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Childhood Cancer Survivors’ Workplace Experiences

by

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ABSTRACT

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Recent advances in the treatment of childhood cancer have resulted in more and healthier working survivors than ever before. However, the current organizational literature has not investigated concerns that this group of employees may have. This research is the first of its kind to assess the workplace experiences of childhood cancer survivors. Results indicate that childhood cancer survivors generally report positive workplace experiences, willingness to disclose that they are survivors at work, and high levels of social support. The level of disclosure was predicted by individual characteristics including the centrality of being a survivor to one's self-concept and perceived organizational support. Disclosing at work was related to positive workplace outcomes including higher job satisfaction, organizational commitment, person/organization fit and worker engagement, and lower job anxiety and turnover intentions. Support from coworkers strongly mediated the relationship between disclosure and workplace outcomes. Implications for organizations and employees are discussed.
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Childhood Cancer Survivors' Workplace Experiences

The demographic composition of the workforce is becoming more diverse. Minority individuals are entering the workplace in greater numbers and achieving higher status than ever before. Research concerning the experiences of these groups is important in understanding their unique contributions and needs. One minority group that has not received any organizational research is those who have survived previously fatal illnesses. Among these is childhood cancer survivors. With advances in the treatment and detection of malignancies, the number of childhood cancer survivors that exist today has been steadily rising (Robertson, Hawkins, & Kingston, 1994). These advances have resulted not only in an increase in the number of childhood cancer survivors, but also in an increase in their quality of life following cancer and ability to enter society as productive members (see Zebrack, 2001). This means that the number of childhood cancer survivors in the workplace is the highest it has ever been and will likely continue to increase as more medical advances are realized. As such, childhood cancer survivors are becoming an important segment of the workforce that may face particular challenges that have not been investigated empirically. Because of the growing number of childhood cancer survivors, it is important to identify possible barriers to employment they may face and examine ways to reduce these barriers.

Past research concerning childhood cancer survivors suggests that these individuals are at a greater risk of unemployment than their healthy counterparts (de Boer, Verbeek, & van Dijk, 2006; Pang et al., 2008). However, these studies only identified demographic variables (e.g., diagnosis, treatment, gender) that were related to higher risk for unemployment. The results of these studies suggest that childhood cancer
survivors face barriers to employment. However, these studies do not take into account psychosocial variables that may also explain why survivors are more likely to be unemployed. The current research is a first attempt to examine the workplace experiences of childhood cancer survivors from a psychological perspective. By examining the experiences of working survivors it will be possible to identify what problems may prevent them from entering the workforce. In particular, I will examine what barriers – personal or job-related – childhood cancer survivors identify and how they rate job-relevant outcomes such as satisfaction with the job, organizational commitment, job anxiety, turnover intentions, person-organization fit, commitment to working, and worker engagement. In addition, I propose a stigma-related explanation for negative workplace outcomes that childhood cancer survivors may experience and investigate the utility of using disclosure as an identity management strategy in the workplace to ameliorate negative job-relevant outcomes. Although this study does not evaluate whether cancer survivors are stigmatized in the workplace directly, the stigma literature provides a coherent framework, established theories and methodology, and useful terminology with which to investigate how survivors navigate their workplace experiences. I also explore the importance of social support at work in the relation between disclosure and important work outcomes.

I first give a brief background of the physiology of cancer and its treatment to illustrate how experiencing cancer as a child can be considered a stigmatized condition later in life.
A background of childhood cancer, treatment, and late-effects

Physiology of cancer. At the most basic level, cancer is a condition in which abnormal cells in the body divide rapidly without control and have the potential to spread throughout the body. In normal cell reproduction, cells divide into perfect copies of themselves in order to replace old or damaged cells. However, mutated cells can occur on occasion as a result of damaged or changed DNA. These mutated cells may not die when they are supposed to and new cells are created when they are not needed. This overabundance of mutated cells can then form a mass, or tumor, which, if malignant, can spread to other parts of the body. There are many types of cancer, each usually designated by the part of the body in which the abnormality begins (i.e., colon cancer begins in the colon). Although not defined by strict age limits, most studies include patients under the age of 18 years in the category of childhood cancer and I adhered to this convention.

Types of childhood cancer. A complete discussion of the many types of childhood cancer, their treatments, and the late-effects of treatment is beyond the scope of this review (see Dickerman, 2007 for an extensive review). However, the most common and pervasive cases deserve to be mentioned. The most common type of childhood cancer, as evidenced by a large-scale analysis of participants in the Childhood Cancer Survivors Study (Oeffinger et al., 2006), is acute lymphoblastic leukemia (ALL; 18.7%). The next most common types of childhood cancer after leukemia, in order, are central nervous system (CNS) tumors (16.7%), Hodgkin's disease (8.8%), sarcoma (7.4%), bone tumors (5.6%), neuroblastoma (5.1%), non-Hodgkin's lymphoma (4.6%), and Wilm's tumor (4.2%; Ries et al., 1999).
Survival and treatment of childhood cancer. The survival rate (those who successfully completed treatment) for all combined types of childhood cancer between 1962 and 1970 was approximately 26%. This number rose to 65% between 1986 and 1988, a 150% increase (Robertson et al., 1994). The five-year survival rate for children with cancer is now close to 80-85% (Hampton, 2005).

Several strategies for treating childhood cancer are available and often more than one is used to treat a single case. The most common type of treatment is chemotherapy, a procedure that involves using drugs to stop or slow the growth of rapidly dividing cells. Radiation therapy uses ionizing radiation to damage the genetic material of cells to prevent them from dividing. Healthy cells that are also affected can usually recover from radiation therapy, but are at risk of being permanently damaged. Surgery is another treatment in which cancerous tissues are removed from the body. The type of treatment prescribed depends on many factors including individual characteristics of the patients, type of cancer, and severity (again, for an exhaustive list see Dickerman, 2007). Even after treatment has been completed survivors traditionally continue to receive follow-up examinations periodically to identify whether the cancer has come out of remission or not. Thus, a survivor may still go to the doctor even when they are symptom-free.

Physical late-effects of cancer treatment. Although the survival rates have improved greatly in recent years, survivors of childhood cancer suffer from a wide variety of late-effects as a result of the illness and its treatment. Treatments such as chemotherapy and radiation therapy are designed to stop the growth of rapidly dividing cells. However, these treatments do not discriminate between cancerous cells and cells that divide rapidly as a consequence of normal childhood development. As a result,
normal development may be arrested as a result of some cancer treatments. Side effects of treatment will occur to the extent that healthy cells are damaged along with cancerous ones. Late-effects are the side effects that result from the treatment of cancer long after (months or years) treatment has ended. Some of the most deleterious effects of radiation therapy as a treatment for CNS tumors are cognitive deficits and learning disabilities. Other common late-effects of cancer treatment include second cancers, fatigue, infertility, and scarring.

A large-scale study by Hudson and colleagues (Hudson et al., 2003) found that 44% of adult survivors of childhood cancer reported at least one detriment in health (physical, emotional, or mental) after the conclusion of treatment. A more recent study (Oeffinger et al., 2006) estimated that the percentage of adult survivors of childhood cancer who reported at least one chronic health condition was 62.3%. Nearly a third of these survivors reported that their condition was "severe" or "life-threatening or disabling." The Childhood Cancer Survivor Study (CCSS), initiated in 1993, utilized a sample of over 14,000 childhood cancer survivors diagnosed between 1970 and 1986 and over 3,500 of their siblings. Analyses of these data revealed that cancer survivors were eight times more likely than their siblings to have one or more severe or life-threatening chronic health conditions (Oeffinger et al., 2006).

*Psychological late-effects of cancer treatment.* Reports of psychosocial late-effects are much more positive than those of physical late-effects. A systematic review by Eiser and colleagues (2000) found that in general there were no differences between childhood cancer survivors and the general population on survey-based measures of psychosocial outcomes (e.g., self-esteem, satisfaction with school, self-concept, post-
traumatic stress disorder, general health, coping, body image, anxiety). Differences between cancer survivors and healthy controls are reported when interviews are conducted, with cancer survivors reporting more positively on all measures. It is important to note that the research concerning the psychosocial late-effects of childhood cancer survivorship have primarily utilized self-report measures, which can be highly subjective. It is possible, therefore, that the respondents – having gone through the traumatic experience of childhood cancer and its treatment – may have a more optimistic frame of reference than controls who have not experienced such trauma, despite current hardships as a result of their past illness.

Although many of the physical and psychological effects of adult cancer survivorship have been documented, the workplace experiences of childhood cancer survivors – which can be largely influenced by late-effects of childhood cancer and its treatment – have been less well documented. The limited research that has been done has been captured in one meta-analysis (de Boer, Verbeek, & van Dijk, 2006) and expanded upon by a large-scale analysis of the CCSS (Pang et al., 2008). These studies examined the unemployment rates of childhood cancer survivors compared to matched individuals who were never diagnosed with cancer. They found that survivors are at a greater risk for unemployment and that characteristics such as being diagnosed with a central nervous system tumor or bone cancer, being female, having chronic health problems, suffering from cardiac disease, being exposed to cranial radiotherapy, and being diagnosed before the age of four were particularly related to unemployment. Although this research underscores the importance of empirical attention on employment concerns for survivors of childhood cancer, it does not go beyond surface-level characteristics. More detailed
psychosocial factors that likely influence childhood cancer survivors’ workplace experiences, such as employee attitudes about the job or characteristics of the job itself are appreciated by industrial/organizational psychologists and investigating these will likely inform the relationship between childhood cancer and unemployment in more detail. The present research will assess the workplace characteristics of childhood cancer survivors with respect to job satisfaction, organizational commitment, anxiety on the job, turnover intentions, person-organization fit, commitment to working, and worker engagement on an exploratory basis.

**General employment characteristics of cancer survivors**

*Attitudes towards cancer survivors as employees.* Early research concerning the workplace experiences of cancer survivors indicates that discrimination is a common concern. Reynolds (1977) suggested that employers believe that cancer survivors will be absent more and perform more poorly than healthy employees. However, these assumptions are not supported empirically, as little or no differences arise between survivors and healthy employees in attendance and performance (Cunnick, Cromie, Cortell, & Wright, 1974; Wheatley, Cunnick, Wright, & van Keuren, 1974). In 1980, the American Cancer Society reported that approximately 90% of adult cancer patients were confronted by discrimination when attempting to re-enter the work force. Although these studies show that discrimination in the workplace due to cancer was once a big problem, more recent studies (Ehrmann-Feldmann, Spitzer, Del Greco, & Desmeules, 1987) suggest that this is no longer the case. In addition, the enactment of the Americans with Disabilities Act in 1990 has made overt discrimination of persons with disabilities illegal. However, subtle forms of discrimination may persist in the absence of formal
discrimination. For instance, Hebl, Foster, Mannix, and Dovidio (2002) found that stigmatized applicants often received this interpersonal negative treatment (e.g., less eye contact, shorter interactions) while receiving formal treatment (e.g., being allowed to apply for a job) that was not discriminatory.

Return to work after a cancer diagnosis. A large review (Spelten, Sprangers, & Verbeek, 2002) found that approximately 62% of working-age adults return to work following treatment of cancer – of these, approximately 84% work full-time (Bradley & Bednarek, 2002) – and this rate seems to be growing (Short, Vasey, & Tunceli, 2005). Although this seems like a small majority, many of the respondents in the studies reviewed were older and near retirement age anyway. This review identified many individual- and job-related characteristics that are associated with the decision to return to work. Individual-related factors related to not going back to work included little social support, high fatigue, low energy level, high pain, low muscle strength, high concentration problems, high depression, and high anxiety. Job-related factors included negative attitudes of coworkers, little discretion over hours, little discretion over amount of work, high degree of manual labor, and high physical demands of the job. Among those that do decide to return to work, several limitations may persist as a result of cancer and its treatment. Bradley and Bednarak (2002) reported the experiences of 253 working cancer survivors. They found that 26% reported difficulty lifting heavy loads; 22% reported difficulty keeping pace with others; 18% reported difficulty performing physical tasks; 14% reported difficulty learning new things and stooping, kneeling, or crouching; 12% reported difficulty with mental concentration; and 11% reported difficulty analyzing data. These factors represent the broad range of factors that have been identified by past
research to be associated with adult cancer survivors’ decisions to return to work. However, these factors have not been investigated empirically with respect to childhood cancer survivors, thus I plan to assess these factors on an exploratory basis to see if they affect decisions to enter the workforce.

**Cancer as a stigma**

Stigma is defined as the negative evaluation of individual characteristics that place the bearer of these characteristics outside the realm of social acceptance and ruins normal social interactions (Goffman, 1963). Stigma is usually the result of a failure to adhere to some socially acceptable norm and can subsequently result in differential attitudes of, beliefs about, or behaviors towards the stigmatized individual. For instance, gays and lesbians violate the norm of heterosexuality, handicapped individuals violate the norm of normal functioning, and individuals with cancer violate the norm of healthiness. Goffman (1963) identified three general categories of stigmas: abominations of the body, such as scars, physical disability, or illness; abominations of character such as criminality or homosexuality; and tribal stigmas, which are passed down from generation to generation, such as race, ethnicity, or skin color. Within this framework, cancer could be considered an abomination of the body as a physical illness. Jones and colleagues (1984) argued that the more disruptive the stigmatizing characteristic is (i.e., it affects other people) can be related to the degree of negativity associated with it. Cobb and Erbe (1978) argued that people with cancer can make those without cancer feel uncomfortable due to the stigma associated with cancer. This discomfort was disruptive to peoples’ normal lives (in which they did not have to interact with cancer patients) and aversive. People may attempt to reduce the internal tension they feel around cancer patients by
avoiding the altogether (Gaertner & Dovidio, 1986). Empirical support for the notion that cancer is stigmatized was later found by Albrecht and colleagues (1982). Peters-Golden (1982) found that students role-playing as cancer patients were more concerned with self-presentation and keeping social interactions smooth than students role-playing as heart disease patients, indicating that these students likely felt stigmatized due to their membership in the ‘cancer patient’ category and had to compensate in some way. There is also anecdotal evidence that those diagnosed with cancer experience stigmatization in many reports from patients that indicate less contact with former acquaintances after being diagnosed (Stahly, 1989).

Stigmatization also has negative consequences with respect to the quality of life of cancer survivors. For instance, Koller and colleagues (1998) found that survivors’ reports of somatic symptoms following cancer treatment were more highly correlated with negative affect and perceived stigmatization than with actual reports about their physical health from their physicians. That is, survivors report feeling less healthy as a result of feeling stigmatized than they actually are from a medical perspective.

Stigmatization of individuals with cancer tends to be the result of misconceptions about the disease. Bloom and colleagues (1991) found that 63% of a sample of African-American individuals believed that diagnosis of cancer is a death sentence and the same proportion thought it to be contagious. Contagion can be classified as a source of high peril for nonstigmatized individuals, one of the six dimensions of stigma outlined by Jones and colleagues (Jones et al., 1984). Other misconceptions about cancer identified in this sample include an overestimation of mortality and an underestimation of the ability to control the cancer. These misconceptions make it clear as to why cancer
patients may be avoided by those who do not fully understand the implications of the disease.

Being in the presence of an individual with cancer can create ambiguity due to the fact that it is not a situation most people have experience with. Individuals have reported that they do not know how to interact, what they should say, or whether or not they should help, which results in tense social interactions (Albrecht et al., 1982; Goffman, 1963). This tension could result in avoiding interacting with those with cancer altogether by creating physical or social distance (Gaertner & Dovidio, 1986). In addition, most people believe that people usually get what they deserve and that the world is just. This "just world hypothesis" helps to explain why particular individuals suffer hardships and others do not (Hafer & Begue, 2005; Lerner, 1980). For example, in the case of lung cancer, most people assume that the disease is a result of heavy smoking, which is self-inflicted and could have been prevented. However, when there is no easy explanation for why others suffer hardships while we do not (e.g., they smoked excessively and we did not), people tend to become uncomfortable because they represent a constant reminder that the other’s hardship was not self-inflicted and thus could befall anyone (e.g., oneself). This reminder of one’s own vulnerability creates anxiety, which can be alleviated by reducing the amount of contact with the unfortunate other (Gaertner & Dovidio, 1986). This is especially the case for childhood cancer survivors, who likely did nothing to provoke the disease. Indeed, the higher the similarity between those stigmatized and those not stigmatized the more tension the nonstigmatized person experiences (Stahly, 1989) because their vulnerability is especially salient.
It is unclear whether cancer survivors who are no longer suffering from the direct effects of the disease or the treatments (e.g., fatigue or alopecia from chemotherapy) would suffer from stigmatization. However, there are many reasons why this might be the case. First, cancer is never truly “cured.” Patients undergo treatment until the cancer is in remission, a state in which the patient no longer suffers from symptoms that are related to cancer. Cancerous cells remain in the body and can be dividing, but the symptoms are under control. At any time, the patient could come out of remission and suffer from cancer-related symptoms once again and have to start intense treatment (e.g., chemotherapy) anew. Thus, even though a survivor may be healthy at present, they could succumb to the disease again any time. To the extent that others believe that having had cancer makes one susceptible to more, future illness there will likely be more stigmatization. Indeed, the recurrence of original cancer or the development of new cancers have been identified as the leading causes of death among 5-year childhood cancer survivors (Mertens et al., 2001).

Even if survivors were not susceptible to the recurrence of original and second cancers (if there really was a “cure”), survivors may not be able to shed their stigmatization. Rodin and Price (1995) found that individuals who were depicted as having once been flawed in some way (e.g., they were unattractive at a younger age but are now very attractive) were rated more negatively in general and less likely to be sought out as friends than if they were presented as having never been flawed. Ratings between targets reached parity only when the once flawed individual was depicted as being objectively very much more desirable. That is, they had to greatly compensate for their former stigmatizing characteristic, even though they had rid themselves of it. In the
same way, survivors of childhood cancer may not be able to rid themselves of the stigma associated with cancer, even if they are in remission. This point is especially important in a workplace setting, where organizations may have to pay for medical expenses of their employees (see Hoffman, 1986). Those who had cancer may be seen as more of an "insurance risk" than comparable employees who never had cancer.

In short, cancer can be considered a stigmatized condition due to its association with death (Bloom et al., 1991), misconceptions about the disease being contagious (Bloom et al., 1991), lack of experience and confidence in interacting with cancer patients (Albrecht et al., 1982), the inability to reconcile the fact that someone similar to oneself has suffered from the disease (lack of a "just-world" explanation; Hafer & Begue, 2005; Lerner, 1980), the fact that cancer could strike again at any time, and the notion that once someone is stigmatized, they cannot rid themselves of their former stigmas (Rodin & Price, 1995). All of these factors result in ambiguous, uncomfortable, and tense social interactions (Goffman, 1963; Jones et al., 1984), which can lead to avoidance of survivors (Gaertner & Dovidio, 1986). Indeed, an examination of cancer survivors who were diagnosed in adulthood reveals some of the problems that childhood cancer survivors may face.

The stigmatization of adult cancer survivors has been reported in the form of failure to hire, demotion, undesirable transfer, denial of benefits, hostility, and denial of promotion (Fesko, 2001; Hoffman, 2000), although these instances of workplace discrimination have decreased over time (Hoffman, 2005). Although recent accounts of discrimination against survivors in the workplace suggest that there is not a large problem, as outlined above, it makes theoretical sense that survivors would experience
discrimination. However, most of these recent studies rely on self-report data from the survivors themselves. Survivors tend to self-report with a positivity bias - indicating they are happier than controls with respect to most things (Eiser et al., 2000). Thus, they may be experiencing discrimination but not reporting it due to this positivity bias or the fact that the form of discrimination is more subtle now than it was in the past. Also, stigmatized individuals may report less personal discrimination as a means of protecting their self-esteem (Dion & Kawakami, 1996). In studies where supervisors or coworkers are asked about their attitudes towards survivors the reported discrimination is higher than when survivors themselves are asked in studies from the same time periods (almost 0% of survivors vs. 14-27% of coworkers; Ferrell & Dow, 1997). Thus, the perspective of the person asked is an important aspect to consider with respect to stigma. In addition, research (Martell, Lane, & Emrich, 1996; Valian, 1999) has shown that even extremely small inequities (1% advantage) can lead to large discrepancies in distal outcomes and it may be that survivors experience subtle, interpersonal discrimination but not formal barriers to employment (see Hebl, Foster, Mannix, & Dovidio, 2002) and they may be unaware of or unwilling to report the small inequities they do experience. Thus, the literature concerning the stigma represents a good framework for which to investigate cancer, but this area needs to be greatly developed.

**Self-disclosure as a strategy to remediate the negative effects of stigma**

Self-disclosure is the act of revealing information about oneself to others (Cozby, 1973). If one individual shares intimate information with another, the recipient may feel trust, and similarities can be found between the two individuals. The recipient may then offer information in return, beginning a reciprocal relationship of mutual self-disclosure.
For example, an offhand comment concerning one's ill mother may elicit sympathy and/or support from others, who may offer information about their own experiences with ill family members. This information sharing is important in relationship forming, as evidenced by the fact that even the most trivial similarities can elicit liking (Tajfel & Turner, 1979). This pattern of reciprocal self-disclosure is a simple model of how most relationships – platonic, professional, and romantic alike – form (see Cozby, 1973).

**Why should survivors want to disclose?** Given the negative consequences of stigmatization due to one's past cancer status, it seems unlikely that former cancer patients would want to disclose the fact that they had cancer, especially if they can conceal this information. However, there are a number of reasons that disclosing this information in the workplace can have positive outcomes for stigmatized employees. As mentioned previously, disclosing is important for forming relationships with others. A review of the self-disclosure literature by Collins and Miller (1994) confirmed the importance of self-disclosure in relationship-forming and liking. Their meta-analysis found that individuals prefer those who disclose to them and that those who disclose intimate information are more well-liked than those who disclose less intimate information. Indeed, withholding personal information can be burdensome and may strain interpersonal relationships (Wegner & Lane, 1995). Thus, self-disclosure constitutes an important aspect of all interpersonal and social relationships and is an important first step in establishing social support networks (Kalichman, DiMarco, Austin, Luke, & DiFonzo, 2003).

Another reason for disclosing is that self-disclosure can also have many personal benefits for the discloser, apart from those inherent in forming relationships. A large
proportion of the self-disclosure research has been conducted with respect to another hidden characteristic: sexual orientation. Herek (1996) suggested that the benefits of self-disclosure for gay men and lesbians may include enhanced mental and physical health and that the act of self-disclosing can be used as a way of increasing understanding about sexual orientation that may be misunderstood by the general public. Similarly, the misconceptions about childhood cancer that were discussed previously (e.g., contagion) can be addressed to the extent that survivors are willing to discuss their medical history. Thus, disclosing information about oneself to others can have both personal and social benefits for the discloser.

**Disclosing versus acknowledging.** Due to the varied nature of the late-effects of childhood cancer, some survivors may experience late-effects that are readily apparent to others. For example, deformity or need for assisted mobility (e.g., wheelchair) as a result of childhood cancer or its treatment can create a situation in which the individual can no longer ‘pass’ as normal. When the possibly stigmatizing characteristic is known, the individual is then faced with whether they will acknowledge this characteristic or not. However, he or she can acknowledge the outward manifestation of their past cancer status without necessarily disclosing the cause of it (the cancer). For example, an applicant who uses a wheelchair may simply acknowledge the fact of the wheelchair without attributing it to their past cancer status, leaving this part of their past hidden. Although research suggests that acknowledging one’s known stigma can ease tension in interpersonal interactions (see Davis, 1961) and in employment settings (M. R Hebl & Kleck, 2006), this is conceptually different from disclosing information that is not apparent. In the case of hidden characteristics, there is no inherent tension between two
Disclosure behaviors in other types of employees. As mentioned previously, some employees may have reservations about disclosing information about themselves in the workplace, particularly if they fear negative consequences, such as stigmatization or discrimination, as a result of self-disclosure. In a study of disabled employees in Canada, Wilton (2006) found that approximately 40% of blue collar workers (sales/retail) did not disclose their status because they felt that doing so would make them seem like less-qualified employees. This study also found that some who did not disclose were preoccupied with keeping their secret, resulting in anxiety, distress, and worry. Indeed, Harlan and Robert (1998) found that individuals with hidden disabilities may face resistance from the organization if they disclose and request assistance. With respect to individuals with psychiatric disabilities, Grainger (2000) found that those who did not seek employment through the help of a vocational rehabilitation program were unlikely to disclose to their employer. However, in a larger, more educated sample, Ellison and colleagues (2003) found that 87% had disclosed in the workplace. More recent research in this area (Goldberg, Killeen, & O’Day, 2005), found a disclosure rate of 71% for individuals with psychiatric disorders. Research (Pryce, Munir, & Haslam, 2006) investigating disclosure rates of adults diagnosed with cancer indicates that approximately 60% of respondents had disclosed to their supervisors and approximately 90% had disclosed to colleagues. These results, however, are based on a sample of individuals who were diagnosed while employed, not on long-term survivors per se.
These participants likely disclosed as a means of explaining their need for time off or as a means of obtaining social support. Thus, these disclosure rates are likely negatively skewed. In any case, it is clear that disclosing one’s past cancer status is an important decision for working cancer survivors.

The disclosure rates of these samples highlight one reason that survivors of childhood cancer are likely to disclose at work: need for accommodation. As outlined in the ADA, employers are prohibited from discriminating against individuals who qualify as disabled, or were qualified as disabled in the past, and must make “reasonable accommodation” for their employees that fit this description. Most cancer survivors fit into the broad definitions for disability set by the ADA (Hoffman, 2005) and are thus protected from discrimination and qualify for accommodations. However, the responsibility to request accommodation from the employer lies with the employee. Cancer survivors can only benefit from accommodations that may be necessary for them to perform their jobs if they have made these needs known by disclosing their past cancer status. Indeed, some research (Baldridge & Veiga, 2001) suggests that many who qualify for accommodation may not request it due to the fear of discrimination. Employees who do not feel comfortable in their organization or around the coworkers and supervisor will likely not be comfortable disclosing personal (especially potentially stigmatizing) information, even if they stand to gain benefits from doing so. For this reason, the climate of the organization and the supportiveness of other employees are important factors in deciding to disclose one’s past cancer status and request accommodation at work.
What are the benefits of disclosing?

Disclosure and job attitudes. Research relating disclosure in the workplace to job satisfaction is somewhat lacking in general and nonexistent with respect to the disclosure of cancer. However, childhood cancer survivors may be cautious about disclosing to others so as to avoid being categorized or stereotyped. They may believe that others will treat them differently if they know about their past cancer status. For instance, childhood cancer survivors may feel that they would be less attractive as a candidate for a job or fear that employers may feel put upon by having to provide them with accommodations. Stereotypes about children with cancer include fragility, poor health, and lower competence and survivors may understandably avoid situations that might activate these stereotypes in others.

However, as discussed previously, there are many reasons that cancer survivors may choose to disclose. For instance, managing a hidden identity can be burdensome and can deplete psychological resources that could be better spent on job-related tasks. Wegner and Lane (1995) outlined what they termed the ‘secrecy cycle.’ They suggest that there are deleterious effects of concealing hidden characteristics of oneself. Keeping something hidden from others may lead to an obsessive preoccupation with identity management (e.g., thinking of and maintaining lies). Cognitive and attentional resources could be consumed by trying to keep the unknown characteristic hidden and interpersonal relationships could be strained by a lack of reciprocal communication (see Collins & L. C. Miller, 1994). Disclosing the secret releases the individual from the burden of managing a disjointed identity. This may be particularly important in jobs in which the employee must manage one’s emotions in order to project a certain disposition (e.g., a
cheerful salesclerk, a stern bill collector), as research on this “emotional labor” has found that it can take up considerable psychological resources (Ashforth & Humphrey, 1993; Brotheridge & Grandey, 2002; Morris & Feldman, 1996).

In a study of gay and lesbian employees, Day and Schoenrade (1997) found that disclosure of sexual orientation was related to higher organizational commitment and lower conflict between work and home. A later study by Griffith and Hebl (2002) found that gay and lesbian employees’ disclosure of their sexual orientation was positively related to job satisfaction and negatively related to job anxiety. Research by Callan (1993) investigating disclosure in subordinate-manager relationships suggests that subordinates who feel that they have more disclosure opportunities also report higher job satisfaction. Several other researchers have found that disclosing in the workplace is related to positive workplace-related outcomes such as increased 1) job satisfaction, 2) organizational commitment, 3) satisfaction with coworkers, 4) engagement on the job, and 5) person-organization fit, and decreased 1) turnover intentions, 2) anxiety on the job, 3) role ambiguity, and 4) psychological strain (Ellis & Riggle, 1996; E. B King, C. Reilly, & M. Hebl, 2008; Ragins, Singh, & Cornwell, 2007; Tejeda, 2006). Because those who disclose their past cancer status should be released from Wegner and Lane’s (1995) “secrecy cycle,” they should be relieved of the negative effects of maintaining a secret identity in the workplace and report more positive attitudes. Thus, I predict the following:
Hypothesis 1: Disclosure of one’s former cancer status at work will be related to (H1a) higher job satisfaction, (H1b) higher organizational commitment, (H1c) lower job anxiety, (H1d) fewer turnover intentions, (H1e) higher person-organization fit, (H1f) higher commitment to working, and (H1g) higher worker engagement.

Who is likely to disclose?

Coworker supportiveness and disclosure behaviors. Empirical support for the relationship between supportiveness and disclosure was found for disabled employees by Anderson and Williams (1996). These authors found that seeking and providing help in the workplace was determined by the quality of the relationships between disabled employees and coworkers and supervisors. Baldridge (2005) found that employees who had coworkers and supervisors who were perceived to be supportive of their disability were more likely to request assistance at work. Similar research by Harlan and Robert (1998) found that those who perceived that the organization would be resistant to accommodating them were less likely to disclose their disability status and supportive work environments were found to be more conducive to disclosure of disability than competitive environments (Rollins, Mueser, Bond, & Becker, 2002). Past research (Day & Schoenrade, 1997; Griffith & M. R Hebl, 2002) has established the importance of coworker attitudes and organizational policies in gay and lesbian employees’ decisions to come out in the workplace.

As mentioned in the section outlining self-disclosure as a remediation tactic, disclosure is an important part of relationship forming. Disclosure is positively related to
liking and those who disclose more intimate information are liked more than those who disclose at a lower level (Collins & L. C. Miller, 1994). This can be an important point for organizations because the quality of an employee’s relationships with his or her supervisor and coworkers likely affects the quality of important work-related outcomes. For example, Raabe and Beehr (2003) found that positive relationships with supervisors and coworkers predicted higher job satisfaction, organizational commitment, and lower turnover intentions. Based on these results, I predict the following:

**Hypothesis 2:** The more that an employee’s coworkers and supervisors are perceived to be supportive of the employee’s past cancer status, the more childhood cancer survivors will have disclosed.

*Survivorship as a central identity and disclosure behaviors.* Identity theory states that significant life-event stressors could result in shifts in the relative importance of different self-identities (Stryker & P. J. Burke, 2000). This change in the importance of different identities can consequently alter one’s self-concept. This may be especially important in the case of child and adolescent cancer patients, since being a cancer patient/survivor could establish itself as a central part of one’s identity, rather than be incorporated into an already-formed self-concept, as is the case for adult cancer patients.

Evidence that cancer does become a central part of some survivors’ identities was suggested by Zebrack (2001), who asserted that cancer and its treatment may “result in the integration of a new, and perhaps permanent identity” (p. 238) for survivors. His research also reports the experiences of individual cancer survivors, one of which stated
that, "there was cancer on the one hand and everything else in my life on the other...the
fact that I was a patient with cancer...outweighed the rest of my life...it's never not
there" (p. 238). This account highlights how central one's cancer can become to his or
her self-concept.

Recent research by Diemling and colleagues (2007) found that 86% of adults self-
identified as cancer survivors. Of particular note in this research is the additional finding
that 66% of respondents indicated that "being a survivor is an important part of who [they
are]," and 44% indicated that they "often tell friends" that they are cancer survivors.
These findings further support the notion that having survived cancer and its treatment
can become an important part of individuals' identities.

Past research on centrality of the survivor self-identity has not been conducted
with respect to its effects on disclosure. However, because many cancer survivors adopt
a central self-identity as a "survivor," it is likely that those who see being a "survivor" as
central to their identity will be more likely to disclose their past cancer status to
coworkers and supervisors than those who do not consider it to be a central part of their
identity. Thus, I predict the following:

_Hypothesis 3:_ Childhood cancer survivors who hold their survivor status as
central to their identity will be more likely to disclose to coworkers and
supervisors.

_Acceptance of past cancer status and disclosure behaviors._ Related to the
centrality of one's survivor status to his or her self-concept is the degree of acceptance of
one's past with cancer. While centrality is a cognitive indicator of self-categorization, acceptance is an affective measure of positive or negative feelings about one's survivor identity. For instance, an individual who completed treatment for a cancer diagnosis during childhood may identify him- or herself as a survivor and yet have very negative attitudes about this part of his or her identity. This would characterize someone who is low in acceptance, even though they may recognize cancer as being a part of their self-concept.

In a study of men who had been diagnosed with prostate cancer, Bellizzi and Blank (2007) found that the majority (57%) self-identified as "someone who has had prostate cancer." In this study, 26 percent self-identified as "survivors" and six percent self-identified as "cancer conquerors." One percent self-identified as "victims" and nine percent self-identified as "patients." In short, in this sample, individuals were more likely to self-identify in a positive way (survivors or conquerors) than in a negative way (patients or victims). Importantly, those who self-identified in a positive way reported higher levels of positive affect than those who self-identified in a negative way. Indeed, patients of long-term illnesses have been found to report higher positive affect than their non-patient counterparts (Viney, 1986) and experiencing positive affect can positively influence one's interpretation of life events (Brief, Butcher, & Roberson, 1995) and aid in healthy coping (Fredrickson & Joiner, 2002). Additionally, reports of health-related problems have been found to be negatively related to experiencing positive affect (Watson, 1988). Although these findings provide some insight into the positivity (negativity) of individuals who have completed treatment for cancer, this is done by making inferences based on the positivity (negativity) of the labels they use to self-
identify. Participants were not asked directly to rate how positive (negative) they feel about their past cancer status or the label with which they categorize themselves. A more direct test of this relationship was conducted with respect to sexual orientation. Griffith and Hebl (2002) found that the acceptance of one’s gay or lesbian identity was positively related to disclosure of sexual identity at work. Thus, I predict the following:

**Hypothesis 4:** Childhood cancer survivors who are more accepting of their survivor status will be more likely to disclose to coworkers and supervisors.

**Extent to which past cancer status is known to others and disclosure behaviors.** The extent to which an individual’s history with cancer is known to others is also likely related to the likelihood of disclosing this information to coworkers and supervisors. “Outness” is a popular term that is typically associated with the degree of disclosing a gay or lesbian identity. However, this term can readily be applied to any hidden characteristic. Experiences with telling family and friends about one’s past cancer status likely informs decisions about whether to disclose in the workplace. Positive reactions from friends and family constitute positive social support and will likely lead to more disclosure. Furthermore, prior disclosures can decrease fears of rejection, and increase practice and experience with managing one’s past cancer status successfully. Emlet (2006) found that in a sample of individuals living with HIV/AIDS, having at least one confidant was positively related to self-disclosure and negatively related to feeling stigmatized due to the disease. Furthermore, Figueiredo, Fries, and Ingram (2003) found
that one's level of disclosure was positively related to social support in a sample of breast cancer patients. Thus, I predict the following:

*Hypothesis 5:* Disclosure to more family members and friends will predict increased self-disclosures to coworkers and supervisors.

**Who will likely benefit from disclosure?**

*Coworker reactions and workplace outcomes.* The bottom-line for most organizations is employee performance. Research concerning the disclosure of hidden identities in the workplace has investigated how disclosure affects one's attitudes about the job. As discussed previously (Hypothesis 1), I predict that disclosing one's past cancer status in the workplace will be related to positive workplace outcomes. However, these outcomes will probably depend on the reactions of coworkers and supervisors. For instance, I predict that the perceived supportiveness of coworkers and supervisors will be related to disclosure decisions (Hypothesis 2). In some instances, though, these perceptions will be wrong and coworkers and supervisors may not actually react positively or be supportive. In these cases, the positive job-related outcomes (e.g., higher job satisfaction, lower job anxiety) will not be realized.

This assertion is consonant with research highlighting the importance of social support for well-being. This research identifies social support as being so crucial because it can act as a buffer for negative events (see Cohen & Wills, 1985). In the context of disclosing one's status as a survivor, receiving positive reactions from coworkers can communicate that the survivor is genuinely liked, regardless of whether or not they had
cancer or not. Feeling accepted by one’s peers can allay negative feelings that survivors may experience as a consequence of deciding whether or not to disclose or navigating their social space in instances in which the reactions are not positive. That is, feeling accepted by coworkers can at least put one’s mind at ease and at best bolster positive emotions towards one’s coworkers and the organization as a whole. However, receiving negative reactions from coworkers can exacerbate negative emotions by confirming any fears that survivors may have had about disclosing and by creating interpersonal tension among coworker that may not have been present before. I believe that for those who disclose, only favorable reactions from coworkers will result in more positive attitudes about the job. Thus, the relationship between disclosure and job attitudes will be fully mediated by coworkers’ reactions.

Hypothesis 6: The relationship between disclosing and (H6a) job satisfaction, (H6b) organizational commitment, (H6c) job anxiety, (H6d) turnover intentions, (H6e) higher person-organization fit, (H6f) higher commitment to working, and (H6g) worker engagement will be mediated by coworkers’ support.

Method

Participants

In order to qualify for participation in this study, participants had to have been diagnosed with cancer before the age of 18, be finished with treatment (in remission); and working either full- or part-time, or been working recently. All participants were invited
to participate following a routine after-care check up at St. Jude’s Children’s Research Hospital in Memphis, Tennessee. A total of 291 individuals participated. However, 61 respondents were removed due to not completing the survey, leaving 230 for analysis. The majority of the respondents were women (53.5%) and Caucasian (92.2%). The average age at the time of the study was 30.4 years old ($SD = 8.0$ years), the average age at which participants were diagnosed was 9.1 years ($SD = 5.6$ years) and the average time that participants received treatment was 2.1 years ($SD = 1.6$ years). A small portion of the sample was African American (7.0%) and fewer respondents were Hispanic (0.9%) or Asian (0.4%). None of the respondents indicated that they were Native American or Pacific Islander and some respondents (2.2%) did not indicate a race/ethnicity. Most respondents reported having a significant other (69.1%) and a majority of the respondents were married (55.2%). Most respondents completed education beyond high school (77.9%) and a minority of respondents still attended school (7.0%). All but one respondent were working at the time of data collection (99.1%) and this individual recently left their last job. Respondents reported between zero and 42 years at their current job and their average tenure in the current job was 9.5 years ($SD = 8.4$ years).

The most prevalent type of cancer in the sample was acute lymphoblastic leukemia (43.9%), followed by Hodgkin’s Disease (21.7%), sarcoma (9.1%) and Wilm’s Tumor (5.2%). All other types of cancer occurred in less than 5% of the respondents.

Respondents may have reported receiving more than one type of treatment. Most participants received chemotherapy and radiation therapy (93.5% and 75.7%, respectively) and many participants received surgery (41.7%). Some respondents (20.9%) indicated that they had residual effects as a result of cancer treatment that were
readily apparent to others. The researchers at St. Jude’s provided health information for all participants, but it is unclear how to quantify this information (i.e., how to determine what ailments are more or less severe than others) and impossible to determine if the ailments are due to cancer and its treatment necessarily.

Materials

Hospital personnel presented all survey items on paper or via computer terminal on-site at St. Jude’s. The materials were presented following routine visits to the after-care clinic. The items for this study were embedded within other survey items that comprised the basis of other studies that researchers at St. Jude’s were conducting and are not discussed further in this manuscript.

Job characteristics. Job characteristics were measured using four items created for this research based on Spelten, Sprangers, and Verbeek’s (2002) review. Participants indicated to what extent specific job characteristics apply to their jobs on a seven point, Likert-type scale (1 = not at all, 4 = somewhat, 7 = very much so). Sample items include, “to what extent do you feel you have control over your workload?” and, “to what extent do you feel that you can keep up with the pace of your coworkers?” To measure organizational climate, participants responded to three items adapted from Griffith and Hebl’s (2002) study. An example includes, “my company is fairly committed to the fair treatment of individuals who have had cancer.”

Individual characteristics. To assess individual characteristics that are a result of the cancer treatment, participants responded to twelve items generated for this research based on Spelten, Sprangers, and Verbeek’s (2002) review. Specifically, participants indicated on a seven point, Likert-type scale the extent to which they experience various
symptoms, including fatigue, muscle weakness, and concentration problems (1 = not at all, 4 = somewhat, 7 = very much so). To measure the centrality, acceptance, and perceived organizational support of one’s survivor status, participants responded to items adapted from Griffith and Hebl’s (2002) study. Specifically, four items measured centrality, five measured acceptance, and three items measured organizational supportiveness. All items were assessed using a seven-point, Likert-type scale (1 = strongly disagree, 4 = neither agree nor disagree, 7 = strongly disagree). An example item for centrality includes, “my identity as a cancer survivor is extremely important to me,” an example item of self-acceptance includes “I really wish I could change the fact that I am a cancer survivor,” and an example item assessing organizational supportiveness includes “my company is dedicated to the fair treatment of cancer survivors”. Alpha reliabilities for the centrality, acceptance, and organizational supportiveness scales were 0.69, 0.75, and 0.61, respectively.

Disclosure. To measure disclosure at work, participants responded to one item that assesses the amount of people that the participant has disclosed to on a seven-point, Likert-type scale (1 = none, 4 = half, 7 = all).

Others’ reactions. To measure the reactions of coworkers and supervisors, participants responded to an adapted thirteen-item scale developed by Griffith and Hebl (2002). The scale assesses the extent to which coworkers treat survivors fairly and are inclusive, feel comfortable with, and are accepting of survivors. An example item includes “my coworkers are hostile towards me” and alpha reliability in this study was 0.87.

Job attitudes. Job satisfaction is characterized by one’s positive or negative thoughts and emotions about one’s job. To measure job satisfaction, participants responded to five
subscales (salary, promotion, supervisor, coworkers, and the job itself), with four items each, from Spector’s (1997) scale. Example items include, “I like doing the things I do at work,” and, “I feel a sense of pride in doing my job.” The alpha reliabilities for the subscales were 0.81, 0.80, 0.84, 0.77, and 0.83, respectively. The overall alpha reliability for the scale was 0.92. Organizational commitment is characterized by an employee’s psychological attachment to the organization. To measure organizational commitment, participants responded to Meyer and Allen’s (1997) affective and continuance commitment scales. Each scale consists of eight items, and the alpha reliabilities for each in this study were 0.88 and 0.72, respectively. I used a composite of these two subscales for the organizational commitment measure. The alpha reliability for the entire scale was 0.69. Example items include, “this organization has a great deal of personal value to me,” and, “I would be very happy to spend the rest of my career with this organization.” Job anxiety is characterized by the experience of stress, frustration, or other negative emotions at work. To measure job anxiety, participants responded to Motowidlo, Packard, and Manning’s (1986) four-item scale for subjective stress on the job. An example item includes “I feel a great deal of stress because of my job” and alpha reliability in this study was 0.86. Turnover intentions are characterized as the extent to which an employee is planning on leaving the organization in the near future. To assess turnover intentions, participants responded to a three-item measure developed by Camman and colleagues (1979). An example item includes “I often think about quitting” and alpha reliability in this study was 0.88. Person/organization is characterized as the extent to which an employee feels that their personal values and beliefs match with those of the organization. To assess person/organization fit, participants responded to Cable
and Judge’s (1996) three-item scale. An example item includes “my values match those of the other employees in the organization” and alpha reliability for this study was 0.91. Commitment to working is characterized as the extent to which employees feel that working is important to their self-concept. To measure commitment to working, participants responded to Kanungo’s (1982) six-item scale that assesses one’s feelings that work is an important part of life. Example items include, “the most important things that happen in life involve work,” and, “life is worth living only when people get absorbed in work.” Alpha reliability of this scale was 0.72 for this study. Worker engagement is characterized as the extent to which employees feel engaged or absorbed in their work on a daily basis. To assess worker engagement, participants responded to Schaufeli, Salanova, Gonzalez-Roma, and Bakker’s (2002) 17-item scale. Example items include, “I can continue working for long periods of time”, and, “when I am working, I forget everything else around me.” Alpha reliability for this study was 0.92.

Procedure

Potential participants were recruited at St. Jude’s Children’s Research Hospital. Following routine visits to the hospital, survivors were asked if they would like to participate in survey research. If they consented, they completed the survey items on-site before departing the hospital. Some data that was requested (e.g., demographics) was redundant with surveys that the collaborators at St. Jude’s had previously collected, and these data were provided by the hospital.
Results

Job Characteristics

Table 1 summarizes the means and standard deviations for the job characteristics items. The first four items were adapted from a review article by Spelten, Sprangers, and Verbeek (2002) that cancer survivors cite as being barriers in returning to work after treatment. In general, respondents indicated that they did not feel that there were many barriers for them due to job characteristics. Specifically, they indicated high agreement with items such as, “I have control over my workload,” “I have control over the type of work that I do,” and, “I can keep pace with my coworkers.” The remaining three items were used to measure how supportive their work environments were and were adapted from Griffith and Hebl (2002). Respondents indicated that they did not perceived their work environments to be discriminatory with respect to cancer survivors. In particular, they indicated that low agreement with the items, “my company unfairly discriminates against individuals who have had cancer in the distribution of job-related opportunities,” and, “my company unfairly discriminates against individuals who have had cancer in the hiring of employees.” They indicated high agreement with the item, “my company is committed to the fair treatment of individuals who have had cancer.” The only item that respondents indicated close to somewhat agreement with was, “to what extent does your job require you to lift heavy objects?” The alpha reliability for the job characteristics scale was 0.65. The reliability of the first four items, comprising the job barriers, was 0.57 and the reliability for the last three items, comprising the organizational supportiveness, was 0.61.
Table 1: Job Characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have Control of Workload?</td>
<td>5.07</td>
<td>1.80</td>
</tr>
<tr>
<td>Have Control of Type of Work?</td>
<td>5.20</td>
<td>1.79</td>
</tr>
<tr>
<td>Have to Lift Heavy Objects?</td>
<td>3.30</td>
<td>2.05</td>
</tr>
<tr>
<td>Can Keep Up with Coworkers?</td>
<td>5.85</td>
<td>1.58</td>
</tr>
<tr>
<td>Company Discriminates in Opportunities?</td>
<td>1.53</td>
<td>1.26</td>
</tr>
<tr>
<td>Company Discriminates in Hiring?</td>
<td>1.48</td>
<td>1.15</td>
</tr>
<tr>
<td>Company Committed to Fair Treatment?</td>
<td>5.63</td>
<td>1.80</td>
</tr>
</tbody>
</table>

1 = Not at all, 7 = Very much so

Individual Characteristics

Table 2 summarizes the means and standard deviations for the individual characteristics items. The first seven items were adapted from Spelten, Sprangers, and Verbeek’s review (2002) of problems that cancer survivors report being difficulties when returning to work. Researchers at St. Jude’s added the last five items. These items were preceded by the stem, “On a daily basis, to what extent do you experience…” In general, respondents indicated that they did not experience many symptoms by responding on the low end of the scale for each item. Fatigue and low energy are common residual effects of cancer and its treatment (Oeffinger et al., 2006), thus the fact that they received the highest agreement is not surprising. The alpha reliability of this scale was 0.88.
Table 2: Individual Characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatigue</td>
<td>3.33</td>
<td>1.70</td>
</tr>
<tr>
<td>Low Energy</td>
<td>3.35</td>
<td>1.67</td>
</tr>
<tr>
<td>Muscle Weakness</td>
<td>2.36</td>
<td>1.51</td>
</tr>
<tr>
<td>Pain</td>
<td>2.65</td>
<td>1.71</td>
</tr>
<tr>
<td>Concentration Problems</td>
<td>2.85</td>
<td>1.71</td>
</tr>
<tr>
<td>Anxiety</td>
<td>2.63</td>
<td>1.69</td>
</tr>
<tr>
<td>Depression</td>
<td>2.26</td>
<td>1.65</td>
</tr>
<tr>
<td>Problems Writing</td>
<td>1.65</td>
<td>1.38</td>
</tr>
<tr>
<td>Problems Processing Information</td>
<td>2.09</td>
<td>1.36</td>
</tr>
<tr>
<td>Problems Reading</td>
<td>2.10</td>
<td>1.60</td>
</tr>
<tr>
<td>Problems with Time Management</td>
<td>2.09</td>
<td>1.39</td>
</tr>
<tr>
<td>Problems with Organizational Skills</td>
<td>1.97</td>
<td>1.37</td>
</tr>
</tbody>
</table>

1 = Not at all, 7 = Very much so

Correlations

Table 3 provides the means, standard deviations, reliabilities, and Pearson’s R correlation coefficients for all study variables. It is important to note that the means of many of the variables of interest in this study are near the high end of the response scale. The scale for these items ranged from one to seven, so the results indicate that, for the most part, survivors report that they are very accepting and open about their history with cancer and they feel support from their organizations. They disclose at high rates and have generally positive attitudes about their jobs.
Table 3
Means, Standard Deviations and Intercorrelations Among Study Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Centrality</td>
<td>3.73</td>
<td>1.37</td>
<td>(0.68)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. Acceptance</td>
<td>6.23</td>
<td>1.01</td>
<td>.07</td>
<td>(.75)</td>
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<tr>
<td>3. &quot;Outness&quot;</td>
<td>6.12</td>
<td>1.20</td>
<td>.20**</td>
<td>.19**</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4. Perceived Supportiveness</td>
<td>6.21</td>
<td>1.08</td>
<td>-.01</td>
<td>.21**</td>
<td>.20**</td>
<td></td>
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<td></td>
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<tr>
<td>5. Disclosure</td>
<td>5.32</td>
<td>1.76</td>
<td>.22**</td>
<td>.19**</td>
<td>.40**</td>
<td>.20**</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6. Job Satisfaction</td>
<td>5.05</td>
<td>1.12</td>
<td>-.09</td>
<td>.25**</td>
<td>.14*</td>
<td>.44**</td>
<td>.23**</td>
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<td></td>
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<tr>
<td>7. Organizational Commitment</td>
<td>4.67</td>
<td>0.85</td>
<td>-.02</td>
<td>.11</td>
<td>.10</td>
<td>.21**</td>
<td>.21**</td>
<td>.42**</td>
<td></td>
<td>(.69)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Job Anxiety</td>
<td>4.37</td>
<td>1.68</td>
<td>.09</td>
<td>-.11</td>
<td>.00</td>
<td>-.08</td>
<td>-.13*</td>
<td>-.32**</td>
<td>-.12</td>
<td>(0.86)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>9. Turnover Intentions</td>
<td>3.05</td>
<td>1.98</td>
<td>.17**</td>
<td>-.18*</td>
<td>-.11</td>
<td>-.34*</td>
<td>-.21**</td>
<td>-.64**</td>
<td>.52**</td>
<td>.22**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Fit</td>
<td>4.90</td>
<td>1.56</td>
<td>.06</td>
<td>.13</td>
<td>.14*</td>
<td>.22**</td>
<td>.24**</td>
<td>.60**</td>
<td>.35**</td>
<td>-.32**</td>
<td>-.43**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Commitment to Working</td>
<td>3.25</td>
<td>1.07</td>
<td>.21**</td>
<td>-.08</td>
<td>.06</td>
<td>-.08</td>
<td>.01</td>
<td>-.05</td>
<td>.11</td>
<td>.13</td>
<td>.09</td>
<td>-.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Worker Engagement</td>
<td>3.99</td>
<td>0.96</td>
<td>-.02</td>
<td>.18**</td>
<td>.09</td>
<td>.26**</td>
<td>.18**</td>
<td>.65**</td>
<td>.29**</td>
<td>-.26**</td>
<td>-.46**</td>
<td>.51**</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Coworker Reactions</td>
<td>6.24</td>
<td>0.63</td>
<td>.01</td>
<td>.41**</td>
<td>.25**</td>
<td>.45**</td>
<td>.38**</td>
<td>.56**</td>
<td>.31**</td>
<td>-.23**</td>
<td>-.37**</td>
<td>.42**</td>
<td>-.15*</td>
<td>.42**</td>
<td>(0.87)</td>
</tr>
</tbody>
</table>

Note: Internal consistency reliability coefficients (alphas) appear in parentheses along the diagonal.

*p < .05  **p < .01
What are the benefits of disclosing?

Hypothesis 1 predicted that the extent of disclosure of being a cancer survivor would be related to important job outcomes. To test this hypothesis, I regressed workplace outcomes on disclosure behaviors. As summarized in Table 4, the act of revealing oneself as a cancer survivor was positively related to more positive work outcomes, except with respect to commitment to working. Specifically, participants who reported having disclosed more at work also reported higher job satisfaction, $\beta = 0.23, p < .001$, higher organizational commitment, $\beta = 0.13, p < .001$, higher person/organization fit, $\beta = 0.24, p < .001$, and greater worker engagement, $\beta = 0.18, p = .01$. Those who reported higher disclosure behaviors at work also reported lower anxiety on the job, $\beta = -0.013, p = .05$, and fewer turnover intentions, $\beta = -0.21, p < .001$. Thus, Hypotheses 1a, 1b, 1c, 1d, 1e, and 1g were supported. Contrary to expectations, no relationship between disclosure behaviors and commitment to working emerged, $\beta = 0.01, p = .83$. Thus, Hypothesis 1f was not supported. These results show that there is a relation between disclosing and positive job outcomes.

Table 4: Disclosure and Workplace Outcomes

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Satisfaction</td>
<td>0.23**</td>
</tr>
<tr>
<td>Organizational Commitment</td>
<td>0.21**</td>
</tr>
<tr>
<td>Job Anxiety</td>
<td>-0.13*</td>
</tr>
<tr>
<td>Turnover Intentions</td>
<td>-0.22**</td>
</tr>
<tr>
<td>Fit</td>
<td>0.24**</td>
</tr>
<tr>
<td>Commitment to Working</td>
<td>0.01</td>
</tr>
<tr>
<td>Worker Engagement</td>
<td>0.18**</td>
</tr>
</tbody>
</table>

* $p < .05$  ** $p < .01$
Who is likely to disclose?

To determine what individual characteristics are predictive of disclosure behaviors in the workplace, I regressed disclosure on organizational supportiveness, centrality, acceptance, and “outness.” Table 5 presents the results of regression analyses testing Hypotheses 2-5. As predicted, and in support of Hypotheses 2, one’s perceived organizational support was positively related to disclosure behaviors at work, $\beta = 0.14$, $p = 0.03$. In support of Hypothesis 3, one’s centrality of being a survivor was positively related to disclosure behaviors $\beta = 0.14$, $p = 0.03$. In support of Hypothesis 5, the extent to which others know about one’s cancer status was also positively related to disclosure behaviors in the workplace, $\beta = 0.33$, $p < 0.001$. Contrary to expectations, acceptance of being a cancer survivor was not related to disclosure behaviors when the other predictors were taken into account, $\beta = 0.09$, $p = 0.14$. Thus, Hypothesis 4 was not supported. These results indicate that organizational supportiveness, centrality, and having disclosed to family and friends about their survivor status were related to disclosure behaviors in the workplace.

Table 5: Individual Characteristics and Disclosure

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Perceived Supportiveness</th>
<th>Centrality</th>
<th>Acceptance</th>
<th>Outness</th>
<th>$R^2$</th>
<th>$F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disclosure Behaviors</td>
<td>0.14*</td>
<td>0.14*</td>
<td>0.09</td>
<td>0.33**</td>
<td>0.21</td>
<td>14.43**</td>
</tr>
</tbody>
</table>

* $p < 0.05$ ** $p < 0.01$

Who will likely benefit from disclosure?

Hypothesis 6 stated that the relationship between disclosure behaviors and job outcomes would be mediated by the reactions of coworkers. As outlined in Baron and
Kenny (1986), there are three steps to test for mediation effects. First, there must be a significant relationship between the predictor and the outcome variable. Second, there must be a significant relationship between the predictor variable and the mediator variable. Third, there must be a significant relationship between the mediator variable and the outcome variable after controlling for the predictor variable. Thus, for this study, there would have to be a significant relationship between disclosure behaviors and workplace outcomes, a significant relationship between disclosure behaviors and coworker reactions, and a significant relationship between coworker reactions and workplace outcomes while controlling for disclosure behaviors. Each of these relationships was tested. First, and as stated previously, disclosure behaviors were positively related to the workplace outcomes investigated, except for commitment to working (thus support for hypothesis 6f could not be pursued). Second, a positive relationship was found by regressing coworker reactions on disclosure behaviors, $\beta = 0.18, p = 0.03$. Table 6 illustrates that positive relationships were also found between coworker reactions and workplace outcomes, controlling for disclosure behaviors, as well as the results of Sobel tests (MacKinnon & Dwyer, 1993; MacKinnon, Warsi, & Dwyer, 1995), which indicate that the indirect effect from disclosure to workplace outcomes via coworker reactions is significantly different from zero for each relationship tested. Thus, support for Hypotheses 6a, 6b, 6c, 6d, 6e, and 6g was found, indicating that coworkers’ reactions mediate the relationship between disclosure and workplace outcomes.
Table 6: Tests for Indirect Effects

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Disclosure</th>
<th>Coworker Reactions</th>
<th>Sobel Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Satisfaction</td>
<td>0.02</td>
<td>0.55**</td>
<td>5.12**</td>
</tr>
<tr>
<td>Organizational Commitment</td>
<td>0.11</td>
<td>0.27**</td>
<td>3.30**</td>
</tr>
<tr>
<td>Job Anxiety</td>
<td>-0.05</td>
<td>-0.21**</td>
<td>2.70**</td>
</tr>
<tr>
<td>Turnover Intentions</td>
<td>-0.09</td>
<td>-0.34**</td>
<td>4.08**</td>
</tr>
<tr>
<td>Fit</td>
<td>0.09</td>
<td>0.39**</td>
<td>4.26**</td>
</tr>
<tr>
<td>Worker Engagement</td>
<td>0.02</td>
<td>0.42**</td>
<td>4.43**</td>
</tr>
</tbody>
</table>

* p < .05  ** p < .01

**Exploratory Analyses**

For a more complete analysis of the workplace experiences of childhood cancer survivors I examined the frequency statistics of the variables of interest. Several of the constructs were negatively skewed, indicating that the participants responded more heavily on the positive part of the range. Specifically, acceptance, perceived supportiveness, coworker reactions, disclosure, and “outness” were all fairly negatively skewed (skewness statistics larger than 1). This indicates that for the most part, participants reported that their organizations and coworkers were quite supportive and they are comfortable and open about their survivor status. These results are noteworthy because survivors are very positive about these things despite the traumatic life experiences they have had with cancer at a young age. Survivors may rate their experiences more positively because they can compare them to a time when things really were quite negative (e.g., intense chemo/radiation therapy, social isolation from peers during treatment/recovery). Regardless of why, the results indicate that these participants are quite happy and content overall. However, these results should be interpreted with
caution as there was not a control group with which to compare (and it is unclear what the control group would be).

Due to this skewness, I wanted to safeguard against the possibility of violating the assumption of normality that is required to conduct regressions. Thus, I performed the analyses again using a bootstrapping procedure, which does not rely on this assumption. I used the OMS Bootstrapping syntax available with SPSS 16 and found that the relationships held using this method of analysis. Table 7 contains the means, standard deviations, and 95% confidence intervals for aggregated beta coefficients from 500 random samples drawn with replacement. The only confidence interval that includes zero is for the relationship between acceptance and disclosure, which is concordant with the results found using linear regression.

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centrality</td>
<td>Disclosure</td>
<td>0.15</td>
<td>0.04</td>
<td>0.08</td>
<td>0.24</td>
</tr>
<tr>
<td>Acceptance</td>
<td>Disclosure</td>
<td>0.07</td>
<td>0.08</td>
<td>-0.13</td>
<td>0.15</td>
</tr>
<tr>
<td>Support</td>
<td>Disclosure</td>
<td>0.15</td>
<td>0.06</td>
<td>0.01</td>
<td>0.26</td>
</tr>
<tr>
<td>Outness</td>
<td>Disclosure</td>
<td>0.32</td>
<td>0.09</td>
<td>0.14</td>
<td>0.50</td>
</tr>
<tr>
<td>Disclosure</td>
<td>Job Satisfaction</td>
<td>0.24</td>
<td>0.06</td>
<td>0.14</td>
<td>0.36</td>
</tr>
<tr>
<td>Disclosure</td>
<td>Organizational Commitment</td>
<td>0.22</td>
<td>0.08</td>
<td>0.04</td>
<td>0.37</td>
</tr>
<tr>
<td>Disclosure</td>
<td>Job Anxiety</td>
<td>-0.13</td>
<td>0.05</td>
<td>-0.25</td>
<td>-0.04</td>
</tr>
<tr>
<td>Disclosure</td>
<td>Turnover Intentions</td>
<td>-0.21</td>
<td>0.06</td>
<td>-0.29</td>
<td>-0.29</td>
</tr>
<tr>
<td>Disclosure</td>
<td>Fit</td>
<td>0.22</td>
<td>0.07</td>
<td>0.04</td>
<td>0.34</td>
</tr>
<tr>
<td>Disclosure</td>
<td>Worker Engagement</td>
<td>0.18</td>
<td>0.06</td>
<td>0.07</td>
<td>0.29</td>
</tr>
<tr>
<td>Disclosure</td>
<td>Coworker Reactions</td>
<td>0.40</td>
<td>0.05</td>
<td>0.33</td>
<td>0.49</td>
</tr>
</tbody>
</table>

I used Preacher and Hayes’ (2004) macro to conduct the mediation analysis using bootstrapping. This macro allows the user to enter the independent variable, dependent variable, mediator variable, and number of samples to generate and provides tests of mediation using both normal distribution tests as well as bootstrapping tests. Table 8 highlights the beta estimates using this method of analysis. Specifically, the mediation
tests show the same pattern as when doing the test using Baron and Kenny (1984) and the Sobel test (MacKinnon & Dwyer, 1993; MacKinnon et al., 1995), indicating that the skewness in the data was not enough to violate the assumption of normality.

Table 8: Bootstrap Mediation Results

<table>
<thead>
<tr>
<th></th>
<th>β</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Satisfaction</td>
<td>0.21</td>
<td>0.08</td>
<td>0.20</td>
</tr>
<tr>
<td>Organizational Commitment</td>
<td>0.10</td>
<td>0.02</td>
<td>0.08</td>
</tr>
<tr>
<td>Job Anxiety</td>
<td>-0.08</td>
<td>-0.13</td>
<td>-0.03</td>
</tr>
<tr>
<td>Turnover Intentions</td>
<td>-0.13</td>
<td>-0.23</td>
<td>-0.08</td>
</tr>
<tr>
<td>Fit</td>
<td>0.15</td>
<td>0.07</td>
<td>0.20</td>
</tr>
<tr>
<td>Worker Engagement</td>
<td>0.16</td>
<td>0.05</td>
<td>0.14</td>
</tr>
</tbody>
</table>

To better understand the nature of the job- and individual-related characteristics that could be barriers to employment I conducted a factor analysis of these scales. For the job-related characteristics, a clear picture of the underlying constructs did not emerge. An exploratory factor analysis using varimax rotation revealed two factors: a discrimination factor (items included unfair discrimination in opportunities and unfair discrimination in hiring) and a task factor (items included having control over the type and amount of work, and being able to keep up with coworkers). However, the other items (the company is committed to fair treatment and the job requires the lifting of heavy objects) did not load onto any factors well (factor loadings below 0.50). I regressed the job outcomes on these job-related factors, and, as outlined in Table 9, these factors were related to several job outcomes. Task-related items were related to job outcomes on every count, while the discrimination-related items were related only to job satisfaction and turnover intentions. The items that comprise the task factor were adapted from research that identified what barriers adult cancer survivors cite that they face when
they return to work (Bradley & Bednarek, 2002), and it seems that childhood survivors face the same issues.

<table>
<thead>
<tr>
<th>Table 9: Job-Related Characteristics and Job Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variable</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>Job Satisfaction</td>
</tr>
<tr>
<td>Organizational Commitment</td>
</tr>
<tr>
<td>Job Anxiety</td>
</tr>
<tr>
<td>Turnover Intentions</td>
</tr>
<tr>
<td>Fit</td>
</tr>
<tr>
<td>Worker Engagement</td>
</tr>
</tbody>
</table>

* p < .05   ** p < .01

For the individual characteristics scale, three factors emerged: a physical fatigue factor (items included fatigue, low energy, muscle weakness, and pain), an emotional fatigue factor (items included concentration problems, anxiety, depression, problem with time management and organizational skills), and a mental processing factor (items included problems processing information, writing, and reading). I then regressed the job outcomes on these individual characteristics factors and found that emotional fatigue was related to certain job outcomes when the other factors are taken into account. Specifically, emotional fatigue was negatively related to job satisfaction, $\beta = -0.25$, $p = 0.01$, and worker engagement, $\beta = -0.26$, $p < 0.001$, and positively related to anxiety on the job, $\beta = 0.24$, $p = 0.01$. Investigation into the relationship between emotional fatigue and coworker reactions revealed a negative relationship, $\beta = -0.31$, $p < 0.001$, indicating that emotional fatigue is likely an important factor in explaining why social support is so beneficial in the relationship between disclosure and positive job outcomes.

Researchers at MD Anderson Cancer Center identified other variables that would be of interest from a medical perspective. Some of these included age of diagnosis,
duration of treatment, and severity of the cancer diagnosed. The researchers at St. Jude’s
provided data on the date of diagnosis and age at diagnosis was determined by
subtracting this date from the birth date of the participant. Age at diagnosis was not
related to any of the other variables of interest except for the mental processing factor in
the individual characteristics scale, \( r(225) = -0.13, p = .04 \), indicating that those who
were diagnosed at an early age were more likely to report having problems with mental
processing later in life. The researchers at St. Jude’s also provided a date for diagnosis
and for treatment completion. Subtracting these dates yielded the duration of treatment
for each participant. However, the amount of time that the participant underwent
treatment was not related to any of the other variables of interest, indicating that the
amount of exposure to harmful treatments may not have had perceived long-term effects.
The researchers at St. Jude’s also provided dates for the participants’ births and dates for
when they completed the survey. Subtracting these yielded the age at the time of survey.
However, participant age was only related to the physical fatigue factor of the individual
characteristics scale, \( r(204) = 0.15, p = .04 \), and turnover intentions \( r(203) = -0.14, p = .05 \), indicating that older participants were more likely to report feeling fatigued and to
report wanting to leave their jobs in the near future.

I further tested to see if there was a relationship between coworker reactions and
individual characteristics. MacDonald and Leary (2005) argue that emotional pain (e.g.,
lack of social support) is related to physical pain. They present research that suggests
that pain – whether emotional or physical – is processed by the same part of the brain, the
anterior cingulate cortex. This part of the brain is likely to be activated following social
exclusion (Eisenberger, Lieberman, & K. D. Williams, 2003). In addition, social support
has been found to be negatively related to psychological distress (Finch, Okun, Pool, & Ruehlman, 1999). In accordance with these findings, coworker reactions were negatively related to the physical fatigue, $r(225) = -0.21, p < .001$, emotional fatigue, $r(225) = -0.31, p < .001$, and mental processing, $r(225) = -0.32, p < .001$, factors of the individual characteristics scale, indicating that those who report lower social support from coworkers tend to report more physical, emotional, and mental problems.

No gender differences were anticipated, but exploratory analyses revealed that women reported more physical fatigue on the individual characteristics factor than men did, $F(1, 203) = 11.07, p = .02$. Other exploratory analyses revealed that family income and education level were also related to important workplace outcomes. Specifically, income was positively related to job satisfaction, $r(223) = 0.22, p < .001$, job anxiety, $r(223) = 0.14, p = .04$, and fit, $r(223) = 0.16, p = .02$, and negatively related to turnover intentions, $r(221) = -0.16, p = .02$. Education level was positively related to job satisfaction, $r(225) = 0.17, p = .01$, fit, $r(225) = 0.19, p < .001$, and worker engagement, $r(224) = 0.27, p < .001$. These results indicate that those who complete higher levels of education and earn more at their jobs report more positive workplace attitudes, although higher-paying jobs seem to come with more job-related stress. Marital status also emerged as an important demographic characteristic with respect to how employees report the nature of their working relationships. Those who were married also reported enjoying more positive reactions from coworkers, $F(1, 203) = 6.32, p = .01$, and higher fit at their organizations, $F(1, 203) = 12.01, p > .001$, suggesting that the relationship they have with their partner may act as a buffer for negative workplace experiences.
I also examined the subscales for job satisfaction and organizational commitment as outcome variables. The job satisfaction scale was comprised of subscales concerned with salary, promotions, supervisors, coworkers, and the job itself as outlined by Spector (1997). The organizational commitment scale was comprised of the affective and continuance commitment subscales as outlined by Meyer and Allen (1997). I ran the same tests on these outcome variables as I did for the composite scales. As illustrated in Table 10, disclosure was related to each of the subscales for job satisfaction, and the affective, but not the continuance subscale for organizational commitment. This indicates that disclosure is not related to one’s desire to stay with their organization for fear that it would be hard to find alternatives or that leaving would entail high sacrifices. However, disclosure is related to one’s desire to stay with their organization because they have positive feelings towards it.

Table 10: Disclosure and Satisfaction and Commitment Subscales

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>( \beta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary Satisfaction</td>
<td>0.14*</td>
</tr>
<tr>
<td>Promotion Satisfaction</td>
<td>0.14*</td>
</tr>
<tr>
<td>Supervisor Satisfaction</td>
<td>0.18**</td>
</tr>
<tr>
<td>Coworkers Satisfaction</td>
<td>0.22**</td>
</tr>
<tr>
<td>Job Itself Satisfaction</td>
<td>0.26**</td>
</tr>
<tr>
<td>Affective Commitment</td>
<td>0.30**</td>
</tr>
<tr>
<td>Continuance Commitment</td>
<td>-0.04</td>
</tr>
</tbody>
</table>

* \( p < .05 \)  ** \( p < .01 \)

To test whether the relationship between disclosure and these subscales is due to having positive coworker reactions, I tested the mediation hypothesis in the same way as described previously. On each count, positive coworker reactions explained the relationship between disclosure and satisfaction with salary, promotion opportunities, supervisors, coworkers, the job itself, and affective organizational commitment.
However, a significant relationship between disclosure and affective commitment remained, suggesting that the act of disclosing in the workplace is in and of itself somewhat predictive of positive feelings and a desire to stay with the organization, whether coworker reactions are positive or not. These results are highlighted in Table 11.

**Table 11: Indirect Effects of Subscales**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Disclosure</th>
<th>Coworker Reactions</th>
<th>Sobel Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary Satisfaction</td>
<td>0.00</td>
<td>0.39**</td>
<td>4.26**</td>
</tr>
<tr>
<td>Promotion Satisfaction</td>
<td>-0.01</td>
<td>0.39**</td>
<td>4.21**</td>
</tr>
<tr>
<td>Supervisor Satisfaction</td>
<td>0.00</td>
<td>0.47**</td>
<td>4.74**</td>
</tr>
<tr>
<td>Coworkers Satisfaction</td>
<td>0.03</td>
<td>0.52**</td>
<td>5.00**</td>
</tr>
<tr>
<td>Job Itself Satisfaction</td>
<td>0.09</td>
<td>0.44**</td>
<td>4.62**</td>
</tr>
<tr>
<td>Affective Commitment</td>
<td>0.14*</td>
<td>0.41**</td>
<td>4.48**</td>
</tr>
</tbody>
</table>

* p < .05   ** p < .01

**Discussion**

This research is the first of its kind to focus on the experiences of childhood cancer survivors, a growing segment of the workforce, from a psychosocial perspective. The objectives of this study were to assess the workplace experiences of childhood cancer survivors, investigate whether disclosing one's survivor status in the workplace was related to positive job outcomes, identify who is more likely to disclose at work, and evaluate the importance of social support at work with respect to the relationship between disclosure and job outcomes. This is important because due to great advances in the prevention, early detection, and treatment of cancer (physiologically as well as psychosocially), there are more survivors of childhood cancer than ever before. This study found that disclosure was related to positive job attitudes such as higher job satisfaction, organizational commitment, person/organization fit, and worker engagement, and lower job anxiety and turnover intentions. Organizational support,
centrality, and the extent to which others knew about the participants’ survivor status were all related to higher levels of disclosure. Finally, coworker reactions almost fully mediated the relationship between disclosure and job outcomes. The results highlight the importance of social support in the workplace and have implications for organizations as well as individual employees.

*The importance of social support*

The results indicated that there was a relation between disclosure and positive job outcomes, but this relation only held for those employees whose coworkers reacted positively toward them. That is, those who disclosed more also reported more support from their coworkers, and in turn reported more positive workplace experiences on all outcome variables (except for commitment to working, which was unrelated to disclosure). These results are consonant with the vast literature outlining the positive psychological benefits of social support. Support from others at work may be particularly important when disclosing potentially negative or stigmatizing information about oneself. Making survivors feel supported will likely make them dedicated employees in the form of higher organizational commitment and lower turnover intentions.

The consequences of having poor social support can be very negative. Not only does social support protect individuals from social pain and hurt feelings (Leary, Koch, & Hechenbleikner, 2001), but it also protects from negative health outcomes (Schwarzer & Leppin, 1989), and is especially important for survivors of childhood cancer (Kazak et al., 1997). Indeed, the results of this study showed that not only was social support important in the relation between disclosure and job outcomes, but that social support was also related to negative individual physical, emotional, and mental health issues.
Additionally, the data revealed that participants who were married reported more positive workplace interactions, suggesting that this relationship may have buffered any negative workplace-related interactions (see Cohen & Wills, 1985). The buffering hypothesis may explain why coworker reactions were so important in the relationship between disclosure and job outcomes. There can be high levels of stress involved with managing one’s identity (particularly a false one) in the workplace (Wegner & Lane, 1995). If survivors have disclosed and receive positive reactions from their coworkers, they can be buffered from the stress they may have been feeling with respect to their survivor status. This support from coworkers can then buffer the survivors from other stresses they may encounter on a daily basis (see Cohen & Wills, 1985).

The fact that disclosure was related to positive job attitudes lends support to the notion that disclosing allows one to feel at ease and less anxious with their identity at work. This lack of tension concerning their identity makes work a more pleasurable experience than if one is worried about managing their identity. In addition, the fact that organizational support was related to disclosure and disclosure was related to higher commitment and lower turnover intentions suggests that employees who feel that they are accepted by their organizations may be likely to be more committed to the organization and have less reason to leave, especially if they feel that other organizations may not be as accommodating (Schur, Kruse, Blasi, & Blanck, 2009). Not having to focus mental energy on managing their identities also allows employees to use these resources on job-related tasks and become more engaged in what they are doing, as evidenced by the positive relation between disclosure and worker engagement.
Implications for organizations

The results indicate that those who perceive their organizations to be supportive and nondiscriminatory of survivors are more likely to disclose and that disclosure is related to positive organizational outcomes. Organizations can encourage disclosure among their employees by having formal non-discrimination policies in place that include not only disability but also history with illness. These policies should not only value diversity, but also have objective diversity-related goals (e.g., hiring a certain number of diverse employees in a set amount of time) and consequences for diversity-related transgressions. Consistently enforcing these policies is crucial in implementing real cultural change within organizations. Gates (2000) suggests that organizations should have a clear procedure for disclosing physical disability and the need for accommodation, and this strategy can be adopted with respect to the disclosure of any characteristic, including one’s survivor status. Organizations can also create safe spaces and resources for employees that may be feeling marginalized can go to for assistance. These things not only provide important services but they communicate further that the organization is committed to diversity and employee well being. Most survivors in this study reported that they perceived their organizations to be supportive, indicating that organizations seem to be doing a good job in this regard. However, this highlights the importance of having these policies in place, as unsupportive organizations seem to be rare and likely will be perceived to be especially unsupportive in comparison. That is, unsupportive organizations may be at a disadvantage with respect to recruitment and retention of survivor employees.
In general, survivors report being happy and content with their jobs. This is important for organizational leaders that may be wary of hiring those with a history of cancer. Survivors seem to have positive attitudes towards their jobs and life in general, despite (or perhaps due to) the hardships they endured with cancer. These individuals may have a different frame of reference than those that never had to endure the hardships of the disease and its treatment, and may thus consider everyday hardships to be less traumatic (see Zebrack, 2001).

*Implications for individual employees*

The results reveal that there is a relationship between disclosing one’s status as a survivor and higher job satisfaction, higher organizational commitment, lower job anxiety, fewer turnover intentions, higher person/organization fit, and higher engagement while on the job. These results agree with Wegner and Lane’s (1995) theory that keeping personal information secret can have negative psychological consequences. In the workplace, it is likely that worrying about managing one’s identity at work can keep employees preoccupied and tie up cognitive resources that could be better used on task-relevant endeavors. The emotional effort involved in keeping up appearances could lead to chronic stress, one of the main precursors of burnout (R. J. Burke & Richardson, 1996). In addition, by disclosing, the employee can reduce any intrapersonal tension they may be feeling as a result of feeling inauthentic in the workplace (Ragins, 2008). Those who disclose may be putting themselves at risk of being treated negatively due to their history with illness, but they are also precluding themselves from being accepted by their coworkers and supervisors in a genuine way. It can be unclear for stigmatized individuals whether disclosing would be beneficial in terms of workplace outcomes.
These results suggest that for employees whose working environment is supportive and whose coworkers are likely to react positively, being open and honest about one’s status as a survivor is more beneficial than keeping this information secret. However, these results should be interpreted with caution since past research (Collins & Miller, 1994) has found that people are more likely to disclose to those who they like and they report liking those to whom they disclose more following the disclosure. Thus, it is unclear whether disclosure leads to liking or liking leads to disclosure. Realistically, they are likely cyclically related. Surprisingly, disclosure was not related to commitment to working. This may be due to the particular sample used in this study. Because many childhood cancer survivors’ experiences with the illness were very traumatic and often life-threatening, they may form self-concepts that are centered around family and interpersonal relationships more so than on working (see Zebrack, 2001).

The implications of social support in the workplace are important for employees as well. Employees who are survivors would be wise to seek out support networks at work and those employees who are not survivors should lend support to survivors and make them feel welcomed and accepted as valued members of the organization. Having a welcoming environment will be more likely to lead to disclosure and facilitate experiencing positive job outcomes for potentially stigmatized employees. Survivors should also acquaint themselves with the policies and resources that their organizations have in place that may be beneficial for them.

The results suggest that those employees who consider being a survivor as a central part of their self-concept are more likely to engage in disclosure behaviors at work. This suggests that some feel strongly that they identify as survivors and that a
coherent self-portrait includes disclosure of this characteristic to others. A survivor who identifies strongly as such may feel inauthentic if they do not disclose to others (see Zebrack, 2001), especially if not disclosing requires a lot of maintenance (e.g., keeping track of false personal histories; Ragins, 2008).

Having disclosed to family and friends was also related to disclosing at work. This makes intuitive sense because disclosing to some but not others is inconsistent. In addition, disclosing to some but not others can create special tension with respect to keeping track of what information has been provided to whom (Ragins, 2008). Disclosing to family and friends can also inform later decisions of whether or not to disclose. Most survivors are likely met with warm receptions from family and friends when disclosing, which can positively reinforce disclosure in other areas of life. Those who disclose in all areas of life create a more coherent environment for themselves.

Surprisingly, one’s acceptance of being a cancer survivor did not predict disclosure behaviors at work when the other predictors were taken into account. This may be due to the fact that acceptance was highly correlated with “outness” and perceived support, both of which were predictive of disclosure behaviors. Although centrality and acceptance are intuitively similar concepts, they were not significantly correlated. The items for measuring centrality are primarily concerned with active engagement as a member of the group (e.g., joining support groups, feeling that others know is important), whereas acceptance is a more personal and introspective construct (e.g., feeling proud or ashamed). It is possible that there are more outlets for outward expression of being a cancer survivor, so internal acceptance may not be as important for those who are high in “outness” and centrality. However, it is also possible that this
relationship did not emerge due to restriction of range in the acceptance variable. Sixty-nine and a half percent of participants responded above a 6 on the 7-point acceptance scale. In short, more research should be done in order to clarify the distinction between centrality and acceptance and understand the mechanisms of each with respect to disclosure and how they operate under different circumstances.

Limitations

One of this study’s limitations is that the sample was collected on-site at St. Jude’s Children’s Research Hospital and thus restricted to patients of this facility. However, St. Jude’s is considered one of the most prestigious cancer care facilities in the world and treats patients from all over the world. As such, this sample may not be systematically different from a sample drawn from a broader population. Indeed, consonant with this study, a nationwide sample of childhood cancer survivors was taken to test the same relationships as in the St. Jude’s dataset, and these results greatly mirror those reported in this manuscript, indicating that geographic location did not contribute to a systematic difference in responses.

Another limitation is that all responses collected were provided by the survivors themselves. Although they represent the greatest source of knowledge concerning their workplace experiences, it would also have been informative to gather data from other sources (e.g., coworkers, supervisors, subordinates, clients). However, this is likely not a great concern because although there is a potential for response bias in self-report data, these participants would not have been motivated to alter their responses since the data was collected by hospital personnel and not by their respective organizations. This likely communicated that there would be no job-related consequences that were dependent on
how they responded to the items. In addition, due to the self-report nature of the data, it was impossible to collect objective performance data from the participants. Although participants were asked to report their own subjective performance (which showed a significant relationship with disclosure and was mediated by coworker reactions), this data would be much stronger if corroborated by a second source. However, there was a risk involved with contacting supervisors of bringing attention to the employees’ survivor status, especially for those employees who had not disclosed at work. Also, although it would be interesting to test whether performance is affected by disclosure behaviors, past research indicates that survivors of cancer show the same level of performance as their non-survivor counterparts (Wheatley et al., 1974). Thus, it may be more important to focus on the employees’ perspectives regarding their workplace experiences and attitudes about their jobs since these things constitute the reality of their working lives for them.

A final limitation to this study was that all of the responses were collected from the survivors themselves. This could result in common method bias and inflated correlations. Although this represents a potential problem for organizational research as a whole, research investigating the impact of common method bias suggests that the differences resulting from this phenomenon are often small (Meade, Watson, & Kroustalis, 2007).

Future research

Although this research is a good first step in understanding the workplace experiences of childhood cancer survivors, there are other questions that remain. The results of this study indicate that disclosing for survivors is good, so long as coworkers react positively. However, there are likely boundary conditions to the benefits of
disclosure of a survivor status. It is important to consider the experiences of the person that is the recipient of the disclosure as well as the individual who is disclosing. There is a social norm of disclosing interpersonal information in an escalating fashion, with information becoming more and more intimate as reciprocal disclosures are made and bonds are formed (Collins & L. C. Miller, 1994). Violating these norms and disclosing too much information at the inappropriate time can be detrimental to interpersonal relationships. King, Reilly, and Hebl (2008) found that disclosing too soon in interpersonal relationships made the recipient feel uncomfortable and was actually bad for interpersonal relationships, compared to disclosing later.

It may also be the case that the severity of one’s history with cancer can affect reactions to the disclosure. A survivor who indicates that they suffered from a highly treatable and non-disruptive cancer may be treated more favorably than one who suffered from a cancer that was highly disruptive and may lead to serious late-effects (e.g., mental deficiency, blindness). This may be especially the case in a work context where supervisors or coworkers are reliant on the performance of the individual. Disclosing an especially severe history with cancer may lead others to question whether they can perform the job adequately due to potential health concerns or whether the employee will be prone to disease later, resulting in time off from work or insurance costs. In short, it may the case that disclosing is a positive experience for most childhood survivors, but some should take care when deciding when to disclose and in how much detail.

In addition, the findings of this study suggest that childhood cancer survivors have very positive workplace experiences. However, it would be unwise to assume that survivors are uniformly happy with their work lives. The variability in most of the
measures indicates that the job attitudes are not uniformly positive. Future steps should identify which subgroups of individuals experience positive job attitudes and which do not. A larger sample with subgroups that are large enough to conduct between group analyses based on age, severity of physical effects, or occupation.

In a related note, this research focused on the perspective of the cancer survivor. However, future studies should take into account the perspective of the survivors’ supervisors and coworkers. This would reduce the potential for common method bias that can be problematic in single-source studies. It may also inform the results from this study that suggest that survivors have very positive workplace experiences. It may be that an outside observer will report more negative experiences for survivors than they would themselves. This would agree with past research that has found that supervisors and coworkers do indicate that they would treat cancer survivors more negatively when given a hypothetical situation (Ferrell & Dow, 1997). However, intentions in hypothetical situations do not always translate into actual discriminatory behaviors in reality (La Pierre, 1934), so it would be more informative to survey individuals who actually work with survivors. It may be the case that there is still an aversion to individuals who have had cancer that is subtle, but nonetheless harmful.

Conclusion

This study found that survivors of childhood cancer are generally happy and content with their jobs. They tend to disclose their pasts with cancer at work and these disclosures tend to lead to positive coworker reactions, which are in turn related to more positive attitudes about the job. Survivors can be valuable employees and their increasing number (due to medical advances) warrants further empirical research to better
understand what special consideration they may require. Organizations should be interested in making these employees feel valued and accepted, and this can be accomplished by encouraging a work climate that is fair in order to promote disclosure behaviors that will be well received by their coworkers. Survivors should also seek out support networks at work to buffer any negative experiences they may encounter.
References


381-410.


Viney, L. L. (1986). Expression of positive emotion by people who are physically ill: Is it


## APPENDIX

<table>
<thead>
<tr>
<th>Question</th>
<th>Demographics</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is your gender?</td>
<td>Male</td>
<td>Male, Female</td>
</tr>
<tr>
<td>What is your ethnicity?</td>
<td>Asian</td>
<td>Asian, Black, White, Hispanic, Other</td>
</tr>
<tr>
<td>What is your current age?</td>
<td>Open-ended</td>
<td>Open-ended</td>
</tr>
<tr>
<td>At what age were you diagnosed?</td>
<td>Open-ended</td>
<td>Open-ended</td>
</tr>
<tr>
<td>At what age did you complete treatment?</td>
<td>Open-ended</td>
<td>Open-ended</td>
</tr>
<tr>
<td>Which of the following categories best describes you?</td>
<td>One who has had cancer</td>
<td>Cancer Patient, Cancer Survivor, Cancer Victim</td>
</tr>
<tr>
<td>Do you have any residual effects that are readily apparent to others?</td>
<td>Yes</td>
<td>Yes, No</td>
</tr>
<tr>
<td>Do you have a significant other?</td>
<td>Yes</td>
<td>Yes, No</td>
</tr>
<tr>
<td>If yes, are you married?</td>
<td>Yes</td>
<td>Yes, No</td>
</tr>
<tr>
<td>Approximately how long have you been in a committed relationship with</td>
<td>Open ended years</td>
<td>Open ended years, Open ended months</td>
</tr>
<tr>
<td>your significant other?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What is the highest grade or level of school you have completed?</td>
<td>1-8 years - grade school, 9-12 years</td>
<td>1-8 years - grade school, 9-12 years - high school, Completed high school/GED, Training after high school, Some college, College graduate, Post-graduate level, Other, Open ended</td>
</tr>
<tr>
<td>Are you currently in school?</td>
<td>Yes</td>
<td>Yes, No</td>
</tr>
<tr>
<td>If yes, what grade or year?</td>
<td>Open ended</td>
<td>Open ended</td>
</tr>
<tr>
<td>What is your current annual household income?</td>
<td>Less than $19,999</td>
<td>Less than $19,999, $20,000-$39,999, $40,000-$59,999, $60,000-$79,999, $80,000-$99,999, Over $100,000, Don't know</td>
</tr>
<tr>
<td>What percentage of this do you contribute?</td>
<td>Open ended percentage</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-----------------------</td>
<td></td>
</tr>
</tbody>
</table>

**Individual Characteristics**

On a daily basis, to what extent do you experience:

1. Fatigue?
2. Low energy
3. Muscle weakness?
4. Pain?
5. Concentration problems?  
   1 = not at all
6. Anxiety?  
   7 = very much so
7. Depression?  
8. Problems with writing skills?
9. Problems with information processing?
10. Problems with reading comprehension?
11. Problems with time management?
12. Problems with organizational skills?

**Centrality**

My identity as a cancer survivor is extremely central to my self concept

1 = not at all
7 = very much so

It is very important to me that others I interact with fairly frequently know that I am a cancer survivor

I am very involved in groups and events dedicated to cancer survivors

It is very important to me that I work in an atmosphere that is not prejudiced against cancer survivors

**Acceptance**

I really wish I could change the fact that I am a cancer survivor

1 = not at all
7 = very much so

I am ashamed that I am a cancer survivor

I often try to hide my identity as a cancer survivor

1 = not at all
7 = very much so

I am proud that I am a survivor

I have fully accepted my cancer history

If I am asked about being a cancer survivor, I answer honestly

**Outness**

To how many people have you disclosed that you are a cancer survivor outside of the workplace?

a. Family  
   1 = None
   7 = All
b. Friends

c. Other survivors

Have you ever intentionally avoided putting anything on your resume that might indicate you are a cancer survivor to avoid potential discrimination?

1 = Never
7 = Always

Have you ever intentionally avoided saying anything during the selection process, i.e., interview, that would indicate you are a cancer survivor to avoid potential discrimination?

1 = Never
7 = Always

To how many people have you acknowledged that you are a cancer survivor outside of the workplace?

a. Family  
   1 = None
   7 = All
b. Friends
Commitment to Working

The most important things that happen in life involve work...
Work is something people should get involved in most of the time...
Work should be only a small part of one's life...
Work should be considered central to life...
In my view, an individual's personal life goals should be work oriented...
Life is worth living only when people get absorbed in work...

1 = Strongly disagree
7 = Strongly agree

Job Characteristics

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you now work at a job or business?</td>
<td>Yes</td>
</tr>
<tr>
<td>What is your current job title?</td>
<td>Open ended</td>
</tr>
<tr>
<td>What industry do you work in?</td>
<td>Open ended</td>
</tr>
<tr>
<td>How many years in your current occupation?</td>
<td>Open ended years</td>
</tr>
<tr>
<td>What is your approximate yearly salary?</td>
<td>Open ended dollars</td>
</tr>
<tr>
<td>About how many hours a week do you usually work at your current job? If more than one job, include all jobs.</td>
<td>Open ended hours per week</td>
</tr>
<tr>
<td>To what extent do you feel you have control over your workload?</td>
<td>1 = not at all</td>
</tr>
<tr>
<td>To what extent do you feel you have control over the type of work you do?</td>
<td>7 = very much so</td>
</tr>
<tr>
<td>To what extent does your job require you to lift heavy objects?</td>
<td></td>
</tr>
<tr>
<td>To what extent do you feel that you can keep up with the pace of your coworkers?</td>
<td></td>
</tr>
</tbody>
</table>

Organizational Supportiveness

My company unfairly discriminates against individuals who have had cancer in the distribution of job-related opportunities, for example, salary, promotions, work assignments.
My company unfairly discriminates against individuals who have had cancer in the hiring of employees.
My company is committed to the fair treatment of individuals who have had cancer.
At work, I lie about being a cancer survivor.
I am comfortable talking about being a cancer survivor with my coworkers.
I am comfortable talking about being a cancer survivor with my supervisor.

1 = Strongly disagree
7 = Strongly agree

Disclosure

To how many people have you disclosed that you are a cancer survivor at your workplace? 1 = None
7 = All
When did you first disclose to someone at your company? Before officially started job
Within two weeks
Within a month
Within 6 months
**Who was the first person you disclosed to in your workplace?**
Mark all that apply.

- Within a year
- Within 2 years
- Within 5 years
- More than 5 years
- A subordinate
- A boss
- A peer of same level
- A man
- A woman
- A group of people

---

**Acknowledgement**

<table>
<thead>
<tr>
<th>Question</th>
<th>1=none</th>
<th>7=all</th>
</tr>
</thead>
<tbody>
<tr>
<td>To how many people have you acknowledged that you are a cancer survivor at your workplace?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>When did you first acknowledge to someone at your company?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Who was the first person you acknowledged to in your workplace?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Coworker Reactions**

- My coworkers ridicule me/tell jokes about me
- My coworkers are hostile towards me
- I feel excluded in conversations with my coworkers
- I am invited by my coworkers to socialize outside of work e.g. lunch, happy hours, parties
- My coworkers seem to avoid at work
- My coworkers seem tense and uncomfortable around me
- My coworkers ask me about my personal life
- I think being a cancer survivor has negatively affected my interpersonal relationships with my coworkers
- My coworkers are very friendly towards me
- I feel I have experienced job discrimination in my company e.g. passed over for a promotion, salary increase, good work assignments
- My boss/supervisor treats me unfairly because I am a cancer survivor
- I feel alienated and like an outsider at work
- I think that my coworkers talk about me behind my back

1=Strongly disagree
7=Strongly agree
Organizational Commitment

I would be very happy to spend the rest of my career with this organization
I enjoy discussing my organization with people outside of it
I really feel as if this organization's problems are my own
I think that I could easily become as attached to another organization as I am to this one
I do not feel like "part of the family" at my organization
I do not feel "emotionally attached" to this organization
This organization has a great deal of personal meaning for me
I do not feel a strong sense of belonging to my organization
I am not afraid of what might happen if I quit my job without having another one lined up
It would be very hard for me to leave my organization right now, even if I wanted to
Too much in my life would be disrupted if I decided I wanted to leave my organization right now
It wouldn't be too costly for me to leave my organization right now
Right now staying with my organization is a matter of necessity as much as desire
I feel that I have too few options to consider leaving this organization
One of the few serious consequences of leaving this organization would be the scarcity of available alternatives
One of the major reasons why I continue to work for this organization is that leaving would require considerable personal sacrifice - another organization may not match the overall benefits that I have here

Job Satisfaction

I feel I am being paid a fair amount for the work I do
There is really too little chance for promotion on my job
My supervisor is quite competent in doing his/her job
I like the people I work with
I sometimes feel my job is meaningless
Raises are too few and far between
Those who do well on the job stand a fair chance of being promoted
My supervisor is unfair to me
I find I have to work harder at my job because of the incompetence of people I work with
I like doing the things I do at work
I feel unappreciated by the organization when I think about what they pay me
People get ahead as fast here as they do in other places
My supervisor shows too little interest in the feelings of subordinates
I enjoy my coworkers
I feel a sense of pride in doing my job

1=Strongly disagree 7=Strongly agree
I feel satisfied with my chances for salary increases
I like my supervisor
I am satisfied with my chances for promotion
There is too much bickering and fighting at work
My job is enjoyable

**Turnover Intentions**

<table>
<thead>
<tr>
<th>Question</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>How likely is it that you will actively look for a new job in the next year?</td>
<td>1=Not at all likely, 7=Extremely likely</td>
</tr>
<tr>
<td>I often think about quitting</td>
<td></td>
</tr>
<tr>
<td>I will probably look for a new job in the next year</td>
<td></td>
</tr>
</tbody>
</table>

**Absenteeism**

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>About how many hours altogether did you work in the last week?</td>
<td>Open Ended Hours</td>
</tr>
<tr>
<td>How many hours does your employer expect you to work in a typical work week?</td>
<td>Open Ended Hours</td>
</tr>
<tr>
<td>In the past 4 weeks (28 days), how many days did you miss an entire work day because of problems with your physical or mental health?</td>
<td>Open Ended Days</td>
</tr>
<tr>
<td>In the past 4 weeks (28 days), how many days did you miss an entire work day for any other reason?</td>
<td>Open Ended Days</td>
</tr>
<tr>
<td>In the past 4 weeks (28 days) how many days did you miss part of a work day because of problems with your physical or mental health?</td>
<td>Open Ended Days</td>
</tr>
<tr>
<td>In the past 4 weeks (28 days) how many times did you miss part of a work day for any other reason?</td>
<td>Open Ended Days</td>
</tr>
<tr>
<td>In the past 4 weeks (28 days) how many times did you come in early, go home late, or work on your day off?</td>
<td>Open Ended Days</td>
</tr>
<tr>
<td>About how many hours altogether did you work in the past 4 weeks (28 days)?</td>
<td>Open Ended Hours</td>
</tr>
</tbody>
</table>

**Performance**

<table>
<thead>
<tr>
<th>Question</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>How would you rate the usual performance of most workers in a job similar to yours?</td>
<td>1=Worst performance, 7=Best performance</td>
</tr>
<tr>
<td>How would you rate your usual job performance in the last year or two?</td>
<td></td>
</tr>
<tr>
<td>How would you rate your overall job performance on the days you worked during the past 4 weeks (28 days)?</td>
<td></td>
</tr>
</tbody>
</table>

**Job Anxiety**

<table>
<thead>
<tr>
<th>Question</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel a great deal of stress because of my job</td>
<td>1=Strongly disagree, 7=Strongly agree</td>
</tr>
<tr>
<td>Very few stressful things happen to me at work</td>
<td></td>
</tr>
<tr>
<td>My job is extremely stressful</td>
<td></td>
</tr>
<tr>
<td>I almost never feel stressed at work</td>
<td></td>
</tr>
</tbody>
</table>

**Person-Organization Fit**

<table>
<thead>
<tr>
<th>Question</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>My personal values 'match' or fit the organization's and the other employees' in the organization</td>
<td>1=Strongly disagree, 7=Strongly agree</td>
</tr>
<tr>
<td>The values and 'personality' of the organization reflect your own values personality</td>
<td></td>
</tr>
<tr>
<td>My values match those of the other employees in the organization</td>
<td></td>
</tr>
</tbody>
</table>

**Worker Engagement**
At my work, I feel bursting with energy
I find the work that I do full of meaning and purpose
Time flies when I'm working
At my job, I feel strong and vigorous
I am enthusiastic about my job
When I am working, I forget everything else around me
My job inspires me
When I get up in the morning, I feel like going to work
I feel happy when I am working intensely
I am proud of the work that I do
I am immersed in my work
I can continue working for very long periods at a time
To me, my job is challenging
I get carried away when I'm working
At my job, I am very resilient, mentally
It is difficult to detach myself from my job
At my work I Always persevere When things do not go well

One topic that we might want to pursue in future research is
to find out how supervisors rate the work performance of
cancer survivors. These questions would address general
work performance issues and would not mention your cancer
history. If we were to do such a study in the future, would
you be willing to let us contact your supervisor? 