1	2	3	4	5
7	I have been given all the work opportunities I need.	1	2	3	4	5
8	The option for getting or keeping employment has come easily to me in recent months and years.	1	2	3	4	5
9	I have always felt that I could choose to be employed if I wanted to.	1	2	3	4	5

Scoring:

- Items 2 and 6 are reverse scored.