**Examination of Non-Hodgkin’s Lymphoma Survivor’s Self Disclosure of Cancer History in the Workplace**

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“I, Janice Mecca, do grant permission for my dissertation to be copied.”



**College of Professional Studies**

The PhD Program

## Examination of Non-Hodgkins's Lymphoma Survivor's Self Disclosure of Cancer History in the Workplace

By

Janice Mecca

Submitted in Partial Fulfillment of the Requirements for the Degree of

A Ph.D. in Human Development

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**Abstract**

**Background:** As the life expectancy of individuals diagnosed with cancer continues to improve, there is a need to address this population’s experience as they move on with their lives and return to work after treatment. The purpose of this exploratory quantitative study was to examine relationships between self-disclosure of cancer history by Non-Hodgkin’s Lymphoma survivors in the workplace as few studies have addressed this key issue in cancer survivorship. Differences between self-disclosure to supervisors and same level peers were explored and factors that are considered before disclosing were analyzed. **Method**: An exploratory, quantitative study examined self-disclosure of cancer history by 78 Non-Hodgkin’s Lymphoma survivors in the workplace utilizing a researcher developed survey tool validated by an expert in the field. **Results:** Results indicate that there is a pattern in self-disclosure of cancer history to peers and supervisors in the workplace. Most individuals do choose to disclose their cancer history to both groups. While disclosure itself is not significantly different between population samples, factors taken into consideration before disclosing vary across gender, age, and educational history.  **Conclusions:** This study found that adults with a history of NHL are sharing their cancer history in the workplace to both supervisors and peers the majority of the time to some extent. Factors taken into consideration before disclosure differ by gender, age, and educational background. As treatments continue to improve and the number of NHL survivors entering or returning to the workplace increases, these individuals need to be supported as they face different obstacles in the workplace. Support teams and employers need to be mindful of the concerns of this population in order to facilitate a positive work experience.

*Keywords:* cancer, employment, self-disclosure, stigma, survivorship, Non-Hodgkin’s Lymphoma*.*

**Examination of Non-Hodgkin’s Lymphoma Survivor’s Self Disclosure of Cancer History in the Workplace**

**Chapter I**

**The Problem and Its Setting**

In the past, a diagnosis of cancer was associated with a grim prognosis, but advances in medicine in relation to diagnosing and treating cancer have had a big impact on cancer survivorship. More individuals are being put into remission and living decades after their diagnosis than ever before. One cancer that has shown dramatic increases in survivorship rates is Non-Hodgkin’s Lymphoma (NHL), a blood cancer. Most recent data indicates that individuals with NHL have a 5-year relative survival rate of 70% (American Cancer Society, 2020). This means that when compared to peers of similar ages, 70% of individuals diagnosed with NHL will be alive 5 years after their initial diagnosis. As the majority of individual diagnosed with NHL survive their diagnosis, it is necessary to understand their experience into survivorship after treatment. This includes their experience returning to the workforce.

A review of progress in cancer survivorship outlines an existing need to decrease workplace discrimination and other negative effects cancer may have on an individual’s employment (Nekhlyudov et al., 2017). Returning to work after cancer requires careful thought and consideration from the survivor. Survivors must consider how their cancer diagnosis may have changed their ability to work and what effects it may have on their return. Survivors must also consider whether they would like to share their cancer history in the workplace through self-disclosure. This decision is not an easy one and should be made with foresight into the possible effects self-disclosure.

When it comes to employment, the decision to self-disclose or withhold information regarding an individual’s cancer history comes with both benefits and implications. There is limited research regarding the decision to disclose or withhold cancer history in the workplace for cancer survivors in general, much less for those with NHL specifically. Much of the current research provides general information surrounding an individual’s experience returning to work after cancer and identifies barriers that one may face. The aim of this study was to identify whether individuals disclose to colleagues in different ways based on their work position. Specifically, this study looked at the relationship between self-disclosure of cancer history by NHL survivors to their supervisors and to their same level peers and what factors may be considered before self-disclosing.

NHL is a term that categorizes over 60 different subtypes of cancer that affect individuals of all ages and is responsible for approximately 4% of all cancers worldwide (American Cancer Society, 2020). Presentation of the cancer may include an enlarged lymph node anywhere in the body and flu-like symptoms (Ansell, 2015). Because the symptoms of this cancer are generalizable to so many common and benign illnesses, these individuals often will not appear to be sick before they are in treatment. Treatment options may vary but include monitoring the disease and holding off on treatment, called watch and wait, surgery, chemotherapy, radiation, or stem cell transplant (Ansell, 2015).

At the end of treatment, individuals with NHL will fall into different categories. Some will be cured of their disease and others will have the illness for the rest of their lives and will require monitoring and intermittent treatment (Ansell, 2015). Because of the unique characteristics of this illness, NHL is associated with increased rates of mental health disorders compared to peers with other types of cancer, which can follow diagnosis and continue into survivorship (Oerlemans et al., 2014). Common mental health disorders associated with NHL include anxiety, depression, and post-traumatic stress disorder (PTSD). These factors may require regular follow-up with providers long after an individual returns to work on top of regular follow-up appointments for cancer surveillance. This may lead to the need for accommodations or time off in the workplace that must be explained to employers and coworkers.

As more and more individuals survive their diagnosis, there is an increase in the number of NHL survivors returning to the workforce. Many obstacles coincide with return to work for cancer survivors making return to work discouraging for many. These obstacles include stigma associated with a diagnosis, explaining gaps in resumes, and managing the psychological and physical impacts of cancer survivorship. Young adult cancer survivors have added obstacles returning to work as they are not as well-established in the workforce as their older peers. College completion and length of time spent at college can also raise questions regarding their ability. These factors further impose on an individual’s decision to disclose their cancer survivorship to their employers or coworkers in order to explain the obstacles created by their cancer experience. The degree of impact these factors may have on employment can depend on an individual’s specific symptoms, treatments they have endured and side effects that were experienced.

One major benefit of self-disclosure relates to social aspects of employment as self-disclosure is a key component of forming meaningful relationships with others (Greene et al., 2006). Limited research exists involving an individual’s decision to self-disclose their cancer history to their employers and co-workers and the implications, both positive and negative, of this disclosure. Consideration of the many factors that could influence decision making in this regard is necessary in order to better prepare cancer survivors for this obstacle when they return to work.

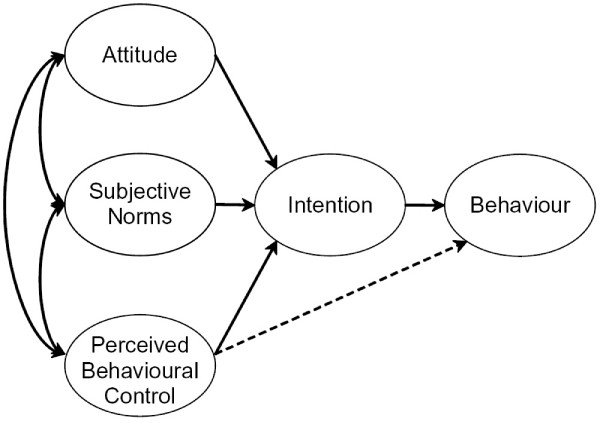
In order to provide whole-person care to patients, providers must understand these obstacles that are faced by cancer survivors after they complete treatment. As many NHL survivors are returning to work or entering the workforce after being treated for their disease, it is imperative that we understand the challenges that they may face in order to guide them and provide them with the tools they need to be successful during this transition. Currently, there is a lack of research surrounding individual’s experiences returning to work after being treated for NHL. There is also a lack of research surrounding individual’s decisions to disclose or not disclose their cancer history to both their supervisors and peers. Greater understanding of the context of self-disclosure of cancer history in the workforce and to whom individuals are disclosing will help to explain obstacles that cancer survivors may face post-treatment and will allow providers to prepare them for said obstacles. It will also lend insight to employers, who can become better aware and prepared to deal with employee characteristics. This ensures that individuals will experience the best quality of life possible in relation to their specific needs.

**Theoretical Framework**

The Theory of Planned Behavior (TPB) was developed in order to predict the intention of an individual to engage in a behavior (See Figure 1). This model uses individual’s attitudes, subjective norms, and perception of control to inform decision-making (Ajzen, 1991). In this model, factors such as culture, socio-economic status, and the environment in general do not have an independent contribution to intent. Instead, they are accounted for throughout the three main objectives of this model which can be seen below in Figure 1.

**Figure 1**

*The Theory of Planned Behavior (Ajzen, 1991).*



The first factor that contributes towards an individual’s intent to engage in a behavior is attitude. Attitude toward the behavior is composed of an individual’s opinion of the behavior and whether it is viewed as positive or negative (Ajzen, 1991). Behaviors that are viewed as positive are associated with higher intent to engage in the behavior. Similarly, behaviors that are viewed as negative are associated with lower intent to engage in the behavior. Individual’s attitudes are formed by individual’s behavioral beliefs and their evaluation of the outcome of engaging in a behavior (Glanz et al., 2015).

The second factor that contributes to an individual’s intent to engage in a behavior is consideration of the subjective norms associated with the action. Subjective norms refer to the individual’s perception of other’s expectation that an individual engage in a particular behavior (Ajzen, 1991). Opinions that inform the subjective norm include those of importance to the individual in particular such as close family, friends, co-workers, and those in their cultural group. If the subjective norm appears to show that most individuals support the behavior in question, the intent to engage in the behavior is higher.

The third factor, and what makes this model unique in comparison to others, is the perception of control over engaging the behavior in general (Ajzen, 1991). In consideration of perception of control, ease of completing a behavior is considered. If an individual feels as though they have control over completing a behavior and believes it will be easy to complete, the likelihood of engaging in the behavior increases.

**Conceptual Framework**

The TPB model can be used to help explain an individual’s decision to self-disclose information in the workplace as depicted in Figure 2 below. The TPB model explains intention to engage in a behavior by considering an individual’s attitude towards the behavior, their perception of the social norm in relation to the behavior, and their perception of control over engaging in the behavior. These considerations are important in analyzing whether an NHL survivor will self-disclose their intimate health information, namely their cancer survivorship, to their supervisors and co-workers. Although this is ultimately a personal decision, many outside factors contribute to the decision-making process and must be taken into consideration.

**Figure 2**

*Adapted Theory of Planned Behavior*

**Attitude**

Individual’s belief of how information will be accepted/rejected with person they are disclosing to

**Behavior**

Self-disclosure of cancer history

**Intention**

What is the function of self-disclosure of cancer history

**Subjective Norm**

Reflection of individual’s work environment

**Perceived behavioral control**

Individual has control over whether cancer history is disclosed

NHL survivor’s attitudes about sharing their diagnosis is an important factor in determining whether they will share information and how they will share it. If their belief is that the information will be accepted positively without negative ramifications, they are likely to engage in the behavior of self-disclosure; however, if they believe they will be stigmatized for their decision to engage in the behavior they are less likely to do so. If it is viewed that sharing the information will be perceived as a weakness, it is likely that individuals would not share their cancer history to others.

Further, evaluation of the subjective norm would inform an individual’s decision making. If the culture of the work environment is cold and does not appear to be welcoming of this information from a fellow co-worker, survivors would be less inclined to share this information. It is assumed that perception of control in sharing this information would be high, as there is no requirement to share information with others; however, this may be dependent on individual factors such as appearance and current treatment status as individuals who appear sick may be more inclined to share their history. Perception of control in this situation may be a variable depending on the individual’s current situation.

**Purpose of the study**

The purpose of this quantitative study was to explore self-disclosure of cancer history by NHL cancer survivors in the workforce. Further, relationships between disclosure of cancer history to supervisors and peers at the same employment level were examined. The independent variable in the study is the colleague level of the individual which includes both co-worker and supervisor. Peer and co-worker are defined as an individual who is not in a role that supervises the participant and is instead at the same level or a lower level of employment. A supervisor is defined as an individual who is in a managerial role in relation to the participant. The dependent variable is self-disclosure and will be defined as participant designation of “yes” or “no” stating they have shared their cancer history with someone in the workplace. In this study, a survey developed by the researcher and validated by an expert in the field was used to assess self-disclosure of cancer history in the workplace. Further, factors that were considered before disclosing to each group were rated through a Likert scale and assessed as supplemental information.

**Research Question**

What are the relationships among self-disclosing cancer history to supervisors and to peers by Non-Hodgkin’s Lymphoma (NHL) cancer survivors?

***Sub-problem 1****.* What is the frequency of self-disclosure of cancer history only to peers by NHL survivors?

***Sub-problem 2****.* What is the frequency of self-disclosure of cancer history only to supervisors by NHL survivors?

***Sub-problem 3.*** What is the frequency of self-disclosure of cancer history to both supervisors and peers by NHL survivors?

***Sub-problem 4.***What is the frequency of self-disclosure to neither peers nor supervisors?

***Sub-problem 5.*** What are the relationships among self-disclosing cancer history to supervisors and to peers by Non-Hodgkin’s Lymphoma (NHL) cancer survivors?

**Null hypothesis**

No relationships exist among self-disclosure of cancer history by NHL survivors to peers and supervisors.

**Alternative Hypothesis**

Relationships exist among self-disclosure of cancer history by NHL survivors to peers and supervisors.

**Definition of Terms**

*Self-Disclosure****.*** A verbal or nonverbal action to purposefully share personal information between at least two individuals during an interaction (Greene et al., 2006). Measured by questions 9, 10, and 11 in the examiner developed survey tool.

*Cancer*. Cancer is a classification of diseases that involve cells growing out of control in the body (American Cancer Society, 2020).

*Supervisor.* For the purpose of this study “supervisor” refers to anyone in an individual’s agency that is at a higher level of employment than the participant. For example, individual’s supervisors, managers, and other higher-ranking individuals.

*Peer.* For the purpose of this study “peer” refers to an individual at or below an individual’s level of employment.

*NHL.* NHL is a type of blood cancer that attacks an individual’s white blood cells and encompasses over 60 different types of cancer (American Cancer Society, 2020).

*Survivor*. An individual who experienced cancer. “Survivor” can be applied to an individual being diagnosed, treated, or in remission and living after the disease (National Coalition of Cancer Survivorship, 2014). Measured as a response of “yes” to question 2 in the survey.

**Delimitations**

Participants in this study were delimited to individuals who were a member of three Facebook groups. Primarily, individuals were members of Facebook groups related to NHL survivorship. These groups were limited to “Support survivors of Non-Hodgkin’s Lymphoma”, “diffuse high-grade large b cell Non-Hodgkin’s lymphoma support group” and “diffuse large b cell lymphoma”. This study was delimited to individuals who were employed since their cancer diagnosis.

**Assumptions**

Due to the self-report nature of the information collected in the study, an assumption was made that the participants answered the questions honestly and to the best of their ability. It was assumed that participants were honest in their responses to the screener questions and did not participate in the study if they did not meet these requirements.

**Significance of Study**

With continued improvements in medical treatment and interventions to extend the lives of individuals diagnosed with cancer, it is imperative that we gain information into the obstacles they face as cancer survivors. NHL is a common cancer that has relatively high rates of survival, meaning there are many NHL survivors in the general population returning to their normal lives after cancer. One factor that is important in the return to normalcy after a cancer diagnosis is employment.

As these survivors return to work, they are faced with the obstacle of determining whether they should disclose their cancer history to employers and peers. They may face particular obstacles related to explaining gaps in their resume, longer length of time in college, and lack of continued skill building.

In order to support obstacles these individuals face, it is important to explore factors related to self-disclosure and gain an understanding of the ramifications this has on NHL survivors. With this information, survivorship planning can work towards addressing these issues before an individual is faced with the difficult decision in the work environment. The findings of this study contributed to the body of knowledge surrounding NHL cancer survivor’s decisions to disclose or withhold their cancer in the workplace and helped to identify factors that contribute to this decision.

**Chapter II**

**Literature Review**

The number of cancer survivors in the United States is ever-growing as advancements in medicine improve the prognosis for many cancers. In 2016, it was estimated that there were 15.5 million cancer survivors living in the United States, with a projection that this number will increase to 20.3 million by 2026 (American Cancer Society, 2016). As the number of cancer survivors continue to increase, there is an increased need to understand the obstacles survivors face post-treatment in order to provide support during this critical period.

Cancer affects individuals in many ways, resulting in hardships across many areas of life. Not only do cancer survivors experience difficulties with their health, but they also experience hardships when they return to work after their cancer experience. The Institute of Medicine has outlined goals for cancer survivorship in order to help survivor’s transition to life after cancer and to address the difficulties that individuals face at this time. One recommendation outlined in this report was the need to address and eliminate workplace discrimination of individuals with a cancer history (Hewitt et al., 2005). Discrimination of this population in the workplace can lead to financial burden for cancer survivors and can decrease their productivity levels, among other obstacles (Nekhlyudov et al., 2017). Other recommendations from the Institute of Medicine report include increased awareness of survivor needs, development of survivorship care-plans, improved treatment of late-effects of cancer, and interdisciplinary treatment, among others.

**Non-Hodgkin’s Lymphoma**

Non-Hodgkin’s Lymphoma (NHL) is a type of hematological cancer with over 60 different subtypes that affects individuals of all ages and is responsible for about 4% of all cancers worldwide (American Cancer Society, 2020). This disease can present in any part of the body including the lymph nodes, the lungs, the stomach, and the brain, among others (Armitage et al., 2017). Some subtypes are considered to be slow growing and may not require immediate treatment while others are extremely aggressive and must be treated swiftly (Lymphoma Research Foundation, 2019).

Initial presentation of NHL is often an enlarged and painless lymph node, sometimes with associated symptoms that mimic influenza (Ansell, 2015). Most commonly, an enlarged lymph node is not cancerous and flu-like symptoms are due to benign conditions. Therefore, NHL is often an unlikely diagnosis for an individual presenting with these symptoms (Armitage et al., 2017). Detection of NHL is often difficult due to the commonality and generalizability of its symptoms and diagnosis which can delay treatment as providers attribute symptoms to common ailments rather than cancer which delays the onset of treatment to eradicate the disease (Ansell, 2015).

Treatment for NHL varies based on the subtype of cancer that has been diagnosed NHL is generally categorized into two categories, slow-growing and aggressive cancers (Lymphoma Research Foundation, 2019). For most types of lymphoma, chemotherapy is considered first-line treatment (Miller et al., 2016). Chemotherapeutic regimens often include alkylating agents, corticosteroids, platinum drugs, purine analogs, anti-metabolites, and anthracyclines, with the most common combination being CHOP (cyclophosphamide, doxorubicin, vincristine, and prednisone) (American Cancer Society, 2019). Rituxin, an immunotherapy drug, is often given in combination with chemotherapy and has shown promising results to improve continued remission in this population (American Cancer Society, 2019).

For aggressive lymphomas, radiation can be another option for treatment. Radiation can be given in combination with chemotherapy or it can be used independently for low stage lymphomas (American Cancer Society, 2019). For individuals who do not succeed with first-line treatment, a stem-cell transplant may help to put them into remission. Stem cell transplants include high dosage chemotherapy, a transplant of either donor stem-cells or an individual’s own stem cells, and a period of isolation in order for the immune system to regrow (American Cancer Society, 2019). Alternately, if individuals are diagnosed with a slow-growing form of the disease, they may not require treatment until their symptoms become difficult to manage, known as a period of “watch and wait” (Lymphoma Research Foundation, 2019). Treatment may be postponed for months or even years until the cancer begins to be disruptive.

There is no known cause of NHL at present, but trends outline certain risk factors to include obesity, history of immune system disorders, family history, lifestyle choices, and previous ailments (Armitage et al., 2017). NHL is a disease that affects individuals across ages, socioeconomic status, gender, and ethnicity. It is considered the 7th most commonly diagnosed cancer in the United States (American Cancer Society, 2019). All cancers, including NHL affect individuals in many ways, more than just the apparent physical effects.

**Multifaceted effects of cancer**

Although cancer is a physical illness primarily, its effects can be experienced across different areas of an individual’s life. These areas include social, psychological, financial, vocational, and educational, and can be seen past diagnosis and well into survivorship. Awareness of the effects of cancer in each area is important in order to understand an individual’s experiences with cancer and better support individuals during and after being treated for their disease.

Physical symptoms may be most notable as they can be directly observed and measured. Before treatment, individuals may experience enlarged lymph nodes and a general feeling of being unwell, reflective of seasonal influenza (Ansell, 2015). During treatment, individuals can experience a magnitude of side effects including nausea, hair loss, compromised immune system, and weakness (Lymphoma Research Foundation, 2019). This list is not comprehensive as side effects from NHL are abundant and can affect individuals for years to come after their diagnosis. After being treated for NHL individuals are at risk for relapse of the disease as well as other cancers including melanomas, leukemias, stomach cancer, and bladder cancer (Leukemia and Lymphoma Society (LLS, 2020). Additionally, cognitive impairments after treatment are common which cause difficulty for individuals to focus and function as they did before their treatment (American Cancer Society, 2019).

Fertility can be threatened post-treatment for both males and females treated for NHL (Miller et al., 2016). Those who received certain high-dose chemotherapies or stem cell transplant to cure their cancer are at an increased risk of dealing with infertility in the period post-cancer (Miller et al., 2016). For older cancer survivors, facing potential infertility may be a non-issue as their families may already be complete; however, for a young adult cancer survivor, this can be significantly distressing to face and is something to consider when choosing treatment options in the first place.

Individuals treated for cancer can experience suppressed immune systems, making them more susceptible to illnesses (LLS, 2020). They may experience low blood cell counts and anemia as a result of their chemotherapy treatments (LLS, 2020). This makes socializing and working difficult as there is a constant fear of getting sick, which can be life-threatening for someone with cancer. There is a delicate balance an individual must manage of continuing to live their lives while ensuring they do not put themselves at extreme risk due to their cancer.

Cancer is well-known for its effect on an individual’s physical health; however, it is important to recognize that experiencing cancer has an effect on an individual’s psychological health as well. Individuals who are diagnosed with cancer at any point in their lives have higher incidence rates of psychological distress and subsequent mental health conditions than their peers who have never experienced a cancer diagnosis (Li et al., 2015). The reasons for this increased incidence rate of psychological distress as a result of a cancer diagnosis are multiple, with threats to an individual’s sense of safety and security proving to be a major contributing factor. When an individual’s safety is threatened, an individual has a higher likelihood of developing a clinical psychological disorder (Zheng et al., 2016).

Hematological cancers, including Non-Hodgkin’s Lymphoma, are a group of cancers that are associated with increased psychological distress. Patients with hematological cancers have been found to have a higher incidence of psychological disorders than what is observed naturally in the general population as well as in the population of individuals with other types of cancers (Swash et al., 2017). Increased incidence of psychological distress is in part related to the difficulty in diagnosing hematological cancers as their symptoms often mimic common and benign illnesses. In addition, the treatment options for hematological cancers are often times more intense than treatments for other cancers and include debilitating side effects (Swash et al., 2017). Diagnoses can be initially missed and treatment can make an individual feel very ill, which further threaten safety and increase an individual’s vulnerability during this distressing time. Individual variables such as these in relation to a patient’s cancer journey are determining factors as to whether an individual will experience psychological distress during this time in their life and how these symptoms will be expressed.

It is estimated that individuals with cancer have a 1.66 times increased risk of developing Post-Traumatic Stress Disorder than individuals with trauma histories that have not experienced a cancer diagnosis in the past (Swartzman et al., 2017). This makes a diagnosis of cancer one of the leading causes of PTSD development. Factors that are proven to increase the risk of an individual with cancer’s development of PTSD include younger age at the time of diagnosis, treatment with chemotherapeutic agents, and length of time since treatment, with individuals recently completing treatment having the highest risk of developing the disorder (Swartzman et al., 2017).

Two additional mental illnesses that are commonly recognized in individuals with a cancer diagnosis are anxiety and depression (Aaronson et al., 2014). While anxiety and depression are often seen in the general population and symptoms are easily identified, the expression of these disorders in individuals with a cancer diagnosis is noted to be characteristically different than that of the general population thus, making a diagnosis more difficult to recognize (Aaronson et al., 2014). Psychological distress can also result from stressors in an individual’s environment, including impact cancer may have on finances.

A diagnosis of cancer can impact individual’s finances in many ways. Costs of treatment and missed work among other factors contribute to this impact. One study examined the number of individuals who were in debt or filed for bankruptcy as a result of their cancer diagnosis. Results found that one-third of those studied had gone into debt due to their cancer and 3% had filed for bankruptcy. Contributing factors to these circumstances included being younger in age and having lower incomes (Baegas et al., 2016). Returning to work post-cancer may be a necessity for individuals struggling with financial disruptions.

**Employment**

Although the majority of cancer survivors return to work after treatment, many young adult cancer survivors report cognitive and physical limitations that effect their ability to work after cancer (Vetsch et al., 2018). Individuals of all ages report additional difficulties that include sleep difficulties that affect employment productivity, gastrointestinal distress, sun sensitivity due to chemotherapy, and quick physical exhaustion (McGrath et al., 2012). While individuals experiencing these limitations may benefit from accommodations from their employers, they are faced with the decision of having to disclose their health history in order to receive these supports. The benefits of disclosing a cancer history can be immense, as accommodations can be made to make work more manageable for cancer survivors and social relationships may be positively effected as well; however, there are also negatives of disclosing a cancer history, including the experience of stigma as a result of their disclosure.

Stigmatization of individuals with a cancer diagnosis is another obstacle that cancer survivors may experience in the workplace when they disclose their cancer history to others. It has been found that cancer survivors perceive themselves as being a stigmatized group in the workplace even though their peers and employers may deny any stigmatizing feelings towards the group (Stergiou-Kita et al., 2016). Particular ways in which survivors may be stigmatized include the belief that a cancer diagnosis is associated with death, misconceptions about accommodations, productivity issues, and concern for re-occurrence and what implications may come from that (Stergiou-Kita et al., 2016).

Disclosure may also depend on the type of cancer the survivor experienced. Each cancer has unique characteristics that may or may not fall into the general stereotype for cancer. Non-Hodgkin’s Lymphoma (NHL) is one type that may not fall into this stereotype as the symptoms of the cancer do not present themselves in a catastrophic way and instead present similarly to the flu (Ansell, 2015). Patients with this type of cancer less often look and at as though they are sick and in some instances may not even need treatment for a prolonged period of time after their diagnosis, complicating an individual’s identity as a cancer survivor.

The decision-making process to disclose or withhold cancer history for the NHL survivor population is one that needs to be further explored. Having a better understanding into the factors that lead individuals to disclose or withhold their cancer history and to whom is important in supporting survivors during the period post-treatment. The purpose of this study aims to gain insight into these questions and to understand how the decision to disclose or withhold cancer history affects an individual during their employment.

**Young Adult Cancer survivors**

The period of young adulthood is a critical period for development. When individuals are diagnosed with cancer during this period they experience additional and unique burdens as a result of their diagnosis in addition to the burdens their older peers may experience. It is not surprising that young adults often rank social support from family and friends as the highest need in survivorship (Schultz et al., 2007). As young adulthood is a time of rapid changes and the search for independence, individuals diagnosed with cancer during this time may find themselves returning to dependence on their parents to provide additional support (Zebrack, 2011). Life goals may be challenged as cancer threatens one’s future. Self-concept issues become skewed and mortality is faced early (Zebrack, 2011). These experiences of young adult cancer survivors are vastly different than their peers without cancer who have not faced such severe health issues. For this reason, relationships may be strained as individuals have difficulty relating to their peers and feelings of isolation may be apparent.

Along with feelings of isolation, young adults may have more fear and trauma in relation to their diagnosis as young adults are more frequently missed in this population. This can lead to a diagnosis of PTSD. When a young adult presents with symptoms of cancer, symptoms are often times attributed to another disease that is more common for their age group which can delay diagnosis of their cancer (Kent et al., 2012). Length of time for diagnosis and age at diagnosis are contributing factors to the development of PTSD in the cancer population (Swartzman et al., 2017). While the experience of being diagnosed with cancer itself can have devastating effects on a young adult, the financial impact it has on this population can be equally devastating.

Young adult cancer survivors tend to have lower median income, more out of pocket expenses, and lower net worth compared to the general population (Landwehr et al., 2016). These individuals have more medical debt and lose opportunities in career development at a higher rate than their peers experience. They also have increased medical expenses, which may be associated with less adherence to medical recommendations (Landwehr et al., 2016). They are more likely to go into debt and file for bankruptcy (Banegas, 2016). Faced with financial burden after cancer, it is apparent that many young adults will need to enter or re-enter the workforce.

**Stigma**

Stigma has been researched for decades in order to understand the experience of individuals in ostracized groups. Erving Goffman, a sociologist studying stigma, defined it as a mark of shame placed on an individual that leads to social isolation and views of distrust (1963). Individuals can experience stigma in many ways. The most common way to experience stigma is as a direct result of a specific attribute. Stigma could also be self-inflicted or by association. For individuals with cancer, stigma is often inflicted by others or by the survivor themselves.

Individuals who experience cancer are often categorized under the term “survivor” based on their battle with the disease. This term is used for both individuals currently in treatment and individuals who have completed treatment and are in remission or cured of their disease. While all of these individuals qualify for the label of survivor, some individuals choose not to identify as a cancer survivor. One study assessed the salience of cancer in individual’s development of self-concept while addressing their identification as “survivor”. This study found that individuals may choose not to identify as a cancer survivor for many reasons, including rejection of labels in general, feeling as though they do not deserve the identity because of their brief treatment, or they do not want to experience the stigma associated with this diagnosis (Smith et al., 2017).

Stigma as a result of a cancer history is a prevalent issue that cancer survivors experience, though it is often overlooked (Martinez et al., 2016). The current body of research primarily focuses on stigma experienced by survivors of cancers that are considered to be self-inflicted such as lung cancer and other smoking related diseases. While these individuals may experience stigma with greater recognition, cancer survivors in general are stigmatized, though the level of stigma they experience may be related to the progression of their disease, with more dire progression being associated with higher experiences of stigma (Fife & Wright, 2000).

A metal-analysis was conducted to explore the workplace experiences of individuals with diverse backgrounds that are not normally considered to be a stigmatized group, with cancer being one of the backgrounds under observation. These studies assessed stereotypes related to cancer history, experience of job applicants who were cancer survivors, and workplace disclosure of history (Martinez et al., 2016). Most individuals were found to self-disclose their cancer history in the workplace rather than keeping it from their employer with minimal negative outcomes; however, during the interview process, it was found that individuals who self-identified as a cancer survivor were less likely to receive callbacks and were treated more poorly than their counterparts without cancer. Overall, cancer survivors were rated as appearing to be less competent in terms of employment ability than the group in general (Martinez et al., 2016).

Survivors of NHL may be able to easily conceal their survivor status from others simply by not disclosing this information as observable characteristics are not always apparent in survivors. When this occurs, survivors are in the position to control the effects of stigma that may be associated with them due to their cancer history (Clair et al., 2005). A European study assessing trauma, growth, and stigma experienced in individuals with head and neck cancer identified that individuals with a cancer history felt disconnected to groups they once identified with and began to feel more connected to other groups that experience stigma. It was found that individuals stigmatized by their history of head and neck cancer were finding solace and support from others who experienced stigma for independent factors (Threader & McCormack, 2016).

Research involving stigma and cancer is limited. The vast research involving stigma and cancer is primarily focused on head, neck, and lung cancers as they relate to a smoking history or to breast cancers. There is little to no research involving experiences of Non-Hodgkin’s Lymphoma survivors and their experience with stigma in the workplace. With the unique qualities of Non-Hodgkin’s Lymphoma, it is imperative that these factors be studied in combination to gain insight into the experiences of survivorship for this population and to improve their quality of life.

**Self-disclosure**

Self-disclosure is an important component in forming personal relationships with others. It can be defined as the purposeful sharing of personal information between at least two individuals (Greene et al., 2006). Many factors are considered, either consciously or subconsciously, before an individual decides to disclose personal information to another. The Disclosure Decision model was developed to help predict self-disclosure in different situations (Omarzu, 2000). This model assumes that individuals make decisions in disclosing information based on their social and personal goals (Omarzu, 2000). The decision to disclose or withhold information is an individual decision and is based on the benefits and retributions of the particular disclosure. Motives that would encourage an individual to disclose information include social approval, identity clarification, social control, relief of distress, or to form intimacy in a relationship (Omarzu, 2000). Situational cues and individual differences inform decision making.

Self-disclosure information falls into two categories: visible and invisible (Clair et al., 2005). Visible identities can be observed in an individual and include race, gender, and age, whereas invisible identities include information that cannot be inferred by observation. Visible identities in relation to a diagnosis of NHL may include loss of hair, scars from surgeries, and port-a-cath devices that can be seen under the skin, among others. With a visible factor that alludes to a disability, individuals in the workforce may face immediate discrimination and stigmatization in relation to their ability to complete a job effectively (Goffman, 1963). In order to combat the discrimination associated with a visible illness, job coaches and similar entities encourage individuals to disclose this information as individuals who disclose this information immediately may be viewed as having increased confidence (Lipow, 2015)

When individuals keep invisible social identities from their employers or co-workers, it makes for a difficult work environment in that individuals need to mask their behaviors, fabricate stories when they are questioned and do not want to disclose information, or perform tasks differently (Clair et al., 2005). This can become a never-ending cycle of white lies and complicated explanations in order to withhold cancer history in the workforce.

The process of deciding whether to disclose personal information in the workplace can have serious effects. Those who are faced with this decision may have increased levels of stress and anxiety during social interactions due to the idea of self-disclosure (Clair et al., 2005). This can be ongoing as questions continue to arise and individuals continue to decide to withhold personal information from those they work with as the only resolution would be to disclose personal information. This places individuals with invisible identities in a peculiar situation, where they have choice over whether to disclose personal information, but negative consequences are associated with both disclosing and withholding the information. Stigma associated with the information to be disclosed is a contributing factor in determining whether information will be shared with others as the social acceptance of the information is considered.

A study assessing individual’s self-disclosure of arthritis in the workplace was conducted to determine what factors lead to self-disclosure for this population. For this study, a structured questionnaire was given to 490 individuals diagnosed with some form of arthritis to assess self-disclosure of their illness and their perceived support from both managers and co-workers (Gignac & Cao, 2009). The survey was given on four different occasions with 18 months separating the surveys each time. It was found that approximately 76% of individuals self-disclosed this health information to their managers and approximately 88% self-disclosed to their co-workers. Self-disclosure of this information was associated with fewer job disruptions and lower stress in the workplace, among other factors (Gignac & Cao, 2009).

Another study assessed young adult survivors of childhood cancer and their experience disclosing their cancer history in the workplace. Data was collected through an online survey of 151 adults who were in remission from a childhood cancer who were now currently employed part-time or full-time (Martinez et al., 2016). Disclosure of cancer history was assessed through a 7 point Likert scale. The study hypothesized that organizational support, self-concept, and disclosure outside of the workplace would predict disclosure in the workplace (Martinez et al., 2016). The hypothesis was supported by the data with no significant difference between the three predictors of cancer disclosure for this population (Martinez et. al, 2016). Self-disclosure of cancer history in this population was associated with lower intent to leave their positions, indicating that the action and ability to self-disclose benefits both the workplace and the employees (Martinez et.al., 2016)

**Summary**

A cancer diagnosis has a profound effect on an individual’s life. Different types of cancers affect individual’s in different ways. As reported, individuals with NHL experience physical, social, and psychological effects, among others, as a result of their cancer diagnosis. When these individuals return to life after cancer, their experience continues to affect them. One area that is lacking research is the experience these individuals have as they return to work post treatment and the implications their cancer diagnosis may have on their employment. Self-disclosure of their cancer history to their employment may be a key factor in the experience individuals have post-cancer. With further research in this area, providers in the field can better support individuals returning to work post NHL treatment and prepare them for any obstacles they may face.

Certain populations of cancer survivors may be at increased risk of experiencing these negative effects on employment in relation to their cancer history. For those who experienced cancer during young adulthood, age 18-40, the impact of cancer on their career can be more significant, as this time-period is a time of development for vocational goals. A cancer diagnosis during young adulthood could result in a disruption of education and training opportunities or time off early on in one’s career which creates a disadvantage when it comes to career growth and opportunity. Even if an individual manages to work or continue school through their cancer experience, which many do, cancer can cause difficulty for other reasons.

**Chapter III**

**Methodology**

**Research Design**

A descriptive quantitative approach to research was utilized to examine relationships in self-disclosing cancer history by NHL survivors to their same-level co-workers and supervisors in the workplaces. NHL survivors were assessed using a survey developed by the researcher and verified by an expert in the field. The independent variable in this study was groups disclosed to: both peer and supervisor, supervisor only, peer only or neither supervisor nor peer. The dependent variable for this study was self-disclosure of cancer history.

**Participants**

The sample for this study was taken from the population of adult NHL survivors who were employed after their cancer diagnosis. For convenience, recruitment posts (See Appendix G) were advertised in three Facebook groups dedicated to NHL survivors: “Support survivors of Non-Hodgkin’s Lymphoma”, “diffuse high grade large b cell Non-Hodgkin’s lymphoma support group” and “diffuse large b cell lymphoma”. Participants were offered a $5 email gift card for Amazon for their participation in the survey.

During data collection, the primary researcher received over 200 requests for gift cards with only 70 survey responses noted. The primary researcher collaborated with the Institutional Review Board and from this point forward modified the incentive resulting in a change from offering a $5 Amazon gift card for participation to offering a $20 gift card raffle with one winner chosen at the end. See Appendix A for IRB approval to change the incentive and Appendix B and C for updated informed consent and social media post. Emails received requesting a gift card from the initial recruitment post were screened and spam emails were identified in multiple ways. The email addresses were put into a word document and were sorted by the primary researcher. First, emails where the text was clearly copy and pasted and sent in rapid succession of each other were identified as spam. Second, emails with lengthy nonsense number and letter sequences were identified as spam. After ruling out these email requests, gift cards were sent out to all remaining accounts that appeared to be authentic, which in total surpassed the number of respondents in the study by approximately 30. Some gift cards were sent out and then returned by Amazon as the email address was not found.

Inclusion criteria allowing participation in the study were as follows:

1. Individual must be 18 years of age.
2. Individual must have been diagnosed with NHL at some point in their lives.
3. Individual must have been employed since being diagnosed with NHL.

There were no exclusion criteria.

**Instrument**

The instrument used to complete this analysis was developed by the primary researcher. The full survey can be reviewed in Appendix D. The instrument was developed as a means of examining different levels of self-disclosure and factors that may have contributed to self-disclosure in the workplace. The instrument also collected demographic information. aThe survey was validated by Dr. Michael Sulzinski, Professor in Residence, Cancer Biology, Geisinger Cancer Institute in Danville, Pennsylvania (See Appendix E for validation).

Participants were asked for their age, gender, educational background and ethnicity. Further, participants were asked to disclose the length of time since diagnosis of NHL as well as their current employment status. After completing the demographic portion of the survey, participants were presented with questions regarding self-disclosure.

Participants were asked generally if they had disclosed their cancer history to someone in the workplace, requiring a “yes” or “no” response. Following, participants were asked separately if they self-disclosed their cancer history to a peer as well as to someone in a supervisory position. After answering these questions, participants were asked to rate the degree to which they disclosed to a peer as well as to a supervisor using a 4 point Likert scale (0= I have not shared any information regarding my cancer history, 1= I have shared my cancer history in passing during conversation, 2= I have shared my cancer history with some detail, 3= I have shared my cancer history at length with great detail).

Factors that may have contributed to self-disclosure were measured, including age and gender of the person disclosed to, ability for accommodations due to self-disclosure, social support related to self-disclosure, effect on future employment and effect on how participant would be treated in the workplace. These factors were measured using a traditional 5-point Likert scale (1= Strongly disagree, 2= Disagree, 3= Neutral, 4 = Agree, 5=Strongly Agree).

**Procedure**

Before the start of the project, application was submitted to the Marywood University Institutional Review Board and approval was obtained (See Appendix F for approval letter). The researcher generated a Facebook post through the primary researcher’s private profile on three NHL support pages, “Support survivors of Non-Hodgkin’s Lymphoma”, “diffuse high grade large b cell Non-Hodgkin’s lymphoma support group” and “diffuse large b cell lymphoma”, after being granted permission from the administrators of the pages. The Facebook post was sharable and provided a link to the survey, leading to the secure website, www.surveymonkey.com (See Appendix G). The SurveyMonkey account used was the private account of the primary researcher.

After the link to the survey was accessed the participant letter was visible to the participant. Informed consent was obtained by the participant by selecting the arrow indicating they were moving forward with the study and confidentiality was insured (See Appendix H). Participants were provided with contact information in case of any intrusive feelings after the survey.

Participants were provided with the screener questions. If they were not eligible to complete the survey they were presented with a disqualification notification. If they were eligible to complete the survey they were presented with the demographic questions, followed by the research instrument. After the survey was completed, participants who were interested in receiving a gift card were asked to send their email with indication of “lymphoma” to the primary researcher’s email account. Confidentiality was insured as there was no way to link these emails to survey responses.

After data collection, all data was imported into a spreadsheet using the Statistical Package for the Social Sciences (SPSS) version 27. This spreadsheet was password protected and stored on the principal investigator’s computer, where it will be kept indefinitely.

**Data Analysis** Information collected concerning demographic variables was analyzed using frequencies and descriptive statistics and served to describe individuals in the study.

In order to answer the research question “What are the relationships among self-disclosing cancer history to supervisors and to peers by Non-Hodgkin’s Lymphoma (NHL) cancer survivors?” the following Sub-problems were analyzed:

***Sub-problem 1****. “*What is the frequency of self-disclosure of cancer history only to peers by NHL survivors?” was analyzed using a frequency distribution and other descriptive statistics.

***Sub-problem 2****.* “What is the frequency of self-disclosure of cancer history only to supervisors by NHL survivors?” was analyzed using a frequency distribution and other descriptive statistics.

***Sub-problem 3. “***What is the frequency of self-disclosure of cancer history to both supervisors and peers by NHL survivors?” was analyzed using a frequency distribution and other descriptive statistics.

***Sub-problem 4.*** *“*What is the frequency of self-disclosure to neither?” was analyzed using a frequency distribution and other descriptive statistics.

***Sub-problem 5*.** “What are the relationships among self-disclosing cancer history to supervisors and to peers by Non-Hodgkin’s Lymphoma (NHL) cancer survivors?” was measured using a one-way chi square.

**Chapter IV**

**Results**

**Data preparation**

Data was downloaded directly from SurveyMonkey into Excel. It was then transferred to SPSS Statistics Version 27 for analysis. Data was recoded to reflect numerical variables for accurate analysis. In total, there were 78 respondents. All cases with more than 10% of incomplete responses were deleted from the dataset which eliminated 12 cases. This includes respondents that did not qualify for the survey and were screened out after the initial qualifying questions. An additional case was deleted as the participant indicated “no” to question 2, denying a diagnosis of NHL in the past. Another case was deleted as the participant indicated “no” to question 3, denying employment since their NHL diagnosis. There were no cases with missing data that needed to be corrected after this point. A total of 64 cases were retained and analyzed.

**Demographic information**

All participants were NHL survivors and were employed after being diagnosed with their disease, as this was a qualifying factor for participation in the survey. Most participants (n=43) had received an NHL diagnosis within the past 2 to 4 years (range less than 1 year to 9 years). The mean age of participants was 37.7 years old (+/-11.7 years) with a median age of 34 (range 21-72). See Appendix I for frequency distribution of age. Gender of the respondents was 54.7% female (n=35) and 45.3% (n=29). Ethnicity of participants was primarily Caucasian (n=44), with 68.8% of the participants identifying with this ethnic background.

The majority of the participants were college graduates with 71.9% (n=46) indicating that they had received at least an Associate’s degree. The most common degree attained was a Bachelor’s degree with 45.3% (n=29) of the respondents indicating they had attained this level of education. Respondents had varying levels of employment. The most frequent employment status was full time employment, working 35 hours or more per week with 44 respondents identifying this status (68.8%). Table 1 contains all other demographic information from the study.

**Table 1**

*Sample Demographics*

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** |  | **N** | **%** |
| **Gender** | Male  Female  **TOTAL** | 29  35  **64** | 45.3  54.7  **100%** |
| **Ethnicity** | Caucasian  African American  Hispanic  Native American  Other  **TOTAL** | 44  7  9  1  3  **64** | 68.8  10.9  14.1  1.6  4.7  **100%** |
| **Years since diagnosis** | Less than 1 year  1 year  2 years  3 years  4 years  5 years  6 years  7 years  8 years  9 years  **TOTAL** | 5  4  16  11  16  8  2  1  0  1  **64** | 7.8  6.3  25.0  17.2  25.0  12.5  3.1  1.6  0  1.6  **100%** |
| **Educational Background** | Less than High school  High school/GED  Some college  Associate’s degree  Bachelor’s degree  Master’s degree  Doctoral degree  **TOTAL** | 1  5  12  8  29  7  2  **64** | 1.6  7.8  18.8  12.5  45.3  10.9  3.1  **100%** |
| **Employment Status** | Unemployed  Part time  Full time  Student  **TOTAL** | 3  15  44  2  **64** | 4.7  23.4  68.8  3.1  **100%** |

**Sub-problem 1**

Sub-problem 1, *“*What is the frequency of self-disclosure of cancer history to only co-workers by NHL survivors?”, was analyzed using a frequency distribution and other descriptive statistics. Out of 64 participants, 92.2% stated that they did share their cancer history to someone in the workplace that they considered to be a peer (n=59). Out of these 59 participants, 9.4% (n=6) reported sharing their cancer history with only peers. See Table 2 below.

**Table 2**

*Frequency of Self-Disclosure by level*

|  |  |  |
| --- | --- | --- |
| **Variable** | **N** | **%** |
| **Shared cancer history in workplace** Yes  No | 60  4 | 93.8%  6.3% |
| **Shared cancer history with supervisor \*** Yes  No | 54 10 | 84.4% 15.6% |
| **Shared cancer history with peer**  Yes  No | 59  5 | 92.2%  7.8% |
| **Shared cancer history with peer and supervisor**  Yes  No | 53  11 | 82.8%  17.2% |
| **Shared cancer history with supervisor only**  Yes  No | 1  63 | 1.6%  98.4% |
| **Shared cancer history with peer only**  Yes  No | 6  58 | 9.4%  90.6% |
|  |  |  |

When considering sharing cancer history to a peer, participants were asked to what degree they self-disclosed. Out of the 64 respondents 37.5% (n=24) stated that they shared their cancer history in passing to peers as opposed to 26.6% (n=17) who shared their cancer history in great detail. See Table 3 below for frequency results. Factors that contributed to the decision to self-disclose to peers in the workplace were analyzed. These factors included the peer’s gender, age, ability to make accommodations in the workplace, ability to provide social support, effect on the peer’s treatment of the participant and the effect of sharing with a peer on the participant’s future career goals.

**Table 3**

*Degree of self-disclosure*

|  |  |  |
| --- | --- | --- |
| Variable | N | % |
| Degree shared with peer  I have not shared with a peer  I have shared in passing  I have shared in some detail  I have shared in great detail  TOTAL | 2  24  21  17  64 | 3.1%  37.5%  32.8%  26.6%  100% |
| Degree shared with supervisor  I have not shared with a supervisor  I have shared in passing  I have shared in some detail  I have shared in great detail  TOTAL | 3  23  20  18  64 | 4.7%  35.9%  31.3%  28.1%  100% |

Two factors that had the biggest influence on making a decision to self-disclose cancer history to a peer in the workplace was first the consideration of the peer’s ability to provide social support, with 65.7% (n=42) indicating that they “agree” or “strongly agree” that this was a factor considered before making their decision. Second, consideration of the effect of a peer’s treatment of the participant was noted to have been an important factor to inform decision-making by indication of “agree” or “strongly agree” in 65.7% (n=42) of the participants as well.

For complete breakdown of factors considered before disclosing cancer history to peers see Table 4 below.

**Table 4**

*Factors considered before self-disclosure to peers*

|  |  |  |  |
| --- | --- | --- | --- |
| **Factor** |  | **N** | **%** |
| **Peer’s gender** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 6  28  9  10  11  **64** | 9.4%  43.8%  14.1%  15.6%  17.2%  **100%** |
| **Peer’s age** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  27  10  10  12  **64** | 7.8%  42.2%  15.6%  15.6%  18.8%  **100%** |
| **Peer’s ability**  **To make**  **Accommodations** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 3  33  12  7  9  **64** | 4.7%  51.6%  18.8%  10.9%  14.1%  **100%** |
| **Peer’s ability**  **to provide**  **social support** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 6  36  10  4  8  **64** | 9.4%  56.3%  15.6%  6.3%  12.5%  **100%** |
| **Effect on**  **Future career** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 6  32  14  5  7  **64** | 9.4%  50%  21.9%  7.8%  10.9%  **100%** |
| **Peer’s treatment of participant** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  37  7  8  7  **64** | 7.8%  57.8%  10.9%  12.5%  10.9%  **100%** |

**Sub-problem 2**

Sub-problem 2, “What is the frequency of self-disclosure of cancer history to only supervisors by NHL survivors?” was analyzed using a frequency distribution and other descriptive statistics. Out of 64 participants, 84.4% (n=54) stated that they did share their cancer history to someone in the workplace that was acting in a supervisory position. Out of these 54 participants, 1.8% (n=1) reported sharing with only a supervisor.

When asked to what degree individuals shared their cancer history to supervisors, 35.9% (n=23) stated they shared their cancer history in passing to someone in the workplace acting in a supervisory position as opposed to 28.1% (n=18) who reported that they shared their cancer history in great detail to a supervisor. See Table 3 above.

Factors that contribute to the decision-making process of self-disclosure were again analyzed in relation to self-disclosure to supervisors. The factor most considered by individual’s when deciding whether to self-disclose to supervisors was the effect it may have on the future of the participant’s career with 67.2% (n=43) participants reporting they considered this before making a decision to disclose. This was followed by consideration of the effect of a supervisor’s treatment of the participant, with 64.1% (n=41) stating they considered this factor before deciding to self-disclose. A supervisor’s ability to make accommodations in the workplace was indicated as being taken into consideration in 62.5% of the participants (n=40). See Table 5 for complete results.

**Table 5**

*Factors considered before self-disclosure to supervisors*

|  |  |  |  |
| --- | --- | --- | --- |
| **Factor** |  | **N** | **%** |
| **Supervisor’s gender** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  28  9  9  13  **64** | 7.8%  43.8%  14.1%  14.1%  20.3%  **100%** |
| **Supervisor’s age** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 3  29  9  11  12  **64** | 4.7%  45.3%  14.1%  17.2%  18.8%  **100%** |
| **Supervisor’s ability**  **To make**  **Accommodations** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  35  13  4  7  **64** | 7.8%  54.7%  20.3%  6.3%  10.9%  **100%** |
| **Supervisor’s ability**  **to provide**  **social support** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 2  36  15  5  6  **64** | 3.1%  56.3%  23.4%  7.8%  9.4%  **100%** |
| **Effect on**  **Future career** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 6  37  10  5  6  **64** | 9.4%  57.8%  15.6%  7.8%  9.4%  **100%** |
| **Supervisor’s treatment of participant** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  36  9  8  6  **64** | 7.8%  56.3%  14.1%  12.5%  9.4%  **100%** |

**Sub-problem 3**

Sub-problem 3, ***“***What is the frequency of self-disclosure of cancer history to both supervisors and co-workers by NHL survivors?”, was analyzed using a frequency distribution and other descriptive statistics. Out of the participants that indicated they did share their cancer history in the workplace (n=60), 82.8% (n=53) stated that they shared their cancer history to both supervisors and co-workers in the workplace. See Table 2 above for frequency distribution.

**Sub-problem 4**

Sub-problem 4, *“*What is the frequency of self-disclosure to neither co-worker nor supervisor?”, was analyzed using a frequency distribution and other descriptive statistics. Out of 64 participants, 6.2% (n=4) stated that they did not share their cancer history to anyone in the workplace. Of note, two participants reported that they did not share their cancer history with anyone in the workplace but went on to answer that they did share their cancer history with a peer. This participant was included in the analysis as someone who did in fact share their cancer history in the workplace. See Table 2 above for frequency distribution.

**Sub-problem 5**

Sub-problem 5, “What are the relationships among self-disclosing cancer history to supervisors and to peers by Non-Hodgkin’s Lymphoma (NHL) cancer survivors?” was measured using a one-way chi square. A chi-square statistic was calculated to examine if there was a significant difference in the way individuals disclosed their cancer history in the workplace. The test was found to be statistically significant, *x²* (3, n=64) = 114.875, p<0.01. The results suggest that participant’s disclosure was not random and that participants chose to disclose their cancer history to both their supervisor and their co-worker when disclosing cancer history 82.8% of the time (n=53). Thus, the alternative hypothesis, that a significant difference among patterns of disclosure of NHL history to supervisors and peers in the workplace was accepted.

A deeper comparison using a one-way chi square was then used to analyze whether difference existed between groups of individuals who disclosed to both supervisors and peers, to peers only, to supervisors only or those who did not disclose in the workplace. When analyzing whether a difference existed between individuals who reported disclosing their cancer history to both peers and supervisors with those who reported disclosing only to supervisors, a statistically significant result was found *x²* (1, n=54) = 50.0, p<0.01. This indicates that there is a difference in pattern of disclosure when considering individuals who disclose to both supervisors and peers in the workplace and those who choose to disclose only to supervisors with individuals disclosing to both supervisors and peers more frequently. Similar statistically significant results were found when comparing disclosure to peers and supervisors with only peers significant *x²* (1, n=59) = 37.4, p<0.01 as well as those who disclosed to both supervisors and peers with those who chose not to disclose at all *x²* (1, n=57) = 42.123, p<0.01). Individuals disclosed to both peers and supervisors more frequently than to with only peers. Additionally, individuals disclosed to supervisors and peers more often than they chose not to disclose at all.

When comparing individuals who reported disclosing to peers but not to supervisors and between individuals who reported disclosing to supervisors but not to peers no significant difference was found, *x²* (1, n=7) = 3.571, p=0.059. While this indicates that there is no difference in the pattern of disclosure when considering individuals who disclosed to only their peers or only their supervisors, there is a trend towards a difference with individuals disclosing to peers but not supervisors more often.

No significant difference was found to exist between individuals who reported disclosing their cancer history to only peers and those who reported not disclosing their cancer history at all in the workplace. *x²* (1, n=10) = .400, p>.05. A similar result was found when comparing individuals who reported disclosing a cancer history to only their coworkers and those who did not disclose their cancer history at all in the workplace. No significant difference was found to exist *x²* (1, n=5) = 1.8, p>0.05.

For a complete reporting of the results, see Appendix J.

**Supplemental Analysis**

The data was analyzed by recoding the sample into two groups based on age to determine whether there was a significant difference in self-disclosure for young adults and adults. Individuals 18-39 were identified as “young adult” and individuals over 40 were identified as “adult”. The age cut offs were based on Erik Erikson’s categories for age stages which identifies an individual as a young adult until 40 (Erikson, 1978). Additionally, Daniel Levinson defines young adulthood as ending at some point between the age of 40 and 45 as individuals experience Midlife Transition (Levinson, 1986).

Frequency distributions were used to compare individual disclosure of cancer history to supervisors and to peers in the workplace between participants based on age category. This data could not be analyzed using a chi-square test of independence as the Assumptions of expected frequency across groups was not met due to an expected frequency of less than 5 in more than 20% of the cells. Cancer history was shared in the workplace by 95% of young adults (n=38) and 91.7% of adults (n=22). Cancer history was shared with someone in a supervisory position by 82.5% of young adults (n=33) and 87.5% of adults (n=21). Cancer history was shared with a peer by 90% of young adults (n=36) and 95.8% of adults (n=23). See Table 6 below for frequency distribution.

**Table 6**

*Frequency distribution of self-disclosure by level separated by age*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Young Adult** | | **Adult** | |
| **Variable** | **N** | **%** | **N** | **%** |
| **Shared cancer history in workplace\*** Yes  No | 38  2 | 95.0%  5.0% | 22  2 | 91.7%  8.3% |
| **Shared cancer history with supervisor** Yes  No | 33  7 | 82.5%  17.5% | 21  3 | 87.5%  12.5% |
| **Shared cancer history with peer**  Yes  No | 36  4 | 90.0%  10.0% | 23  1 | 95.8%  4.2% |
| **Shared cancer history with peer and supervisor**  Yes  No | 32  4 | 80.0%  20.0% | 21  3 | 87.5%  22.5% |
| **Shared cancer history with supervisor only**  Yes  No | 1  39 | 2.5%  97.5% | 0  24 | 0  100% |
| **Shared cancer history with peer only**  Yes  No | 1  39 | 2.5%  97.5% | 2  22 | 8.3%  87.5% |
|  |  |  |  |  |

*Note:\* Includes cases where individual disclosed not sharing cancer history in the workplace but answered subsequent questions indicating that they shared in the workplace.*

A Mann Whitney *U* was then used to determine whether differences existed among the factors considered before disclosing cancer history in the workplace, including peer’s and supervisor’s gender, age, ability to make workplace accommodations, ability to provide social support, effects on treatment of the individual and effects on career future. All factors for both peers and supervisors indicated a significant difference and young adults indicated taking more consideration into each of the factors listed. In regards to both peers and supervisors, young adults identify that gender, age, ability to provide accommodations in the workplace, ability to provide social support, effects of treatment on participant and effects on future career were taken into consideration significantly more than their older adult counterparts. See Table 7 for Mann Whitney U results and Tables 8 and 9 for frequency distributions, listed below. This may indicate that young adults contemplate the decision to disclose cancer history in the workplace more than adults. Similarly, this can mean that an unidentified variable may have more of an impact for adults.

**Table 7**

*Results of Mann Whitney U for self-disclosure by age*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Factor** |  | **Significance** | **Mean Rank** |  |
| **Peer’s gender**  Young Adult  Adult |  | .020 | 36.50  25.83 |  |
| **Peer’s age**  Young Adult  Adult |  | .020 | 36.51  25.81 |  |
| **Peer’s ability to make accommodations**  Young Adult  Adult |  | .002 | 37.78  23.71 |  |
| **Peer’s ability to provide social support**  Young Adult  Adult |  | .017 | 36.38  26.04 |  |
| **Effect on future career**  Young Adult  Adult |  | .006 | 37.71  24.81 |  |
| **Peer’s treatment of participant**  Young Adult  Adult |  | .011 | 36.63  25.63 |  |
| **Supervisor’s gender**  Young Adult  Adult |  | .005 | 37.36  24.40 |  |
| **Supervisor’s age**  Young Adult  Adult |  | .009 | 36.95  25.08 |  |
| **Supervisor’s ability to make Accommodations**  Young Adult  Adult |  | .002 | 37.59  24.02 |  |
| **Supervisor’s ability to provide**  **social support**  Young Adult  Adult |  | .002 | 37.41  24.31 |  |
| **Effect on career future (supervisor)**  Young Adult  Adult |  | .031 | 35.98  26.71 |  |
| **Supervisor’s treatment of participant**  Young Adult  Adult |  | .036 | 35.91  26.81 |  |

**Table 8**

*Factors affecting disclosure to supervisors by age*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Young Adult** | | **Adult** | |
| **Factor** |  | **N** | **%** | **N** | **%** |
| **Supervisor’s gender** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 3  23  6  4  4  **40** | 7.5%  57.5%  15.0%  10.0%  10.0%  **100%** | 2  5  3  5  9  **24** | 8.3%  20.8%  12.5%  20.8%  37.5%  **100%** |
| **Supervisor’s age** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 3  21  6  6  4  **40** | 7.5%  52.5%  15.0%  15.0%  10.0%  **100%** | 0  8  3  5  8  **24** | 0%  33.3%  12.5%  20.8%  33.3%  **100%** |
| **Supervisor’s ability**  **To make**  **Accommodations** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  25  7  1  2  **40** | 12.5%  62.5%  17.5%  2.5%  5.0%  **100%** | 0  10  6  3  5  **24** | 0%  41.7%  25.0%  12.5%  20.8%  **100%** |
| **Supervisor’s ability**  **to provide**  **social support** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 2  27  8  1  2  **40** | 5.0%  67.5%  20.0%  2.5%  5.0%  **100%** | 0  9  7  4  4  **24** | 0%  37.5%  29.2%  16.7%  16.7%  **100%** |
| **Effect on**  **Future career** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 4  27  5  3  1  **40** | 10.0%  67.5%  12.5%  7.5%  2.5%  **100%** | 2  10  5  2  5  **24** | 8.3%  41.7%  20.8%  8.3%  20.8%  **100%** |
| **Supervisor’s treatment of participant** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 4  25  5  5  1  **40** | 10.0%  62.5%  12.5%  12.5%  2.5%  **100%** | 1  11  4  3  5  **24** | 4.2%  45.8%  16.7%  12.5%  20.8%  **100%** |

**Table 9**

*Factors affecting disclosure to peers by age*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Young Adult** | | **Adult** | |
| **Factor** |  | **N** | **%** | **N** | **%** |
| **Peer’s gender** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  20  6  5  4  **40** | 12.5%  50.0%  15.0%  12.5%  10.0%  **100%** | 1  8  3  5  7  **24** | 4.2%  33.3%  12.5%  20.8%  29.2%  **100%** |
| **Peer’s age** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  18  8  4  5  **40** | 12.5%  45.0%  20.0%  10.0%  12.5%  **100%** | 0  9  2  6  7  **24** | 0%  37.5%  8.3%  25.0%  29.2%  **100%** |
| **Peer’s ability**  **To make**  **Accommodations** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 3  25  6  4  2  **40** | 7.5%  62.5%  25.0%  10.0%  5.0%  **100%** | 0  8  6  3  7  **24** | 0%  33.3%  25.0%  12.5%  29.2%  **100%** |
| **Peer’s ability**  **to provide**  **social support** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  25  6  2  2  **40** | 12.5%  62.5%  15.0%  5.0%  5.0%  **100%** | 1  11  4  2  6  **24** | 4.2%  45.8%  16.7%  8.3%  25.0%  **100%** |
| **Effect on**  **Future career** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  23  9  2  1  **40** | 12.5%  57.5%  22.5%  5.0%  2.5%  **100%** | 1  9  5  3  6  **24** | 4.2%  37.5%  20.8%  12.5%  25.0%  **100%** |
| **Peer’s treatment of participant** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  25  3  6  1  **40** | 12.5%  62.5%  7.5%  15.0%  2.5%  **100%** | 0  12  4  2  6  **24** | 0%  50%  16.7%  8.3%  25.0%  **100%** |

Data was analyzed to explore the relationship between genders on disclosure of cancer history in the workplace. A frequency distribution was used to examine these differences as the assumptions for expected frequency of a chi-square test of independence could not be met due to more than 20% of the cells having an expected frequency of less than 5. All female participants reported sharing their cancer history to someone in the workplace (n=35) while 86.2% of males reported sharing their cancer history to someone in the workplace (n=25). Disclosure to supervisors was indicated in 85.7% of females (n=30) and 82.8% of males (n=24) while disclosure to peers was indicated in 100% of the females (n=35) and in 82.8% of males (n=24).

A Mann Whitney *U* was used to examine factors that were considered before disclosing cancer history to both peers and supervisors between genders. One factor, the ability of peers to provide social support, found to be significant. Females considered peer’s ability to provide social support significantly more (*M* = 37.41) than males (*M* = 26.57; *U* = 335.50, *p* < .05). All other factors were not significant. See Appendix K for complete results of Mann Whitney *U*. For frequency distributions of results, see Table 10 and 11 below.

**Table 10**

*Factors affecting disclosure to peers by gender*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Males** | | **Females** | |
| **Factor** |  | **N** | **%** | **N** | **%** |
| **Peer’s gender** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 3  13  7  3  3  **29** | 10.3%  44.8%  24.1%  10.3%  10.3%  **100%** | 3  15  2  7  8  **35** | 8.6%  42.9%  5.7%  20.0%  22.9%  **100%** |
| **Peer’s age** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 4  10  6  6  3  **29** | 13.8%  34.5%  20.7%  20.7%  10.3%  **100%** | 1  17  4  4  9  **35** | 2.9%  28.6%  11.4%  11.4%  25.7%  **100%** |
| **Peer’s ability**  **To make**  **Accommodations** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 3  15  6  2  3  **29** | 10.3  51.7  20.7  6.9  10.3  **100%** | 0  18  6  5  6  **35** | 0%  51.4%  17.1%  14.3%  17.1%  **100%** |
| **Peer’s ability**  **to provide**  **social support** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 1  13  7  4  4  **29** | 3.4%  44.8%  24.1%  13.8%  13.8%  **100%** | 5  23  3  0  4  **35** | 14.3%  65.7%  8.6%  0%  11.4%  **100%** |
| **Effect on**  **Future career** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  11  9  1  3  **29** | 17.2%  37.9%  31.0%  3.4%  10.3%  **100%** | 1  21  5  4  4  **35** | 2.9%  60%  14.3%  11.4%  11.4%  **100%** |
| **Peer’s treatment of participant** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 3  14  4  4  4  **29** | 10.3%  48.3%  13.8%  13.8%  13.8%  **100%** | 2  23  3  4  3  **35** | 5.7%  65.7%  8.6%  11.4%  8.6%  **100%** |

**Table 11**

*Factors affecting disclosure to supervisors by gender*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Males** | | **Females** | |
| **Factor** |  | **N** | **%** | **N** | **%** |
| **Supervisor’s gender** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 3  15  3  4  4  **29** | 10.3%  51.7%  10.3%  13.8%  13.8%  **100%** | 2  13  6  5  9  **35** | 5.7%  37.1%  17.1%  14.3%  25.7%  **100%** |
| **Supervisor’s age** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 2  14  4  6  3  **29** | 6.9%  48.3%  13.8%  20.7%  10.3%  **100%** | 1  15  5  5  9  **35** | 2.9%  42.9%  14.3%  14.3%  25.7%  **100%** |
| **Supervisor’s ability**  **To make**  **Accommodations** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 3  16  4  3  3  **29** | 10.3%  55.2%  13.8%  10.3%  10.3%  **100%** | 2  19  9  1  4  **35** | 5.7%  54.3%  25.7%  2.9%  11.4%  **100%** |
| **Supervisor’s ability**  **to provide**  **social support** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 0  17  6  4  2  **29** | 0%  58.6%  20.7%  23.8%  6.9%  **100%** | 2  19  9  1  4  **35** | 5.7%  54.3%  25.7%  2.9%  11.4%  **100%** |
| **Effect on**  **Future career** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 3  14  7  2  3  **29** | 10.3%  48.3%  24.1%  6.9%  10.3%  **100%** | 3  23  3  3  3  **35** | 8.6%  65.7%  8.6%  8.6%  8.6%  **100%** |
| **Supervisor’s treatment of participant** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 2  17  3  3  4  **29** | 6.9%  58.6%  10.3%  10.3%  13.8%  **100%** | 3  19  6  5  2  **35** | 8.6%  54.3%  17.1%  14.3%  5.7%  **100%** |

Data was recoded to identify individuals who graduated college with at least an Associate’s degree and individuals who did not complete college. A frequency distribution was then used to analyze differences between disclosure of cancer history by these individuals as the assumptions for expected frequency for a chi-square test of independence could not be met due to more than 20% of the cells having less than 5 responses. Of the participants that graduated college, 93.0% (n=43) reported sharing their cancer history in the workplace and 94.4% (n=17) of those who did not graduate reported sharing their cancer history in the workplace. Cancer history was shared with a supervisor by 87% (n=40) of the college graduates and 77.8% (n=14) of those who did not graduate college. Cancer history was shared with a peer by 93.5% (n=43) of college graduates and by 88.9% (n=16) of those who did not graduate college.

A Mann Whitney *U* was then completed to analyze differences by education level in factors considered before disclosing cancer history to peers and supervisors. A significant difference was found for consideration of peer’s age, effects of on future career when sharing to peers, peer’s treatment of the individual, peers ability to provide accommodations in the workplace and supervisor’s ability to provide social support with college graduates identifying that they considered these factors more strongly before disclosing than non-college graduates. See Table 12 and 13 below for frequency distribution of results. See Table 14 for complete results of Mann Whitney *U*.

**Table 12**

*Factors affecting disclosure to peers by education level*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **College Degree** | | **No College Degree** | |
| **Factor** |  | **N** | **%** | **N** | **%** |
| **Peer’s gender** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  22  7  5  7  **46** | 10.9%  47.8%  15.2%  10.9%  15.2%  **100%** | 1  6  2  5  4  **18** | 5.6%  33.3%  11.1%  27.8%  22.2%  **100%** |
| **Peer’s age** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  21  8  5  7  **46** | 10.9%  45.7%  17.4%  10.9%  15.2%  **100%** | 0  6  2  5  5  **18** | 0%  33.3%  11.1%  27.8%  27.8%  **100%** |
| **Peer’s ability**  **To make**  **Accommodations** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 3  26  8  5  4  **46** | 6.5%  56.5%  17.4%  10.9%  8.7%  **100%** | 0  7  4  2  5  **18** | 0%  38.9%  22.2%  11.1%  27.8%  **100%** |
| **Peer’s ability**  **to provide**  **social support** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  29  5  2  5  **46** | 10.9%  63.0%  10.9%  4.3%  10.9%  **100%** | 1  7  5  2  3  **18** | 5.6%  39.8%  27.8%  11.1%  16.7%  **100%** |
| **Effect on**  **Future career** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 6  25  8  3  4  **46** | 13.0%  54.3%  17.4%  6.5%  8.7%  **100%** | 0  7  6  2  3  **18** | 0%  38.9%  33.3%  11.1%  16.7%  **100%** |
| **Peer’s treatment of participant** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  29  3  5  4  **46** | 10.9%  63.0%  6.5%  10.9%  8.7%  **100%** | 0  8  4  3  3  **18** | 0%  44.4%  22.2%  16.7%  16.7%  **100%** |

**Table 13**

*Factors affecting disclosure to supervisors by education level*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **College Degree** | | **No College Degree** | |
| **Factor** |  | **N** | **%** | **N** | **%** |
| **Supervisor’s gender** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 2  23  8  5  8  **46** | 4.3%  50.0%  17.4%  10.9%  17.4%  **100%** | 3  5  1  4  5  **18** | 16.7%  27.8%  5.6%  22.2%  27.8%  **100%** |
| **Supervisor’s age** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 3  22  8  6  7  **46** | 6.5%  47.8%  17.4%  13.0%  15.2%  **100%** | 0  7  1  5  5  **18** | 0%  38.9%  5.6%  27.8%  27.8%  **100%** |
| **Supervisor’s ability**  **To make**  **Accommodations** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 5  27  7  3  4  **46** | 10.9%  58.7%  15.2%  6.5%  8.7%  **100%** | 0  8  6  1  3  **18** | 0%  44.4%  33.3%  5.6%  16.7%  **100%** |
| **Supervisor’s ability**  **to provide**  **social support** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 2  30  9  3  2  **46** | 4.3%  65.2%  19.6%  6.5%  4.3%  **100%** | 0  6  6  2  4  **18** | 0%  33.3%  33.3%  11.1%  22.2%  **100%** |
| **Effect on**  **Future career** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 6  27  8  2  3  **46** | 13.0%  58.7%  17.4%  4.3%  6.5%  **100%** | 0  10  2  3  3  **18** | 0%  55.6%  11.1%  16.7%  16.7%  **100%** |
| **Supervisor’s treatment of participant** | Strongly Agree  Agree  Neutral Disagree  Strongly Disagree  **TOTAL** | 4  27  6  5  4  **46** | 8.7%  58.7%  13.0%  10.9%  8.7%  **100%** | 1  9  3  3  2  **18** | 5.6%  50.0%  16.7%  16.7%  11.1%  **100%** |

**Table 14**

*Mann Whitney U results by education level*

|  |  |  |  |
| --- | --- | --- | --- |
| **Factor** | **Significance** | **Mean Rank** |  |
| **Peer’s gender**  College graduate  Non-graduate | .124 | 34.63  27.06 |  |
| **Peer’s age**  College graduate  Non-graduate | .036 | 35.41  25.06 |  |
| **Peer’s ability to make accommodations**  College graduate  Non-graduate | .037 | 35.30  25.33 |  |
| **Peer’s ability to provide social support**  College graduate  Non-graduate | .051 | 35.07  25.94 |  |
| **Effect on future career (peer)**  College graduate  Non-graduate | .026 | 35.51  24.81 |  |
| **Peer’s treatment of participant**  College graduate  Non-graduate | .025 | 35.42  25.03 |  |
| **Supervisor’s gender**  College graduate  Non-graduate | .555 | 33.32  30.42 |  |
| **Supervisor’s age**  College graduate  Non-graduate | .095 | 34.79  26.64 |  |
| **Supervisor’s ability to make Accommodations**  College graduate  Non-graduate | .050 | 35.10  25.86 |  |
| **Supervisor’s ability to provide**  **social support**  College graduate  Non-graduate | .004 | 36.24  22.94 |  |
| **Effect on career future (supervisor)**  College graduate  Non-graduate | .056 | 34.99  26.14 |  |
| **Supervisor’s treatment of participant**  College graduate  Non-graduate | .372 | 33.67  29.50 |  |

Data was recoded to group individuals by ethnicity, separating Caucasians and non-Caucasians. A frequency distribution was used to compare patterns in disclosure across groups. Caucasians admitted to sharing their cancer history in the workplace 94.2% of the time (n=41) and non-Caucasians shared their cancer history 95.0% of the time (n=39). Caucasians shared their cancer with supervisors 88.6% of the time (n=39) and non-Caucasians reported sharing their cancer history with supervisors 75% of the time (n=15). See Table 15 below for frequency distribution.

**Table 15**

*Frequency distribution of self-disclosure by level separated by ethnicity*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Caucasian** | | **Non-Caucasian** | |
| **Variable** | **N** | **%** | **N** | **%** |
| **Shared cancer history in workplace\*** Yes  No | 41  3 | 93.2%  6.8% | 19  2 | 90.5%  9.5% |
| **Shared cancer history with supervisor** Yes  No | 39  5 | 88.6%  11.4% | 16  5 | 76.2%  23.8% |
| **Shared cancer history with peer**  Yes  No | 42  2 | 95.5%  4.5% | 18  3 | 85.7%  14.3% |
| **Shared cancer history with peer and supervisor**  Yes  No | 39  5 | 88.6%  11.4% | 15  6 | 71.4%  29.6% |
| **Shared cancer history with supervisor only**  Yes  No | 0  44 | 0%  100% | 1  20 | 4.8%  95.2% |
| **Shared cancer history with peer only**  Yes  No | 3  41 | 6.8%  93.2% | 3  18 | 6.7%  93.3% |
|  |  |  |  |  |

*Note:\* Includes cases where individual disclosed not sharing cancer history in the workplace but answered subsequent questions indicating that they shared in the workplace.*

Caucasians reported sharing their cancer history with their peers 95.5% of the time and non-Caucasians shared with their peers 85% of the time (n=17). While both groups identified sharing their cancer history in the workplace most of the time, Caucasians reported disclosing to independent groups more frequently than non-Caucasians. No significant difference was found between groups for any factors associated with disclosure in relation to peer or supervisor’s gender, age, ability to provide accommodations in the workplace, ability to provide social support, effects on treatment of the participant or effects on future career. See Appendix L for results of Mann Whitney *U.* See Table 15 above for frequency distribution.

**Chapter V**

**Discussion**

This study explored adult NHL survivor’s experience self-disclosure of cancer history in the workplace. Relationships were assessed between disclosure to peers and supervisors and different factors that may be taken into consideration before disclosing were examined. While there is limited research in the field of cancer and survivorship in terms of workplace experience, no studies exist that explore differences in self-disclosure across employment levels specifically for adult survivors of NHL.

This study consisted of 64 adult NHL survivors who reported being employed since their cancer diagnosis. Ages ranged from 21-72 years old with varying employment status. The participants completed a survey to identify if and how they disclosed their cancer history in the workplace and what factors may have contributed to this self-disclosure. Differences between disclosure to peers and supervisors were examined. In addition to analyzing the pattern of disclosure of cancer history in the workplace in general, the data was analyzed by groups to determine if a difference existed across genders, age groups, and education level. It was hypothesized that there would be a significant difference in the pattern of self-disclosure of cancer history in the workplace. The results indicated that this was true and that individuals disclosed their cancer history most often to both their peers and supervisors in the workplace instead of to peers alone, supervisors alone, or no one in the workplace. The alternative hypothesis was accepted.

**Discussion of Findings**

The purpose of this quantitative study was to explore relationships in self-disclosure of cancer history in the workplace by adult NHL survivors and examine differences between self-disclosure to peers and supervisors. The results indicated that a difference exists in the pattern of disclosure of NHL history in the workplace, with most individuals identifying that they had disclosed their cancer history in the workplace (n=60). Most commonly, individuals disclosed their cancer history to both peers and supervisors (n=53) in the workplace as opposed to self-disclosing their cancer history to one group alone. The second most common pattern of self-disclosure of cancer history was to peers only (n=6). While most individuals did report sharing their cancer history in the workplace, factors considered before disclosing had apparent differences. Interestingly, factors that were considered before disclosing cancer history were different across age, gender and college and non-college graduates. This study did not ask about the experience of self-disclosure itself or any positive or negative consequences of sharing a cancer history in the workplace. With the knowledge that NHL survivors do appear to self-disclose their cancer history in the workplace, experiences should be explored and assessment of congruency of expectations and reality reviewed.

There is no research found in the literature that examines relationships in disclosure across employment levels or for this population in particular. From these results, it is apparent that individuals with NHL are sharing their cancer history in the workplace and are sharing it relatively equally to peers and supervisors. Being aware that NHL survivors share their cancer history in the workplace is an important finding. When working with individuals as they enter survivorship and being to form survivorship plans, those involved should be aware of the likelihood of this population disclosing their cancer history in the work place and prepare individuals for these disclosure and any effects it may have. Further, employers should be aware that individuals with a cancer history, here specifically NHL, are disclosing their cancer history most of the time and should work towards ensuring the workplace is a safe environment for them to do so.

Identifying that most NHL survivors self-disclose their cancer history in the workplace to both peers and supervisors is an important finding. NHL survivors are talking about their disease and sharing their experiences in the workplace with varying degrees of disclosure. Because the sample was taken from a group who already identified as cancer survivors, individuals may have been more likely to self-disclose as they identify more strongly as a cancer survivor than the general population. However, identifying that no difference exists in disclosure to peers and supervisors is interesting as concerns related to stigma and being treated poorly after a disclosure do not appear apparent in this group. These individuals are concerned about the perceptions of their employers and peers and agree that they take this into consideration before disclosing in the workplace. This is consistent with findings on stigma in the workplace indicating that cancer survivors are concerned about other’s perception of their work abilities in relation to being a cancer survivor (Stergiou-Kita et al., 2016).

The results of the present study did not find a pattern in degree of disclosure, with individuals disclosing their cancer history in varying levels, with some disclosing only in passing and others disclosing in great detail. In order to support survivors as they return to the workplace, employers as well as treatment teams must be aware of the stigma associated with cancer survivorship. The workplace should be an explicitly accepting environment for all individuals, and individuals surviving all cancers should know that they are safe to disclose their experience with no negative repercussions.

Gender differences were found in self-disclosure of cancer history. All females reported self-disclosing their cancer history in the workplace (n=35). Males were found to be less likely to self-disclose, with only 86.2% sharing their cancer history to someone they worked with. While research in this area is limited, the high number of women indicating they shared their cancer history in the workplace is consistent with results found in a study measuring self-disclosure of breast cancer by Iranian women in the workplace. This study found found that most women did disclose their cancer history to both colleagues and supervisors, among others, despite any negative consequences (Najmabadi et. al., 2014). Further, the findings of the present study are consistent with gender research related to social support indicating that females seek out social support more than males, though it is important to note that gender and not sex has been found to be a determining factor in need for social support (Reevy & Maslach, 2001).

It is well known that women seek out social support more than their male counterparts. Females may seek additional support persons in their lives outside of their immediate family relating to a disclosure in the workplace. Providers who work with cancer survivors as they return to normalcy after cancer should keep this in mind when developing survivorship care plans and take extra consideration into the support females may need in the workplace from their peers. Preparing individuals for the process of self-disclosure can help to alleviate any discomfort or concerns the survivor may have and may help to decrease negative experiences resulting from self-disclosure.

While both groups in this study disclosed their cancer history with peers more than with supervisors, the factors taken into consideration before disclosing were different across genders in one area. Females indicated that they considered their peer’s ability to provide social support in the workplace more than males considered this factor. These findings are consistent with a 2017 survey conducted by Cancer and Careers which found that females were more likely to disclose their cancer history in the workplace. Cancer and Careers also found that the primary reason for disclosure was to feel supported by their co-workers (Cancer and Careers, 2017). Further research questioning why females feel they need added support in the workplace is warranted. As women struggle with issues such as gender discrimination and managing family and work life, having a cancer history may add to the stressors for women in the workplace in particular.

While the literature on gender differences in self-disclosure of cancer history is limited, research on male’s self-disclosure of prostate cancer history in the workplace indicates that males prefer to limit the amount of self-disclosure particularly in the work setting as they fear being perceived as weak or less masculine (Grunfeld et al., 2013). Further, females have been found to self-disclose personal information in general more than males, though this difference is most strongly seen when comparing same-sex disclosure and is less intense when disclosure is to the opposite gender (Dindia & Allen, 1992). Gender differences in cancer disclosure and the factors related to disclosing this identity to others are apparent and warrant more in-depth analysis to identify further barriers and to support individuals into survivorship appropriately.

Aside from gender, age differences were explored in this study. When considering differences between age groups, no differences were found between individual’s pattern of self-disclosure of cancer history in the workplace, but the factors considered before making a disclosure were significantly different for all factors studied which include age, gender, ability to provide social support, effects on future career, and effects on treatment of the participant after disclosure for both peers and supervisors. Young adults were found to consider all factors more strongly than adults, which may allude to young adults having a harder time in the decision-making process related to self-disclosure as they may struggle more with this decision than their older peers.

Specifically, young adults are in a developmental period where they are still forming their career paths and making decisions about their future (Messner & Vera, 2011). Young adults experience increased emotional distress as they are faced with developmentally appropriate concerns of developing their identity along with atypical concerns of facing early mortality and the factors associated with being a cancer survivor (Zebrack, 2011). Because the disease under examination is one generally of old-age (American Cancer Society, 2020), young adult survivors may feel more ostracized than older adults who are more commonly diagnosed with cancer, particularly NHL. These individuals may require additional supports outside of the workplace in order to deal with any ill effects, whether they be physical, psychologically, financial or other, associated with their cancer diagnosis. As young adult cancer survivors experienced a trauma that is out of the ordinary for someone their age, increased concern over the perception and response of other’s may interfere with the social support that can be received from sharing cancer history in the workplace.

There is research involving childhood cancer survivor’s patterns of self-disclosure of cancer history in the workplace that indicate that for this specific population factors associated with disclosure include the magnitude of the survivor’s identity as a cancer survivor, how much they disclose to others outside of the workplace, and the perceived acceptance of their disclosure in the workplace (Martinez & Hebl, 2016). As this study’s participants were recruited from online support groups for cancer survivors, individuals may include ‘cancer survivor’ as a strong part of their identity, contributing to their disclosure. Martinez & Hebl further found that young adult survivors of childhood cancer were more likely to self-disclose if they were intending to stay at their current place of employment which may allude to prior comfort level in employment and a more positive work environment before disclosure (2016). Further research examining the relationships found in this study is warranted to better explain these findings.

College graduates were also found to put greater thought into their consideration of self-disclosure in the workplace in comparison to peers who did not graduate from at least an Associate’s program. Factors that were found to be significantly different between groups included peer’s age, peer’s ability to make accommodations in the workplace, effects on future career when disclosing to peers, effects of peer’s treatment to the individual, supervisor’s ability to make accommodations, and supervisor’s ability to provide social support. College graduates appear to be more conscientious in their decision making. This may be related to the differences in field of work between college graduates and non-college graduates as college graduates may be employed in more competitive employment. While work industry was not examined in this study, it may be beneficial for future research to take into account if the type of career an individual is involved in has an influence on these factors.

**Theoretical & Conceptual Theory Integration**

This study looked at self-disclosure of cancer history and individual’s attitudes towards self-disclosure in the workplace. Attitudes towards self-disclosure were assessed across different employment levels to include peers and supervisors. Females attitudes towards disclosure were influenced by their peer’s ability to provide social support. Young adult cancer survivors took all factors into consideration more strongly than adults of the same population, indicating that they contemplated their decision more. College graduates were found to also take into consideration factors more intently than non-college graduates, specifically in the areas of peer’s age, ability to provide social support, effects on future employment, supervisor’s age, and effects on future career.

The Theory of Planned Behavior (TPB) predicts an individual’s intention to engage in a specific behavior using attitudes, subjective norms, and perception of control to inform decision making (Ajzen, 1991). In relation to NHL self-disclosure in the workplace, if individuals feel as though their behavior of disclosing will not have negative ramifications they may be more likely to disclose to others. If they perceive their disclosure can be viewed as a weakness, they may withhold the information. If an individual’s work culture and social norm appear to be favorable to self-disclosure, an NHL survivor’s decision-making process to self-disclose may be further positively influenced.

It was found in this study that certain groups take into consideration factors related to disclosure more strongly than others. Namely, females take into consideration the social support they can receive from their peers more strongly than males. Further, young adults were found to take all factors assessed into consideration more often than their older peers, which may indicate that this group contemplates their decision more thoroughly than their peers. College graduates were also found to contemplate specific areas more thoughtfully than their peers.

These findings inform the Theory of Planned Behavior in terms of Attitude towards self-disclosure, an important component of the self-disclosure process. The perception of effects cancer history could have on an individual were taken into consideration before disclosing their cancer history in these groups. Function of self-disclosure was observed when individuals identified that they considered their peer or supervisor’s ability to provide social support, make accommodations in the workplace, the effects on their future career, and the effects their disclosure may have on their peer or supervisor’s treatment of the individual post-disclosure.

**Limitations of Study**

There are several limitations to this study. First, participants were recruited via online social media platforms and self-identified as NHL survivors above the age of 18 who had been employed since their cancer diagnosis. This data could not be verified within the limits of the study and it was assumed that the participants were honest in their responses. Therefore, biases may be present due to the nature of self-report data and information may be exaggerated.

Second, participants in this study were members of cancer support groups online which may lead to a homogenous sample of individuals who strongly identify as cancer survivors as opposed to the general population who do not seek out cancer support groups. These groups may consist of individuals who have a tendency to self-disclose cancer history more frequently than the general population as indicated by their participation in online support groups. The personal nature of the information asked may have affected the type of information participants provided.

Third, the instrument utilized to complete this survey was developed by the primary researcher and verified by an expert in the field but because it is not a published study it did not undergo validity and reliability testing. There is no standardized tool currently published to address the above questions.   
 Finally, sample size for this study was 64 participants, which is a relatively small sample given the large population of NHL survivors in the general population. A larger study would lend to the validity of the results and provide more generalizable results. Collecting more demographic information considering location of the participant, type of employment and years employed may provide more in-depth results and may indicate additional differences in self-disclosure of cancer history in the workplace.

**Recommendations for Future Research**

As more individuals are diagnosed with NHL and survive their disease, the need for a strong understanding of any obstacles these individuals face during employment remains an important goal. In order to support NHL survivors as they return to work more research must be completed to identify the barriers this population faces as well as to gain insight into the factors that affect their decisions to share their cancer history in the workplace and the effects this may have on their well-being and employment as a whole. As cancer survivorship is a growing field, further research is necessary to inform the pool of knowledge currently available. Currently, breast cancer and childhood cancers appear to be some of the most widely studied cancers in relation to their effects on employment, which can be seen after a brief search of the literature. Other cancers, such as NHL, are underrepresented in the research. Because each type of cancer affects individuals in different ways, it is warranted to research the employment experience of individuals surviving from these diseases independently to identify differences. To start, a generalized study to determine whether there are differences in disclosure among different cancer types may be a reasonable place to determine whether further delineation is necessary in this area.

While this study focused on the experience of NHL survivor’s alone, further research should address the employer’s perspective of employing NHL (or a broader scope of cancers) survivors in their workplace settings. Areas such as consideration for advancement and assignment of workload should be considered when conducting this research to determine if there is any credence to a survivor’s concern of negative effects if their medical history is disclosed in the workplace.

Studies with larger sample sizes from a more heterogenous population would lend to the generalizability of the results to the general population. Future studies should aim to recruit participants from a wider range of sources, in particular sources that are not associated with cancer support in the first place as the effects of outwardly identifying as an NHL survivor may have impacted the results of this study.

As this study indicated that there are differences in disclosure of cancer history in the work place between males and females in relation to peers and in consideration of their ability to provide social support, exploration into the ways peers provide social support in the workplace should be explored. Differences between males and females can be further assessed to determine what leads females to consider social support more than males.

In consideration of the differences between adult and young adult cancer survivors, studies can focus on whether disclosing cancer history in the workplace is considered more conscientiously for younger adults in relation to adults. The young adult participants in this study indicated that they took multiple factors into consideration before deciding to self-disclose their cancer history in the workplace, whereas adults did not indicate as much consideration. Exploration into the reasons this result was identified should be considered.

**Conclusion**

Sharing cancer history in the workplace is one of the many considerations NHL survivors must make when they return to work after a cancer diagnosis. This study indicates that there are differences in the way individuals disclose their cancer history and to whom they disclose it. Different factors are taken into consideration before disclosing cancer history. Females consider peer’s ability to provide social support significantly more than males do. Further, females share their cancer history significantly more with peers than males.

Age differences exist in relation to factors considered before disclosing cancer history in the workplace. Young adults appear contemplate their decision more than adults. This may be due to the added stigma of being a young adult cancer survivor and the increased attention this population may receive, as cancer is often a disease of old age, particularly NHL. It may also be attributed to young adults being new in the workforce and not having an established career history or position in their company.  As this study has found, most individuals are sharing their cancer history in the workplace to some degree and often share to both supervisors and peers despite any negatives that may be associated with this disclosure. Different groups prioritize different factors before disclosing. In order to provide a supportive work environment post-cancer it is necessary to understand how different cancer survivors experience their return to work. As each cancer is unique, it is important to ensure differences between cancers are addressed to better inform survivorship care plans and prepare individuals to the obstacles they may face. Further, it is necessary for employers to be aware of the growing employee population of cancer survivors and the struggles they may face returning to work to ensure they provide an effective work environment for these employees.

**Appendix A**



**MARYWOOD UNIVERSITY**

**EXEMPT REVIEW COMMITTEE**

**Immaculata Hall, 2300 Adams Avenue, Scranton, PA 18509**

|  |  |
| --- | --- |
| DATE: | March 11, 2020 |
|  |  |
| TO: | Janice Mecca, MA |
|  |  |
| FROM: | Marywood University Exempt Review Committee |
|  |  |
| STUDY TITLE: | [1563127-3] *Examination of Non-Hodgkin's Lymphoma survivor's selfdisclosure of cancer history in the workplace* |
| MU ERC #: | 2020-E020 |
| SUBMISSION TYPE: | Revision #1 |
|  |  |
| ACTION: | APPROVED |
| APPROVAL DATE: | March 11, 2020 |
| REPORT DUE DATE: | February 26, 2021 |
| EXEMPT CATEGORY: | 2i |

Thank you for your submission of a Revision Request for this research study. Marywood University's Exempt Review Committee has **APPROVED** your request, which includes a change in the payment procedure from a $5 gift card each to a raffle entry each to win a $20 Amazon gift card (code). The project meets the criteria defined by federal regulations for an Exemption and involves minimal risk to participants. All research must be conducted in accordance with this approved submission.

**We have applied the ERC's approval stamp to your final informed consent form and social media post which have been uploaded with this letter in IRBNet. The stamp must appear on versions shared with participants wherever possible. If not feasible to use the stamped versions online, please ensure that the language in the transmitted versions is identical to the stamped versions.**

Please also note that:

* **A CLOSURE REPORT FORM is due upon completion. If not closed by February 26, 2021, a CHECK-IN REPORT FORM will be required by that date instead.**
  + 1 - Generated on IRBNet

* Any REVISION to the protocol must be submitted to and approved by the ERC prior to initiation.
* All DEVIATIONS from the described protocol, UNANTICIPATED PROBLEMS or SERIOUS ADVERSE EVENTS must be reported immediately to this office.
* All NON-COMPLIANCE issues or COMPLAINTS regarding this study must be reported to this office.

The appropriate forms for any of the reports mentioned above may be found on the ERC's website or in the Forms Library at IRBNet.

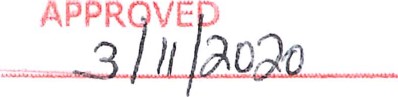
If you have any questions, please contact the ERC at 570-348-6211, x. 2418 or irbhelp@marywood.edu. Include your study title and MU ERC number in all correspondence with this office.

Thank you and good luck with your research!

**Appendix B**  
Exempt Informed Consent Form

Title: Examination of Non-Hodgkin's Lymphoma survivor's self-disclosure of cancer history in the workplace

Principal Investigator (PI): Janice Mecca, MA., doctoral candidate Marywood University MaÉYwood University Principal Investigator Contact Information: (570) 815-5052 jmmecca@m.marywood.edu Exempt Review Committee

Research Advisor: Dr. Lori Swanchak

Research Advisor Contact Information: (570) 348-6211 swanchak@maryu.marywood.eduDATE:

# Invitation for a Research Study

You are invited to participate in a research study about Non-Hodgkin's Lymphoma survivor's self-disclosure of cancer history in the workplace. You were chosen because you identify as a survivor of Non-Hodgkin's

Lymphoma, have been employed since your diagnosis and are 18 years of age or older. Please read this form. Ask any questions you may have before agreeing to take part in this study

# Purpose — About the Study

The purpose of this study is to examine Non-Hodgkin's Lymphoma survivor's self-disclosure of cancer in the workplace and to identify any relationships that exist between disclosure to peers and disclosure to supervisors.

# Procedures - What You Will Do

You will be asked to complete a one-time online survey which should take no longer than 15 minutes to complete.

# Risks and Benefits

The risks are no greater than the risks in daily life or activities.

A risk may be that you will experience slight psychological distress due to the nature of this survey. Risks will be minimized by asking questions only applicable to the research. If you feel increased distress after participation in this survey you may contact the SAMSHA'S National Crisis line at 1800-662-HELP (4357) who can help you to find an appropriate referral in your area.

There are no identified benefits to you for participating in the study. The study will benefit the field of psychology and oncology by offering research into the body of knowledge regarding the field.

# Payment or Other Rewards

Upon completion of the survey, you will be eligible to enter into a drawing for a $20 Amazon gift card. In order to enter into the raffle, you will need to email the principal investigator indicating your desire to be included in this offer. Raffle will be drawn randomly at the conclusion of the survey and a code for a $20 Amazon gift card will be sent to the winner of the raffle. Raffle offer is void where prohibited by law.

# Confidentiality

The records of this study will be kept private. Information used in any written or presented report will not make it possible to identify you. Only the primary investigator and research advisor will have access to the research records. Records will be kept in a password protected file on the principal investigator's computer. Records will be kept indefinitely. No web-based action is perfectly secure. However, reasonable efforts will be made to protect your transmission from third-party access.

# Taking Part is Voluntary

Participation is voluntary. Your decision whether or not to participate will not affect your current or future relationship with the investigator. It will not affect your relationship with Marywood University. You may withdraw at any time until you submit the survey on the survey site. There will be no penalty. To withdraw, simply close your web browser. Your information will not be collected if you withdraw.

# Contacts and Questions

If you have questions about this study at any time, contact the principal investigator or the advisor. Their contact information appears at the top of page one.

If you have questions related to the rights of research participants or research-related injuries (where applicable), please contact the Institutional Review Board at (570) 961-4782 or irbhelp@marywood.edu.

You may print a copy of this form to keep for your records.

# Statement of Consent

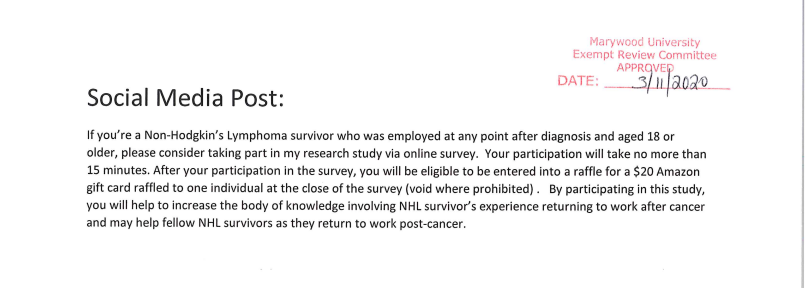
By proceeding:

* You understand what the study involves.
* You have asked questions if you had them.
* You agree to participate in the study.

Marywood University

Exempt Review Committee  APPRO 2) EDIl /a090 DATE: 

**Appendix C**



**Appendix D**

1. Please select your current age:

(number selection drop-down) \*in years

1. Have you ever been diagnosed with Non-Hodgkin’s Lymphoma?

YES NO

1. If yes, have you been employed since being diagnosed with Non-Hodgkin’s Lymphoma?

YES NO

(In order to qualify for survey participant must be above 18 years old and answer “yes” to questions 2 and 3 – if participant does not qualify the survey will close out. If participant does qualify the survey will continue)

---------------------------------------------------------------------------------------------------------------------

Demographics:

1. What is your gender? M or F
2. What is your educational background?
3. Less than high school
4. High school/GED
5. Some college
6. Associates degree
7. Bachelor’s degree
8. Master’s degree
9. Doctoral degree
10. What category best describes your employment?

Unemployed

Student

Employed part-time (less than 35 hours per week)

Employed full time (35 hours per week or more)

1. How long ago were you initially diagnosed with NHL?

(number selection drop down begins at less than 1 year, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, more than 10) \*in years

1. What ethnicity do you most closely identify with?

Caucasian

African American

Hispanic

Asian-Pacific Islander

Native American

Other

1. Have you shared your cancer history to someone in the workplace?

YES NO

1. Have you shared your cancer history with someone in the workplace acting in a supervisory position to you?

YES NO

1. Have you shared your cancer history with someone in the workplace that you would consider a peer?

YES NO

1. To what degree did you share your cancer history with someone in a supervisory position?

Likert Scale: 0 – I have not shared any information regarding my cancer history

1. I have shared my cancer history in passing during conversation
2. I have shared my cancer history with some detail
3. I have shared my cancer history at length with great detail
4. To what degree did you share your cancer history with one or more of your peers?

0 – I have not shared any information regarding my cancer history

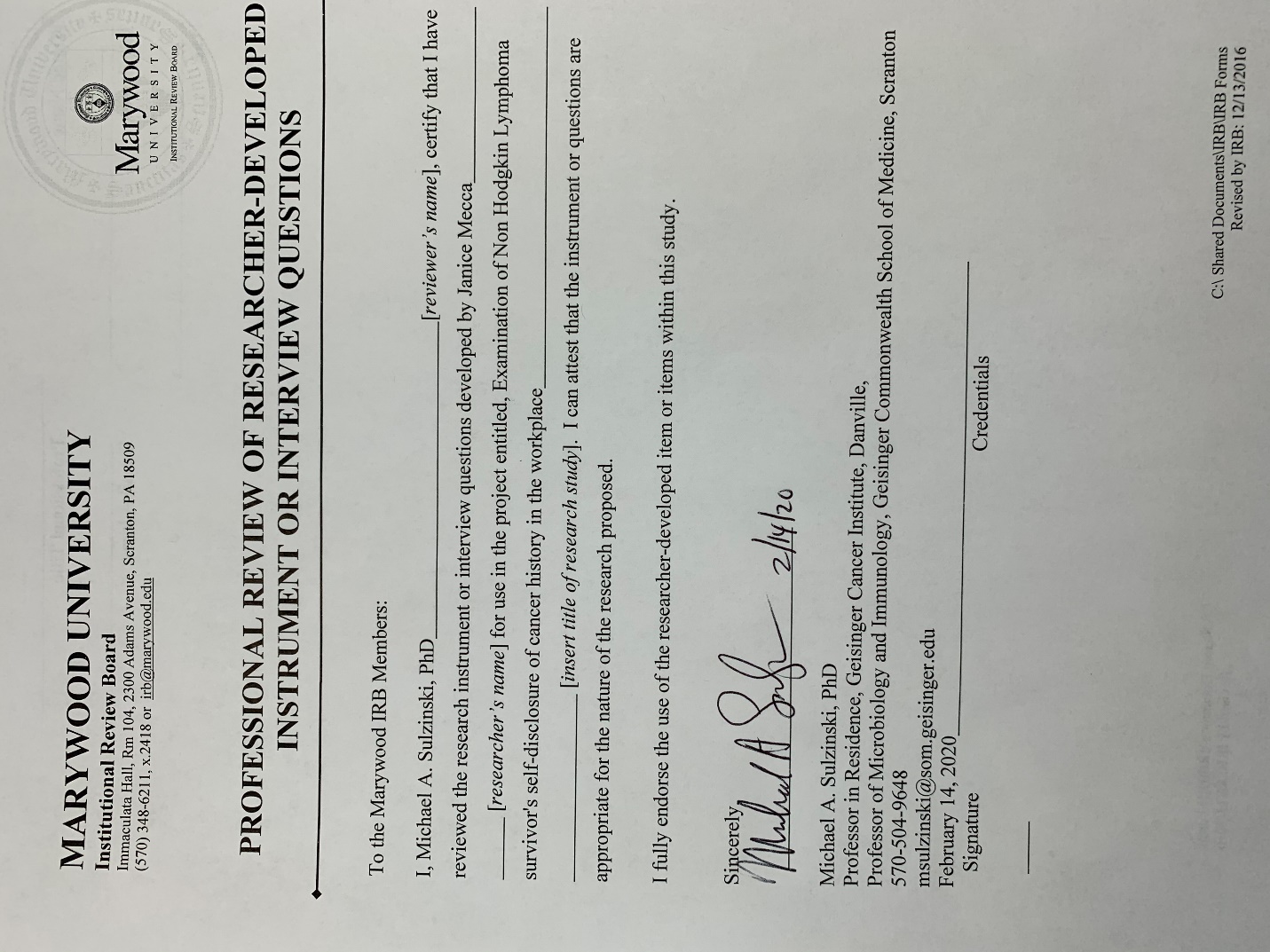
1. – I have shared my cancer history in passing during conversation
2. – I have shared my cancer history with some detail
3. – I have shared my cancer history at length with great detail

For questions 14 and 15 a Likert Scale will appear for each sub-question as follows:

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree
6. Consider the following statements in relation to YOUR SUPERVISOR in the workplace.
   1. I considered my supervisor’s gender before disclosing my cancer history to him/her.
   2. I considered my supervisor’s age before disclosing my cancer history to him/her
   3. I considered my supervisor’s ability to make accommodations in the workplace for me before disclosing my cancer history to him/her
   4. I considered my supervisor’s ability to provide social support in relation to my cancer history before disclosing my cancer history to him/her
   5. I considered the effects of sharing my cancer history with my supervisor and the effect it may have on the future of my career before disclosing my cancer history to him/her
   6. I considered the effect sharing my cancer history with my supervisor may have on his/her treatment of me before disclosing my cancer history to him/her

f

**Appendix E**



**Appendix F**



**MARYWOOD UNIVERSITY**

**EXEMPT REVIEW COMMITTEE**

**Immaculata Hall, 2300 Adams Avenue, Scranton, PA 18509**

|  |  |
| --- | --- |
| DATE: | February 26, 2020 |
|  |  |
| TO: | Janice Mecca, MA |
|  |  |
| FROM: | Marywood University Exempt Review Committee |
|  |  |
| STUDY TITLE: | [1563127-2] *Examination of Non-Hodgkin's Lymphoma survivor's selfdisclosure of cancer history in the workplace* |
| MU ERC #: | 2020-E020 |
| SUBMISSION TYPE: | Amendment/Modification |
|  |  |
| ACTION: | APPROVED |
| APPROVAL DATE: | February 26, 2020 |
| EXPIRATION DATE: | February 26, 2021 |
| EXEMPT CATEGORY: | 2i |

Thank you for your submission of an Amendment/Modification to your Exemption Request for this research study. Marywood University's Exempt Review Committee has **APPROVED** your request for an Exemption. The project meets the criteria defined by federal regulations for an Exemption and involves minimal risk to participants. All research must be conducted in accordance with this approved submission.

**We have applied the ERC's approval stamp to your final informed consent form and social media post which have been uploaded with this letter in IRBNet. The stamp must appear on versions shared with participants wherever possible. If not feasible to use the stamped versions online, please ensure that the language in the transmitted versions is identical to the stamped versions.**

Please also note that:

* **A CLOSURE REPORT FORM is due upon completion. If not closed by February 26, 2021, a CHECK-IN REPORT FORM will be required by that date instead.**
  + 1 - Generated on IRBNet

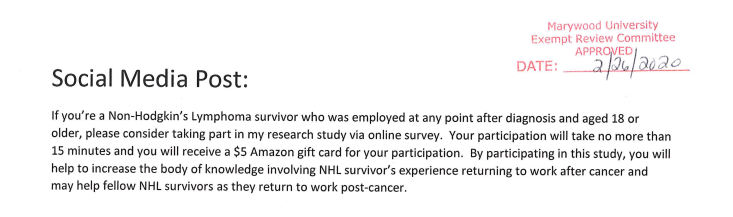
* Any REVISION to the protocol must be submitted to and approved by the ERC prior to initiation.
* All DEVIATIONS from the described protocol, UNANTICIPATED PROBLEMS or SERIOUS ADVERSE EVENTS must be reported immediately to this office.
* All NON-COMPLIANCE issues or COMPLAINTS regarding this study must be reported to this office.

The appropriate forms for any of the reports mentioned above may be found on the ERC's website or in the Forms Library at IRBNet.

If you have any questions, please contact the ERC at 570-348-6211, x. 2418 or irbhelp@marywood.edu. Include your study title and MU ERC number in all correspondence with this office.

Thank you and good luck with your research!

**Appendix G**



**Appendix H**  
Exempt Informed Consent Form

Title: Examination of Non-Hodgkin's Lymphoma survivor's self-disclosure of cancer history in the workplace

Principal Investigator (PI): Janice Mecca, MA., doctoral candidate Marywood University

Principal Investigator Contact Information: (570) 815-5052 jmmecca@m.marywood.edu Research Advisor: Dr. Lori Swanchak

Research Advisor Contact Information: (570) 348-6211 swanchak@maryu.marywood.edu

# Invitation for a Research Study

You are invited to participate in a research study about Non-Hodgkin's Lymphoma survivor's self-disclosure of cancer history in the workplace. You were chosen because you identify as a survivor of Non-Hodgkin's

Lymphoma, have been employed since your diagnosis and are 18 years of age or older. Please read this form. Ask any questions you may have before agreeing to take part in this study

## Purpose — About the Study

The purpose of this study is to examine Non-Hodgkin's Lymphoma survivor's self-disclosure of cancer in the workplace and to identify any relationships that exist between disclosure to peers and disclosure to supervisors.

## Procedures - What You Will Do

You will be asked to complete a one-time online survey which should take no longer than 15 minutes to complete.

## Risks and Benefits

The risks are no greater than the risks in daily life or activities.

A risk may be that you will experience slight psychological distress due to the nature of this survey. Risks will be minimized by asking questions only applicable to the research. If you feel increased distress after participation in this survey, you may contact the SAMSHA'S National Crisis line at 1800-662-HELP (4357) who can help you to find an appropriate referral in your area.

There are no identified benefits to you for participating in the study. The study will benefit the field of psychology and oncology by offering research into the body of knowledge regarding the field.

## Payment or Other Rewards

You will receive a $5 Amazon gift card upon completion of the survey via electronic code. In order to receive this payment, you will need to email the principal investigator indicating your desire to receive a gift card for your participation.

## Confidentiality

The records of this study will be kept private. Information used in any written or presented report will not make it possible to identify you. Only the primary investigator and research advisor will have access to the research records. Records will be kept in a password protected file on the principal investigator's computer. Records will be kept indefinitely. No web-based action is perfectly secure. However, reasonable efforts will be made to protect your transmission from third-party access.

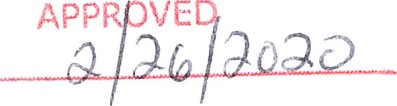
## Takinq Part is Voluntary

Participation is voluntary. Your decision whether or not to participate will not affect your current or future relationship with the investigator. It will not affect your relationship with Marywood University. You may withdraw at any time until you submit the survey on the survey site. There will be no penalty. To withdraw, simply close

your web browser. Your information will not be collected if you withdraw.

Maryvvood University

Exempt Review Committee

DATE: 

Page 1 of 2

## Contacts and Questions

If you have questions about this study at any time, contact the principal investigator or the advisor. Their contact information appears at the top of page one.

If you have questions related to the rights of research participants or research-related injuries (where applicable), please contact the Institutional Review Board at (570) 961-4782 or irbhelp@marywood.edu.

You may print a copy of this form to keep for your records.

## Statement of Consent

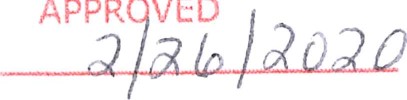
By proceeding:

* You understand what the study involves.
* You have asked questions if you had them.
* You agree to participate in the study.

Marywood University

Exempt Review Committee

DATE:



APPR

VED

**Appendix I**

*Participant Age*

|  |  |  |
| --- | --- | --- |
| **Age** | **N** | % |
| 18-19  20-24  25-29  30-34  35-39  40-44  45-49  50-54  55-59  60-64  65-69  70+  **TOTAL** | 0  1  17  17  5  11  3  2  3  1  3  1  **64** | 0%  1.6%  26.5%  26.5%  7.8%  17.2%  4.7%  3.1%  4.7%  1.6%  4.7%  1.6%  **100%** |

**Appendix J**

*Results of one way chi-square by level of sharing*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Comparison** | **N** | ***Df*** | **Test Statistic** | **Asymptoic Sig (2-sided test)** |
| Shared with peer only versus Shared with supervisor only | 7 | 1 | 3.571 | .059 |
| Shared with both supervisor and peer versus shared with peer only | 59 | 1 | 37.441 | .000 |
| Shared with both supervisor and peer versus shared with supervisor only | 54 | 1 | 50.074 | .000 |
| Did not share with anyone versus shared with only supervisor | 5 | 1 | 1.8 | .180 |
| Did not share with anyone versus shared with peer only | 10 | 1 | .400 | .527 |
| Shared with both supervisor and peer versus did not share | 57 | 1 | 42.123 | .000 |

**Appendix K**

*Results of Mann Whitney U for disclosure by gender*

|  |  |  |  |
| --- | --- | --- | --- |
| **Factor** | **Significance** | **Mean Rank** |  |
| **Peer’s gender**  Female  Male | .321 | 30.50  34.91 |  |
| **Peer’s age**  Female  Male | .437 | 30.93  34.40 |  |
| **Peer’s ability to make accommodations**  Female  Male | .154 | 29.71  35.86 |  |
| **Peer’s ability to provide social support**  Female  Male | .01 | 37.41  26.57 |  |
| **Effect on future career (peer)**  Female  Male | .663 | 31.64  33.53 |  |
| **Peer’s treatment of participant**  Female  Male | .503 | 33.77  30.97 |  |
| **Supervisor’s gender**  Female  Male | .129 | 29.44  36.19 |  |
| **Supervisor’s age**  Female  Male | .248 | 30.19  35.29 |  |
| **Supervisor’s ability to make Accommodations**  Female  Male | .678 | 31.70  33.47 |  |
| **Supervisor’s ability to provide**  **social support**  Young Adult  Adult | .663 | 33.30  31.50 |  |
| **Effect on career future (supervisor)**  Female  Male | .416 | 34.04  30.64 |  |
| **Supervisor’s treatment of participant**  Female  Male | .875 | 32.8  32.14 |  |

**Appendix L**

*Mann Whitney U results by ethnicity*

|  |  |  |  |
| --- | --- | --- | --- |
| **Factor** | **Significance** | **Mean Rank** |  |
| **Peer’s gender**  Caucasian  Non-Caucasian | 0.070 | 39.80  38.45 |  |
| **Peer’s age**  Caucasian  Non-Caucasian | 0.71 | 39.80  38.45 |  |
| **Peer’s ability to make accommodations**  Caucasian  Non-Caucasian | 0.300 | 31.00  35.80 |  |
| **Peer’s ability to provide social support**  Caucasian  Non-Caucasian | 0.501 | 31.55  34.60 |  |
| **Effect on future career**  Caucasian  Non-Caucasian | .073 | 29.89  38.25 |  |
| **Peer’s treatment of participant**  Caucasian  Non-Caucasian | 0.365 | 31.23  35.30 |  |
| **Supervisor’s gender**  Caucasian  Non-Caucasian | 0.067 | 29.77  38.50 |  |
| **Supervisor’s age**  Caucasian  Non-Caucasian | 0.053 | 29.64  38.80 |  |
| **Supervisor’s ability to make Accommodations**  Caucasian  Non-Caucasian | 0.126 | 30.32  37.30 |  |
| **Supervisor’s ability to provide**  **social support**  Caucasian  Non-Caucasian | .524 | 31.60  34.48 |  |
| **Effect on career future (supervisor)**  Caucasian  Non-Caucasian | .688 | 33.10  31.18 |  |
| **Supervisor’s treatment of participant**  Caucasian  Non-Caucasian | .892 | 32.69  32.08 |  |

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