AFRICAN AMERICAN BREAST CANCER SURVIVORS’ ONLINE STUDY OF FACTORS RELATED TO QUALITY OF LIFE: HEALTH STATUS, POSTTRAUMATIC GROWTH, RELIGIOSITY/SPIRITUALITY, SOCIAL SUPPORT, PARTNER SUPPORT, STRESS, DEPRESSION, ANXIETY, AND COPING SELF-EFFICACY

by

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ABSTRACT

AFRICAN AMERICAN BREAST CANCER SURVIVORS’ ONLINE STUDY OF FACTORS RELATED TO QUALITY OF LIFE: HEALTH STATUS, POSTTRAUMATIC GROWTH, RELIGIOSITY/SPRITUALITY, SOCIAL SUPPORT, PARTNER SUPPORT, STRESS, DEPRESSION, ANXIETY, AND COPING SELF-EFFICACY

Elsy Mecklembourg

African American breast cancer survivors (N=22) in this exploratory study had a mean of 15.55 years since diagnosis (SD=10.734, min-5 years, max= 47 years). The women reported good quality of life, good health, good health care, very good provider care, very good sensitivity by their provider for their being a cancer survivor, and very good sensitivity and competence by their provider for treating them as an African American breast cancer survivor. Both the quantitative and qualitative data reinforce each other, showing evidence of posttraumatic growth from breast cancer, including a significant increase from before breast cancer to after breast cancer in their spirituality. Perhaps, most importantly, this exploratory study with a small sample found suggestive positive correlations between two types of self-efficacy coping and quality of life: i.e., the higher the rating for quality of life, then the greater the use of problem focused coping (r=.798, p=.000), and greater the use of support from friends/family coping (r=.776, p=.000). Hence, coping emerges as vital with regard to achieving a higher quality of life. This is consistent with Gaston-Johansson et al. (2013), urging exposing women to a Comprehensive Coping Strategy Program (CCSP). As an implication of this study, such a
focus on coping strategies is recommended for health educators in their work with breast cancer survivors, and also with the newly diagnosed.

While women may emerge from a breast cancer diagnosis with greater spirituality and having discovered they are stronger than they think, there may be those women who are struggling. They have yet to achieve the key factors associated with a higher quality of life such as high self-efficacy to cope with stress. Thus, health educators are advised to ensure that African American breast cancer survivors and those newly diagnosed receive culturally tailored interventions designed to improve their self-efficacy to cope. Health educators may conduct support groups with survivors and newly diagnosed women, so as to ensure they have adequate social support—especially if spousal/partner support is not high. This may counter the tendency of some women to withdraw and isolate, as per the emergent theme: *emotional numbing, withdrawing, and isolating.*
DEDICATION

This research study is dedicated to:

- my late husband Alfred (Freddy) Guibert, who gave me three beautiful sons, Giscard, Youri, Mao, and grandsons Cairo and Mateo;
- my brother Albert Mecklembourg, who never found justice after he was shot on May 17, 2012 in Haiti;
- my childhood friend Danielle (Danie) Nelson-Surpris, who showed me the meaning of friendship beyond the grave.
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Chapter I

INTRODUCTION

Bray et al. (2018) reported that cancer is “the single most important barrier to increasing life expectancy in every country,” and cancer “is expected to rank as the leading cause of death” in the 21st century (p. 1). Globally, there were approximately “18.1 million new cases” in 2018 (p. 5). Thus, cancer is a “major public health problem worldwide” (Siegel, Miller, & Jemal, 2017, p. 7). Although “sex disparities vary by cancer type,” nonetheless “the cancer incidence rate is 20% higher in men than in women, while the cancer death rate is 40% higher” (p. 7).

Specifically, regarding breast cancer, it is “a malignant tumor that starts in the cells of the breast” (Yedjou et al., 2017, p. 1). Breast cancer currently affects “more than one in ten women worldwide” (p. 1). Globally, there were “about 2.1 million newly diagnosed female breast cases,” with “almost 1 in 4 cancer cases among women” in 2018 (Bray et al., 2018, p. 19). Dominating diagnoses worldwide, female breast cancer represents one of the “top 3 cancers in terms of incidence” (p. 28). Furthermore, breast cancer is “the most frequently diagnosed cancer in the clear majority of countries,” and is “the leading cause” of cancer deaths in “over 100 countries” (p. 19).

Cancer of the breast is “the second leading cause of cancer related deaths” among women aged 40 to 55 years in the United States (Yedjou et al., 2017, p. 1). For the year 2017, the total number of estimated cases of breast cancer in the United States was 255,180, of which 252,710 were recorded for women (Siegel et al., 2017, p. 8). About
“63,140 cases of carcinoma in situ of the female breast and 74,680 cases of melanoma in situ” were newly diagnosed (p. 8). There were 27,980 cases of breast cancer for California, the state with the highest incidence rate in 2017 (p. 9).

Siegel et al. (2018) estimated that “1,735,350 new cancer cases and 609,640 cancer deaths” would occur in the United States in 2018 (p. 7). There is also a Black versus White health “disparity in cancer mortality by state and age” (p. 7). The Black-White gap in cancer mortality “continues to narrow” for the older age group, despite “stark persistent inequalities for young and middle-aged” Black Americans (p. 28). Most noteworthy is how Blacks “are more likely” than Whites “to be diagnosed with cancer at an advanced stage;” Blacks also have a “lower stage-specific survival for most cancer types” (p. 28). While some have indicated that compared to White women, “African American and Hispanic women have a lower incidence of breast cancer,” African American and Hispanic women “have a higher mortality rate” (Yedjou et al., 2017, p. 2).

Findings from Cronin et al. (2018) revealed that the incidence rates of cancer remained “stable among women” (p. 2785). Prior to 2004, “female breast cancer incidence had been declining,” yet it “has increased since then at an average rate of 0.4%” per year (p. 2794). Actually, “seventy-eight percent of cases were diagnosed at stage I or II,” with a “five-year survival rate at 100% and 92% respectively” for stage I and stage II breast cancer (p. 2794). It was also noted that in stage IV, “approximately 6% of cases were diagnosed,” and “the 5-year survival was 26%” (p. 2794). By all accounts, while research and progress are continual, the findings confirmed that a decrease in cancer mortality had “not occurred” (p. 2798).

DeSantis, Ma, Sauer, Newman, and Jemal (2018) observed that “female breast cancer incidence and mortality rates vary substantially by race/ethnicity in the United States” (p. 442). For instance, non-Hispanic White and non-Hispanic Black women have “higher breast cancer incidence” compared to other women of other races (p. 442). It was also found that “racial differences in breast cancer incidence rates vary by age” (p. 442).
In comparison to non-Hispanic White women, non-Hispanic Black women “have higher breast cancer incidence rates before age 40 years;” the rate decreases at “ages 65 to 84 years” (p. 442).

Miller et al. (2016) indicated that for patients diagnosed with breast cancer, there are an estimated “3.5 million women living in the United States with a history of invasive breast cancer” (p. 273). In fact, “seventy-five percent of breast cancer survivors,” or greater than 2.6 million women, “are ages 60 years or older,” and only “7% are younger than 50 years” (p. 273). For “women 30 to 40 years,” the prevalence of a diagnosis is about 19%, and for those “age 65 years or older,” it stands at a stunning 44% (p. 273).

Davis, Myers, Nyamathı, Lewis, and Brecht (2016) noted that “the emergence of cancer survivorship is an important topic that is gaining attention,” because “there is a paucity of research on what it means to be a breast cancer survivor” (pp. 277-278). Cancer survivorship has been described as “being victorious, conquering the enemy, helping others” (p. 278). Further, others have conveyed “an overall appreciation of life,” along with “a positive improvement in self” (p. 278). Other women regarded survivorship as a “restoration to life as usual with a positive attitude” (p. 281). Interestingly, for African American Breast Cancer Survivors (AABCS), survivorship meant “more than added years to their survivors’ lives,” with hope to start a different life “after the situation” (p. 281).

Hebdon, Abrahamson, Griggs, and McComb (2018) viewed survivorship as a period “from the time of diagnosis to the end of life” (p. 1). According to Dyer and Coreil (2017), “survivorship refers to the long-term health and well-being of people who have been diagnosed with cancer” (p. 64). The “post-treatment quality-of-life and follow-up care” are critical components to living through this journey (p. 64).

During a focus group meeting on living beyond the cancer diagnosis, reflections were as follows:
Once a cancer survivor always a cancer survivor. I survived. And because I survived I want to help somebody else survive (African American, age 63).

One of the things is that we don’t speak of is remission. It’s gone. It’s not remission. We don’t live by the five-year rule that you are sitting waiting for five years to say you are going to be a survivor. No. You are a survivor the day that you are diagnosed. And every day you live after that, you are a survivor (African American, age 49). (Dyer & Coreil, 2017, p. 69)

As per Dyer and Coreil (2017), while the above comments are not representative of the entire population, the statements reflected “their own views on breast cancer survivorship” (p. 77). Further, the statements exemplified in “meaningful ways” how survivorship is a unique experience (p. 77).

Weller (2018) presented his definition of survivorship as a “sense of meaning amongst these patients,” especially if they feel good and have created a space for “wellbeing and strong relationships” (p. 1). For survivors, it is a time to reexamine “priorities in their lives,” as something that can significantly contribute to helping them move forward while having an opportunity for “personal growth” (p. 1). Nonetheless, “despite the positive associations of survivorship,” on the other hand, “many women actually felt disempowered” (p. 1). While going through the “experience of cancer,” women often “struggled with the demand to live up to the ideal of a “cancer survivor”” (p. 1). Some found it difficult to “relate to the expectations and ethos of survivorship,” and others found the “survivor identity” to be something with which they were very “uncomfortable” (p. 1).

Rees (2018) emphasized that “not all individuals living beyond cancer identify as survivors,” adding that the concept of survivorship may trigger a sense of “ambivalence and discomfort” in some patients (p. 7). The meaning of the word can “be alienating and harmful for the well-being of many,” especially for young women (p. 7). Understandably, younger survivors “challenged the expectation of survivorship,” and they felt “unable to
express their ongoing fears and symptoms” (p. 6). They also felt that if cancer “did recur, it would occur at a time when they would still be 'too young'” (p. 6).

For O’Malley et al. (2017), there is still a concern “about the lack of a common definition of survivorship,” and investigators “continue to grapple with questions about how best to transition patients” into the survival period (p. 14). Since “people with a history of cancer are living longer,” it is essential “to organize long-term survivorship care,” and secure the necessary resources for cancer survivors (p. 14). While “gaining access to resources, let alone maintaining and sustaining access” to care might be challenging, the emphasis should be on delivering better care to patients during their survivorship journey (p. 19).

Transitioning “from active treatment to survivorship may involve the loss of sources of security” (Vehling & Philipp, 2018, p. 47). Vehling and Philipp found that “one-third to one-half of cancer survivors experienced existential fears and concerns” (p. 47). Therefore, they believed that the focus should be on the “content and effectiveness of interventions to alleviate existential distress” to improve the quality of life of survivors (p. 47). Fitch (2018) explained survivorship as a “transition from primary care treatment to post treatment follow-up care,” which requires a care plan (p. 2). This plan can be “one of the key tools to successful transition” for patients, since it can alleviate their “confusion about where to go and whom to see” (p. 2).

Of note, in the United States, cancer of the breast “is a disease associated with aging,” having “profound implications for the number of anticipated cancer survivors in the decades to come” (Rowland & Bellizzi, 2018, p. 2662). The “interplay between cancer treatment-related health effects and normative age-related issues presents significant challenges” (p. 2663). Also, psychologically, survivors of 65 years or more exhibit a different adaption to survivorship. This may be “explained in part by a tendency by older adults to frame the cancer experience differently” from younger survivors. Further, “aging in and of itself often presents a set of challenges” (p. 2662). As a result,
“most people will experience and have to cope with illness or trauma of one kind or another” during remission (p. 2662).

There exists a large body of research that “has characterized elevated psychological distress and anxiety among women who receive an abnormal screening result, which requires further evaluation” necessary for the adoption of coping skills (Molina, Beresford, Espinoza, & Thompson, 2014, p. 523). Latina women exhibited “greater distress than non-Latina Caucasian (NLC) women because of greater denial coping” (p. 530). For different ethnic groups, “differences exist in coping,” as in “after an abnormal mammogram result” (p. 524). These differences may be explained by the “multiple contextual factors including culture and stressors associated with socioeconomic position” (p. 524). Furthermore, “ethnic differences in coping may result in ethnic differences in emotional reactions” (p. 524). Based on the dynamics at play, “coping may also be associated with decisions to withdraw from family and friends,” which may in part “result in lower quality of life among patients and survivors” (p. 524). Thus, it is important to understand “the role of coping strategies in associations between ethnicity, psychological distress, and social withdrawal” in breast cancer survivors (p. 524).

Assessing the physical, emotional, and social concerns of women diagnosed with breast cancer has prompted an interest in looking at their quality of life as survivors. Focusing on quality of life, Lim (2014) studied the dyadic relationship between family communication and coping skills of cancer survivors. Coping is a highly regarded mechanism that women may utilize post-diagnosis and treatment for breast cancer. Most importantly, women must be able “to effectively communicate and manage general concerns within the family,” as this will help them improve their quality of life (p. 1249). Contrary to the Confucianism philosophy that teaches "silence is golden," women “whose partner did not avoid talking about the cancer” showed better quality of life, “indicating a potential partner effect” which is “useful for improving” quality of life (p. 1250).
In their research, Ahmad, Fergus, Shatokhina, and Gardner (2016) predicted that “the more women identified with their relationships, the lower their levels of depression and anxiety” (p. 403). Women survivors may find in a partner the help they need to cope favorably with disease. It was further “hypothesized that when a woman experiences high levels of identity with her intimate relationship, she experiences greater levels of self-efficacy” (p. 404). This was deemed beneficial, as it provided her with the opportunity “to manage the various stressors related to cancer,” and, this could predict “better adjustment” (p. 404). Further, for the woman “facing breast cancer, knowing that she is a part of a supportive relationship allows her to feel confident in her personal ability to effectively manage difficult circumstances” (p. 410).

Thus, for survivors going through the cancer experience, their “coping ability can be contingent, in part, on the quality of the relationship” they maintain with their spouse (Karan, Wright, & Robbins, 2017, p. 36). Yu and Sherman (2015) observed that communication avoidance in a partnership was associated with anxiety, depression, and stress, leading to long-lasting side effects (p. 565). Also, “the more a woman avoids talking about cancer-related matters with her spouse, the more likely she is to blame herself for her ill health” (p. 567). In addition, “communication avoidance about cancer between spouses” can further influence a woman’s “psychological distress by impeding her coping ability” (p. 575). Maladaptive or disengagement strategies “are coping efforts that focus attention away from the stressor,” while engagement coping strategies include problem solving, acceptance, seeking support planning, and positive reframing” (p. 566).

Understanding the vast domain of survivors’ coping mechanisms is important, including the development of interventions directed at high-risk women to target accurately “their coping self-efficacy” (Dunn et al., 2015, p. 2041). For example, Hamama-Raz et al. (2016) found that “a group intervention aimed at empowerment of coping strategies,” as well as adaptive coping strategies, “had positive long-term outcomes on survivors” (p. 175).
Yoo, Levine, and Pasick (2014) explained that “coping may mean different things across cultures,” including the coping of African Americans (p. 812). They noted how “cultural psychologists” have considered “cultural differences among racial-ethnic groups in response to stressful events and situations” (p. 812).

Religiosity Defined

This is the degree to which one draws upon one’s belief in the key tenets of a particular religion (e.g., belief in God, Allah, etc.) as a guide in one’s life, and as a way of coping with stress, including the stress of breast cancer. Regarding ways of coping, Lechner, Silbereisen, Tomasik, and Wasilewski (2015) posed the following question: Is “religiosity” the “opiate of the people,” or “is it a form of empowerment, prompting people to actively engage,” as well as cope with “stressors in order to overcome them?” (p. 205). Those encountering stressful circumstances may feel reassured by believing in a “larger plan of a benevolent God,” or finding “comfort in the prospect of an afterlife” (p. 207). As a potentially empowering resource, “the Christian faith holds that a benevolent deity intervenes in human affairs,” while the individual asks for “support and guidance” (p. 207). As for the African American community, “religion may provide meaningful alternative goals to pursue” and “may facilitate disengagement” (p. 207). By all accounts, “higher religiosity is associated with higher goal disengagement” that is in fact “likely to be adaptive” for survivors and benefit them in overcoming cancer-related issues (p. 207).

Spirituality Defined

Gaston-Johansson et al. (2013) further explained spirituality “as an inner resource or an inner aspect of a person” that is used for the purpose of coping with major life
stressedors, such as having breast cancer (p. 22). African American women may find solace “in incorporating these aspects” of spirituality in their coping “repertoire,” in order to stay strong (p. 120). For example, consider these statements made by African American cancer survivors: “I tell myself to carry on despite the pain … I feel peaceful, I feel a sense of purpose in my life, I feel comfort in my faith or spiritual belief … I pray to God it won’t last long” (pp. 126-127).

Despite the considerable number of strategies to cope with breast cancer, the process of posttraumatic growth (PTG) may occur (McDonough, Sabiston, & Wrosch, 2013). Breast cancer survivors “may undergo a process of redevelopment of their life schema and narrative that results” in posttraumatic growth (p. 114). The outcomes associated with the posttraumatic growth process include “recognition of new possibilities in one’s life, closer relationships with others, greater sense of personal strength,” as well as an enhanced appreciation of life (p. 114).

Skaczkowski, Hayman, Strelan, Miller, and Knott (2013) highlighted the “positive association between an individual’s self-reported experience of growth” after cancer treatment and their participation in complementary alternative medicine (CAM) (p. 479). Ruini and Vescovelli (2013) found that gratitude was associated with posttraumatic growth, potentially increasing well-being and lowering distress for those with a “life-threatening illness such as breast cancer” (p. 265). For those who were beyond 15 years without cancer recurrence, Lelorain, Tessier, Florin, and Bonnaud-Antignac (2012) found evidence of posttraumatic growth among survivors.

While living with cancer “may be a traumatic event that conjures fears of suffering and death,” causing a “profound effect on the patients’ psychological functioning,” posttraumatic growth may occur (Cormio, Romito, Giotta, & Mattioli, 2015, p. 189). Research has shown “high levels of post-traumatic growth seem to be associated with high levels of social support” (p. 190). In fact, “coping styles associated with greater post-traumatic growth include the ability to reconstrue (reframe) the adverse event” and
convert it into a more positive effect (p. 190). It was also “found that adaptive coping” has a “strong effect on growth” (p. 190). The survivor “who experiences higher growth after a trauma” caused by cancer “may be more open in searching and maintaining significant relationships” (p. 194). Of note, findings showed that African Americans reported greater posttraumatic growth in comparison to Whites and Hispanics (Cormio et al., 2015).

In recognition of the phenomenon of posttraumatic growth, Cann et al. (2010) developed the Posttraumatic Growth Inventory (PTGI). In addition, a shorter form of their survey “reduces the number of items at least by half” and preserves “the desirable properties shown to exist in the longer scale” (p. 128).

Statement of the Problem

The problem that this study addressed is the need for health educators and other health professionals to better understand the factors related to a high quality of life for survivors of breast cancer (five years or more)—in order to design interventions for women who have been diagnosed with breast cancer.

Purpose of the Study

While the original purpose of this study was to identify significant predictors of the study outcome variable/dependent variable of a high rating for quality of life, amongst African American/Black women breast cancer survivors, this was modified, given the small sample size (n=22)—giving rise to an exploratory study.

Thus, the purpose of this exploratory study was to engage in an exploration of factors related to the study outcome variable/dependent variable of a high rating for quality of life.
To explore factors related to the study outcome variable/dependent variable of a high rating for quality of life, the role of the following independent variables were explored in this study: age; race/ethnicity; U.S. born (yes/no); level of education; annual household income; employment (yes/no); number of years since diagnosed with breast cancer; rating of overall health status; Body Mass Index (BMI); self-rating of weight status; rating of overall quality of care that they receive for their health; rating of the overall quality of care they receive from their provider; rating of the sensitivity and competence of their provider for treating someone with breast cancer; rating of the sensitivity and competence of their provider for treating someone who is African American with breast cancer; degree of any posttraumatic growth; pre-breast cancer level of religiosity; post-breast cancer level of religiosity; level of perceived social support; level of perceived social support from their partner/spouse; level of perceived stress in past month; past year depression (yes/no); past year anxiety (yes/no); past year counseling (yes/no); coping self-efficacy—problem solving; coping self-efficacy—stopping unpleasant emotions and thoughts; and, coping self-efficacy—seeking social support.

**Research Questions**

Given an online sample of African American women (N=22) who are long-term survivors of breast cancer (5 years or more) who responded to a social media campaign ("Go to [https://tinyurl.com/BreastCancerSurvivorStudy](https://tinyurl.com/BreastCancerSurvivorStudy) to take the African American Women’s Breast Cancer Survivors’ (5 years or more) Survey on quality of life and coping for a chance to win 1 of 3 $100 Amazon gift cards") and completed the survey, the exploratory research answered the following questions:
Quantitative Portion of Study

1. What were their demographic characteristics (i.e., gender, age, race/ethnicity, U.S. born or not, education, annual household income, employed or not)?
   PART I: BASIC DEMOGRAPHICS (BD-9)

2. What was their history of being diagnosed with breast cancer, in terms of number of years ago (i.e., 5 years or more), and if treated by a medical provider for their breast cancer?
   PART II: BREAST CANCER HISTORY AND TREATMENT SCALE (B-CHAT-S-3)

3. How did they rate their overall health status, their Body Mass Index (BMI)/weight status, the overall quality of care that they receive for their health, the overall quality of care they receive from their provider, and the sensitivity and competence of their provider for treating someone with breast cancer—and someone who is African American with breast cancer?
   PART III: PERSONAL HEALTH BACKGROUND (PHB-9)

4. To what extent do they tend to provide socially desirable responses?
   PART IV: MORE ABOUT YOU (SOCIAL DESIRABILITY) (MAY-13)

5. What was their rating for their quality of life? [Note: This is the study outcome variable.]
   PART V: RATING YOUR QUALITY OF LIFE SCALE (RYQOL-S-1)

6. To what degree did they experience any posttraumatic growth after being diagnosed and/or treated for breast cancer?
   PART VI: POSTTRAUMATIC GROWTH INVENTORY-SHORT FORM (PTGI-SF-10)
7. What was their level of religiosity/spirituality before their breast cancer experience, and after that experience/at present—and was there any change?
PART VII: RELIGIOSITY/SPIRITUALITY SCALE BEFORE AND AFTER BREAST CANCER (RSS-BAF-BC-4)

8. What was their perceived level of social support?
PART VIII: PERCEIVED SOCIAL SUPPORT SCALE (PSSS-5)

9. What was their perceived level of social support from their spouse/partner during the period when they were coping with breast cancer or being a survivor of breast cancer?
PART IX: PERCEIVED SPOUSE/PARTNER SOCIAL SUPPORT SCALE (PS/P-SSC-2)

10. What was their level of perceived stress this past month?
PART X: PERCEIVED STRESS SCALE (PSS-10)

11. What was the prevalence of symptoms of depression and anxiety in the past year, and was counseling or advice sought out?
PART XI: RETROSPECTIVE DEPRESSION, ANXIETY AND COUNSELING SCALE (R-DACS-3)

12. What was their coping self-efficacy—specifically, their level of ability and confidence for using (a) problem-focused coping, (b) stopping unpleasant emotions and thoughts, and (c) getting support from other family and friends?
PART XII. COPING SELF-EFFICACY SCALE—REDUCED FORM (CSES-RF-13)

13. What were the significant relationships among selected independent variables (e.g., age, education level, etc.) and the study outcome variable/dependent variable of higher rating of quality of life?
Qualitative Portion of Study

14. As the qualitative portion of the study, what do women report, in response to a question on their breast cancer survivorship (i.e., Given your experience of being a breast cancer survivor, what do you feel have been the key factors in your achieving years as a survivor, and what have been your most important coping strategies?)

Rationale for the Study

The literature and research reviewed in the prior section provided a rationale for this study. Statistics on breast cancer prevalence provided a strong rationale (i.e., Bray et al., 2018; Siegel et al., 2017; Yedjou et al., 2017). There was also a rationale for the study focusing on African American survivors of breast cancer, given how African American women have a higher breast cancer incidence (DeSantis et al., 2018), and also “have a higher mortality rate” compared to White women (Yedjou et al., 2017, p. 2). There is also support for selecting women with a 5-year survival rate from breast cancer, given the focus of other research on this time period, including one study that reported “the 5-year survival was 26%” for a stage IV diagnosis (Cronin et al., 2018, p. 2794). There is also a rationale for focusing on those experiencing survivorship from breast cancer with African American women, given prior research (i.e., Davis et al., 2016). A rationale also exists for studying the quality of life of African American women experiencing survivorship, as have others (i.e., Dyer & Coreil, 2017). Also, others have focused on quality of life for breast cancer survivors (Lim, 2014; Vehling & Philipp, 2018).

There is also a rationale for investigating potential factors related to the quality of life of breast cancer survivors, including the following: anxiety and coping skills, and their association with quality of life (Molina et al., 2014); the quality of their relationship
with their spouse, and the association with quality of life (Lim, 2014); the quality of their relationship with their spouse, and the association with levels of depression and anxiety, as well as coping self-efficacy (Ahmad et al., 2016; Karan et al., 2017); coping self-efficacy and the types of coping used, such as problem solving (Dunn et al., 2015; Yu & Sherman, 2015); religiosity and spirituality as potential coping strategies (Gaston-Johansson et al., 2013; Lechner et al., 2015); the possibility of experiencing posttraumatic growth (Cann et al., 2010; McDonough et al., 2013; Ruini & Vescovelli, 2013; Skaczkowski et al., 2013); and, the role of social support, as posttraumatic growth is associated with higher levels of social support (Cormio et al., 2015).

**Delimitations**

The study was delimited to African American women, ages 23 and above, who had been diagnosed with breast cancer and were five-year survivors; and, who completed the survey.

**Limitations**

Some study limitations included the inclusion of subjects who had access to technological resources such as the internet, an online sample of convenience, and the use of self-reported data that may reflect social desirability.

**Conclusion**

In this chapter, the research study was introduced. A rationale for the online study was provided, including the potential role of varied factors in African American five-year breast cancer survivor’s quality of life of varied factors (e.g., health status, posttraumatic growth, religiosity/spirituality, social support, partner support, stress, depression, anxiety,
and coping self-efficacy). Chapter II will present a literature review on the research topic, while expanding on some of these factors. Chapter III will describe the study methods. The results of the data analysis will be presented in Chapter IV. Chapter V will include a summary and discussion of the results, as well as the implications and recommendations for additional research.
Chapter II

LITERATURE REVIEW

This chapter will provide a relevant review of the literature related to the study topic. Specifically, topics will include: (1) cancer incidence, morbidity, and mortality in the United States, including breast cancer disparities by race/ethnicity; (2) breast cancer quality of life indicators, and related factors such coping self-efficacy, with a focus on religious coping/spirituality, social support, and other factors found in research; (3) breast cancer survivorship and posttraumatic growth; and (4) the theoretical framework guiding this study.

Cancer Incidence, Morbidity, and Mortality in the United States

Recall from Chapter I that cancer is “the single most important barrier to increasing life expectancy in every country,” and cancer “is expected to rank as the leading cause of death” in the 21st century (Bray et al., 2018, p. 1). Recall also that breast cancer is “a malignant tumor that starts in the cells of the breast” (Yedjou et al., 2017, p. 1). Breast cancer currently affects “more than one in ten women worldwide” (p. 1). Further, breast cancer represents one of the “top 3 cancers in terms of incidence” (Bray et al., 2018, p. 28). It is also “the most frequently diagnosed cancer in the clear majority of countries” and “the leading cause” of cancer deaths in “over 100 countries” (p. 19). In the United States, breast cancer is “the second leading cause of cancer related deaths” among women aged 40 to 55 years (Yedjou et al., 2017, p. 1).
Cronin et al. (2018) reported on incidence and mortality for common cancers, including breast cancer. Using data from the CDC-funded and NCI-funded population-based cancer registry programs compiled by National American Association of Central Cancer Registries (NAACCR), Cronin et al. also measured “the stage distribution and 5-year survival rate by stage at diagnosis” (p. 2786). Based on their review, the population-based cancer trends were summarized, and the incidence and mortality trends were discussed. The focus was on several state registries, 42 in total, which provided a clear understanding of cancer surveillance, epidemiology, and results. Additional references were taken from abstracts of inpatient and outpatient medical records including death certificates. The overall data was based on causes of death by age, sex, and race/ethnicity for all races inclusively, from 1995 to 2015 (p. 2786).

Findings revealed that cancer incidence rates for all races/ethnicities combined continued to decline, especially for men, while remaining stable among women. The “incidence rates from 2010 to 2014 decreased for 7 of the 17 most common cancers” among men, while rates decreased “for 7 of the 18 most common cancers among women” (Cronin et al., 2018, p. 2796). In effect, the “rates increased for 8 cancer sites among men and 10 sites among women” (p. 2796). Black men and women faced the highest death and mortality rates, excluding lung cancer among women. Non-Hispanic men and women had higher incidence and mortality rates than those of Hispanic ethnicity. More significant were the 5-year survival cases diagnosed from 2007 to 2013, whereby “female breast cancer for stage I was 88.1%” (p. 1). The data for the 5-year survival estimate were calculated for 70% of the U.S. population using 34 central cancer registries, which provided substantial information on cancer status and follow-up. Using a 95% confidence interval, the cross-sectional incidence and death rates were calculated for all cancer sites combined, in addition to the most common cancer sites by sex and race/ethnicity. There was an increase in the “overall cancer incidence rates” for Black women, which “remained stable in whites, Hispanics, and non Hispanics” (p. 2797). Further, “Black
men and Black women had the highest cancer death rates of any racial group” for “the most recent 5-year period” (p. 2797).

In the early 2000s, there was a decrease in lung cancer among women; in men, the lung and bronchus cancer death rates substantially decreased “by 50%” between “1964 and 2012” (Cronin et al., 2018, p. 2797). This was mostly attributable to public health policies that were enacted against tobacco smoking. As a trend, decrease in death rates was also seen among women diagnosed with breast cancer; this is likely as a result of both better prognosis and regular screening aimed at early detection and follow-up. Used for decades to detect foreign particle(s) in the breast, mammography as a specialized x-ray has largely contributed to an improvement in the treatment of breast cancer, which also accounts for the aforementioned decrease in death rates. Overall, cancer incidence decreased among men, but “remained stable among women” (p. 2797).

The report by Cronin et al. (2018) called for a “continued monitoring of national statistics” that can help identify areas for potential intervention” and “reduce the burden of cancer in the US population” (p. 2798). The study by Cronin et al. (2018) resulted in “an underestimation of cancer rates,” due mainly to the misclassification retrieved from medical records, death certificates, and Census information; this hindered collection of important information on cancer incidence and mortality for a wide range of population groups. As a result, the population estimates and resultant rates for Asian Islanders (AI), Asian Pacific Islander (API), and Hispanic populations were also under-ascertained (Cronin et al., 2018).

According to Smith et al. (2018), “the nation has an unequivocal opportunity to reduce mortality from cancer by increasing the cancer screening rates in those most likely to benefit” (p. 313). Much as with the aforementioned success of lung cancer campaigns, annual breast cancer education campaigns such as October Walk and Stand up to Cancer may help to increase screening, and to reduce the impact of cancer morbidity and mortality, especially when tailored to reflect the needs of diverse communities that may
experience breast cancer-related disparities. This could lead to “a significant reduction in avoidable cancer deaths in the United States” (p. 313).

**Breast Cancer Disparities by Race/Ethnicity**

Akinyemiju et al. (2013) examined the trends in breast cancer stage and mortality by race and socioeconomic status in Michigan. The data reflected racial disparities in breast cancer mortality, and the manner in which such disparities influence breast cancer outcomes. For instance, between 1992 and 2008, when both White and Black individuals with cancer were “initially examined without accounting for area type, the proportion of late stage presentation increased annually by 1.0% among white patients, but remained statistically un-changed among black patients” (p. 6). Further, while breast cancer mortality rates declined annually by 21.3% among White patients during the same period, they “remained statistically unchanged among black patients” (p. 6). A narrowing of the mortality rate occurred between 1992 and 2009, with mortality rates remaining statistically unchanged in those with high socioeconomic status, and significantly declining among low and middle SES groups, irrespective of race. Despite this, “black patients had higher mortality rates than white patients in all area types,” with the largest annual increases “among black patients in the high SES/high HCA group” (p. 6).

Lehrer, Green, and Rosenzweig (2016) also examined the correlation between affluence and breast cancer, with a focus on “block-group socioeconomic measures” of cancer survivors in the United States (p. 564). The National Cancer Institute’s Surveillance, Epidemiology and End Results Program (SEER) database was used, including “data from 198 counties in California, Connecticut, Georgia, Hawaii, Iowa”; data from other U.S. counties were also analyzed (p. 564). Income information originated from the U.S. Census “to gauge socioeconomic status of breast cancer patients,” including “incidence, prognostic markers, and survival” (p. 565). Findings indicated that “high income, high socioeconomic status, and affluence increase breast cancer incidence”
(p. 564), while this relationship between breast cancer incidence was seen “only in White women, not Blacks or Hispanics” (p. 567).

The relationship between income and breast cancer for White women was significant ($r = 0.623, p < 0.001$) compared to Black women ($r = 0.176, p = 0.221$). In affluent counties, “risk factors such as delayed childbirth, less breast feeding, and use of hormone supplements” were common (Lehrer et al., 2016, p. 566). Further, White women were more likely to be knowledgeable about breast cancer, to access regular screening, and to be able to “afford better cancer care and survive longer than poorer women” (p. 566). Increased access to and participation in mammography may relate to increased findings of positive breast cancer nodes in this population. Due to economic resources, Lehrer et al. asserted that these women may be more likely to “overcome the 5-year survival disadvantage of node positive disease” and experience an “improved 5-year survival,” unlike Black counterparts (p. 567). While affluence was found to “correlate positively with improved access to screening and healthcare” (p. 567), the authors asserted that further research “studies may be worthwhile” (p. 564).

Ansa, Yoo, Whitehead, Coughlin, and Smith (2016) examined the beliefs and behaviors associated with breast cancer recurrence risk reduction in African American breast cancer survivors (AA BCSs). Evidence suggested that despite the advances in breast cancer (BC) screening and treatment effectiveness, “breast cancer recurrence risk is linked to lifestyle behaviors” (p. 1). There are few studies examining “the correlations between BC recurrence and risk reduction beliefs,” especially “related behaviors among African American Breast Cancer Survivors (AA BCSs)” (p. 1). Among the 2.8 million estimated breast cancer survivors, fear of cancer recurrence (FCR) was high, especially in African American women, whose FCR risk was evaluated at 5% to 13%.

For recruitment, Ansa et al. (2016) reached out to members of SISTAAH, a breast cancer support group based at the University of Miami, Florida. Upon approval of the Institutional Review Board, 300 eligible BC survivors were “recruited through mailed
letters (outlining specific aims of the study) or face-to-face encounters” (p. 2). Ultimately, “participants (n=240) who were English-speaking/reading and were able to complete the assessment tool” did so either on-line, by mail, in-person, or by telephone interview, while the response “was 80% of the total support group membership, diagnosed between one and 25 years” (p. 2). Demographic variables included age, education, income, marital status, and insurance coverage. Scales on dietary intake, weight history, knowledge about cancer risks, and lifestyle beliefs were also included in the assessment. Physical activity, defined as number of times participants exercised, was captured for the prior 30 days.

In analysis, odds “ratios and related 95% confidence interval were derived from multivariate analyses,” with a significance level “set at 0.05, and all tests were two-sided” (Ansa et al., 2016, p. 3). Findings indicated that study participants had a mean age of 56.3 years. Pertaining to health beliefs, “over 65% of survivors women considered themselves overweight,” while 54.7% believed that “lack of physical activity (48.7%), a high-fat diet (63.2%) are associated with BC recurrence” (p. 4). Further, “52.1% did not believe that by increasing physical activity, BC recurrence could be prevented” (p. 4). While participants expressed a desire to learn risk reduction strategies to improve physical and mental health, many AA BCSs stated they did not receive important health “information from their oncologist or primary care provider” (p. 8). These “results support the value of including health education on diet, physical activity” as well as “maintaining proper weight” for AA BCSs women (p. 8). Results also indicated that as “many AA BCSs are overweight or obese, and do not engage in recurrence risk reduction behaviors,” and given a high FCR, there is a need to culturally tailor health promotion interventions for this population (p. 8).

Per Mott-Coles (2014), “a need exists for a better understanding of the provider communication practices for African American women and Latinas diagnosed with breast cancer” (p. 444). Mott-Coles sought to understand “the degree of cultural sensitivity
present in providers” regarding this issue (p. 444). Key research themes “focused on the extent to which providers included a patient’s cultural beliefs or practices in providing breast cancer care for African American women” (p. 445). Findings suggested that patients often “felt they must fit the providers’ preconceived ideas of patient behaviors and how these feelings influenced their desires to pursue treatment for breast cancer” (p. 445). This represents a significant missed opportunity for providers to engage in culturally competent support and relationship-building among African American and Latina women diagnosed with breast cancer.

**Breast Cancer Quality of Life Indicators**

Based on their research, Estoque et al. (2018) described quality of life (QOL) as an indicator “related to the life-ability of a person, enjoyment of life, utility of life, and especially the livability of the environment” (p. 16). As a complex and amorphous concept, assessing QOL can vary in terms of conceptual foundations, dimensions, indicators, and units of analysis. This can be further determined by objective indicators and/or subjective well-being. Hence, Estoque et al. purport that designing an “assessment framework” that can “capture the social-ecological impacts of climate change and variability” is fundamental and can bring discernment and understanding.

Wagner and Bigatti (2016) introduced the Quality of Well-Being Scale (QWB-SA) and the Medical Outcome Study SF-26 short form, two distinct measures of Health-Related Quality of Life (HRQOL); these instruments were considered to “provide a breadth of HRQOL coverage” in physical and mental domains (p. 955). The authors assessed the “impact that health has on role functioning and subjective well-being,” using the aforementioned measures among a sample of husbands of women living with breast cancer (N=80) (p. 956). Participants were eligible if they were “married to or in a stable, live-in relationship with women with breast cancer,” and signed an informed consent
form prior to participation (p. 957). Recruitment occurred in a cancer clinic; participants completed a survey at home and returned it via mail. All participants received gift card compensation for participation.

In comparison to partners of healthy women, the results showed a decrease in HRQOL among partners of cancer survivors, which went “beyond morbidity” (p. 956).

Furthermore, there is “specific information about the utility of these two HRQOL measures” and whether they can be used “for a new population, informal caregivers of cancer patients in treatment” (p. 967). Besides the small study sample, it “provides important distinctions between instruments” and informs “when each might be most useful” in a study research (p. 967). While the study could not determine “whether these findings would generalize to a broader population of caregivers,” it “provides valuable information regarding the utility of two commonly used instruments” that “may be helpful to researchers and practitioners who are seeking guidance” in the “selection of HRQOL instruments” (p. 967).

**Breast Cancer and Coping Self-Efficacy**

With the advent of sophisticated technology and treatment, many cancer patients transition into the survivorship phase, beginning after the first five years of diagnosis (Chirico et al., 2017). Chirico et al. purported that the “long-term management of cancer can present individuals with a multitude of stressors at various points in that trajectory” (p. 36800). Because of “the prevalence of psychological distress among cancer patients is higher than the general” population, this “increases the risk for developing clinical levels of anxiety and depression” (p. 36800). Thus, assessing survivors’ self-efficacy while living with the cancer is warranted. In reviewing the relationship between cancer coping self-efficacy and quality of life, Chirico et al. found that “compared to those with low efficacy, highly efficacious people demonstrate less anxiety and better adjustment”
during survivorship (p. 36800). Further evidence indicated that in a stressful situation such as cancer, “self-efficacy is positively related to quality of life” (p. 36800).

Hall and Johnson-Turbes (2015) used the Persuasive Health Message (PHM) framework “to motivate low-income African American women to obtain low- or no-cost mammograms through the CDC’s National Breast and Cervical Cancer Early Detection Program” (p. 775). The study purported that PHM “facilitates creation of messages,” especially if “there is a perceived sense of threat,” while enabling individuals to increase “their perceived ability to take action” and ultimately “protect themselves against the threat” (p. 776). Participants (N=78) were African American women, residents of Macon or Savannah, Georgia, aged 40 to 64 years old, and never been diagnosed with any kind of cancer.

Participants were recruited via local Black radio stations to participate in one of eight focus groups, each lasting two hours. The themes of discussion centered around the “different ways younger and older women” perceived cancer, “think about their bodies,” and cope with sensitive health topics (p. 776). Similarly, participants were asked if they thought cancer was a serious disease, and whether regular mammograms would help prevent them from dying of breast cancer. All focus groups were audiotaped, and field notes were collected. The messages centered around specific themes, for instance how to “detect a lump in her breast; when she turns 40 years; at 18 years of age; when she becomes sexually active” (p. 784). Participants also discussed the perceived susceptibility and the likelihood of being diagnosed with breast cancer.

Hall and Johnson-Turbes (2015) emphasized that “theoretically guided campaign messages have a greater chance for success,” in addition to achieving “goals in a more efficient and timely manner” (p. 783). Further, based on the Reasoned Action and Self-Efficacy theories, the guide in “identifying appropriate message channels” was appropriate (p. 783). From responses based on the PHM framework questions, “family and friends were salient referents for participants” (p. 784). Also, women that were
screened for cancer reported having “a family member or friend who had a mammogram” (p. 784). Among the groups, “participants shared the belief that African American women in general were at increased risk” because of “family history of cancer, poor diet, and lack of health insurance” (p. 778).

The authors highlighted several barriers to self-efficacy, and outlined several issues associated with having a mammogram. These included “dangers of exposure to radiation” or “discomfort of the test, pain, and embarrassment exposing their bodies” (Hall & Johnson-Turbes, 2015, p. 784). Due to their socioeconomic status, “women were extremely skeptical about the quality of low- or no-cost mammograms,” and expressed doubt “about technician qualifications; correct interpretation of results” and the way the mammogram results were treated (p. 778). The authors recommended the use of a PHM framework as it “helped facilitate the development of culturally appropriate messages and images” (p. 781). In addition, the framework assisted in identifying the cues and barriers to self-efficacy, presenting a robust tool for treatment of breast cancer-related factors (p. 781).

According to Hall and Johnson-Turbes (2015), “culturally appropriate messages and images that reflected the sensitivities and preferences” of the target sample population were warranted (p. 781). PHM represented a valuable resource in guiding efforts to address culturally meaningful interventions using the “deep structure” that wholly reflected the cultural, social, psychological, environment and historical factors in lieu of the “surface structures” components (p. 782). Although the PHM framework “may be too step-driven, inflexible, and even simplistic in how it directs practitioners to collect” data, the study by Hall and Johnson-Turbes purported that it is useful for understanding not only why African American women think the way they do, but also the way to eliminate “some of the pitfalls associated with formation of poor health communications messages” for this population (p. 776). PHM may motivate behavior
change in both younger and older women, “who may view cancer, think about their bodies, and cope with sensitive health topics” in different ways (p. 776).

Cromwell et al. (2015) evaluated “lymphoedema coping efficacy, the ability to adapt and adjust to the diagnosis of lymphoedema, the impact of lymphoedema on daily activities and the overall quality of life (QOL) of breast cancer patients” in their prospective, longitudinal study with a sample of N=142 (p. 725). Excluding women younger than 18 years, “51.3% of the participants were female … 61.3% were of normal weight (body mass index <30)” and “61.7% were at least 50 years old” (p. 727).

Cromwell et al. (2015) demonstrated “that lymphoedema is a significant risk,” associated with breast cancer, and confirmed “that lymphoedema can be accompanied by decreased self-efficacy” (p. 731). The study findings revealed that “patients who develop lymphoedema report better coping over time which would indicate increased self-efficacy,” in addition to expressing their “ability to cope with any prescribed lymphoedema treatment” (p. 731). However, because of “the large number of patients who travel for treatment at the institution, compliance was not studied in this cohort” (p. 731).

**Breast Cancer Coping and Religion/Spirituality**

As the most common type of cancer among women globally, breast cancer presents “a serious problem in many developing countries” like Iran (Ghahari, Imani, & Khademolreza, 2018, p. 50). Ghahari et al. argued that “this disease is an important challenge for patients,” and one in which “religion and spiritual interventions could have a positive role on psychological or physical wellbeing” (p. 50). Their research findings further revealed that “the common cores of the association between religion and spirituality are the relationship with God (Allah), self, others” (p. 50). For women facing cancer, “spirituality–religious technique is an effective intervention,” and represents an
“improvement coping strategy,” especially when dealing with issues like depression, sexual relationship problems, and low self-esteem (p. 50).

White-Means, Rice, Dapremont, Davis, and Martin (2016) focused on the patient-centered approach as a useful guide to influence how African American (AA) women cope with breast cancer. As one the largest metropolitan cities in the U.S., the disparity rates for cancer mortality in Memphis, Tennessee are highest than anywhere else in the nation. As such, Memphis was selected for this study. Whereas “African American women are twice as likely to die from breast cancer as White women,” many AA women beat the odds and have become survivors (p. 1). This study focused on women’s experiences, along with contributing factors to surviving breast cancer, despite their lower 5-year survival rate; this rate was 79% for AA women compared to 90% for White women in the study. More broadly, “the national mortality rate ratio of breast cancer deaths rate for African American women” compared to their White counterparts is at 1.4 (p. 2).

White-Means et al. (2016) developed a survey to better understand how AA women perceived, remembered, and described their experiences “from diagnosis to treatment to remission” (p. 3). After a thorough review for appropriateness, a 14-question semi-structured interview was developed. Participants were placed into two groups: a support group and a church-based group. Participants were encouraged to be open and honest in answering open-ended questions. A $25 gift card was given to individuals as compensation.

White-Means et al. (2016) found a high correlation between breast cancer and median household income, with high segregation implying a greater number of financial and geographical barriers. Compared to the median household income of $51,017 for White women, the median income for AA women was $37,072. With such apparent differences, one study objective was “to discover resources African American breast
cancer survivors stated contributed to surviving breast cancer” to best understand the
nuances of socioeconomic disparities in relation to breast cancer coping (p. 2).

Investigators examined the psychosocial, economic, and cultural influences
impacting the study population. Barriers to breast cancer coping included the insensitivity
of medical providers, limitations in medical coverage and insurance, difficulty meeting
financial obligations, and lack of sexual interest. Primary facilitators of breast cancer
coping among this sample included spirituality/prayer, family, and awareness of risk and
family history. For example, AA women indicated that they needed “to be vigilant in
their preventive health practices prior to diagnosis” (p. 12). And, the AA women
expressed confidence in their attitudes, calling themselves survivors who were made
aware of “their family history and of the need to follow up annually with their
mammogram” (p. 2).

The study conducted by White-Means et al. (2016) involved a small sample
(N=10) of African American women. Because of participants’ diverse socioeconomic
backgrounds, “the demographic distribution was not the same as that of Memphis breast
cancer survivors,” such that it “overrepresented some groups and underrepresented
others” (p. 13). Concerns were also raised “about the relatively late stage presentation
among African American women” as it pertains to breast cancer (p. 13). Despite
limitations, the qualitative data “was rich in its ability to help us glean important themes
at the individual, interpersonal, and institutional levels,” as it addressed challenges facing
African American women’s coping “associated with surviving a high risk of breast
cancer mortality” (p. 14).

Dunn et al. (2015) “evaluated the effects of demographic, clinical, and
psychosocial adjustment” of breast cancer patients as related to fear of cancer recurrence
(FCR), which is “common among cancer survivors” (p. 2033). It “remains unclear what
factors predict initial levels” or also “changes in FCR in the post treatment period”
(p. 2033). FCR is persistent, and is associated with anxiety, depressive symptoms, and
denial. Predictors of FCR are varied, while “little is known about demographic and clinical characteristics” (p. 2034).

Dunn et al. (2015) selected patients (N=410) who were over “18 years of age and able to read and write English and scheduled to undergo surgery in one breast” (p. 2035). Recruitment was conducted in public hospitals, Breast Care Centers, and community practices. Demographic information was collected at each assessment, and information on current treatment for breast cancer was also recorded. The Karnofsky Performance Status (KPS) scale was used to evaluate patients’ status while ensuring validity and reliability; the Patient Version scale, with four dimensions of quality of life (QOL) (physical, psychological, spiritual and social well-being), was also utilized. The data were analyzed using SPSS version 22, while “FCR was assessed using a four-item subscale from the QOL instrument” (p. 2033). To examine changes in FCR scores, a hierarchal linear modeling (HLM) was used “to identify predictors of inter-individual differences in preoperative FCR levels” and for the “trajectories over six months” in cancer survivors (p. 2033).

Dunn et al. (2015) found “a high degree or inter-individual variability of FCR” in women (p. 2033). Further, FCR scores declined across the six months of the study, but plateaued at approximately four months; differences in the trajectory of FCR scores were primarily influenced by the patients, the disease, the treatment, the symptom, and the adjustment. Characteristics found to predict a higher level of FCR were women “who did not live alone, who experienced greater changes in spiritual life, had higher state anxiety” leading to “more difficulty coping” (p. 2038). Patients who reported increased physical health and higher FCR scores at enrollment showed a decrease in FCR scores later in the study. Social influences also contributed to coping, and were recognized through the self-efficacy lens; it is “possible that women with lower coping self-efficacy had more trouble coping” with the disease (p. 2039). Per Dunn et al., “when people add a new dimension into their social, psychological and spiritual lives,” they “feel more confident in their
ability to cope with all future disease-related stress” (p. 2038). Similarly, when the illness causes a level of stress that cannot be successfully managed, it can also cause “distress to family members,” which creates “greater overall distress and FCR” (p. 2039).

Dunn et al. (2015) used a “relatively homogeneous sample,” thus findings were “not be generalizable to more diverse populations of patients with breast cancer” (p. 2040). Nonetheless, results highlighted the “inter-individual heterogeneity in initial levels” of FCR, and changes “in FCR over time,” especially in women that were “undergoing breast cancer surgery” (p. 2033).

**Role of Religiosity and Religious or Spiritual Coping**

Lechner et al. (2015) predicted that religiosity can lead people “into avoidance and withdrawal,” especially “when encountering stressful circumstances” (p. 205). Using a sample (N=600), Lechner et al. included Polish adults aged 16 to 46 years in their study. Representative sampling involved collecting “600 addresses—stratified by community size, age and gender—were randomly drawn from the registrar’s office” (p. 208). A total of “five interviews were conducted at each sampling point” (p. 208). Results indeed suggested that “religiosity was positively related” to goal engagement in stressful life circumstances (p. 210). Findings indicated that “more religious individuals reported using more active efforts in coping with the uncertainties and using more self-protective strategies,” (p. 210) yet the measure of religiosity “was not informative as to what specific religious beliefs or practices potentially drive” individuals to genuinely engage in coping (p. 212). Lechner et al. concluded that “religiosity can promote different coping strategies under different conditions, fostering an opportunity-congruent pattern of engagement” that is likely to be adaptive, while additional research was recommended to establish the directionality of such effects (pp. 212-213).

A study focused on the use of religious coping. More specifically, Gaston-Johansson et al. (2013) developed a pilot project in which they described the
“psychological distress, coping strategies (e.g., religious coping), coping capacity, and spiritual well-being” in African American (AA) women undergoing chemotherapy (p. 120). The authors used a “prospective descriptive-correlational design” to guide their research among the sample (N=17) (p. 123). Eligibility criteria were: “(a) AA, (b) diagnosed with breast cancer, (c) aged 18 years or older, and (d) scheduled to receive chemotherapy” (p. 123). Gaston-Johansson et al. reported that “three patients (18%) met the cut-off score for anxiety,” while three “had borderline anxiety” (p. 124). Coping strategies most often used included “praying and hoping, and increased behavior activity” (p. 124). Regarding spiritual well-being and religious coping, the strongest statement made and recorded was to “look for a stronger connection with God” (p. 125).

Gaston-Johansson et al. (2013) supported creation of a tailored “coping strategy intervention for AA women with breast cancer” (p. 125). Such an intervention should employ “positive coping self-statements (e.g., I tell myself to carry on despite the pain)” (p. 127). Authors recommended avoiding catastrophizing the situation, as it was “related to increased psychological distress, more negative religious coping, and less spiritual well-being” (p. 127). Gaston-Johansson et al. asserted that higher coping capacity was significant for AA women with breast cancer; a Comprehensive Coping Strategy Program (CCSP) was suggested (p. 129).

**Breast Cancer Coping and Social Support**

Recall from Chapter I how Ahmad et al. (2016) investigated “the mechanism by which couple identity affects an individual’s adjustment to cancer” (p. 403). They tested “the supposition that greater levels of couple identity (or we-ness) increase a woman’s coping self-efficacy in relation to breast cancer, which, in turn, predicts better psychosocial adjustment” (p. 404). Using a sample (N=112), couples completed “surveys assessing their levels of couple identity, cancer coping self-efficacy, and aspects of their psychosocial adjustment (specifically, depression, anxiety and functional well-being)”
The authors hypothesized that women diagnosed with breast cancer would “likely experience greater confidence in coping with the numerous challenges presented by the illness” (p. 405). Eligibility criteria included “(1) 18 years or older; (2) diagnosed with breast cancer; (3) fluent in reading and writing in English and (4) in a committed relationship for a minimum of 6 months” (p. 405).

Ahmad et al. (2016) found “that the more women felt identified with their relationship with their partners, the more confidence they reported in their ability to handle stressors related to cancer” (p. 410). This finding was associated with “lower levels of depression and anxiety and greater levels of functional well-being” (p. 410). The study found “that an intimate relationship plays a buffering role in relation to stress rather than an empowering one for the ill person” (p. 410). The study further indicated that “women affected by breast cancer who have a strong collective identity with their partners” and perceive “the illness as a shared stressor, (i.e., as a ‘we-disease’) rather than a stressor,” have enhanced cancer survivorship (p. 410). Ahmad et al. supported creating “couple-focused psychosocial interventions to assist women adjusting to breast cancer” to be “maximally impactful for a woman’s adjustment” as well as “her partner’s sense of identity” (p. 411). Study limitations included a largely Caucasian, English-speaking sample, therefore, the “generalizability of the results to a more linguistically and ethnically diverse group needs to be assessed in future research” (p. 411). Further research should also consider “the fluctuation in couple identity over the cancer treatment trajectory and factors that impact this” (p. 411).

Recall also from Chapter I how Karan et al. (2017) focused on the “dyadic adjustment” of “couples facing breast cancer” (p. 36). Using a sample (N=52), the authors followed couples that “wore the Electronically Activated Recorder (EAR) for one weekend and completed the Dyadic Adjustment Scale” so as “to investigate how dyadic adjustment manifests in noncancer-related word use” for couples experiencing a cancer
diagnosis (p. 38). Participants were considered for the study if they “had a primary diagnosis of Stage 0, I, II, III, or IV breast cancer” (p. 36).

After “paired sample t tests were conducted,” there were “significant differences between patients and spouses” in relation to adjustment to cancer diagnosis (Karan et al., 2017, p. 41). Further, “patients’ and spouses’ positive emotion words and anger words were significantly correlated to each other” (p. 42). This supported the hypothesis that “positive emotion words were positively associated with partners’ dyadic adjustment” (p. 44). Karan et al. recommended further study of “the relation between noncancer conversations among couples coping with breast cancer,” and examination of “how aspects of noncancer conversations among couples may influence dyadic and psychological adjustment” (p. 46). Karan et al. revealed that attending to word use “can serve as an observable marker of how a couple’s relationship is faring in the face of coping with cancer” (p. 46). It is important to acknowledge that the study could not “completely uncouple medical and gender roles,” and there is a need “to more directly test the differences due to patient and spouse role versus gender effects in coping with cancer” (p. 46).

**Breast Cancer Survivorship and Posttraumatic Growth**

Recall from Chapter I that Lelorain et al. (2012) explored the emergence of posttraumatic growth (PTG) in breast cancer “survivor narratives concerning the changes caused by the cancer in their lives” (p. 628). The focus was “on how women would mention PTG,” including “the connection of PTG with other cancer related themes” (p. 628). A total of 28 interviews were conducted by phone with “French cancer survivors, diagnosed with BC 5 to 15 years earlier” and “without recurrence at the time of the study” (p. 628). Lelorain et al. aimed to guide “people in PTG development,” the necessary resources to avoid distress, “and maintain a distance from the negative
aftermath of cancer” (p. 637). Conclusions called for practitioners to “confirm the need of internal and social resources” necessary to “derive benefit from breast cancer disease” (p. 637). This study “enabled an examination of how PTG emerges in the narrative development of cancer-related changes,” in addition to highlighting “the cognitive effort involved” (p. 637).

Cormio et al. (2015) reported on “the traumatic event that conjures fears of suffering and death,” and “the profound effect on the patients’ psychological functioning” when posttraumatic growth may occur (p. 189). Using a sample (N=360), Cormio et al. assessed long-term cancer survivors (LCS) with the Post Traumatic Growth Inventory (PTGI). Survivors were recruited from the Outpatient Unit at the National Cancer Research Center in Bari, Italy. Participants ranged in age from 25 to 80 years, with a median age of 58.6 years. Participants completed “questionnaires assessing, social support and psychological responses to cancer experience” (p. 191).

Cormio et al. (2015) found that “after such a long period, cancer-related changes might well become an integral part of one’s personality” (p. 193). Further, after many years, “survivors may have been exposed to other significant life events that may have reduced the significance of the cancer experience in their lives” (p. 193). Other variables like physical exercise, social support, and coping were reviewed. Cormio et al. stressed that “the difference in the level of post-traumatic growth may depend on the cultural differences between our sample and others,” supporting aforementioned research related to the cultural nuances present in cancer coping mechanism (p. 195). Cormio et al. suggested that this knowledge better enables clinicians “to pay attention to the psychological aspects during the years of treatment,” and most importantly, to “plan psychological interventions that may activate and strengthen those internal resources (such as coping strategies)” associated with the post-traumatic growth (p. 195).

Dyer and Coreil (2017) examined “post-treatment quality-of-life and follow-up care,” finding “critical components to living through this journey” of survivorship (p. 64).
They focused upon “the meanings of “survivorship” and the expectations attached to the survivor identity,” and determined how “social identities shape survivorship and experience” (p. 68). Dyer and Coreil used “a mixed-method study conducted with ethnically-identified breast cancer support groups” of women from Tampa Bay and Orlando, Florida. The authors recruited participants who self-identified as “African American: or “black” and as “Latina” or Hispanic,” while participants’ average age was 59.5 years and 51.9 years, respectively. On average, participants had two children. African American women in the sample “had higher levels of educational attainment,” compared to Latina women who mostly had completed a GED or high school education (p. 68). Most participants were born outside of the United States. Most participants adhered “to some form of Christianity” (p. 68). For instance, “about half of the Latina women described themselves as Catholic,” and “15 of the African American women identified as Protestant” (p. 68).

An emphasis was placed on optimism by study participants, which was especially strong in the study, while another key concept included unity in adversity. This study also highlighted cultural nuances, and the fact that “cultures have needs” that are unique as related to breast cancer acceptance and coping (Dyer & Coreil, 2017, p. 77). As such, providers must “be sensitive to the nuances of cultural background,” and become “knowledgeable about culturally appropriate support and education resources” in the community (p. 77). Despite the strong optimism permeating the participants’ discussion, potential bias might exist from recruiting solely individuals from faith-based communities. Future studies may include participants from other faith backgrounds.

**Posttraumatic Growth and Complementary and Alternative Medicine (CAM)**

Recall from Chapter I how Skaczkowski et al. (2013) assessed the benefits of Complementary and Alternative Medicine (CAM) on self-reports of posttraumatic growth (PTG) following cancer treatment. The authors recruited participants from
various nonprofit organizations in South Australia, resulting in a total sample (N=230), of which “161 participants had complete data records and were thus included in analyses” (p. 476). Skaczkowski et al. reported that “in total, 85.7% of participants had participated in at least one form of CAM” (p. 477). Women in the sample more frequently reported using CAM than men, which “encourages personal growth following a cancer experience” (p. 478). Assessing “which particular CAMs are more likely to promote growth among cancer survivors” must be determined (p. 481).

The study participants “identified a range of other activities as ‘complementary,’ including writing, reading, gardening, yoga, naturopathy” (p. 477). CAM was not found to be “associated with cancer-specific distress (i.e., PTSD symptoms) or general distress in terms of anxiety, depression or stress” (p. 478). The authors did find that “use of CAMs was positively associated with PTG” (p. 477). The authors also suggested that “the relationship between CAM use and QoL [Quality of Life] is an important factor to consider;” equally important is the mechanism by which “CAM use influences QoL,” thus strengthening the profile of the results (p. 480).

Skaczkowski et al. (2013) noted a “self-selection bias, in that CAM users may have been more willing to participate” (p. 481). There was also a “disproportionate number of female participants,” necessitating further research “to verify the applicability of these results to male cancer survivors” (p. 481). Despite these limitations, the study “provides empirical support for advocating for additional services (outside of the traditional sphere),” while encouraging “personal growth following a cancer experience” (p. 481).

**Posttraumatic Growth and Gratitude**

Ruini and Vescovelli (2013) addressed the psychological “positive effects in coping with traumatic events” (p. 263). No prior studies had been so conducted with cancer survivors. The purpose of the study was “to examine the role of gratitude in a breast cancer sample and its correlations with post traumatic well-being, and distress”
The study also helped to differentiate between “patients reporting higher levels of gratitude (High Gratitude Individuals, HGI) versus those reporting lower levels (Low Gratitude Individuals)” (LGI) (p. 263). Gratitude was identified as a predictor of psychological health, and assessed related to “environmental mastery, personal growth, positive relationship,” as well as the concepts of “purpose in life, and self acceptance” (p. 265).

The authors recruited from the Breast Center of the Santa Croce Hospital in Loreto, Italy, with a final sample of (N=70). Subjects “voluntarily enrolled in the study and gave their written consent to participate” (p. 265). The mean age of participants was 56.6 years, being cancer survivors from “1 to 15 years earlier” (p. 265). Ruini and Vescovelli (2013) identified a correlation between gratitude, posttraumatic growth, psychological well-being, and distress. Researchers found that “gratitude is positively associated with all post-traumatic growth dimensions” (p. 269). Further, patients with “higher levels of gratitude seem to be more able to find possible benefits and potential for growth” when compared to those with low levels of gratitude (p. 269). Despite limitations of sample size, the study identified gratitude as “an ingredient for post-traumatic growth,” leading “to reduced distress and increased well-being” as well as “relaxation and contentment” (p. 271).

**Theoretical Framework Guiding the Study**

There are two theoretical frameworks guiding this study: The Stress and Coping Theory of Folkman, Lazarus, Gruen, and DeLongis (1986), and the concept of Self-Efficacy from Bandura's Social Cognitive Theory (Bandura & Adams, 1977).
Stress and Coping Theory

Folkman et al. (1986) discussed the “relation between stressful events and indicators of adaptational status such as somatic health,” and concurred that “this relation is mediated by coping processes” (p. 571). Identifying the ways in which a person copes with a stressful event leads to the appreciation of “appraisal and coping processes” (p. 571). Stress and Coping Theory is “conceptualized as a relationship between the person and the environment” that could be “appraised by the person as taxing and exceeding his or her resources” (p. 572).

There is value in assessing “coping processes across diverse stressful encounters” (Folkman et al., 1986, p. 573). This may include the stress of a cancer diagnosis and treatment. Relevant in the theory are “the ways in which people cognitively appraise and cope with the internal and external demands of stressful events” (p. 576). This is relevant for survivors of breast cancer.

Social Cognitive Theory: Self-Efficacy

Bandura’s Social Cognitive Theory (SCT) (Bandura & Adams, 1977), including the concept of self-efficacy, postulates that psychological procedures serve as a “way of creating and strengthening expectation of personal effectiveness” (p. 287). Bandura and Adams indicated that “efficacy expectation predicts with considerable accuracy the level of performance” of an individual, in spite of whether “self-efficacy is changed through enactive mastery, vicarious experience of extinction of anxiety arousal” (p. 304). Also, “the stronger” the perceived self-efficacy, then the “more active the coping efforts” (p. 288). From the perspective of social learning theory, the reduction of “physiological arousal improves performance by raising efficacy expectation” (p. 289).

Of note, performance accomplishments, one of the expectations of personal efficacy, “provides the most influential efficacy information” (Bandura & Adams, 1977, p. 288). Other venues for efficacy information “include the vicarious experiences of observing others succeed through their efforts,” and verbal persuasion (p. 288).
Bandura’s research provides “substantial validity to the theory that psychological influences alter defensive behavior”—such as living through a cancer experience—and as such, enhance “the level and strength of perceived self-efficacy” (p. 303). The present study incorporates this variable, as “efficacy expectations predict with considerable accuracy the level of performance,” such as by those coping with a breast cancer diagnosis (p. 304).

**Conclusion**

This chapter provided a relevant review of the literature related to the study topic. Specifically, topics included: (1) cancer incidence, morbidity, and mortality in the United States; (2) breast cancer quality of life indicators and numerous potential related factors; (3) breast cancer survivorship and posttraumatic growth; and (4) the theoretical framework guiding this study.

The next chapter, Chapter III, will discuss the study design and methods.
Chapter III

METHODS

This chapter presents the methods used to conduct this exploratory study. This includes an overview of the study design and procedures, the recruitment of study participants, the study participants, and the study instrument. In addition, the chapter presents the data treatment and data analysis plan.

Overview of the Study Design and Study Procedures

This exploratory study used a cross-sectional mixed methods study design, combining quantitative and qualitative methods, while using an online survey hosted on the Qualtrics platform. The Qualtrics platform is the only secure survey hosting site recommended by Teachers College, Columbia University for use.

This section provides an overview of the procedures followed in this study.

IRB Approval

First, before any data collection began, this study received approval from the Teachers College, Columbia University Institutional Review Board (IRB) as Protocol #19-139 – with an “exempt status.” The IRB Approval Letter appears in Appendix A. Data collection began only after receipt of an IRB exemption from review, as approval to conduct the study. As per the IRB requirements, all subjects had to provide online Informed Consent (see Appendix E).
Subject Recruitment

Social Media Campaign

Multiple online venues were utilized to recruit study participants within a social media campaign, while using IRB approved recruitment materials. A Recruitment Flyer (see Appendix D) was utilized, including being attached to the study email message (see Appendix B). The principal investigator also texted or tweeted (see Appendix C) a study invitation to potentially interested participants. Recruitment was most intensely focused on Facebook, as the Principal Investigator joined groups that included breast cancer survivors—including daily postings during data collection.

Social media campaign and use of a core recruitment message. The social media campaign used the following core recruitment message:

GO TO https://tinyurl.com/BreastCancerSurvivorStudy to take the survey for Black Women survivors of breast cancer (5 years +) on quality of life for chance to win 1 of 3 $100 Amazon gift cards

OR

Click https://tinyurl.com/BreastCancerSurvivorStudy to take survey for Black Women survivors of breast cancer (5 years +) for chance to win 1 of 3 $100 Amazon gift cards

Snowballing. Participants willing to complete the survey were invited to forward the study link to other women they knew, permitting snowballing.

Online Facebook community outreach. An online request was sent to join several breast cancer organizations with open membership that are active on Facebook, as follows:

- Breast Cancer Survivors Family and Friends
- Cancer Survivors and Supporters
- Komen Breast Cancer Group
The Long Island Breast Cancer Support Group
Women Supporting Women

Approval to join the above groups as a member was typically received in a few days. The resultant connections were very useful, as they provided the opportunity to disseminate the study core recruitment message (i.e., Go to … to take the survey for…) and post on these groups’ Facebook pages and enjoy access to their contacts on a regular basis. Such posting was done daily during the study recruitment period, while the Principal Investigator rotated from one group’s Facebook page to another so that postings on any one site were about every other day, or three times a week.

Community outreach. The study Recruitment Flyer also permitted the Principal Investigator to engage in community outreach to numerous organizations. The flyer was widely distributed through a community outreach process. To obtain assistance with the recruitment process, telephone and email contacts were made with several breast cancer survivor organizations, some of which have a membership of thousands of survivors, specifically, with those below:

- Annie Appleseed Project
- Sister’s Network of Breast Cancer Survivors
- SHARE
- The American Cancer Society/Cancer Action Network (ACS/CAN)
- The Comprehensive Treatment Cancer Action (CTCA)
- The Susan G. Komen Foundation

Unfortunately, some organizational representatives, while very kind, delivered the news that patient files and contact information are protected and cannot be shared, while sending out a mass e-mail would require an approval process—and approval likely would not be given to use their email lists. At best, some organizational representatives agreed to distribute flyers to their volunteers, accepting the Principal Investigator dropping them off.
In-person community outreach. In addition, community outreach took place in person, with the Principal Investigator arranging opportunities to visit and speak briefly about the study opportunity, as follows:

- five churches across Queens and Nassau Counties where African American/Black women mostly worship.
  - This captured some large pockets of African American and Caribbean immigrants.
- In addition, without a chance to speak to church members, flyers were widely distributed at yet another three churches.

Beyond community outreach to churches, the Principal Investigator also engaged in outreach at civic meetings, other community events at local libraries, as well as at the following: beauty parlors/ hair salons; and, nail salons—as community venues where Black women regularly converged on the weekend.

Contact was also made with the National Coalition of 100 Black Women Long Island Chapter, Inc., as they represent a committed group of intergenerational women with a large spectrum of Black women from a variety of professions and levels of employment and education. This contact was used to attract women of color, make them aware of the study, and encourage them to inform women living with breast cancer and who met the eligibility criteria to complete the online survey. The organization agreed to post the study flyer on their website.

Use of community bulletin boards. Survey flyers were posted on bulletin boards at Columbia-Presbyterian Medical Center and at Teachers College, Columbia University in the most heavily trafficked areas. Colleagues also agreed to share the survey flyer with their contacts, and snowballing ensued. Additional contacts were made with the Adelphi NY Statewide Breast Cancer Hotline and Support Program at Adelphi University, which posted the flyer on many of their online sites. Flyers were also placed on the two colleges’ billboards.
Use of large email list-serves. The use of large email list-serves permitted disseminating the study opportunity, also. For example, Professor Wallace assisted in recruitment by sending out the Study E-mail with the Recruitment Flyer attached, while using the list-serve of the Research Group on Disparities in Health (RGDH) and requesting dissemination. The Health Center of York College of the City University of New York similarly shared the email with flyer attached with their alumni and staff.

Print advertising. With a circulation of about 15,000, the Nassau Herald, a weekly newspaper of Nassau County, New York, published an ad on the survey study; the aim was to potentially reach the Five Towns communities of Lawrence, Woodmere, Hewlett, Cedarhurst, Inwood, and Atlantic Beach. The ad was posted twice with emphasis on the study incentive of having a chance of winning one of three $100 Amazon gift cards for completing the survey.

Other Procedures

The study participants in receipt of the core study recruitment message, whether from within a Facebook post, tweet/text, or flyer, had a link that, once clicked, took the individual to the Informed Consent for study participation (see Appendix E). Those who provided a completed Informed Consent were able to proceed to the Study Survey (see Appendix G), including by checking a box to acknowledge their meeting study inclusion criteria and their agreement to participate in the study.

Study Inclusion-Exclusion Criteria

The inclusion criteria that participants acknowledged meeting included the following, which, as screening questions at the beginning of the survey, embodied study eligibility:

1-Are you a female who is at least 23 years of age?*

Yes___ No____
2-Are you African American, or do you consider yourself to be Black?
   Yes___    No____

3-Are you able to read and understand English on a 12th grade level?
   Yes___    No____

4-Were you ever diagnosed with breast cancer?
   Yes___    No____

5-Were you diagnosed with breast cancer at least 5 years ago?
   Yes___    No____

6-Are you able to devote about 35-45 minutes to this study at this time—
   for a chance to win one of three $100 Amazon gift cards?
   Yes___    No____

If they answered YES to all of the above questions → they accessed the survey.

If they answered NO to any of the above questions → they receive this message:

   Thank you for your time, but unfortunately you are not qualified to participate in this study. Feel free to invite other breast cancer survivors to participate in this study. Please send them the study link that you used to access this survey.

   THANK YOU!

*NOTE: One male, not meeting the criterion of being female, gained entry to the study, perhaps by not answering the first question honestly. Because of the small sample size, he remained in the sample.

Those who met all the above study inclusion criteria were able to proceed to the online survey hosted on Qualtrics (see Appendix G).
**Agreement to 35 to 40 minute study participation.** As shown above, the inclusion/exclusion criteria also reflected how participants acknowledged taking the survey would involve about 35-40 minutes of their time.

**Joining the Lottery for Chance to Win the Incentive for Participation**

After completing the online survey, participants were provided a link to enter a lottery for a chance to win one of three $100 Amazon gift cards. To enter the lottery’s random drawing, participants entered their email addresses at the end of the survey. The emails were automatically entered into a database administered by Professor Wallace’s Research Group on Disparities in Health (RGDH) webmaster, Dr. Rupananda Misra. At the conclusion of the study, Dr. Misra ran the program that identified three winners of the study incentive. All subjects remained anonymous and their identities protected. The Principal Investigator never had access to participants’ email addresses, thereby ensuring the confidentiality of participants. Participants were also made aware that their information was not linked to their email addresses in any way. The program emailed the gift certificates to the three individual prize winners and advised them that they had won the $100 Amazon gift card prize that was part of this study.

**Data collection with eligible participants in winter 2019.** Using the methods detailed in this section, the data collection spanned several weeks in the winter of 2019.

**Description of Participants**

Using the participant recruitment methods described above, this study was able to attract a total of 47 women who completed the Informed Consent and proceeded to start taking the survey. There was, however, the issue of participant dropout, or survey non-completion (n=25, 53.19%), given women had not proceeded far enough into the survey to have data for the study primary outcome variable of a higher rating of quality of life.
The remaining and final sample size was n=22 (or 46.81% of those who completed the Informed Consent and proceeded to start taking the survey). The data were so incomplete that demographic variables were missing for some of the non-completers, and it was not possible to conduct a comparison of completers to non-completers.

The study survey data for N=22 were used to conduct the data analysis.

**Description of the Research Instrumentation**

The research instrumentation for this study is titled the *African American Breast Cancer Survivors’ Online Study of Predictors of Quality of Life: Health Status, Posttraumatic Growth, Religiosity/Spirituality, Social Support, Partner Support, Stress, Depression, Anxiety, and Coping Self-Efficacy*. The instrument included many survey parts—both those used in published research literature, as well as from prior studies conducted under the auspices of the Research Group on Disparities in Health (RGDH), Teachers College, Columbia University where Professor Barbara Wallace is the Director of the RGDH, and the Principal Investigator is a Fellow.

**Survey Part I: BD-9**

**Part I: Basic Demographics (BD-9)** is a tool created for use by the Research Group on Disparities in Health (e.g., Ingram, 2017) and adapted for the present study population. This scale is comprised of six items to capture the basic demographics of the study population. It captures gender, race, birthplace, age, education level, and household income, for example.

**Survey Part II: B-CHAT-S-3**

**Part II: Breast Cancer History and Treatment Scale (B-CHAT-S-3)** is a new tool created by the Principal Investigator and Professor Barbara Wallace for use in this study. This survey part obtains data on whether they are a breast cancer survivor, years
since diagnosis, and whether treated by a medical provider. Logic programmed into the survey permitted directing anyone who at this point answered “no” to being a survivor or having less than five years of survivorship from breast cancer.

Survey Part III: PHB-9

Part III: Personal Health Background (PHB-9) is a tool created by Professor Wallace for use by the Research Group on Disparities in Health (RGDH) (for example, see Ingram, 2017). This tool essentially assesses how survey participants rate their overall health status, provides data for their Body Mass Index (BMI), and rates how they consider their weight status, for instance, whether they have a normal weight, or are overweight or obese. Continuous items for overall health status, quality of care for their health and any medical conditions they have, quality of care from their primary care provider, provider’s sensitivity and competence for treating a breast cancer survivor, and provider’s sensitivity and competence for treating an African American breast cancer survivor, using the following 6-point Likert scale:

<table>
<thead>
<tr>
<th>1-Very Poor</th>
<th>2-Poor</th>
<th>3-Fair</th>
<th>4-Good</th>
<th>5-Very Good</th>
<th>6-Excellent</th>
</tr>
</thead>
</table>

Survey Part IV: MAY 13

Part IV: More About You (Social Desirability) (MAY-13) is the short form of Crowne and Marlowe’s (1960) 33-item scale of social desirability independent of psychopathology. They found good reliability for the original scale using the Kuder-Richardson formula (0.88); and also found was good test-retest correlation (0.89).

Scoring instructions indicate the following:
- Items # 5, 7, 9, 10, and 13 are True, as socially desirable responses
- Items # 1, 2, 3, 4, 6, 8, 11, and 12 are False, as socially desirable responses
- Socially desirable = scored of
Minimum and maximum score range = low of 1 to high of 13.

Survey Part V: RYQOL-S-1

The Rating Your Quality of Life Scale (RYQOL-S-1) is a new 1-item scale created for use in this study, while being based on the main areas covered in the quality of life scale created by Gordon and Siminoff (2010)—specifically physical function, social support, body image, emotional function, coping, cognitive function (excluding their future orientation, and breast cancer impact). They describe the scale creation as arising from an interview process. The final tool was a 28 item scale with very good internal consistency (Cronbach’s Alpha = .88). Gordon and Siminoff introduced the tool as being of value in research with breast cancer survivors, while assessing distinct factors via seven sub-scales: (1) physical function, (2) body image, (3) sexual function, (4) coping, (5) cognitive function, (6) social support, and (7) anxiety.

In the present study, the adaptation of the work of Gordon and Siminoff (2010) involved the creation of a one-item measure that would reduce the response burden of length and time on study participants.

Survivors were given the following instruction for this study’s new one-item Rating Your Quality of Life Scale (RYQOL-S-1):

Please rate yourself, after reading the following:

Please think about the quality of your life, including the following: my ability to function physically (my level of strength, tendency to experience fatigue, ability to walk up and down stairs, ability to perform physical activities around the house, ability to move my arms and legs, degree to which I feel pain in my body); my amount of social support (number of people I can rely on for help, including in a crisis); my feelings about my body image (attractiveness, finding clothing I like to wear); my emotional functioning (degree of depression, anxiety, worry, uncertainty); and my mental functioning (ability to concentrate, remember things, think clearly).

Keeping all of this in mind, please rate your quality of life at the present time:
Survey Part VI: PTFI-SF-10

Part VI: Posttraumatic Growth Inventory-Short Form (PTGI-SF-10) is a short 10-item form of the Posttraumatic Growth Inventory that was created by Cann et al. (2010). Based on confirmatory factor analyses performed on data sets from two studies, findings demonstrated a five-factor structure for the PTGI-short form (PTGI-SF) found to be equivalent to that of the original PTGI.

According to Cann et al. (2010), findings of “studies of homogenous clinical samples” like bereaved parents, intimate partners, violence victims, and acute leukemia patients, revealed that the short form “yields relationships with other variables of interest in a manner equivalent to those found with the original PTGI” (p. 127). One of the final studies further indicated “that administering the 10 short-form items in a random order” in lieu of “the fixed context of the original scale, did not impact the performance of the PTGI-SF” (p. 127). In general, the research results “indicate that the PTGI-SF could be substituted for the PTGI with little loss of information” (p. 127). Cann et al. (2010) reported the scale factors and their items as follows:

- I = Relating to Other (items = 5, 10)
- II= New Possibilities (items = 3, 6)
- III = Personal Strength (items = 7, 9)
- IV = Spiritual Change (items = 4, 8)
- V = Appreciation of Life (items = 1, 2)

Items are scored on a five-point Likert scale for degree of to which change was experienced for the 10 items, while the instructions to participants, scale response options and their Likert scoring follow—as per two sample items:

I rate my quality of life as:
1-Very poor  2-Poor  3-Fair  4-Good  5-Very Good  6-Excellent
Please think about your experience of being diagnosed and/or treated for breast cancer, and indicate what you experienced:

1-I changed my priorities about what is important in life
   __0-I did not experience this change
   __1-I experienced this change to a very small degree
   __2-I experienced this change to a small degree
   __3-I experienced this change to a moderate degree
   __4-I experienced this change to a great degree
   __5-I experienced this change to a very great degree

2-I have a greater appreciation for the value of my own life
   __0-I did not experience this change
   __1-I experienced this change to a very small degree
   __2-I experienced this change to a small degree
   __3-I experienced this change to a moderate degree
   __4-I experienced this change to a great degree
   __5-I experienced this change to a very great degree

Survey Part VII: RSS-BAF-CC-4

Part VII: Religiosity/Spirituality Scale Before and After Breast Cancer (RSS-BAF-BC-4) is a single-item scale, the Self-Rating of Religiosity scale taken from the work of Abdel-Khalek (2007), where five questions assessed level of religiosity, degree of felt happiness, estimation of one’s mental health, and estimation of one’s physical health. The researcher found that the scale demonstrated high reliability (.89), good temporal stability, concurrent validity, and high loading (0.84), thereby denoting good factorial validity. Abdel-Khalek reported that the “one-week test–retest reliability of the four self-rating scales ranged between 0.76 and 0.89,” thereby “denoting high temporal stability, and corroborates the trait-like nature of the scores” (p. 576). Furthermore, of special interest, they reported that as “for the validity, the self-rating scale of religiosity correlated 0.51 (N=531) with Hoge’s (1972) Intrinsic Religious Motivation (IRM) Scale, denoting good criterion-related validity” (p. 576).

Thus, there was a rationale for just using in this study the self-rating scale of religiosity, while acknowledging literature on spirituality and how some women might
identify more with this term. The following four questions were in the final RSS-BAF-CC-4 used in this study, while a 5-point Likert scale with scoring are also shown, here:

1-**Before your breast cancer experience,**
   
   **I would rate myself as:**
   __1 very religious __2 religious __3 somewhat religious __4 not religious __5 not religious at all.

   **AND**

2-**I would rate myself as:**
   __1 very spiritual __2 spiritual __3 somewhat spiritual __4 not spiritual __5 not spiritual at all.

3-**After your breast cancer experience—or now,**
   
   **I would rate myself as:**
   __1 very religious __2 religious __3 somewhat religious __4 not religious __5 not religious at all.

   **AND**

4-**I would rate myself as:**
   __1 very spiritual __2 spiritual __3 somewhat spiritual __4 not spiritual __5 not spiritual at all.

Adding for this study a **before and after** breast cancer experience component was intended to permit assessing the impact of it upon their religiosity and spirituality.

**Survey Part VIII: PSSS-5**

**Part VIII: Perceived Social Support Scale (PSSS-5)** was developed by Professor Barbara Wallace for use by the RGDH. The five-item Perceived Social Support scale (PSSS-5) was used for the first time use in a study by Lian (2017). The scale follows a common format used by the RGDH where a concept is explained (e.g., social support) and subjects are asked to rate themselves on a 5-point Likert scale with scoring—as shown below via two sample items:

**Having SOCIAL SUPPORT** means having family, friends, peers, roommates, or neighbors that live near you and can provide assistance in all the ways listed, below. Please indicate the extent to which you experience
SOCIAL SUPPORT in your life at this time (i.e., right now), specifically in the following ways:

1. I could ask for advice if I needed it, and could get it pretty quickly without waiting
   1. I have no one like this in my life right now
   2. I have at least 1 one person like this in my life right now
   3. I have at least 2 people like this in my life right now
   4. I have 3-5 people like this in my life right now
   5. I have 6 or more people like this in my life right now

2. I could go to them in an emergency for help (e.g. such as a place to wait/stay if I was locked out of my housing/dormitory room/apartment)
   1. I have no one like this in my life right now
   2. I have at least 1 one person like this in my life right now
   3. I have at least 2 people like this in my life right now
   4. I have 3-5 people like this in my life right now
   5. I have 6 or more people like this in my life right now

Survey Part IX: PS/P-SSC-2

Part IX: Perceived Spouse/Partner Social Support Scale (PS/P-SSC-2) was developed by the Principal Investigator and Professor Barbara Wallace for use by the RGDH, while it arose from the review of literature. Developed for first-time use in this study, the tool uses two items, as follows, to assess the degree of Spouse/Partner social support, using a 10-point Likert scale:

Have you had a spouse, or partner, or significant other living with you during the period when you were coping with having breast cancer, or being a survivor of breast cancer?

___Yes ___No

If has NO partner (b, c, e)→ go to next question

If Yes→

Please rate your spouse, or partner, or significant other for their degree of support for you on a scale of 0 to 10, where 0= lowest level of support and 10=highest level of support.

I rate my partner _0 _1 _2 _3 _4 _5 _6 _7 _8 _9 _10
Survey Part X: PSS-10

Part X: Perceived Stress Scale (PSS-10) is a global measure of perceived stress that has been described Cohen, Kamarck, and Mermelstein (1983) and disseminated widely by Cohen (1994). Versions found in the literature have included a 14-item version, 10-item version, and 4-item version (Lee, 2012). A systematic review of the psychometric properties of the 10-item Perceived Stress Scale found, as follows:

The PSS is a short and easy to use questionnaire established with acceptable psychometric properties. However, the test-retest reliability, criterion validity, and known-groups validity of the PSS need to be evaluated further. In general, the psychometric properties of the PSS-10 are superior to those of the PSS-14. Therefore, it is recommended that the PSS-10 be used to measure perceived stress, both in practice and research. The PSS-4 is the least effective of these tools, although as proposed by Cohen et al. (1983), it may be useful and feasible in situations where a short questionnaire is required, such as telephone interviews. (Lee, 2012, p. 127)

Instructions and two sample item follow, showing the 5-point Likert scale response options:

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way, using the following options:

0 = Never   1 = Almost   2 = Sometimes   3 = Fairly Often   4 = Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly?................................................................................................................. 0 1 2 3 4

2. In the last month, how often have you felt that you were unable to control the important things in your life?.................................................................................................................. 0 1 2 3 4

Survey Part XI: R-DAAC-S-3

Part XI: Retrospective Depression, Anxiety and Counseling Scale (R-DAAC-S-3) is a shorter version of a scale that follows prior work (i.e., Lian, 2017; Lian & Wallace, 2018)—as a common tool used by the Research Group on Disparities in Health (RGDH). For this study, study subjects are only asked about the past year—and not past 3, 6 months, as the two deleted items. The counseling question appears just once—unlike
the earlier version in Lian (2017), where it was asked twice; i.e., first, after inquiring about seeking counseling for depression, as well as after inquiring about depression. For this tool, the common RGDH strategy of providing a definition or explanation of a concept is followed by asking them to rate themselves, in light of that definition or explanation—and if they sought counseling. A sample item with simple dichotomous scoring is shown, below:

**Depression** is an overwhelming feeling of intense sadness. It can include feeling helpless, hopeless, and worthless. It can sometimes be expressed through angry outbursts, as well as bursting into tears. There can also be loss of appetite, or an increase in appetite. There can also be difficulty sleeping, or oversleeping. In addition, there can be a loss of interest in your activities. Such a depression can last for days or weeks. This goes beyond typical feelings of sadness, such as following some disappointment.

1-Do you think you experienced any **depression** in the past year or 12 months?

0=____No  1= ____Yes

**Anxiety** is an overwhelming and intense feeling of nervousness, fear, tension, powerlessness, and apprehension. It can reach a peak so there are moments of panic where one’s heart may be pounding/beating quickly, or there is rapid breathing/difficulty breathing. A person may also experience sweating and trembling. Sometimes it can be so intense that one has trouble concentrating/thinking, leaving the house, or trouble being around other people. The fear can be very intense and one can feel like there is some impending danger. This goes beyond typical feelings of nervousness, such as when anticipating a new situation, or something unexpected, or unknown.

2-Do you think you experienced any **anxiety** in the past year or 12 months?

0=____No  1= ____Yes

**Receipt of Counseling**

3-In the past year, did you seek out any kind of counseling or advice for any depression and/or anxiety, or other stress—such as from a mental health professional, Iman, Mosque Elder, or family member?

0=____No  1= ____Yes  ___Not Applicable/ No experience of depression or anxiety, or other related issues, etc.
Survey Part XII: CSES-RF-13

Part XII. Coping Self-Efficacy Scale-Reduced Form (CSES-RF-13) was developed by Chesney, Neilands, Chambers, Taylor, and Folkman (2006), as a valid and reliable tool for assessing coping self-efficacy. Within the Research Group on Disparities in Health, it was recently used by Ingram (2017). The purpose of the scale is to assess an individual’s perceived self-efficacy to cope, while having specific instructions, using a 10-point Likert scale, features three sub-scales, and scoring, as per the sample items, below:

For each of the following items, write a number from 0 - 10, using the scale below. When things aren't going well for you, how confident are you that you can:

<table>
<thead>
<tr>
<th>Cannot do at all</th>
<th>Moderately certain can do</th>
<th>Certainly can do</th>
</tr>
</thead>
<tbody>
<tr>
<td>0    1    2    3</td>
<td>4    5    6    7</td>
<td>8    9    10</td>
</tr>
</tbody>
</table>

Use Problem-Focused Coping
1. Break an upsetting problem down into smaller parts. _____
2. Sort out what can be changed, and what cannot be changed. _____
3. Make a plan of action and follow it when confronted with a problem ___
4. Leave options open when things get stressful. _____
5. Think about one part of the problem at a time. _____
6. Find solutions to your most difficult problems. _____

1. Stop Unpleasant Emotions and Thoughts
7. Make unpleasant thoughts go away. _____
8. Take your mind off unpleasant thoughts. _____
9. Stop yourself from being upset by unpleasant thoughts. _____
10. Keep from feeling sad. _____

2. Get Support From Friends and Family
11. Get friends to help you with the things you need. _____
12. Get emotional support from friends and family. _____
13. Make new friends. _____

Regarding each of the three sub-scales of their tool, Chesney et al. (2006) reported the following:
For internal consistency using Cronbach’s Alpha
1-problem-solving self-efficacy - .91 (6 items)
2-stopping unpleasant thoughts self-efficacy - .91 (4 items)
3-seeking social support self-efficacy - .80 (3 items).

Treatment of the Data

Data Management
The data were downloaded from www.qualtrics.com and transferred to SPSS for analysis using SPSS 25.0.

Data Analysis Plan
Given an online sample of African American women (N=22) who are long-term survivors of breast cancer (5 years or more) who responded to a social media campaign (‘Go to <https://tinyurl.com/BreastCancerSurvivorStudy> to take the African American Women’s Breast Cancer Survivors’ (5 years or more) Survey on quality of life and coping for a chance to win 1 of 3 $100 Amazon gift cards’) and completed the survey, the research answered the following questions—using the data analysis plan indicated:

Quantitative portion of study.
1. What were their demographic characteristics (i.e., gender, age, race/ethnicity, U.S. born or not, education, annual household income, employed or not)?
   PART I: BASIC DEMOGRAPHICS (BD-9)
   Data Analysis Plan: Descriptive statistics (M, SD, min, max, frequency, percent)
2. What was their history of being diagnosed with breast cancer, in terms of number of years ago (i.e., 5 years or more), and if treated by a medical provider for their breast cancer?
PART II: BREAST CANCER HISTORY AND TREATMENT SCALE (B-CHAT-S-3)

Data Analysis Plan: Descriptive statistics (M, SD, min, max, frequency, percent)

3. How did they rate their overall health status, their Body Mass Index (BMI)/weight status, the overall quality of care that they receive for their health, the overall quality of care they receive from their provider, and the sensitivity and competence of their provider for treating someone with breast cancer—and someone who is African American with breast cancer?

PART III: PERSONAL HEALTH BACKGROUND (PHB-9)

Data Analysis Plan: Descriptive statistics (M, SD, min, max, frequency, percent)

4. To what extent do they tend to provide socially desirable responses?

PART IV: MORE ABOUT YOU (SOCIAL DESIRABILITY) (MAY-13)

Data Analysis Plan: Descriptive statistics (M, SD, min, max, frequency, percent)

5. What was their rating for their quality of life?

[Note: This is the study outcome variable.]

PART V: RATING YOUR QUALITY OF LIFE SCALE (RYQOL-S-1)

Data Analysis Plan: Descriptive statistics (M, SD, min, max, frequency, percent)

6. To what degree did they experience any posttraumatic growth after being diagnosed and/or treated for breast cancer?

PART VI: POSTTRAUMATIC GROWTH INVENTORY-SHORT FORM (PTGI-SF-10)

Data Analysis Plan: Descriptive statistics (M, SD, min, max, frequency, percent)
7. What was their level of religiosity/spirituality before their breast cancer experience, and after that experience/at present—and was there any change?

PART VII: RELIGIOSITY/SPRITUALITY SCALE BEFORE AND AFTER BREAST CANCER (RSS-BAF-BC-4)

Data Analysis Plan: Descriptive statistics ($M$, $SD$, min, max, frequency, percent)

8. What was their perceived level of social support?

PART VIII: PERCEIVED SOCIAL SUPPORT SCALE (PSSS-5)

Data Analysis Plan: Descriptive statistics ($M$, $SD$, min, max, frequency, percent)

9. What was their perceived level of social support from their spouse/partner during the period when they were coping with breast cancer or being a survivor of breast cancer?

PART IX: PERCEIVED SPOUSE/PARTNER SOCIAL SUPPORT SCALE (PS/P-SSC-2)

Data Analysis Plan: Descriptive statistics ($M$, $SD$, min, max, frequency, percent)

10. What was their level of perceived stress this past month?

PART X: PERCEIVED STRESS SCALE (PSS-10)

Data Analysis Plan: Descriptive statistics ($M$, $SD$, min, max, frequency, percent)

11. What was the prevalence of symptoms of depression and anxiety in the past year, and was counseling or advice sought out?

PART XI: RETROSPECTIVE DEPRESSION, ANXIETY AND COUNSELING SCALE (R-DACS-3)

Data Analysis Plan: Descriptive statistics ($M$, $SD$, min, max, frequency, percent)
12. What was their coping self-efficacy—specifically, their level of ability and confidence for using (a) problem-focused coping, (b) stopping unpleasant emotions and thoughts, and (c) getting support from other family and friends?

PART XII. COPING SELF-EFFICACY SCALE—REDUCED FORM
(CSES-RF-13)

Data Analysis Plan: Descriptive statistics (M, SD, min, max, frequency, percent)

13. What were the significant relationships among selected independent variables (e.g., age, education level, etc.) and the study outcome variable/dependent variable of higher rating of quality of life?

Data Analysis Plan: Inferential statistics (independent t-tests and Pearson correlation)

Qualitative portion of study.

14. As the qualitative portion of the study, what do women report, in response to a question on their breast cancer survivorship (i.e., Given your experience of being a breast cancer survivor, what do you feel have been the key factors in your achieving years as a survivor, and what have been your most important coping strategies?)

Data Analysis Plan: Thematic data analysis

The Research Group on Disparities in Health (RGDH) advances a common qualitative data analysis strategy across all studies, doing so via a guide on the use of a standardized Qualitative Data Analysis Strategy (see Appendix H). In the case of this study, two raters were used—the Principal Investigator and the dissertation sponsor.
Conclusion

The methods used in this exploratory research study were described in this chapter, including the description of the study design, the procedures, recruitment of participants, and the research instrumentation, as well as the data treatment and data analysis plan.

The next chapter, IV, will present the results of data analysis.
Chapter IV

RESULTS

In this chapter, the results of the study are presented as outlined in the data analysis plan. The results are presented by research questions, as well as organized into tables that summarize the research findings.

Data Analysis Results by Study Question

Results for Research Question #1

*What were their demographic characteristics (i.e., gender, age, race/ethnicity, US born or not, education, annual household income, employed or not)?*

The study included 47 breast cancer survivors who signed the informed form to take part in the study. Some 22 survivors (46.8%) were qualified to participate in the study, while 53.19% (n=25) were study drop-outs or non-completers. Because of small sample sizes and missing data, an analysis could not be performed used independent t-tests to identify any differences between those completed and those who did not.

The sample of (N=22) consisted of 21 female (95%) and 1 (4.5%) male identified, while 95.5% (n=21) were African Americans with a mean age of 56.50 (min=25, max=78 SD=13.008). The mean for the education variable was 6.5 for between AS and BA/BS degrees (min=3, max=10, SD=1.595). The mean of 4.18 for the household income was category 5 of $50,000 to $99,000 (min=1, max=9, SD=1.893). Some 22.7% reported category 3 with annual income of $20,000 to $39,000 (see Table 1).
Table 1. Demographic Characteristics of Sample (N=22)

<table>
<thead>
<tr>
<th>Gender (N=22)</th>
<th>N</th>
<th>%</th>
<th>Race (N=22)</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>21</td>
<td>95%</td>
<td>Black</td>
<td>21</td>
<td>95.5%</td>
</tr>
<tr>
<td>*Male</td>
<td>1</td>
<td>4.5%</td>
<td>Asian</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Indo-Guyanese)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Born in U.S. (N=22)</th>
<th>N</th>
<th>%</th>
<th>Born Elsewhere (N=6)</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>16</td>
<td>72.7%</td>
<td>Haiti</td>
<td>4</td>
<td>18.2%</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>27.3%</td>
<td>Jamaica</td>
<td>2</td>
<td>9.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age (N=22)</th>
<th>N</th>
<th>%</th>
<th>Education (N=22)</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-40</td>
<td>3</td>
<td>13.5%</td>
<td>3-Some High School</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>45-55</td>
<td>8</td>
<td>36.1%</td>
<td>4-High School</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>57-70</td>
<td>7</td>
<td>31.6%</td>
<td>Graduate (GED)</td>
<td>5</td>
<td>22.7%</td>
</tr>
<tr>
<td>71-71-78</td>
<td>3</td>
<td>18.1%</td>
<td>5-Some College</td>
<td>6</td>
<td>27.7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Credit, No Degree</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>or Technical Degree</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Household Income (N=22)</th>
<th>N</th>
<th>%</th>
<th>M age=56.50, SD=13.008</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Less than $10,000</td>
<td>2</td>
<td>9.1%</td>
<td>Min=25, Max=78</td>
</tr>
<tr>
<td>2-$10,000 to $19,000</td>
<td>2</td>
<td>9.1%</td>
<td></td>
</tr>
<tr>
<td>3-$20,000 to $39,000</td>
<td>5</td>
<td>22.7%</td>
<td></td>
</tr>
<tr>
<td>4-$40,000 to $49,000</td>
<td>1</td>
<td>4.5%</td>
<td></td>
</tr>
<tr>
<td>5-$50,000 to $99,000</td>
<td>8</td>
<td>36.4%</td>
<td></td>
</tr>
<tr>
<td>6-$100,000 to $199,999</td>
<td>3</td>
<td>13.6%</td>
<td></td>
</tr>
<tr>
<td>9-$400,000 to $499,000</td>
<td>1</td>
<td>4.5%</td>
<td></td>
</tr>
</tbody>
</table>

| Min=1, Max=9 |

*Note: One male participant gained entry into the study, perhaps by misrepresenting himself in answering the screening questions. Because of the small sample size, the decision was made not to eliminate this male participant.

Results for Research Question #2

*What was their history of being diagnosed with breast cancer, in terms of number of years of age (i.e., 5 years or more), and if treated by a medical provider for their breast cancer? (Survey Part: CHAT-S-3)*

The entire sample population was comprised of survivors (100%, N=22). The mean years since diagnosis was 15.55 (SD=10.734, min-5 years, max= 47 years). All survivors (100%) have been treated by a medical provider (see Table 2).
Table 2. History of Breast Cancer and Medical Care (N=22)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Five-Year Survivor of Breast Cancer (N=22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Yes</td>
<td>22</td>
<td>100%</td>
</tr>
<tr>
<td>Number of Years Diagnosed with Breast Cancer (N=22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>11</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>12</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>17</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>26</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>29</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>32</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>47</td>
<td>1</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

M years diagnosed=15.55, SD=10.734
Min=5, Max=47

| Treated by Medical Providers (N=22) |    |      |
| 1 Yes                          | 22 | 100% |

Results for Research Question #3

How did they rate their overall health status, their Body Mass Index (BMI)/weight status, the overall quality of care that they receive for their health, the overall quality of care they receive from their provider, and the sensitivity and competence of their provider for treating someone with breast cancer—and someone who is African American with breast cancer?

The mean for overall health status was 4.09 for good (min=2, max=6, SD=1.065). The mean for weight status was 2.55 for between normal weight and overweight (min=2, max=4, SD=.596). The mean for quality of care for their health was 4.86 for closest to very good (min=3, max=6, SD=.889). The mean for quality of physician care was 4.77 for closest to very good (min=3, max=6, SD=.813). The mean for sensitivity and
competence for treating a cancer survivor was 4.91 for very good (min=2, max=6, SD=1.192). The mean for sensitivity and competence for treating an African American with breast cancer was 4.73 for closest to very good (min=2, max=6, SD=1.241) (see Table 3).

Table 3. Personal Health Background (N=22)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Health Status (N=22)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Poor</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>3-Fair</td>
<td>6</td>
<td>27.3%</td>
</tr>
<tr>
<td>4-Good</td>
<td>7</td>
<td>31.8%</td>
</tr>
<tr>
<td>5- Very Good</td>
<td>6</td>
<td>27.3%</td>
</tr>
<tr>
<td>6- Excellent</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>\textit{M health status}=4.09, SD=1.065</td>
<td></td>
<td></td>
</tr>
<tr>
<td>\textit{Min}=2, \textit{Max}=6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Self-Rating of Weight (N=22)** |    |      |
| 2-Normal Weight                | 11 | 50%  |
| 3-Overweight                   | 10 | 45.5%|
| 4-Obese                        | 1  | 4.5% |
| \textit{M weight}=2.55, SD=.596 |    |      |
| \textit{Min}=2, \textit{Max}=4 |    |      |

| **Quality of Care Received for their Health (N=22)** |    |      |
| 3-Fair                                               | 1  | 4.5% |
| 4-Good                                               | 7  | 31.8%|
| 5- Very Good                                        | 8  | 36.4%|
| 6- Excellent                                         | 6  | 27.3%|
| \textit{M quality of care}=4.86, SD=.889            |    |      |
| \textit{Min}=3, \textit{Max}=6                      |    |      |

| **Quality of Care from their Providers (N=22)** |    |      |
| 3-Fair                                           | 1  | 4.5% |
| 4-Good                                           | 7  | 31.8%|
| 5- Very Good                                     | 10 | 45.5%|
| 6- Excellent                                     | 4  | 18.2%|
| \textit{M quality of physician care}=4.77, SD=.813 |    |      |
| \textit{Min}=3, \textit{Max}=6                   |    |      |
Table 3 (continued)

| Provider Sensitivity and Competence for Treating Breast Cancer Survivor (N=22) |
|---------------------------------|-----|-----|
| 2-Poor                          | 1   | 4.5% |
| 3-Fair                          | 2   | 9.1% |
| 4-Good                          | 4   | 18.2% |
| 5-Very Good                     | 6   | 27.3% |
| 6-Excellent                     | 9   | 40.9% |

Mean sensitivity to cancer survivor=4.91, SD=1.192
Min=2, Max=6

| Provider Sensitivity to Treating African American with Breast Cancer (N=22) |
|---------------------------------|-----|-----|
| 2-Poor                          | 1   | 4.5% |
| 3-Fair                          | 3   | 13.6% |
| 4-Good                          | 5   | 22.7% |
| 5-Very Good                     | 5   | 22.7% |
| 6-Excellent                     | 8   | 36.4% |

Mean sensitivity to African American=4.73, SD=1.241
Min=2, Max=6

<table>
<thead>
<tr>
<th>Body Mass Index (BMI) (N=22)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;18.5=Underweight</td>
<td>1</td>
</tr>
<tr>
<td>18.5-24.9=Normal Weight</td>
<td>7</td>
</tr>
<tr>
<td>25-29.9=Overweight</td>
<td>9</td>
</tr>
<tr>
<td>&gt;30=Obese</td>
<td>5</td>
</tr>
</tbody>
</table>

Mean body mass index=27.70, SD=6.7382
Min=16.30, Max=45.76

Results for Research Question #4

To what extent do they tend to provide socially desirable responses?
(SOCIAL DESIRABILITY) (MAY-13)

The sample’s social desirability mean was 8.91 (min 4, max 13, SD=2.505),
suggesting a moderately high level of social desirability.

Results for Research Question #5

What was their rating for their quality of life?  (Survey Part: RYQOL-S-1)

The mean for quality of life was 4.36 for good (min=2, max=6, SD=1.049). Some
45.9% (N=10) of the survivors said it was very good (see Table 4).
Table 4. Quality of Life (N=22)

<table>
<thead>
<tr>
<th>Rating for Quality of Life</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Poor</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>3-Fair</td>
<td>4</td>
<td>18.2%</td>
</tr>
<tr>
<td>4-Good</td>
<td>5</td>
<td>22.7%</td>
</tr>
<tr>
<td>5-Very Good</td>
<td>10</td>
<td>45.9%</td>
</tr>
<tr>
<td>6-Excellent</td>
<td>2</td>
<td>9.1%</td>
</tr>
</tbody>
</table>

*M quality of life=4.36, SD=1.049*  
*Min=2, Max=6*

Results for Research Question #6

To what degree did they experience any posttraumatic growth after being diagnosed and/or treated for breast cancer? (Survey Part: PTGI-SF-10)

The mean for posttraumatic growth—regarding changed priorities about what is important in life—was 3.6 for closest to a great degree of growth was experienced (min=1.40, max=4.80. SD=0.978).

The mean for posttraumatic growth—regarding a greater sense of closeness with others—was 3.09 for closest to a moderate degree of growth was experienced (min=1.50, max=5. SD=1.042).

The mean for posttraumatic growth—regarding being stronger than I thought I was—of 3.72 (min=.50, max=5.00, SD=1.288) for closest to a great degree of growth was experienced.

The mean for posttraumatic growth—regarding having a better understanding of spiritual matters—was 3.77 (min=.50, max=5.00, SD=1.411) for closest to a great degree of growth was experienced.

The mean for posttraumatic growth—regarding having a greater appreciation for the value of my own life—was 4.0 (see Table 5).
<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Table 5. Posttraumatic Growth (N=22)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After being diagnosed for breast cancer, I changed my priorities about what is important</td>
<td></td>
<td></td>
</tr>
<tr>
<td>in life</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-To a very small degree</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>2-To a small degree</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>3-To a moderate degree</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>4-To a great degree</td>
<td>8</td>
<td>36.4%</td>
</tr>
<tr>
<td>5-To a very great degree</td>
<td>9</td>
<td>40.9%</td>
</tr>
<tr>
<td>Mean=3.60, Min=1.40, Max=4.80, SD=0.978</td>
<td></td>
<td></td>
</tr>
<tr>
<td>After being diagnosed for breast cancer, I have a greater sense of closeness with others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-To a very small degree</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>2-To a small degree</td>
<td>4</td>
<td>18.2%</td>
</tr>
<tr>
<td>3-To a moderate degree</td>
<td>7</td>
<td>31.8%</td>
</tr>
<tr>
<td>4-To a great degree</td>
<td>5</td>
<td>22.7%</td>
</tr>
<tr>
<td>5-To a very great degree</td>
<td>4</td>
<td>18.2%</td>
</tr>
<tr>
<td>Mean=3.09, Min=1.50, Max=5.00, SD=1.042</td>
<td></td>
<td></td>
</tr>
<tr>
<td>After being diagnosed for breast cancer, I discovered that I am stronger than I thought I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>was</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-To a very small degree</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>2-To a small degree</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>3-To a moderate degree</td>
<td>6</td>
<td>27.3%</td>
</tr>
<tr>
<td>4-To a great degree</td>
<td>5</td>
<td>22.7%</td>
</tr>
<tr>
<td>5-To a very great degree</td>
<td>8</td>
<td>36.4%</td>
</tr>
<tr>
<td>Mean=3.72, Min=.50, Max=5.00, SD=1.288</td>
<td></td>
<td></td>
</tr>
<tr>
<td>After being diagnosed for breast cancer, I established a new path for my life</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-1 I did not establish a new path for my life</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>1-I established a new path for my life to a very small degree</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>2-I established a new path for my life to a small degree</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>3-I established a new path for my life to a moderate degree</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>4-I established a new path for my life to a great degree</td>
<td>8</td>
<td>36.4%</td>
</tr>
<tr>
<td>5-I established a new path for my life to a very great degree</td>
<td>6</td>
<td>27.3%</td>
</tr>
<tr>
<td>Mean=3.43, Min=.50, Max=5.00, SD=1.256</td>
<td></td>
<td></td>
</tr>
<tr>
<td>After being diagnosed for breast cancer, I have a better understanding of spiritual matters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-To a very small degree</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>2-To a small degree</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>3-To a moderate degree</td>
<td>5</td>
<td>22.7%</td>
</tr>
<tr>
<td>4-To a great degree</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>5-To a very great degree</td>
<td>11</td>
<td>50.0%</td>
</tr>
<tr>
<td>Mean=3.77, Min=.50, Max=5.00, SD=1.411</td>
<td></td>
<td></td>
</tr>
<tr>
<td>After being diagnosed for breast cancer, I have a greater appreciation for the value of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>my own life</td>
<td></td>
<td></td>
</tr>
<tr>
<td>my own life</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-To a very small degree</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>2-To a small degree</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>3-To a moderate degree</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>4-To a great degree</td>
<td>7</td>
<td>31.8%</td>
</tr>
<tr>
<td>5-To a very great degree</td>
<td>9</td>
<td>40.9%</td>
</tr>
<tr>
<td>Mean=4.0, Min=2, Max=5, SD=1.057</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Results for Research Question #7

What was their level of religiosity/spirituality before their breast cancer experience, and after that experience/at present—and was there any change? (Survey Part: RSS-BAF-BC-4)

Before being diagnosed with breast cancer, half of the sample (50%, N=11) said they were religious. However, after the cancer diagnosis, 31.8% (N=7) said they were religious.

Some 40.9% (N=9) of the respondents were spiritual before being diagnosed with breast cancer, while 50% (N=11) of them said they became very spiritual after the diagnosis.

Regarding any significant changes from before to after cancer, spirituality was significant, showing the before spirituality mean (M=3.00, SD = .87) versus the after spirituality mean (M=3.18, SD=.78), being a difference that was significant at p=.01 (t= -2.628, df=21) (see Table 6).

Table 6. Religiosity and Spirituality Before and After Breast Cancer  (N=22)

<table>
<thead>
<tr>
<th>ITEM</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Ratings</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Before being diagnosed with breast cancer experience, I was</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-Very Religious</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>2-Religious</td>
<td>11</td>
<td>50.0%</td>
</tr>
<tr>
<td>3-Somewhat Religious</td>
<td>6</td>
<td>27.3%</td>
</tr>
<tr>
<td>4-Not Religious</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>5-Not Religious at all</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td><strong>After being diagnosed with breast cancer I was</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-Very Religious</td>
<td>5</td>
<td>22.7%</td>
</tr>
<tr>
<td>2-Religious</td>
<td>7</td>
<td>31.8%</td>
</tr>
<tr>
<td>3-Somewhat Religious</td>
<td>6</td>
<td>27.3%</td>
</tr>
<tr>
<td>4-Not Religious</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>5-Not Religious at all</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td><strong>Before being diagnosed with breast cancer, I was</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-Very Spiritual</td>
<td>7</td>
<td>31.8%</td>
</tr>
<tr>
<td>2-Spiritual</td>
<td>9</td>
<td>40.9%</td>
</tr>
<tr>
<td>3-Somewhat Spiritual</td>
<td>5</td>
<td>22.7%</td>
</tr>
<tr>
<td>4-Not Spiritual</td>
<td>1</td>
<td>4.5%</td>
</tr>
</tbody>
</table>
Table 6 (continued)

<table>
<thead>
<tr>
<th>ITEM</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>After being diagnosed with breast cancer, I was</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - Very Spiritual</td>
<td>11</td>
<td>50.0%</td>
</tr>
<tr>
<td>2 - Spiritual</td>
<td>7</td>
<td>31.8%</td>
</tr>
<tr>
<td>3 - Somewhat Spiritual</td>
<td>5</td>
<td>18.2%</td>
</tr>
</tbody>
</table>

Using paired t-test, was there a change from before to after?

\[
t = 0.901 \quad df = 21 \quad p = 0.378
\]

Before religiosity: M = 3.636, SD = 0.95
After religiosity: M = 3.50, SD = 1.225

\[
t = -2.628 \quad df = 21 \quad p = 0.016^*
\]

Before spirituality: M = 3.00, SD = 0.87
After spirituality: M = 3.18, SD = 0.78

\[p < 0.05\]

Results for Research Question #8

What was their perceived level of social support? (Part VIII: PSSS-5)

The mean level of social support for the sample was 2.87 (SD = 1.270, min .20, max = 4) for having at least two people like this in my life right now. For example, 45.5% (n=10) have six or more people in their life right now they could ask for advice if they needed it and get it pretty quickly without asking; meanwhile, 9.1% (n=2) had no one in their life like this right now (see Table 7).
Table 7. Perceived Social Support (N=22)

<table>
<thead>
<tr>
<th>ITEM</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>How many people you could ask for advice if you needed it, and could get it pretty quickly without waiting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-No one</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>1-At least one person</td>
<td>4</td>
<td>18.2%</td>
</tr>
<tr>
<td>2-At least 2 people</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>3-Between 3-5 people</td>
<td>4</td>
<td>18.2%</td>
</tr>
<tr>
<td>4-More than 6 people</td>
<td>10</td>
<td>45.5%</td>
</tr>
<tr>
<td>How many people you could go to in an emergency for help (e.g. such as a place to wait/stay if you were locked out of you housing/dormitory/room/apartment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-No one</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>1-At least one person</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>2-At least 2 people</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>3-Between 3-5 people</td>
<td>7</td>
<td>31.8%</td>
</tr>
<tr>
<td>4-More than 6 people</td>
<td>9</td>
<td>40.9%</td>
</tr>
<tr>
<td>How many people you could borrow money from if your wallet/purse was stolen and you needed money (e.g. for transportation to take a bus, subway, to get to school or back to where you live)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-No one</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>1-At least one person</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>2-At least 2 people</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>3-Between 3-5 people</td>
<td>6</td>
<td>27.3%</td>
</tr>
<tr>
<td>4-More than 6 people</td>
<td>9</td>
<td>40.9%</td>
</tr>
<tr>
<td>How many people you could get food from if you were hungry and had no food because of some emergency in your life</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-No one</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>1-At least one person</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>2-At least 2 people</td>
<td>1</td>
<td>9.1%</td>
</tr>
<tr>
<td>3-Between 3-5 people</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>4-More than 6 people</td>
<td>13</td>
<td>59.1%</td>
</tr>
<tr>
<td>How many people you could receive encouraging words from, if you were struggling with something</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-No one</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>1-At least one person</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>2-At least 2 people</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>3-Between 3-5 people</td>
<td>6</td>
<td>27.3%</td>
</tr>
<tr>
<td>4-More than 6 people</td>
<td>10</td>
<td>45.5%</td>
</tr>
</tbody>
</table>

Mean=2.87, Min=.20, Max=4, SD=1.2702
Results for Research Question #9

What was their perceived level of social support from their spouse/partner during the period when they were coping with breast cancer or being a survivor of breast cancer? (Survey Part: SPS/P-SSC-2)

Some 68.2% (n=15) had a spouse/partner living with them during the period they were coping with breast cancer, or being a survivor of breast cancer. The mean rating of the level of spousal/partner support that they received was 7.53 (min 0, max 10, SD=3.701) for moderately high level of support (see Table 8).

Table 8. Support from Spouse/Partner (N=15)

<table>
<thead>
<tr>
<th>ITEM</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you had a spouse, or partner, or significant other living with you during the period when you were coping with having breast cancer, or being a survivor of breast cancer?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>15</td>
<td>68.2%</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>31.8%</td>
</tr>
</tbody>
</table>

Please rate your spouse, or partner, or significant other for their degree of support for you on a scale of 0 to 10, where 0=lowest level of support and 10=highest level of support

<table>
<thead>
<tr>
<th>0-Lowest level of support</th>
<th>2</th>
<th>9.1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>10 Highest level of support</td>
<td>7</td>
<td>31.8%</td>
</tr>
</tbody>
</table>

Mean=7.53, Min=0, Max=10, SD=3.701

Results for Research Question #10

What was their level of perceived stress this past month?

The mean for past month perceived stress was 15.63 (min 00, max 32, SD=9.016) for a moderate level of perceived stress. For example, for frequency of being upset because of something that happened unexpectedly in the last month, 45.5% (n=10) indicated sometimes, while 9.1% (n=2) indicated never (see Table 9).
Table 9. Perceived Stress Scale (N=22)

<table>
<thead>
<tr>
<th>ITEM</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-In the last month, how often have you been upset because of something that happened unexpectedly? (N=22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-Never</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>1-Almost</td>
<td>4</td>
<td>18.2%</td>
</tr>
<tr>
<td>2-Sometimes</td>
<td>10</td>
<td>45.5%</td>
</tr>
<tr>
<td>3-Fairly Often</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>4-Very Often</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>2-In the last month, how often have you felt that you were unable to control the important things in your life? (N=22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-Never</td>
<td>4</td>
<td>18.2%</td>
</tr>
<tr>
<td>1-Almost</td>
<td>4</td>
<td>18.2%</td>
</tr>
<tr>
<td>2-Sometimes</td>
<td>9</td>
<td>40.9%</td>
</tr>
<tr>
<td>3-Fairly Often</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>4-Very Often</td>
<td>4</td>
<td>18.2%</td>
</tr>
<tr>
<td>3-In the last month, how often have you felt nervous and ‘stressed’? (N=22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-Never</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>1-Almost Never</td>
<td>5</td>
<td>22.7%</td>
</tr>
<tr>
<td>2-Sometimes</td>
<td>6</td>
<td>27.3%</td>
</tr>
<tr>
<td>3-Fairly Often</td>
<td>5</td>
<td>22.7%</td>
</tr>
<tr>
<td>4-Very Often</td>
<td>4</td>
<td>18.2%</td>
</tr>
<tr>
<td>*4-In the last month, how often have you felt confident about your ability to handle your personal problems? (N=22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-Never</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>2-Sometimes</td>
<td>8</td>
<td>36.4%</td>
</tr>
<tr>
<td>3-Fairly Often</td>
<td>7</td>
<td>31.8%</td>
</tr>
<tr>
<td>4-Very Often</td>
<td>5</td>
<td>22.7%</td>
</tr>
<tr>
<td>*5-In the last month, how often have you felt that things were going your way? (N=22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-Almost Never</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>2-Sometimes</td>
<td>11</td>
<td>50%</td>
</tr>
<tr>
<td>3-Fairly Often</td>
<td>4</td>
<td>18.2%</td>
</tr>
<tr>
<td>4- Very Often</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>6-In the last month, how often have you found that you could not cope with all the things they had to do? (N=22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-Never</td>
<td>4</td>
<td>18.2%</td>
</tr>
<tr>
<td>1-Almost Never</td>
<td>7</td>
<td>31.8%</td>
</tr>
<tr>
<td>2-Sometimes</td>
<td>6</td>
<td>23.3%</td>
</tr>
<tr>
<td>3-Fairly Often</td>
<td>4</td>
<td>18.2%</td>
</tr>
</tbody>
</table>
Table 9 (continued)

<table>
<thead>
<tr>
<th>ITEM</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
</table>

*7- the last month, how often have you been able to control irritations in your life? (N=22)
1-Almost Never                                                        2 9.1%
2-Sometimes                                                           7 31.8%
3-Fairly Often                                                        5 22.7%
4-Very Often                                                          7 31.8%

*8-In the last month, how often have you felt that you were on top of things? (N=22)
1-Almost Never                                                        4 18.2%
2-Sometimes                                                           7 31.8%
3-Fairly Often                                                        6 27.3%
4-Very Often                                                          4 18.2%

9-In the last month, how often have been angered because of things that were outside of your control? (N=22)
0-Never                                                               4 18.2%
1-Almost Never                                                        8 36.4%
2-Sometimes                                                           6 27.3%
3-Fairly Often                                                        2 9.1%
4-Very Often                                                          1 9.1%

10-In the last month, how often have been felt difficulties were piling up so high that you could not overcome them? (N=22)
0-Never                                                               7 31.8%
1-Almost Never                                                        3 13.6%
2-Sometimes                                                           6 27.3%
3-Fairly Often                                                        5 22.7%

Mean=15.63, Min=.00, Max=32, SD=9.0161

*NOTE: Items 4,5,7,8 are reverse scored, as the positive items on this scale.

Results for Research Question # 11

What was the prevalence of symptoms of depression and anxiety in the past year, and was counseling or advice sought out?

In the past year, 50% (N=11) experienced depression and 45.5% (N=10) anxiety. However, the majority (50%, N=11) did not seek out any kind of counseling for their depression or anxiety (see Table 10).
Table 10. Past Year Depression (N=22)

<table>
<thead>
<tr>
<th>ITEM</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you think you experienced any depression in the past year or 12 months?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>11</td>
<td>50.0%</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>45.5%</td>
</tr>
<tr>
<td>Do you think you experienced any anxiety in the past year or 12 months?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10</td>
<td>45.5%</td>
</tr>
<tr>
<td>No</td>
<td>11</td>
<td>50.0%</td>
</tr>
<tr>
<td>In the past year, did you seek out any kind of counseling or advice for any depression and/or anxiety, or other stress-such as from a mental health professional?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5</td>
<td>22.7%</td>
</tr>
<tr>
<td>No</td>
<td>11</td>
<td>50.0%</td>
</tr>
<tr>
<td>Not applicable/No experience</td>
<td>5</td>
<td>22.7%</td>
</tr>
</tbody>
</table>

Results for Research Question #12

What was their coping self-efficacy—specifically, their level of ability and confidence for using (a) problem-focused coping, (b) stopping unpleasant emotions and thoughts, and (c) getting support from other family and friends? (CSES-RF-13)

The mean for the scale, problem-focused coping, as a way of coping, was 7.06, (min .00, max 10.0. SD =2.98) for moderately high use of this form of coping.

The mean for the scale, stopping unpleasant emotion, as a way of coping, was 7.02 (min 1.25, max 10.0; SD=2.53) for moderately high use of this form of coping.

The mean for the scale, support from friends and family, as a way of coping, was 7.44, (min 2.7, max 10.0. SD =2.98) for moderately high use of this form of coping (see Table 11).
<table>
<thead>
<tr>
<th>Table 11. Coping Self-Efficacy Scale Reduced Form (N=22)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rating Scale:</strong> 0 (Cannot do at all), 4 (Moderately certain can do), 10 (Certainly can do)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Sub-scale #1: Problem-Focused Coping</strong></td>
</tr>
<tr>
<td>Break an upsetting problem down into smaller parts (N = 22)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Sort out what can be changed, and what cannot be changed (N = 22)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Make a plan of action and follow it when confronted with a problem (N = 22)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Leave options open when things get stressful (N = 22)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Think about one part of the problem at a time (N = 22)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Find solutions to your most difficult problems (N = 22)</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

6 Item Subscale #1: Mean=7.44, Min=2.7, Max=10.0, SD=2.532

<table>
<thead>
<tr>
<th>Sub-scale #2: Better at Stopping Unpleasant Emotions (N = 22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make unpleasant thoughts go away (N = 22)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Take your mind off unpleasant thoughts (N = 22)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Stop yourself from being upset by unpleasant thoughts (N = 22)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Keep from feeling sad (N = 22)</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Results for Research Question #13

What were the significant relationships among selected independent variables (e.g., age, education level, etc.) and the study outcome variable/dependent variable of higher rating of quality of life?

Independent t-tests compared dichotomous groups (born in US yes/no; employed yes/no; has partner yes/no; past year depression yes/no; anxiety past year yes/no; past year counseling (yes/no), with all comparisons failing to achieve significance (Bonferroni Adjustment Significance, .05/25, p=.002).

Correlations showed significant relationships among variables (Bonferroni Adjustment Significance, .05/25, p=.002), such that, the higher the quality of life, then the

- higher the overall health status (r=.737, p=.000)
- lower the past month perceived stress (r= -.776, p=.000)
- greater the use of problem focused coping (r=.798, p=.000)
- greater the use of support from friends/family coping (r=.776, p=.000)

See Table 12.

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.17</td>
<td>.939</td>
</tr>
<tr>
<td>Education</td>
<td>.267</td>
<td>.231</td>
</tr>
<tr>
<td>Income</td>
<td>.469</td>
<td>.028*</td>
</tr>
<tr>
<td>Number of Years Diagnosed with Breast Cancer</td>
<td>-.065</td>
<td>.774</td>
</tr>
<tr>
<td>Overall Health Status</td>
<td>.737</td>
<td>.000***</td>
</tr>
<tr>
<td>Self-Rating of Weight</td>
<td>-.475</td>
<td>.022*</td>
</tr>
<tr>
<td>Quality of Care Received for their Health</td>
<td>.516</td>
<td>.014*</td>
</tr>
<tr>
<td>Quality of Care from thier Provider</td>
<td>.381</td>
<td>.080</td>
</tr>
<tr>
<td>Provider Sensitivity for Treating Breast Cancer Survivor</td>
<td>-.010</td>
<td>.963</td>
</tr>
<tr>
<td>Provider Sensitivity to Treating African-American</td>
<td>-.103</td>
<td>.648</td>
</tr>
<tr>
<td>Body Mass Index (BMI)</td>
<td>-.089</td>
<td>.692</td>
</tr>
</tbody>
</table>
Table 12 (continued)

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Posttraumatic Growth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Relating to Others</td>
<td>.513</td>
<td>.015*</td>
</tr>
<tr>
<td>2 New Possibilities</td>
<td>.219</td>
<td>.329</td>
</tr>
<tr>
<td>3 Personal Strength</td>
<td>-.029</td>
<td>.899</td>
</tr>
<tr>
<td>4 Spiritual Change</td>
<td>-.022</td>
<td>.923</td>
</tr>
<tr>
<td>5 Appreciation of Life</td>
<td>.129</td>
<td>.568</td>
</tr>
<tr>
<td>Religiosity</td>
<td>.220</td>
<td>.326</td>
</tr>
<tr>
<td>Perceived Social Support</td>
<td>.587</td>
<td>.004**</td>
</tr>
<tr>
<td>Support from Spouse/Partner</td>
<td>-.115</td>
<td>.684</td>
</tr>
<tr>
<td>Perceived Stress</td>
<td>-.776</td>
<td>.000***</td>
</tr>
<tr>
<td>Problem-Focused Coping</td>
<td>.798</td>
<td>.000***</td>
</tr>
<tr>
<td>Stopping Unpleasant Emotions Coping</td>
<td>.21</td>
<td>.797</td>
</tr>
<tr>
<td>Support from Friends/Family Coping</td>
<td>.776</td>
<td>.000***</td>
</tr>
<tr>
<td>Social Desirability</td>
<td>.629</td>
<td>.002**</td>
</tr>
</tbody>
</table>

*p<.05, **p<.01, ***p<.001  Bonferroni Adjustment Significance (.05/25, p= .002) Note: All p values above .002 are considered non-significant, and only those below .002 are considered statistically significant

Results for Research Question #14

Given your experience of being a breast cancer survivor, what do you feel have been the key factors in your achieving years as a survivor, and what have been your most important coping strategies?

From the qualitative analysis, the emergent themes were captured and identified as coping strategies in achieving years as a survivor. This is illustrated below:

- **Using positive forms of coping via positive cognitions, humor, and relaxation**
  - “Being positive....this is just a part of my life not my life
  - “I cope by finding moments for myself to relax”
  - “… should pass. And it did”
  - “…”this is just a part of my life not my life”
  - “Living strong, achieving goals”
  - “My Mother who is a 4x Cancer survivor; is an inspiration to me” ...
o “cope with breast cancer relatively gracefully and without helplessness or hopelessness”

o “don't let little things bother me”

o “Sense of humor”

- Emotional numbing, withdrawing, and isolating:
  
o “By becoming numb, like none of it is real, just going thru the motions not experiencing any emotions”

o “I often feel that by withdrawing I minimize the possibility of being or feeling hurt”

- Finding support from family and friends:
  
o “Family has been my coping strategies relying on my late husband for support and my 3 children by my side during my treatments and mastectomy operation”

o “Supportive family and friends”

o “having family & friends being very supportive”

o “I’ve had an amazing support system from my family, friends, community and of course my church family”

o “my support system, have all influenced my well being and coping strategies. I am blessed and grateful”

o “being surrounded by close longtime friends was positive”

- Perceiving cancer as not the worst thing to happen, as temporary and focusing on survival:
  
o “My doctor reminded me that this was a temporary interruption in my life”

o “I am a 20 year breast cancer survivor. I’m a 4-time survivor, diagnosed first in 1998 at the age of 31, when I was 8 1/2 months pregnant. I have metastasis to my bones, lungs, liver, spine, abdomen and brain.”

o “It was not the worst thing that ever happened to me - my mother's death”
was. I dealt with losing a mother at 4 years old and another mother again at 16”

- Engaging in good self-care by eating healthy, eliminating stress, taking medications and/or supplements—and engaging in service to others:
  - “Tenacious about care... yours and self.”
  - “Purpose, know there is a point for your well being”
  - “... most importantly give back to others. I truly believe service to others is why we are here. It is the price we pay for our space on this earth”
  - “use the highest quality of essential oils and infused products, the basis of my new holistic lifestyle. These strategies keep me grounded and walking in wellness”
  - “Change in diet and nutrition”
  - “Change for better self care”
  - “Eating healthy”
  - “simple things like walking barefoot, eliminating stress and most importantly eating healthy are key factors”
  - “Taking my meds”
  - “Complimentary supplements”
  - “Prioritizing exercising and removing environmental toxins”
  - “Unlearn unhealthy lifestyle practices”
  - “Learn to do news things that support emotional health/wellness”
  - “Focused on living best life everyday”
  - “Not afraid of dying”

- Being spiritual and religious coping
  - “Having a relationship with God & my fellowman”
  - “Focusing on God”
  - “I know that I have been through worse”
“Jesus”

“I have a deep relationship with my Savior JESUS CHRIST”

“I drew closer to GOD and believe that He was leading me to total healing”

“I walk by faith and not by sight. Trusting God”

See Table 13.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>My most important coping strategies in achieving years as a survivor were:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using positive forms of coping via positive cognitions, humor, and relaxation</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>Emotional numbing, withdrawing, and isolating</td>
<td>5</td>
<td>22.7%</td>
</tr>
<tr>
<td>Finding support from family and friends:</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>Perceiving cancer as not the worst thing to happen, as temporary and focusing on survival:</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>Engaging in good self-care by eating healthy, eliminating stress, taking medications and/or supplements—and engaging in service to others</td>
<td>4</td>
<td>18.2%</td>
</tr>
</tbody>
</table>

Conclusion

This chapter has presented the results of data analysis, including the presentation of tables. The next chapter, V, presents the summary of the study, along with a discussion of findings. Finally, study implications and recommendations are discussed, and a final conclusion presented.
Chapter V
SUMMARY, DISCUSSION, IMPLICATIONS,
RECOMMENDATIONS, AND CONCLUSION

This chapter summarizes the dissertation research and provides a discussion of the results, including implications. Recommendations will be made, and study limitations provided. Finally, a conclusion is provided.

**Summary of the Literature Review**

Bray et al. (2018) reported that cancer is “the single most important barrier to increasing life expectancy in every country,” and cancer “is expected to rank as the leading cause of death” in the 21st century (p. 1). Globally, there were approximately “18.1 million new cases” in 2018 (p. 5). Thus, cancer is a “major public health problem worldwide” (Siegel et al., 2017, p. 7).

Specifically, regarding breast cancer, it is “a malignant tumor that starts in the cells of the breast” (Yedjou et al., 2017, p. 1). Breast cancer currently affects “more than one in ten women worldwide” (p. 1).

Cancer of the breast is “the second leading cause of cancer related deaths” among women aged 40 to 55 years in the United States (Yedjou et al., 2017, p. 1). For the year 2017, the total number of estimated cases of breast cancer in the United States was 255,180, of which 252,710 were recorded for women (Siegel et al., 2017, p. 8). About “63,140 cases of carcinoma in situ of the female breast and 74,680 cases of melanoma in
situ” were newly diagnosed (p. 8). There were 27,980 cases of breast cancer for California, the state with the highest incidence rate in 2017 (Siegel et al., 2017, p. 9).

Siegel et al. (2018) estimated that “1,735,350 new cancer cases and 609,640 cancer deaths” would occur in the United States in 2018 (p. 7). There is also a Black versus White health “disparity in cancer mortality by state and age” (p. 7). The Black-White gap in cancer mortality “continues to narrow” for the older age group, despite “stark persistent inequalities for young and middle-aged” Black Americans (p. 28). Most noteworthy is how Blacks “are more likely” than Whites “to be diagnosed with cancer at an advanced stage;” Blacks also have a “lower stage-specific survival for most cancer types” (p. 28). While some have indicated that compared to White women, “African American and Hispanic women have a lower incidence of breast cancer,” African American and Hispanic women “have a higher mortality rate” (Yedjou et al., 2017, p. 2).

Davis et al. (2016) noted that “the emergence of cancer survivorship is an important topic that is gaining attention,” because “there is a paucity of research on what it means to be a breast cancer survivor” (pp. 277-278). Cancer survivorship has been described as “being victorious, conquering the enemy, helping others” (p. 278). Further, others have conveyed “an overall appreciation of life,” along with “a positive improvement in self” (p. 278). Other women regarded survivorship as a “restoration to life as usual with a positive attitude” (p. 281). Interestingly, for African American Breast Cancer Survivors (AABCS), survivorship meant “more than added years to their survivors’ lives,” with hope to start a different life “after the situation” (p. 281).

Hebdon et al. (2018) viewed survivorship as a period “from the time of diagnosis to the end of life” (p. 1). According to Dyer and Coreil (2017), “survivorship refers to the long-term health and well-being of people who have been diagnosed with cancer” (p. 64). The “post-treatment quality-of-life and follow-up care” are critical components to living through this journey (p. 64).
Ansa et al. (2016) examined the beliefs and behaviors associated with breast cancer recurrence risk reduction in African American breast cancer survivors (AA BCSs). Evidence suggested that despite the advances in breast cancer (BC) screening and treatment effectiveness, “breast cancer recurrence risk is linked to lifestyle behaviors” (p. 1). There are few studies examining “the correlations between BC recurrence and risk reduction beliefs,” especially “related behaviors among African American Breast Cancer Survivors (AA BCSs)” (p. 1). Among the 2.8 million estimated breast cancer survivors, fear of cancer recurrence (FCR) was high, especially in African American women, whose FCR risk was evaluated at 5% to 13%.

Estoque et al. (2018) described quality of life (QoL) as an indicator “related to the life-ability of a person, enjoyment of life, utility of life, and especially the livability of the environment” (p. 16). Potentially, a factor related to quality of life, there is stress. Chirico et al. (2017) purported that the “long-term management of cancer can present individuals with a multitude of stressors at various points in that trajectory” (p. 36800). Because of “the prevalence of psychological distress among cancer patients is higher than the general” population, this “increases the risk for developing clinical levels of anxiety and depression” (p. 36800). Thus, assessing survivors’ self-efficacy while living with the cancer is warranted. In reviewing the relationship between cancer coping self-efficacy and quality of life, Chirico et al. found that “compared to those with low efficacy, highly efficacious people demonstrate less anxiety and better adjustment” during survivorship (p. 36800). Further evidence indicated that in a stressful situation such as cancer, “self-efficacy is positively related to quality of life” (p. 36800).

A study focused on the use of religious coping. More specifically, Gaston-Johansson et al. (2013) developed a pilot project in which they described the “psychological distress, coping strategies (e.g. religious coping), coping capacity, and spiritual well-being” in African American (AA) women undergoing chemotherapy (p. 120). Coping strategies most often used included “praying and hoping, and increased
behavior activity” (p. 124). Regarding spiritual well-being and religious coping, the strongest statement made and recorded was to “look for a stronger connection with God” (p. 125).

Lelorain et al. (2012) explored the emergence of posttraumatic growth (PTG) in breast cancer “survivor narratives concerning the changes caused by the cancer in their lives” (p. 628). The focus was “on how women would mention PTG,” including “the connection of PTG with other cancer related themes” (p. 628).

Skaczkowski et al. (2013) assessed the benefits of Complementary and Alternative Medicine (CAM) on self-reports of posttraumatic growth (PTG) following cancer treatment. The study participants “identified a range of other activities as ‘complementary,’ including writing, reading, gardening, yoga, naturopathy” (p. 477). CAM was not found to be “associated with cancer-specific distress (i.e., PTSD symptoms) or general distress in terms of anxiety, depression or stress” (p. 478). The authors did find that “use of CAMs was positively associated with PTG” (p. 477). The authors also suggested that “the relationship between CAM use and QoL is an important factor to consider;” equally important is the mechanism by which “CAM use influences QoL” (Quality of Life), thus strengthening the profile of the results (p. 480).

Ahmad et al. (2016) investigated “the mechanism by which couple identity affects an individual’s adjustment to cancer” (p. 403). They tested “the supposition that greater levels of couple identity (or we-ness) increase a woman’s coping self-efficacy in relation to breast cancer, which, in turn, predicts better psychosocial adjustment” (p. 404). Ahmad et al. (2016) found “that the more women felt identified with their relationship with their partners, the more confidence they reported in their ability to handle stressors related to cancer” (p. 410). This finding was associated with “lower levels of depression and anxiety and greater levels of functional well-being” (p. 410).
Indeed, greater social support and greater religiosity/spirituality have been linked to enhanced coping skills and posttraumatic growth following breast cancer diagnosis (Cormio et al., 2015; Gaston-Johansson et al., 2013; Lechner et al., 2015).

Dyer and Coreil (2017) used “a mixed-method study conducted with ethnically-identified breast cancer support groups” of women from Tampa Bay and Orlando, Florida. The authors recruited participants who self-identified as “African American: or “black” and as “Latina” or Hispanic,” while participants’ average age was 59.5 years and 51.9 years, respectively. An emphasis was placed on optimism by study participants, which was especially strong in the study, while another key concept included unity in adversity. This study also highlighted cultural nuances, and the fact that “cultures have needs” that are unique as related to breast cancer acceptance and coping (Dyer & Coreil, 2017, p. 77).

Summary of the Statement of the Problem

The problem that this study addressed is the need for health educators and other health professionals to better understand the factors related to a high quality of life for survivors of breast cancer (five years or more)—in order to design interventions for women who have been diagnosed with breast cancer.

Summary of the Purpose of the Study

While the original purpose of this study was to identify significant predictors of the study outcome variable/dependent variable of a high rating for quality of life, amongst African American/Black women breast cancer survivors, this was modified, given the small sample size (n=22)—giving rise to an exploratory study.
Thus, the purpose of this exploratory study is to engage in an exploration of factors related to the **study outcome variable/dependent variable of a high rating for quality of life**.

**Summary of the Research Questions**

Given an online sample of African American women (N=22) who are long-term survivors of breast cancer (5 years or more) who responded to a social media campaign (‘‘Go to <https://tinyurl.com/BreastCancerSurvivorStudy> to take the African American Women’s Breast Cancer Survivors’ (5 years or more) Survey on quality of life and coping for a chance to win 1 of 3 $100 Amazon gift cards’’) and completed the survey, the exploratory research answered the following questions:

**Quantitative Portion of Study**

What were their demographic characteristics (i.e., gender, age, race/ethnicity, U.S. born or not, education, annual household income, employed or not)?

**PART I: BASIC DEMOGRAPHICS (BD-9)**

2. What was their history of being diagnosed with breast cancer, in terms of number of years ago (i.e., 5 years or more), and if treated by a medical provider for their breast cancer?

**PART II: BREAST CANCER HISTORY AND TREATMENT SCALE (B-CHAT-S-3)**

3. How did they rate their overall health status, their Body Mass Index (BMI)/weight status, the overall quality of care that they receive for their health, the overall quality of care they receive from their provider, and the sensitivity and competence of their provider for treating someone with breast cancer?
cancer—and someone who is African American with breast cancer?

PART III: PERSONAL HEALTH BACKGROUND (PHB-9)

4. To what extent do they tend to provide socially desirable responses?

PART IV: MORE ABOUT YOU (SOCIAL DESIRABILITY) (MAY-13)

5. What was their rating for their quality of life? [Note: This is the study outcome variable.]

PART V: RATING YOUR QUALITY OF LIFE SCALE (RYQOL-S-1)

6. To what degree did they experience any posttraumatic growth after being diagnosed and/or treated for breast cancer?

PART VI: POSTTRAUMATIC GROWTH INVENTORY-SHORT FORM (PTGI-SF-10)

7. What was their level of religiosity/spirituality before their breast cancer experience, and after that experience/at present—and was there any change?

PART VII: RELIGIOSITY/SPRITUALITY SCALE BEFORE AND AFTER BREAST CANCER (RSS-BAF-BC-4)

8. What was their perceived level of social support?

PART VIII: PERCEIVED SOCIAL SUPPORT SCALE (PSSS-5)

9. What was their perceived level of social support from their spouse/partner during the period when they were coping with breast cancer or being a survivor of breast cancer?

PART IX: PERCEIVED SPOUSE/PARTNER SOCIAL SUPPORT SCALE (PS/P-SSC-2)

10. What was their level of perceived stress this past month?

PART X: PERCEIVED STRESS SCALE (PSS-10)

11. What was the prevalence of symptoms of depression and anxiety in the past year, and was counseling or advice sought out?
PART XI: RETROSPECTIVE DEPRESSION, ANXIETY AND COUNSELING SCALE (R-DACS-3)

12. What was their coping self-efficacy—specifically, their level of ability and confidence for using (a) problem-focused coping, (b) stopping unpleasant emotions and thoughts, and (c) getting support from other family and friends?

PART XII. COPING SELF-EFFICACY SCALE—REDUCED FORM (CSES-RF-13)

13. What were the significant relationships among selected independent variables (e.g., age, education level, etc.) and the study outcome variable/dependent variable of higher rating of quality of life?

Qualitative Portion of Study

14. As the qualitative portion of the study, what do women report, in response to a question on their breast cancer survivorship (i.e., Given your experience of being a breast cancer survivor, what do you feel have been the key factors in your achieving years as a survivor, and what have been your most important coping strategies?)

Summary of Research Sample and Procedures

Multiple online venues were utilized to recruit study participants within a social media campaign, while using IRB approved recruitment materials. Recruitment was most intensely focused on Facebook, as the Principal Investigator joined groups that included breast cancer survivors—including daily postings during data collection. A Recruitment Flyer was utilized, including being attached to the study email message, distributing it in community venues (e.g., churches, beauty salons, nail salons), and posting it on bulletin boards at paces such as colleges and universities.
A study incentive was used, such that, after completing the online survey, participants were provided a link to enter a lottery for a chance to win 1 of 3 $100 Amazon gift cards. To enter the lottery’s random drawing, participants entered their email addresses at the end of the survey.

This study was able to attract a total of 47 women who completed the Informed Consent and proceeded to start taking the survey. There was, however, the issue of participant drop-out, or survey non-completion (n=25, 53.19%), given women had not proceeded far enough into the survey to have data for the study primary outcome variable of a higher rating of quality of life. The remaining and final sample size was n=22 (or 46.81% of those who completed the Informed Consent and proceeded to start taking the survey).

**Summary of the Research Instrumentation**

The following measures were used in the study:

- Part I: Basic Demographics (BD-9)
- Part II: Breast Cancer History and Treatment Scale (B-CHAT-S-3)
- Part III: Personal Health Background (PHB-9)
- Part IV: More About You (Social Desirability) (May-13)
- Part V: Rating Your Quality of Life Scale (RYQOL-S-1)
- Part VI: Posttraumatic Growth (PTGI-SF-10)
- Part VII: Religiosity/Spirituality Scale Before And After Breast Cancer (RSS-BAF-BC-4)
- Part VIII: Perceived Social Support Scale (PSSS-5)
- Part IX: Perceived Spouse/Partner Social Support Scale (PS/P-SSC-2)
- Part X: Perceived Stress Scale (PSS-10)
• Part XI: Retrospective depression, Anxiety and Counseling Scale (R-DAAC-S-3)
• Part XII: Part XII. Coping Self-Efficacy Scale-Reduced Form (CSES-RF-13)

Summary and Discussion of Results by Research Question

Findings on Demographics
The sample of (N=22) consisted of 21 female (95%) and 1 (4.5%) male identified, while 95.5% (n=21) were African Americans with a mean age of 56.50 (min=25, max=78 SD=13.008). The mean for the education variable was 6.5 for between AS and BA/BS degrees (min=3, max=10, SD=1.595). The mean of 4.18 for the household income was category 5 of $50,000 to $99,000 (min=1, max=9, SD=1.893). Some 22.7% reported category 3 with annual income of $20,000 to $39,000.

Findings on Breast Cancer Survivorship
The entire sample population was comprised of survivors (100%, N=22). The mean years since diagnosis was 15.55 (SD=10.734, min=5 years, max=47 years). All survivors (100%) have been treated by a medical provider.

Findings for Health-Related Ratings
The mean for overall health status was 4.09 for good (min=2, max=6, SD=1.065).

The mean for weight status was 2.55 for between normal weight and overweight (min=2, max=4, SD=.596). The mean for quality of care for their health was 4.86 for closest very good (min=3, max=6, SD=.889). The mean for quality of physician care was 4.77 for closest to very good (min=3, max=6, SD=.813). The mean for sensitivity and competence for treating a cancer survivor was 4.91 for very good (min=2, max=6, SD=1.192). The mean for sensitivity and competence for treating an African American with breast cancer was 4.73 for closest to very good (min=2, max=6, SD=1.241).
Findings for Social Desirability

The sample’s social desirability mean was 8.91 (min 4, max 13, SD=2.505), suggesting a moderately high level of social desirability.

Findings for Quality of Life and Posttraumatic Growth

The mean for quality of life was 4.36 for good (min=2, max=6, SD=1.049). Some 45.9% (N=10) of the survivors said it was very good.

The mean for posttraumatic growth—regarding changed priorities about what is important in life—was 3.6 for closest to a great degree of growth was experienced (min=1.40, max=4.80. SD=0.978). The mean for posttraumatic growth—regarding a greater sense of closeness with others—was 3.09 for closest to a moderate degree of growth was experienced (min=1.50, max=5. SD=1.042). The mean for posttraumatic growth—regarding being stronger than I thought I was—was 3.72 (min=.50, max=5.00, SD=1.288) for closest to a great degree of growth was experienced. The mean for posttraumatic growth—regarding having a better understanding of spiritual matters—was 3.77 (min=.50, max=5.00, SD=1.411) for closest to a great degree of growth was experienced. The mean for posttraumatic growth—regarding having a greater appreciation for the value of my own life—was 4.0 (min=.50, max=5.00, SD=1.256) for a great degree of growth was experienced.

Findings for Participants’ Religiosity and Spirituality Before and After Cancer

Before being diagnosed with breast cancer, half of the sample (50%) said they were religious. However, after the cancer diagnosis, 31.8% (N=7) said they were religious.

Some 40.9% (N=9) of the respondents were spiritual before being diagnosed with breast cancer, while 50% (N=11) of them said they became very spiritual after the diagnosis.

Regarding any significant changes from before to after cancer, spirituality was significant, showing the before spirituality mean (M=3.00, SD = .87) versus the after
spirituality mean (M=3.18, SD=.78), being a difference that was significant at p=.01 (t= -2.628, df=21).

Findings for Perceived Social Support and History of Spousal Support

The mean level of social support for the sample was 2.87 (SD=1.270, min .20, max= 4) for having at least 2 people like this in my life right now. For example, 45.5% (n=10) have 6 or more people in their life right now they could ask for advice if they needed it and get it pretty quickly without asking; meanwhile, 9.1% (n=2) had no one in their life like this right now.

Some 68.2% (n=15) had a spouse/partner living with them during the period they were coping with breast cancer, or being a survivor of breast cancer. The mean rating of the level of spousal/partner support that they received was 7.53 (min 0, max 10, SD=3.701) for moderately high level of support.

Findings for Past Year Depression, Anxiety, and Counseling

In the past year, 50% (N=11) experienced depression and 45.5% (N=10) anxiety. However, the majority (50%, N=11) did not seek out any kind of counseling for their depression or anxiety.

Findings for Coping Self-Efficacy

Given three subscales, findings were as follows: 1-the mean for the scale, problem-focused coping, as a way of coping, was 7.06, (min .00, max 10.0. SD =2.98) for moderately high use of this form of coping; 2-The mean for the scale, stopping unpleasant emotion, as a way of coping, was 7.02 (min 1.25, max 10.0; SD=2.53) for moderately high use of this form of coping; and, 3-The mean for the scale, support from friends and family, as a way of coping, was 7.44, (min 2.7, max 10.0. SD =2.98) for moderately high use of this form of coping.
Findings on Significant Correlations with Quality of Life

Correlations with the study outcome variable of a higher rating for quality of life showed significant relationships among variables (Bonferroni Adjustment Significance, .05/25, p=.002), such that, the higher the quality of life, then the

- higher the overall health status ($r=.737$, $p=.000$)
- lower the past month perceived stress ($r=-.776$, $p=.000$)
- greater the use of problem focused coping ($r=.798$, $p=.000$)
- greater the use of support from friends/family coping ($r=.776$, $p=.000$)

Findings from Qualitative Data Analysis on Coping Strategies

From the qualitative analysis, the emergent themes were captured and identified as coping strategies in achieving years as a survivor.

I-Using positive forms of coping via positive cognitions, humor, and relaxation
II-Emotional numbing, withdrawing, and isolating:
III-Finding support from family and friends:
IV-Finding support from family and friends:
V-Engaging in good self-care by eating healthy, eliminating stress, taking medications and/or supplements—and engaging in service to others:
VI-Being spiritual and religious coping

Discussion of Study Findings

This study was able to recruit a small sample (N=22) of African American women (95.5%) with a mean age of 56.5, who had a mean of 15.55 (SD=10.734, min-5 years, max= 47) years since diagnosis with breast cancer. Of note, this study found a strong and positive correlation between overall health status and quality of life, among other correlations. Others have expressed concern about breast cancer survivors’ quality of life,
aiming to improve the quality of life of survivors (Fitch, 2018). The sample reported as “good” their overall health status, and quality of care for their health. Rated as “very good” were the quality of care they received from their provider, provider sensitivity and competence for treating a cancer survivor, and provider sensitivity for treating them as an African American. Research has placed emphasis on the importance of providers having cultural competence and avoiding microaggressions during service delivery (Hook et al., 2016). The present study suggests that the small sample rated their providers in such a way as to suggest their achieving that which Hook et al. recommend.

Of note, this study found a strong and positive correlation between overall health status and quality of life, among other correlations.

The participants also reported a “good” quality of life in this study. Chirico et al. (2017) found that in a stressful situation such as cancer, “self-efficacy is positively related to quality of life” (p. 36800). Further, individual self-efficacy may influence coping skills, survivorship, and one’s quality of life experience (Bandura & Adams, 1977). Of note, this study contributes support for this, having found strong and positive correlations between two types of self-efficacy coping and quality of life: i.e., the higher the rating for quality of life, then the greater the use of problem focused coping (r=.798, p=.000); and, greater the use of support from friends/family coping (r=.776, p=.000).

Consider these findings in light of research showing that for some survivors “coping may also be associated with decisions to withdraw from family and friends,” which may in part “result in lower quality of life among patients and survivors” (p. 524). Of note, the qualitative data did reflect the theme of emotional numbing, withdrawing, and isolating.

For posttraumatic growth, endorsements of items showed: a great degree of growth was experienced for changed priorities about what is important in life; a moderate degree of growth was experienced for greater sense of closeness with others; a great degree of growth was experienced for being stronger than I thought; and, a great degree of growth
was experienced for having a better understanding of spiritual matters. Consistent with this finding, this study also found significant changes from before to after cancer for spirituality, showing the before spirituality mean (M=3.00, SD = .87) versus the after spirituality mean (M=3.18, SD=.78), being a difference that was significant at p=.01 (t= -2.628, df=21). Support for these findings may be found in the work of Gaston-Johansson et al. (2013), given they explained spirituality “as an inner resource or an inner aspect of a person” that is used for the purpose of coping with major life stressors, such as having breast cancer (p. 22). Gaston-Johansson et al. specifically stated in regard to African American women that they may find solace “in incorporating these aspects” of spirituality in their coping “repertoire,” in order to stay strong (p. 120).

Other research shows that greater social support and greater religiosity/spirituality have been linked to enhanced coping skills and posttraumatic growth following breast cancer diagnosis (Cormio et al., 2015; Gaston-Johansson et al., 2013; Lechner et al., 2015). Regarding social support, this study found the sample mean was 2.87 (SD=1.270, min .20, max= 4) for having at least two people providing various kinds of social support. The mean rating of the level of spousal/partner support that they received was 7.53 (min 0, max 10, SD=3.701) for moderately high level of support. Others reported on the quality of survivors’ relationship with their spouse, and the association with quality of life (Lim, 2014). Quality of life was “good” for this study’s sample of survivors, while their spousal/partner support was moderately high, being in line with the work of Lim (2014).

Ahmad et al. (2016) found “that the more women felt identified with their relationship with their partners, the more confidence they reported in their ability to handle stressors related to cancer”—while associated with “lower levels of depression and anxiety and greater levels of functional well-being” (p. 410). With this study’s small sample, the prevalence of past year depression was 50% and 45.5% for anxiety, while half the sample did not seek out any counseling for depression or anxiety.
Given the potential intermittent stress of depression and anxiety, coping self-efficacy becomes important to consider. There may be other stress, also. For example, for past month perceived stress, the mean was 15.63 (min 0.0, max 32, SD=9.016) for a moderate level of perceived stress. Still, coping is vital. Given three coping self-efficacy subscales, findings were as follows: 1-the mean for the scale, problem-focused coping, as a way of coping, was 7.06, (min .00, max 10.0. SD =2.98) for moderately high use of this form of coping; 2-The mean for the scale, stopping unpleasant emotion, as a way of coping, was 7.02 (min 1.25, max 10.0; SD=2.53) for moderately high use of this form of coping; and, 3-The mean for the scale, support from friends and family, as a way of coping, was 7.44, (min 2.7, max 10.0. SD =2.98) for moderately high use of this form of coping. Identifying the ways in which a person copes with a stressful event leads to the appreciation of “appraisal and coping processes” (Folkman, et al., 1986, p. 571). Regarding appraisal, it has been recommended to avoid catastrophizing the situation of a breast cancer diagnosis--as this was “related to increased psychological distress, more negative religious coping, and less spiritual well-being” (Gaston-Johansson et al., 2013, p. 127). As a result, Gaston-Johansson et al. asserted that higher coping capacity was significant for AA women with breast cancer—necessitating exposing women to a Comprehensive Coping Strategy Program (CCSP), as per their recommendation.

**Implications and Recommendations**

Implications of the findings are that African American breast cancer survivors in this study were found to report good quality of life, good health, good health care, very good provider care, good sensitivity by their provider for their being a cancer survivor, and very good sensitivity and competence by their provider for treating them as an African American breast cancer survivor. Both the quantitative and qualitative data reinforce each other, showing evidence of posttraumatic growth from breast cancer,
including a significant increase from before breast cancer to after breast cancer in their spirituality. Perhaps, most importantly, this study found strong and positive correlations between two types of self-efficacy coping and quality of life: i.e., the higher the rating for quality of life, then the greater the use of problem focused coping ($r=.798, p=.000$), and greater the use of support from friends/family coping ($r=.776, p=.000$). Hence, coping emerges as vital with regard to achieving a higher quality of life. This is consistent with Gaston-Johansson et al. (2013) urging exposing women to a Comprehensive Coping Strategy Program (CCSP), as per their recommendation. As an implication of this study, such a focus on coping strategies is recommended for health educators in their work with breast cancer survivors, and also with the newly diagnosed.

While women may emerge from a breast cancer diagnosis with greater spirituality and having discovered they are stronger than they think, there may be those women who are struggling. They have yet to achieve the key factors associated with a higher quality of life such as high self-efficacy to cope. Thus, health educators are advised to ensure that African American breast cancer survivors and those newly diagnosed receive culturally tailored interventions designed to improve their self-efficacy to cope. Health educators may conduct support groups with survivors and newly diagnosed women, so as to ensure they have adequate social support—especially if spousal/partner support is not high. This can counter the tendency of some women to withdraw and isolate, as per the emergent theme: *emotional numbing, withdrawing, and isolating.*

**Limitations of the Study**

A main study limitation is how African American women who are 5 year or greater survivors of breast cancer are a hard to reach population (Atkinson & Flint, 2001).

This study of self-reported data could not be validated by the survivors’ network support that is, their families and friends. Therefore, interpreting the results with caution
is necessary given that the sample suggested a moderately high level of social desirability. The mean was 8.91.

The study used a convenience sample, limiting the generalizability of findings.

Conclusion

This study sought to obtain a sufficient sample to be able to identify significant predictors of the study dependent variable of a higher quality of life. Instead, a small sample size was obtained, reflecting how the study sought to recruit a hard to reach population of African American women who are five or more year survivors of breast cancer. The result was an exploratory study seeking to identify factors related to a higher quality of life were explored, resulting in findings that are just suggestive of what might be found with a larger sample. Atkinson and Flint (2001) recommend snowballing to obtain a sample with such hard to reach populations. However, this study used a social media campaign, community outreach, and snowballing, but a small sample was obtained. Future research needs to determine those strategies that work best in recruiting African Americans and black immigrants to a study such as the present one. As was saw in this study, there was evidence of 50% having past year depression, and if a woman was invited to join the study when actually depressed, she might not pursue participation.

Thus, future research can also consider evaluating and comparing interventions to foster enhanced self-efficacy to cope with stress, including that associated with a diagnosis of breast cancer. There is a key role for health educators in such research.

Ahmad, S., Fergus, K., Shatokhina, K., & Gardner, S. (2016). The closer ‘we’ are, the stronger ‘I’ am: The impact of couple identity on cancer coping self-efficacy. *Journal of Behavioral Medicine, 40*(3), 403-413.


Ingram, L. (2017). Toward improving the health and academic outcomes of minority college students: Predictors of experiences of racism and/or oppression, stress, trauma, health status and level of academic achievement. Doctoral dissertation. Teachers College, Columbia University.


Appendix A

IRB Approval Letter

Teachers College IRB
COLUMBIA UNIVERSITY

Exempt Study Approval

To: Elsy Mecklembourg
From: Myra Luna Lucero, Research Compliance Manager
Subject: IRB Approval: 19-139 Protocol
Date: 01/29/2019

Thank you for submitting your study entitled, "AFRICAN AMERICAN BREAST CANCER SURVIVORS' ONLINE STUDY OF PREDICTORS OF QUALITY OF LIFE: HEALTH STATUS, POSTTRAUMATIC GROWTH, RELIGIOSITY/SPRITUALITY, SOCIAL SUPPORT, PARTNER SUPPORT, STRESS, DEPRESSION, ANXIETY, AD COPING SELF-EFFICACY," the IRB has determined that your study is Exempt from committee review (Category 2) on 01/29/2019.

Please keep in mind that the IRB Committee must be contacted if there are any changes to your research protocol. The number assigned to your protocol is 19-139. Feel free to contact the IRB Office by using the "Messages" option in the electronic Mentor IRB system if you have any questions about this protocol.

Please note that your Consent form bears an official IRB authorization stamp and is attached to this email. Copies of this form with the IRB stamp must be used for your research work. Further, all research recruitment materials must include the study's IRB-approved protocol number. You can retrieve a PDF copy of this approval letter from the Mentor site.

Best wishes for your research work.

Sincerely,

Dr. Myra Luna Lucero
Research Compliance Manager
IRB@tc.edu

Attachments:
- 2-Elsy Mecklembourg-F-REV-Consent Form_FINAL ONE.pdf
INVITING AFRICAN AMERICAN WOMEN WHO ARE 5 YEAR SURVIVORS OF BREAST CANCER TO TAKE A CONFIDENTIAL SURVEY

IRB Protocol Number 19-139

The Research Group on Disparities in Health (RGDH) within the Department of Health and Behavior Studies at Teachers College, Columbia University, in New York, New York is conducting a study to learn more about the quality of life for survivors of breast cancer, including possible factors related to that quality (i.e. current health status, social support, religiosity/spirituality, support from a partner/spouse, stress, depression, anxiety, ways of coping).

- Participation in this survey is limited to the first 250 Black women who have survived breast cancer for 5 year or more
- Completing the online survey takes about 20-25 minutes
- Those who complete the survey will have a 3 in 250 chance of winning 1 of 3 $100 Amazon gift cards
- Please click on the link below to view the informed consent, learn about your rights as a participant and proceed to the survey.
- We also invite you to forward this email to other African American women who are survivors of breast cancer—or text message, or tweet the message, below:

GO TO https://tinyurl.com/BreastCancerSurvivorStudy to take the survey for Black Women survivors of breast cancer (5 years +) on quality of life for chance to win 1 of 3 $100 Amazon gift cards

NOTE: Participants have a 3 in 250 chance of winning 1 of 3 $100 Amazon gift cards.

THANK YOU FOR YOUR PARTICIPATION!

If you have any questions or would like to have additional information about the study, please contact:

Elsy Mecklembourg, MPH, Doctoral Candidate, Department of Health and Behavior Studies, Teachers College, Columbia University, Box 114, 525 W. 120th Street, New York, NY 10027; em3081@tc.columbia.edu - OR -

Barbara C. Wallace, Ph.D., Director, Research Group on Disparities in Health, Professor of Health Education, Clinical Psychologist, Department of Health and Behavior Studies, Teachers College, Columbia University, Box 114, 525 W. 120th Street, New York, NY 10027; bcw3@tc.columbia.edu; Study Contact Number: 267-269-7411
Appendix C

Study Text/Tweet

GO TO https://tinyurl.com/BreastCancerSurvivorStudy to take the survey for Black Women survivors of breast cancer (5 years +) on quality of life for chance to win 1 of 3 $100 Amazon gift cards

OR

Click https://tinyurl.com/BreastCancerSurvivorStudy to take survey for Black Women survivors of breast cancer (5 years +) for chance to win 1 of 3 $100 Amazon gift cards
INVITING AFRICAN AMERICAN WOMEN WHO ARE 5 YEAR SURVIVORS OF BREAST CANCER
******TO TAKE A CONFIDENTIAL SURVEY******

IRB Protocol Number 19-139

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- Completing the online survey takes about 20-25 minutes
- Those who complete the survey will have a 3 in 250 chance of winning 1 of 3 $100 Amazon gift cards
- Please click on the link below, or tear-off a tab below and use the link, so you can view the informed consent, learn about your rights as a participant and proceed to the survey
- We also invite you to forward this email to other African American women who are survivors of breast cancer—or text message, or tweet the message, below:

GO TO https://tinyurl.com/BreastCancerSurvivorStudy to take the survey for Black Women survivors of breast cancer (5 years +) on quality of life for chance to win 1 of 3 $100 Amazon gift cards

THANK YOU FOR YOUR PARTICIPATION! HAVE QUESTIONS?
If you have any questions or would like to have additional information about the study, please contact:
Elsy Mecklenbourg, MPH, Doctoral Candidate, Department of Health and Behavior Studies, Teachers College, Columbia University, Box 114, 525 W. 120th Street, New York, NY 10027; em3081@tc.columbia.edu - OR - Barbara C. Wallace, Ph.D., Director, Research Group on Disparities in Health, Professor of Health Education, Clinical Psychologist, Department of Health and Behavior Studies, Teachers College, Columbia University, Box 114, 525 W. 120th Street, New York, NY 10027; bchw3@tc.columbia.edu; Study Contact Number: 267-269-7411

Tear-off a tab with the link to the survey and spread the word

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<td><a href="https://tinyurl.com/BreastCancerSurvivorStudy">Link 1</a> to take the survey for Black Women survivors of breast cancer (5 years +) on quality of life for chance to win 1 of 3 $100 Amazon gift cards</td>
<td><a href="https://tinyurl.com/BreastCancerSurvivorStudy">Link 2</a> to take the survey for Black Women survivors of breast cancer (5 years +) on quality of life for chance to win 1 of 3 $100 Amazon gift cards</td>
<td><a href="https://tinyurl.com/BreastCancerSurvivorStudy">Link 3</a> to take the survey for Black Women survivors of breast cancer (5 years +) on quality of life for chance to win 1 of 3 $100 Amazon gift cards</td>
</tr>
</tbody>
</table>
Appendix E

Informed Consent

Teachers College, Columbia University
525 West 120th Street
New York NY 10027
212 678 3000

INFORMED CONSENT

IRB Protocol Number 19-139

Protocol Title: African American Breast Cancer Survivors' Online Study of Predictors of Quality of Life: Health Status, Posttraumatic Growth, Religiosity/Spirituality, Social Support, Partner Support, Stress, Depression, Anxiety, and Coping Self-Efficacy

Principal Researcher: Elsy Mecklembourg, MPH, Teachers College
516-458-6517, em3081@tc.columbia.edu

INTRODUCTION

You are invited to participate in this research study called “African American Breast Cancer Survivors’ Online Study of Predictors of Quality of Life: Health Status, Posttraumatic Growth, Religiosity/Spirituality, Social Support, Partner Support, Stress, Depression, Anxiety, and Coping Self-Efficacy.” You may qualify to take part in this research study if you are an African American woman who is at least 23 years of age, and a survivor of breast cancer (i.e. 5 years since diagnosis). Approximately 250 people will participate in this study and it will take 20-25 minutes of your time to complete.

WHY IS THIS STUDY BEING DONE? This study is being done to learn about the quality of life for survivors of breast cancer, including possible factors related to that quality (i.e. current health status, social support, religiosity/spirituality, support from a partner/spouse, stress, depression, anxiety, ways of coping).

WHAT WILL I BE ASKED TO DO IF I AGREE TO TAKE PART IN THIS STUDY? If you decide to participate in the study, you will answer a series of questions in an online survey. The questions will cover the following: your personal background and self-ratings of your health; and self ratings of your experience of any posttraumatic growth after being diagnosed with breast cancer, as well as of your social support, religiosity/spirituality, support from a partner/spouse, stress, depression, anxiety, and ways of coping. In a final open-ended question, you will have an opportunity to share about the factors you feel have been key to your achieving years as a survivor, and about what have been your most important coping strategies.

WHAT POSSIBLE RISKS OR DISCOMFORTS CAN I EXPECT FROM TAKING PART IN THIS STUDY? The risks of study participation include the possibility that you may feel some discomfort from taking the survey or some stress due to some of the
questions. However, your participation in this study is completely voluntary, and you can stop at any time.

**WHAT POSSIBLE BENEFITS CAN I EXPECT FROM TAKING PART IN THIS STUDY?** There is no direct benefit to you for participating in this study.

**WILL I BE PAID FOR BEING IN THIS STUDY?** You will not be paid to participate. However, when you complete the survey you will be invited to enter your email address and to hit a “submit” button—so that you are officially entered into a drawing for a chance to receive a prize (i.e., there will be 3 bar coded Amazon gift certificates for $100 each). You do not have to enter the lottery drawing to complete the survey. Once you submit your email address, then it will automatically be entered into a private and secure data base that even the principal investigator cannot access. Once 250 people have completed the entire survey, you will have a 3 in 250 chance of winning one of the 3 bar coded Amazon gift certificates for $100 each. The www.Amazon.com gift certificates will be sent to three randomly chosen e-mail accounts using a secure online program. This occurs without in any way linking your identity to the survey results. The principal investigator is not able to view any of the e-mail addresses to which the gift certificates are sent. Only the 3 winners will be contacted.

**WHEN IS THE STUDY OVER? CAN I LEAVE THE STUDY BEFORE IT ENDS?**
The study is over when you have completed the online survey. However, you can leave the study at any time even if you have not finished.

**PROTECTION OF YOUR CONFIDENTIALITY** The study does not involve collecting any of your personal identifying information, such as your name or address, allowing you to remain anonymous. Teachers College, Columbia University has determined that www.Qualtrics.com provides a secure platform for the online survey you will take. The survey data files will also be saved on the primary researcher’s password protected computer. Regulations require that research data be kept for at least three years.

For quality assurance, the study team, and/or members of the Teachers College Institutional Review Board (IRB) may review the data collected from you as part of this study. Otherwise, all information obtained from your participation in this study will be held strictly confidential and will be disclosed only with your permission or as required by U.S. or State law.

**HOW WILL THE RESULTS BE USED?** The results of this study will be published in journals and presented at academic conferences. This study is being conducted as part of the doctoral dissertation of the principal investigator.

**WHO CAN ANSWER MY QUESTIONS ABOUT THIS STUDY?**
If you have any questions about taking part in this research study, you should contact the primary researcher, Elsy Mecklembourg, MPH, at 516-458-6517, or em3081@tc.columbia.edu. You can also contact the sponsor/ supervisor of this research study, Dr. Barbara Wallace, at bcw3@tc.columbia.edu or 267-269-7411.
If you have questions or concerns about your rights as a research subject, you should contact the Institutional Review Board (IRB) (the human research ethics committee) at 212-678-4105 or email IRB@tc.edu. Or you can write to the IRB at Teachers College, Columbia University, 525 W. 120th Street, New York, NY 10027. Box 151. The IRB is the committee that oversees human research protection for Teachers College, Columbia University.

**PARTICIPANT’S RIGHTS**

- I have read the Informed Consent Form and have been offered the opportunity to discuss the form with the researcher.
- I have had ample opportunity to ask questions about the purposes, procedures, risks and benefits regarding this research study.
- I understand that my participation is voluntary. I may refuse to participate or withdraw participation at any time without penalty.
- The researcher may withdraw me from the research at his or her professional discretion. I understand that if I take the survey more than once I will be eliminated from the study.
- If, during the course of the study, significant new information that has been developed becomes available which may relate to my willingness to continue my participation, the researcher will provide this information to me.
- Any information derived from the research study that personally identifies me will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.
- I should receive a copy of the Informed Consent Form document. (I understand that I can download it).

By checking the box below, I agree to participate in the study and I am confirming that I am an adult age 23 or above, and a survivor of breast cancer (i.e. 5 years since diagnosis).

- I agree to participate in this study.
Appendix F

Screening Survey

Teachers College, Columbia University
Institutional Review Board (IRB) Protocol # 19-139

SCREENING TOOL

1-Are you a female who is at least 23 years of age?
Yes___ No____

2-Are you African American, or do you consider yourself to be Black?
Yes___ No____

3-Are you able to read and understand English on a 12th grade level?
Yes___ No____

4-Were you ever diagnosed with breast cancer?
Yes___ No____

5-Were you diagnosed with breast cancer at least 5 years ago?
Yes___ No____

6-Are you able to devote about 35-45 minutes to this study at this time—for a chance to win one of three $100 Amazon gift cards?
Yes___ No____

If they answered YES to all of the above questions⇒ they access survey.
If they answered NO to any of the above questions⇒ they receive this message:
Thank you for your time, but, unfortunately you are not qualified to participate in this study.
Feel free to invite other breast cancer survivors to participate in this study. Please send them the study link* that you used to access this survey.
THANK YOU!
SURVEY FOR THE BREAST CANCER SURVIVOR’S STUDY ON QUALITY OF LIFE AND COPING FOR AFRICAN AMERICAN WOMEN

Teachers College, Columbia University
Institutional Review Board (IRB) Protocol # 19-139

Instructions: Please answer the following questions by either selecting your desired answer or by providing an answer in the text box.

Please enter your zip code_______________

PART I: BASIC DEMOGRAPHICS (BD-9)
[A tool created for use by the Research Group on Disparities in Health (e.g. Ingram, 2017), and adapted for the present study population. See: Ingram, L. (2017). Toward improving the health and academic outcomes of minority college students: Predictors of experiences of racism and/or oppression, stress, trauma, health status and level of academic achievement. Doctoral Dissertation. Teachers College, Columbia University.]

1) I am: A. ? Female        B.  ? Male      C.  ? Transgender

2) My age is: __________

G.  ? Living with Significant other   H. ? Other _________________

4) My sexual partners are: A. ? Male   B. ? Female   C. ? Both
D. ? Transgender    E. ? Other _________________

5) My race/ethnicity is as follows: (Please mark all that apply)
Black / African American
Hispanic / Latino (including Puerto Rican, Mexican, Mexican American, Chicano, Cuban, other Spanish)
White / Caucasian / European American
Asian (Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, or other Asian)
Native American/American Indian / Alaska Native
Native Hawaiian / Pacific Islander?
Arab American / Middle Eastern?
Other group(s) (specify)
6) Were you born in the United States?  
   ?Yes  ?No  
   If answered ‘No, ‘Where was your place of birth or your country of origin?  
   b-1 Country of origin? ___________________________________  
   b-2 And, at what age did you come to the US? ________________  
   b-3 How many years have you been in the US? ________________  

7-What is the highest degree or level of schooling that you have completed?  
   No schooling  
   Nursery school to 8th grade  
   Some high school, no diploma  
   High school graduate, diploma or the equivalent (for example: GED)  
   Some college credit, no degree  
   Associate degree or technical degree (for example: AA, AS)  
   Bachelor’s degree (for example: BA, BS)  
   Master’s degree (for example: MA, MS, MEd)  
   Professional degree (MD, DDS, DMD, PharmD)  
   Doctorate degree (PhD, EdD, DrPH)  

8) My yearly household income is:  
   $10,000 to $19,000  
   $20,000 to $39,000  
   $40,000 to $49,000  
   $50,000 to $99,999  
   $100,000 to $199,999  
   $200,000 to $299,000  
   $300,000 to $399,000  
   $400,000 to $499,000  
   $500,000 to $799,000  
   $800,000 or More  

9-Are your currently:  
   Employed for wages  
   Self-employed  
   Unemployed  
   A homemaker  
   A student  
   Military  
   Retired  
   Disabled/Unable to work
II: BREAST CANCER HISTORY AND TREATMENT SCALE (B-CHAT-S-3)

[A new tool created for use in this study by the Research Group on Disparities in Health]

1-I was diagnosed with breast cancer

  Yes___  No___ (No ➔ Exit survey)

  If Yes ➔

2-The number of years ago that I was given a diagnosis of breast cancer is [Drop down menu of 1-80 years]

  [Note if 4 years ago or less ➔ remove from sample]

3-I was treated for breast cancer by medical providers

  Yes___  No___

  If Yes ➔

Part III: PERSONAL HEALTH BACKGROUND (PHB-9)

[This is a tool created for use by the Research Group on Disparities in Health (e.g. Ingram, 2017). See Ingram, L. (2017). Toward improving the health and academic outcomes of minority college students: Predictors of experiences of racism and/or oppression, stress, trauma, health status and level of academic achievement. Doctoral Dissertation. Teachers College, Columbia University.]

1-I rate my overall health status as:

<table>
<thead>
<tr>
<th>1-Very Poor</th>
<th>2-Poor</th>
<th>3-Fair</th>
<th>4-Good</th>
<th>5-Very Good</th>
<th>6-Excellent</th>
</tr>
</thead>
</table>

2-What is your height in feet (Drop down, 4-9)
3-What is your height in inches (Drop down, 0-11)
4-My weight in pounds is (Drop down, 70-400)
5-I consider myself to be:
  __Underweight __Normal weight __ Overweight __Obese
6-I rate the overall quality of care I receive for my health (and any medical condition I have) as:

<table>
<thead>
<tr>
<th>1-Very Poor</th>
<th>2-Poor</th>
<th>3-Fair</th>
<th>4-Good</th>
<th>5-Very Good</th>
<th>6-Excellent</th>
</tr>
</thead>
</table>

  __Not applicable (I do not receive any health care)
7-I rate the overall quality of care I receive from my primary care physician/healthcare provider as:

<table>
<thead>
<tr>
<th>1-Very Poor</th>
<th>2-Poor</th>
<th>3-Fair</th>
<th>4-Good</th>
<th>5-Very Good</th>
<th>6-Excellent</th>
</tr>
</thead>
</table>

_Not applicable (I do not have one)_

8-I rate my health care providers' sensitivity and competence for treating me as someone who is a *breast cancer survivor* as:

<table>
<thead>
<tr>
<th>1-Very Poor</th>
<th>2-Poor</th>
<th>3-Fair</th>
<th>4-Good</th>
<th>5-Very Good</th>
<th>6-Excellent</th>
</tr>
</thead>
</table>

_Not applicable (I do not receive health care) |
_Not applicable (I do not consider myself a breast cancer survivor)_

9-I rate my health care providers' sensitivity and competence for treating me as someone who is an *African-American* breast cancer survivor as:

<table>
<thead>
<tr>
<th>1-Very Poor</th>
<th>2-Poor</th>
<th>3-Fair</th>
<th>4-Good</th>
<th>5-Very Good</th>
<th>6-Excellent</th>
</tr>
</thead>
</table>

_Not applicable (I do not receive health care) |
_Not applicable (I do not consider myself a breast cancer survivor)_

---

**PART IV: MORE ABOUT YOU (SOCIAL DESIRABILITY) (MAY-13)**


Read each item below and decide whether the statement is true or false as it pertains to you personally. Circle T for True or F for false.

1. It is sometimes hard for me to go on with my work if I am not encouraged.   T  F
2. I sometimes feel resentful when I don’t get my way.      T   F
3. On a few occasions, I have given up doing something because I thought too little of my ability.          T   F
4. There have been times when I felt like rebelling against people in authority even though I knew they were right.       T   F
5. No matter who I’m talking to, I’m always a good listener.     T  F
6. There have been occasions when I took advantage of someone.        T  F
7. I’m always willing to admit it when I make a mistake.            T  F
8. I sometimes try to get even rather than forgive and forget.   T  F
9. I am always courteous, even to people who are disagreeable    T  F
10. I have never been irked when people expressed ideas very different from my own.    T  F
11. There have been times when I was quite jealous of the good fortune of others.    T  F
12. I am sometimes irritated by people who ask favors of me.     T  F
13. I have never deliberately said something to hurt someone’s feelings .   T  F
PART V: RATING YOUR QUALITY OF LIFE SCALE (RYQOL-S-1)
[This is a new scale created for use in this study, being based on the main areas covered in the quality of life scale created by Gordon and Siminoff (2010)—specifically physical function, social support, body image, emotional function, coping, cognitive function (excluding their future orientation, and breast cancer impact).]

Please rate yourself, after reading the following:
Please think about the quality of your life, including the following: my ability to function physically (my level of strength, tendency to experience fatigue, ability to walk up and down stairs, ability to perform physical activities around the house, ability to move my arms and legs, degree to which I feel pain in my body); my amount of social support (number of people I can rely on for help, including in a crisis); my feelings about my body image (attractiveness, finding clothing I like to wear); my emotional functioning (degree of depression, anxiety, worry, uncertainty); and my mental functioning (ability to concentrate, remember things, think clearly). Keeping all of this in mind, please rate your quality of life at the present time:
I rate my quality of life as:
__1-Very poor  __2-Poor  __3-Fair __4-Good __5-Very Good __6-Excellent

PART VI: POSTTRAUMATIC GROWTH INVENTORY-SHORT FORM (PTGI-SF-10)

NOTE: The scale factors and their items are: I = Relating to Other (items = 5, 10); II= New Possibilities (items = 3, 6); III=Personal Strength (items = 7, 9); IV=Spiritual Change (items = 4, 8); and, V= Appreciation of Life (items = 1, 2)]

Please think about your experience of being diagnosed and/or treated for breast cancer, and indicate what you experienced:

1-I changed my priorities about what is important in life
__0-I did not experience this change
__1-I experienced this change to a very small degree
__2-I experienced this change to a small degree
__3-I experienced this change to a moderate degree
__4-I experienced this change to a great degree
__5-I experienced this change to a very great degree

2-I have a greater appreciation for the value of my own life
__0-I did not experience this change
__1-I experienced this change to a very small degree
__2-I experienced this change to a small degree
__3-I experienced this change to a moderate degree
__4-I experienced this change to a great degree
__5-I experienced this change to a very great degree
3-I am able to do better things with my life
  0-I did not experience this change
  1-I experienced this change to a very small degree
  2-I experienced this change to a small degree
  3-I experienced this change to a moderate degree
  4-I experienced this change to a great degree
  5-I experienced this change to a very great degree

4-I have a better understanding of spiritual matters
  0-I did not experience this change
  1-I experienced this change to a very small degree
  2-I experienced this change to a small degree
  3-I experienced this change to a moderate degree
  4-I experienced this change to a great degree
  5-I experienced this change to a very great degree

5-I have a greater sense of closeness with others
  0-I did not experience this change
  1-I experienced this change to a very small degree
  2-I experienced this change to a small degree
  3-I experienced this change to a moderate degree
  4-I experienced this change to a great degree
  5-I experienced this change to a very great degree

6-I established a new path for my life
  0-I did not experience this change
  1-I experienced this change to a very small degree
  2-I experienced this change to a small degree
  3-I experienced this change to a moderate degree
  4-I experienced this change to a great degree
  5-I experienced this change to a very great degree

7-I know better that I can handle difficulties
  0-I did not experience this change
  1-I experienced this change to a very small degree
  2-I experienced this change to a small degree
  3-I experienced this change to a moderate degree
  4-I experienced this change to a great degree
  5-I experienced this change to a very great degree

8-I have a stronger religious faith
  0-I did not experience this change
  1-I experienced this change to a very small degree
  2-I experienced this change to a small degree
  3-I experienced this change to a moderate degree
  4-I experienced this change to a great degree
  5-I experienced this change to a very great degree
9-I discovered that I’m strong than I thought I was
   __0-I did not experience this change
   __1-I experienced this change to a very small degree
   __2-I experienced this change to a small degree
   __3-I experienced this change to a moderate degree
   __4-I experienced this change to a great degree
   __5-I experienced this change to a very great degree

10-I learned a great deal about how wonderful people are
   __0-I did not experience this change
   __1-I experienced this change to a very small degree
   __2-I experienced this change to a small degree
   __3-I experienced this change to a moderate degree
   __4-I experienced this change to a great degree
   __5-I experienced this change to a very great degree

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

Part VII: RELIGIOSITY/SPRITUALITY SCALE BEFORE AND AFTER BREAST CANCER (RSS-BAF-BC-4)
[Note: As a single-item scale, the Self-Rating of Religiosity scale (SRR; Abdel-Khalek, 2007 has demonstrated high reliability (.89), good temporal stability, concurrent validity, and high loading (0.84), thereby denoting good factorial validity (Abdel-Khalek, 2007). Here, the participant is asked to rate themselves for before and after their breast cancer experience. Further, the term spiritual also guided a second question being added.]

1-Before your breast cancer experience,
   I would rate myself as:
   __1 very religious __2 religious __3 somewhat religious __4 not religious
   __5 not religious at all.

   AND

2-I would rate myself as:
   __1 very spiritual __2 spiritual __3 somewhat spiritual __4 not spiritual
   __5 not spiritual at all.

3-After your breast cancer experience—or now,
   I would rate myself as:
   __1 very religious __2 religious __3 somewhat religious __4 not religious
   __5 not religious at all.

   AND

4-I would rate myself as:
   __1 very spiritual __2 spiritual __3 somewhat spiritual __4 not spiritual
   __5 not spiritual at all.

-----------------------------------------------------------------------------------------------
PART VIII: PERCEIVED SOCIAL SUPPORT SCALE (PSSS-5)


Having SOCIAL SUPPORT means having family, friends, peers, room-mates, or neighbors that live near you and can provide assistance in all the ways listed, below. Please indicate the extent to which you experience SOCIAL SUPPORT in your life at this time (i.e., right now), specifically in the following ways:

1. I could ask for advice if I needed it, and could get it pretty quickly without waiting
   1. I have no one like this in my life right now
   2. I have at least 1 one person like this in my life right now
   3. I have at least 2 people like this in my life right now
   4. I have 3-5 people like this in my life right now
   5. I have 6 or more people like this in my life right now

2. I could go to them in an emergency for help (e.g., such as a place to wait/stay if I was locked out of my housing/dormitory room/apartment)
   1. I have no one like this in my life right now
   2. I have at least 1 one person like this in my life right now
   3. I have at least 2 people like this in my life right now
   4. I have 3-5 people like this in my life right now
   5. I have 6 or more people like this in my life right now

3. I could borrow money from them if my wallet/purse was stolen and I needed money (e.g., for transportation to take a bus, subway, to get to school or back to where you live)
   1. I have no one like this in my life right now
   2. I have at least 1 one person like this in my life right now
   3. I have at least 2 people like this in my life right now
   4. I have 3-5 people like this in my life right now
   5. I have 6 or more people like this in my life right now

4. I could get food from them if I was hungry and had no food because of some emergency in my life
   1. I have no one like this in my life right now
   2. I have at least 1 one person like this in my life right now
   3. I have at least 2 people like this in my life right now
   4. I have 3-5 people like this in my life right now
   5. I have 6 or more people like this in my life right now
5. I could receive encouraging words from them, if I was struggling with something
   1. I have no one like this in my life right now
   2. I have at least 1 one person like this in my life right now
   3. I have at least 2 people like this in my life right now
   4. I have 3-5 people like this in my life right now
   5. I have 6 or more people like this in my life right now

PART IX: PERCEIVED SPOUSE/PARTNER SOCIAL SUPPORT SCALE (PS/PSSC-2)
[Professor Barbara Wallace and the Principal Investigator developed this tool for first
use in this study]
Have you had a spouse, or partner, or significant other living with you during the
period when you were coping with having breast cancer, or being a survivor of
breast cancer?
___Yes ___No

If has NO partner (b, c, e)→ go to next question

If Yes→
Please rate your spouse, or partner, or significant other for their degree of support
for you on a scale of 0 to 10, where 0= lowest level of support and 10=highest level of
support.
I rate my partner _0 _1 _2 _3 _4 _5 _6 _7 _8 _9 _10

PART X: PERCEIVED STRESS SCALE (PSS-10)
The questions in this scale ask you about your feelings and thoughts during the last
month. In each case, you will be asked to indicate how often you felt or thought a certain
way, using the following options:
0 = Never   1 = Almost   2 = Sometimes   3 = Fairly Often   4 = Very Often

1. In the last month, how often have you been upset because of something that happened
unexpectedly?................................. 0 1 2 3 4

2. In the last month, how often have you felt that you were unable to control the
important things in your life?................................. 0 1 2 3 4

3. In the last month, how often have you felt nervous and “stressed”?........... 0 1 2 3 4

4. In the last month, how often have you felt confident about your ability to handle your
personal problems?................................. 0 1 2 3 4
5. In the last month, how often have you felt that things were going your way? ............................................................. 0 1 2 3 4

6. In the last month, how often have you found that you could not cope with all the things that you had to do? ............................................................. 0 1 2 3 4

7. In the last month, how often have you been able to control irritations in your life? ............................................................. 0 1 2 3 4

8. In the last month, how often have you felt that you were on top of things? 0 1 2 3 4

9. In the last month, how often have you been angered because of things that were outside of your control? 0 1 2 3 4

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? ............................................................. 0 1 2 3 4

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

PART XI: RETROSPECTIVE DEPRESSION, ANXIETY AND COUNSELING SCALE (R-DAAC-S-3)

[NOTE: This is shorter version of a scale that follows the work of Lian (2017)—as a common tool used by the Research Group on Disparities in Health (RGDH. For this study, subjects are only asked about the past year—and not past 3, 6 months. The counseling question appears just once, and includes new options (e.g. Iman). See: Lian, Z. (2017). Predictors of depression/anxiety, mental health service utilization, and help-seeking for Chinese international students: Role of acculturation, microaggressions, social support, coping self-efficacy, stigma, and college staff’s cultural competence and cultural humility. Doctoral Dissertation, Teachers College, Columbia University.]

Depression is an overwhelming feeling of intense sadness. It can include feeling helpless, hopeless, and worthless. It can sometimes be expressed through angry outbursts, as well as bursting into tears. There can also be loss of appetite, or an increase in appetite. There can also be difficulty sleeping, or oversleeping. In addition, there can be a loss of interest in your activities. Such a depression can last for days or weeks. This goes beyond typical feelings of sadness, such as following some disappointment.

1-Do you think you experienced any depression in the past year or 12 months? ____No ____Yes

Anxiety is an overwhelming and intense feeling of nervousness, fear, tension, powerlessness, and apprehension. It can reach a peak so there are moments of panic where one’s heart may be pounding/beating quickly, or there is rapid breathing/difficulty breathing. A person may also experience sweating and trembling. Sometimes it can be so intense that one has trouble concentrating/thinking, leaving the house, or trouble being around other people. The fear can be very intense and one can feel like there is some
impending danger. This goes beyond typical feelings of nervousness, such as when
anticipating a new situation, or something unexpected, or unknown.

2-Do you think you experienced any anxiety in the past year or 12 months? ____No
____Yes

Receipt of Counseling
3-In the past year, did you seek out any kind of counseling or advice for any depression
and/or anxiety, or other stress—such as from a mental health professional, Iman, Mosque
Elder, or family member?
____Yes ____No ____Not Applicable/ No experience of depression or anxiety, or other
related issues, etc.

NOTE: Recall the online counseling resources recommended in the Informed
Consent and Research Description—that will be repeated at the end of this survey
for your convenience; and, recall the study contact number if you feel you need
assistance seeking help.

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

PART XII. COPING SELF-EFFICACY SCALE—REDUCED FORM (CSES-RF-13)
[Developed by Chesney, Neilands, Chambers, Taylor, and Folkman (2006). See:
A validity and reliability study of the coping self-efficacy scale. British journal of health
psychology, 11(3), 421-437. Within the Research Group on Disparities in Health, it was
recently used by Ingram (2017). See Ingram (2017) reference, above]

For each of the following items, write a number from 0 - 10, using the scale
below. When things aren't going well for you, how confident are you that
you can:

<table>
<thead>
<tr>
<th>Cannot do at all</th>
<th>Moderately certain can do</th>
<th>Certainly can do</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 3</td>
<td>4 5 6 7</td>
<td>8 9 10</td>
</tr>
</tbody>
</table>

Use Problem-Focused Coping
1. Break an upsetting problem down into smaller parts. _____
2. Sort out what can be changed, and what cannot be changed. _____
3. Make a plan of action and follow it when confronted with a problem. _____
4. Leave options open when things get stressful. _____
5. Think about one part of the problem at a time. _____
6. Find solutions to your most difficult problems. _____

3. Stop Unpleasant Emotions and Thoughts
7. Make unpleasant thoughts go away. _____
8. Take your mind off unpleasant thoughts. _____
9. Stop yourself from being upset by unpleasant thoughts. _____
10. Keep from feeling sad. _____
4. Get Support From Friends and Family
   11. Get friends to help you with the things you need. ___
   12. Get emotional support from friends and family. ___
   13. Make new friends. ___

----------------------------------- END OF SURVEY ----------------------------------

*****

SHARE WITH OTHERS!
We invite you to text message, tweet, and e-mail others you know the same link you used to access this study’s survey: i.e.

“Go to <LINK> to take the African American Women’s Breast Cancer Survivors’ (5 years or more) Survey on quality of life and coping for a chance to win 1 of 3 $100 Amazon gift cards”

After you read the message, below, please click the <LINK> so you are entered into the drawing for the Amazon gift cards.
Appendix H

Qualitative Data Analysis Strategy

ANALYZING QUALITATIVE DATA

The Research Group on Disparities in Health (RGDH) highly values mixed methods dissertations that combine quantitative and qualitative methods. Typically, a dissertation is rooted in three to four theories (e.g. stages of change, self-efficacy, diffusion of innovation) and surveys collecting quantitative data have a rationale in corresponding theory. Meanwhile, all surveys end with open-ended questions (1-3) that are analyzed for themes; some students use a qualitative data analysis package for this task. However, I recommend the following steps for analyzing qualitative data:

Myth: you do not need to read all of your qualitative data
Truth: you DO need to follow all these steps

START WITH YOUR FIRST QUALITATIVE RESEARCH QUESTION

1) **ORGANIZE**- copy and paste qualitative data from survey monkey into one file--organizing by question asked

2) **HIGHLIGHT** - as you read it, highlight in yellow quotes that stand out--and, after you read about twenty answers, go back to the first highlighted yellow and in brackets at the end put an emergent theme:

3) **CREATE ACTION PHRASES** - **ITALICIZE AND BOLD** - the emergent theme in brackets should be an action phrase--such as *perceiving the need for supervision/training* or *striving to achieve positive outcomes* or *pursuing objectives by taking action*

4) **LIST DOCUMENT FOR EMERGENT THEMES** - as you continue to read beyond the first twenty answers, have a second document where you are copying and pasting your emergent themes--creating a LIST; as you read your twentieth to fortieth answer, start to just copy and paste the relevant emergent theme from your LIST, placing it in brackets where it applies

5) **THEMES EXPAND TO ACCOMMODATE MORE DATA** - feel free to elaborate on the emergent theme to accommodate the answers you see (twentieth to fortieth answers); for example, *perceiving the need for supervision/training/new curriculum* or *striving to achieve positive outcomes/goals/highest potential*, or *pursuing objectives by taking action/engaging in advocacy*

6) **SEE HOW EXPANDED THEMES ACCOMMODATE ALL DATA** - the new elaborated emergent themes now encompass ALL the examples (#1-20, 21-40)
7) **CLASSIFY ALL DATA BY THEMES** - continue to go through all of your data (examples 41-100) and only highlight in yellow where needed, and mostly copy and paste the emergent theme in brackets; put any NEW emergent themes in your second document where you are copying and pasting your emergent themes--creating a LIST.

8) **QUICKLY CONTINUE TO CLASSIFY ALL DATA BY THEMES** - if you have a LOT of data, eyeball and read quickly examples (101-200)--searching for every place you can highlight in yellow a new emergent theme (e.g. *feeling the focus is unnecessary/rebelling/not caring*)--to place on your LIST; or, quickly copy and paste where the new emergent theme fits in (e.g. #104 reflects the theme of *perceiving the need for supervision/training/new curriculum*).

9) **CREATE TABLE AND ORGANIZE BY REDUCED CATEGORIES THAT ENCOMPASS GROUPS OF THEMES**: turn your final LIST of emergent themes (e.g. 20) into a TABLE; search for **CATEGORIES OF THEMES** that may accommodate 3-5 of your emergent themes (fit under it like an umbrella); organize the LIST of emergent themes so groups appear under the higher order **CATEGORIES**. For example, there may be just **3 categories** of solutions, or strategies, or complaints might each encompass 3-4 themes.

10) **ENTER FREQUENCY AND PERCENTAGE IN TABLE**: go back and count the number of times each emergent theme appeared in your data; add to your TABLE n and % for number of times the emergent theme appeared--even as it it now under a CATEGORY in your table.

**REPEAT PROCESS FOR THE NEXT QUESTION--NEXT BODY OF QUALITATIVE DATA**

Allow yourself to **REPEAT** your 3 categories of solutions, or strategies, or complaints which might each encompass 3-4 theme EVEN FOR YOUR NEXT QUESTION.

Allow yourself to create a FINAL TABLE that organizes categories and themes.