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Fortitude, Spiritual Fortitude, and the Cancer Care Continuum in African American Breast Cancer Survivors

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Walden University
2022

Abstract

Fortitude, Spiritual Fortitude, and the Cancer Care Continuum in African American Breast Cancer Survivors

by

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BS, Nursing, Governors State University, 1989

Diploma, Nursing, South Chicago Community Hospital School of Nursing, 1983

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Health

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May 2022

Abstract

African American breast cancer survivors (AABCS) struggle with physical, emotional, psychological, spiritual, and financial challenges. Navigating these challenges can require the use of inner resources such as fortitude and spiritual fortitude. Using Folkman and Lazarus' transactional model of stress and coping as the theoretical framework, the purpose of this study was to examine fortitude and spiritual fortitude as coping responses by African American women living with breast cancer and whether fortitude and spiritual fortitude were associated with phases of the cancer care continuum. A quantitative nonexperimental cross-sectional design was used for primary data collection that involved using Pretorius' Fortitude Questionnaire and Van Tongeren and Aten's Spiritual Fortitude Scale. Fifty AABCS completed an online assessment solicited through social media. Associations between variables were determined using Spearman's Rho and chi-square tests of independence. Although fortitude and spiritual fortitude were above average in this population, they were not associated with phases of the cancer care continuum in this study. Triple-negative breast cancer status varied in terms of its association with spiritual fortitude. The use of constructs identified in this study to promote psychological wellness and the use of spiritual resources in AABCS and other breast cancer survivors could lead to positive social change. This study may provide additional information that public health officials can use to support coping with treatment and development of culturally-based resources to promote the optimal survival of AABCS.

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Dedication

This study is dedicated to African American women who gather to themselves with faith, strength, and community to persevere through the challenges of life with breast cancer. May you not just survive, but thrive.

Acknowledgments

I would like to acknowledge the support of my family in this endeavor - Mom for knowing it was possible. Debra, Ngandu, Imani, and Afiya for bearing with me. My church family at Grace Community Church for helping me keep the faith. Remembering Dad’s love and support.

Thanks to my chair, Dr. JaMuir Robinson, for her guidance and perseverance.

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Chapter 1: Introduction to the Study

Introduction

There are disparate breast cancer mortality and survival rates among African American women (U.S. Cancer Statistics Working Group, 2021). I explored the context in which they experience breast cancer with a focus on stressors and coping responses particular to this population of women. I sought to expand the knowledge of breast cancer coping responses to include fortitude and spiritual fortitude to contribute to enhanced knowledge and informed supportive care for African American breast cancer survivors.

This chapter includes an overview of epidemiologic data about breast cancer in African American women. I briefly describe the concept of strength in this population and the possible utility of fortitude and spiritual fortitude in terms of understanding coping responses to breast cancer in this population. The problem statement, purpose of the study, research questions, and hypotheses are presented. This chapter also includes the theoretical framework which provided a basis for examining fortitude and spiritual fortitude constructs. A definition of terms is provided as are assumptions, scope, and limitations. Lastly, the significance of the study is discussed.

Background

Breast cancer is the second leading cause of cancer death in African American women (U.S. Cancer Statistics Working Group, 2021). The breast cancer incidence rate for African American women was 121.2 (per 100,000 population) compared to 126.8 for all American women, and 127.5 for Caucasian women (U.S. Cancer Statistics Working Group, 2021). The breast cancer mortality rate in African American women, however,

was 26.8, compared with 19.8for all American women, and 19.2 for Caucasian women (U.S. Cancer Statistics Working Group, 2021). The Healthy People 2030 estimated the breast cancer death rate was 15.3 (Office of Disease Prevention and Health Promotion, 2021).

Breast cancer 5-year survival rates for all U.S. women have increased over the past 40 years but have lagged for African American women (American Cancer Society [ACS], 2019). Five-year survival rates for Caucasian women went from 76% in the 1975-1977 period to 92%between 2009 and 2015. During this same period, African American women's 5-year survival rates increased from 62% to 83% (ACS, 2019). In 2018, the five-year survival rate was 82.2% for African American women and 91.0% for Caucasian women (U.S. Cancer Statistics Working Group, 2021).

Strength and resilience have been identified as characteristics that define survivorship for African American women with breast cancer (Davis et al., 2014; Mollica & Newman, 2014; Mollica et al., 2015). Characteristics of strength in African American women include resilience, perseverance, fortitude, and inner strength (Mollica & Newman, 2014; Mollica et al., 2015). While strength has been identified as a self-preservation factor, it is not entirely positive and can be problematic, leaving individuals unwilling to seek assistance (Woods-Giscombé, 2010). This population of women is characterized by obligations to manifest strength, suppress emotions, and resist vulnerability or dependency, but these characteristics enabled survival in the context of historical oppression and mistreatment (Woods-Giscombé, 2010, p. 672). Starting with

this context supplements one's understanding of the characteristics of fortitude and its appraisal by African American breast cancer survivors (AABCS).

Problem Statement

AABCS struggle with numerous challenges, which can be classified as "physical, emotional, psychological, spiritual, and financial" (Centers for Disease Control and Prevention, 2015, para. 3). Navigating these challenges can require inner and external resources, including fortitude. While concepts like inner strength have been identified in AABCS as possible protective or self-preservation factors, fortitude has not been studied in this population but has been identified as a topic of further study.

The concept of fortitude is operationalized using the Fortitude Questionnaire (FORQ), an instrument developed by Pretorius to assess the psychological construct of fortitude. However, fortitude has not been a topic of quantitative research in terms of African American women or cancer in the United States (US). It is not known the extent to which fortitude and spiritual fortitude are present in this population, and whether it varies for AABCS at different points of the cancer care continuum. The concepts of fortitude and spiritual fortitude may enable AABCS to deal with the challenges of breast cancer survivorship.

Purpose of the Study

The purpose of this study was to examine the concepts of fortitude and spiritual fortitude in AABCS as they cope with stressors during their breast cancer experiences, assess the relationship between fortitude and spiritual fortitude in terms of phases of the

cancer care continuum, and determine predictors of fortitude and spiritual fortitude in AABCS.

Research Questions and Hypotheses

The study was designed to address the following research questions:

RQ1: Is there an association between fortitude and phases of the cancer care continuum among AABCS?

$H_0$1: There is no association between fortitude and phases of the cancer care continuum among AABCS.

H_a1: There is an association between fortitude phases of the cancer care continuum among AABCS.

RQ2: Is there an association between spiritual fortitude and the phase of cancer care continuum among African America breast cancer survivors?

$H_0$2: There is no association between spiritual fortitude and the phase of cancer care continuum among African American breast cancer survivors.

H_a2: There is an association between spiritual fortitude and the phase of cancer care continuum among African American breast cancer survivors.

*RQ3:*Is there a relationship between fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, and phases of the cancer care continuum?

$H_0$3: There is no relationship between fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, and phases of the cancer care continuum.

H_a3: There is a relationship between fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, and phases of the cancer care continuum.

*RQ4:*Is there a relationship between spiritual fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or phases of the cancer care continuum?

H_04: There is no relationship between spiritual fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or phases of the cancer care continuum.

Ha4: There is a relationship between spiritual fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or phase of the cancer care continuum.

Theoretical Framework for the Study

The transactional model of stress and coping was the theoretical framework that was used for this study. Stress involves transactions between persons and their environments (Wethington et al., 2015). Mediation of external stressors occurs through an individual's appraisal of available "psychological, social, and material resources" (Wethington et al., 2015, p. 226). In this model, an individual assesses potential harms (primary appraisal) and determines the degree to which the situation can be altered or negative emotions are managed (secondary appraisal; Wethington et al., 2015). Primary appraisal and coping efforts are mediating processes; secondary appraisal (perceived control over outcomes, perceived control over emotions, and self-efficacy) is impacted by

stressors, while moderators (among which are dispositional coping styles and social support) contribute to adaptive outcomes (Wethington et al., 2015).

This theory was used to frame the literature review on AABCS. The literature on AABCS is presented framed by stressors and coping responses. The theory was used to frame and interpret analysis of study outcomes, study significance, limitations, and future research.

Nature of Study

An appropriate design was a quantitative cross-sectional study with a nonexperimental design. This study did not have a control group, manipulated variables, or multiple measurements. The sample was obtained from Internet-based local and national support groups for AABCS. The study was both descriptive and correlational and involved examining the relationship between fortitude, its subscales, and spiritual fortitude and the cancer care continuum in AABCS. Data were collected from a survey administered online. Data were entered into SPSS and analyzed using Spearman's correlation and linear multiple regression.

Definition of Terms

Black/African American: An individual whose origins are from Black racial groups of Africa, which includes persons from Sub-Saharan African and Afro-Caribbean countries (Rastogi et al., 2011, p. 2).

Cancer Care Continuum: The phases through which individuals experience cancer diagnosis, treatment, and survivorship (Braun et al., 2012).

Cancer Survivorship: A continual process that is ongoing in which an individual with cancer lives "with, through, or beyond cancer" (Leigh, 1992, p. 1476). It includes consideration of the survivor's "physical, psychological, social, spiritual, existential challenges through a continuum of care" to minimize "long-term debilitation" and facilitate "patient coping and adaptation" (Zebrack, 2015, p.93).

Coping/Coping Responses: Cognitive and behavioral efforts and what an individual think and does to manage demands "that are appraised as exceeding the resources of the person" (Folkman & Lazarus, 1988, p. 310).

Fortitude: "The strength to manage stress and stay well" (Pretorius & Heyns, 2005, p. 2) and to cope with stressful events.

Religiosity/Religious Practices: Denominational practices and creeds such as prayer, Bible reading, and singing religious songs (Gregg, 2011; Hamilton et al., 2016).

Spiritual Fortitude: A character trait that enables individuals to use their "connections with God, others, and themselves" to "endure and make redemptive meaning" from adverse circumstances or events (Van Tongeren et al., 2019, p.1).

Spirituality*:* Attaining a connection to a higher power and enabling maintenance of individual balance. Gregg (2011) defined spiritual wellbeing as seeking the presence of a relationship with the divine.

Strength: Strength is a coping style among Black/African American women that is manifested as resilience, self-reliance, and psychological hardiness that enables them to cope with race or gender-related stressors (Black & Woods-Giscombé, 2012, p. 389, 391).

***Stressors*:** Stressors are derived from transactions between an individual and their environment, and can be events that persist over time, that are chronic, as well as events perceived to be threatening, like breast cancer (Wethington et al., 2015).

Triple-Negative Breast Cancer (TNBC): An aggressive kind of breast cancer that has no receptors (for estrogen, progesterone, or human epidermal growth factor) usually found in breast cancer that can be used to target treatment (Centers for Disease Control and Prevention, 2019). The likelihood of getting TNBC is higher in Black women than in White women (Centers for Disease Control and Prevention, 2018).

Assumptions

It was assumed that respondents answered questions honestly about who they were(AABCS) about their experiences. It was assumed that the variables under study (fortitude and spiritual fortitude) were present in this population. It was also assumed that instruments - the Fortitude Questionnaire (FORQ) and Spiritual Fortitude Scale (SFS -9)- accurately assessed the variables under study. Each of these assumptions was important to the veracity of the study in terms of whether the results can be trusted.

Scope, Delimitations, and Limitations

This study was limited to AABCS of varying ages. This included American-born women of African descent and Black women residing in the US whose origins may be in the Caribbean, Africa, and other parts of the African diaspora. It did not include breast cancer survivors of other races or ethnicities. It was drawn from online support groups located throughout the US and did not involve direct observation of participants.

I did not examine treatment types or experiences with care but focused on coping. The study was limited to women who have online access. This limited participation of women who did not have Internet access, perhaps including women of low socioeconomic status. As such, it would not be generalizable to the entire targeted population.

Significance

Optimum healthy survival among AABCS is most important. Achieving optimum healthy survival requires the ability to cope with treatments and other challenges, as well as the willingness to seek support. Both fortitude and spiritual fortitude have the possibility of contributing to coping with one's illness and quality of life. The results of this study could be useful in terms of the development of cancer survivorship care plans or health education interventions, which can facilitate optimum health in AABCS.

I sought to reveal if fortitude and spiritual fortitude are useful in terms of broadening knowledge about breast cancer experiences among African American women. It sought to reveal whether they are related to or significant in their experiences or not. I also sought to indicate if they were an applicable approach to health education and behavior. Lack of significance or correlation could indicate that these constructs may have limited capacity in terms of addressing coping and stress in this population of women and in women with breast cancer.

Summary

This study aimed to examine the concepts of fortitude and spiritual fortitude in relation to the cancer care continuum among AABCS. A preliminary literature review has

been presented that focused on fortitude within the sociohistorical context of the target population. Study hypotheses, research design, and sampling strategy were also addressed. The FORQ has been identified as an instrument that can be used to study this variable in the AABCS population.

Chapter 2: Literature Review

Introduction

AABCS struggle with numerous challenges, which can be classified as "physical, emotional, psychological, spiritual, and financial" (Centers for Disease Control and Prevention [CDC], 2015, para 3). Navigating these challenges, which can be termed stressors, can require the use of inner and external resources, including fortitude. Fortitude and spiritual fortitude may enable AABCS to deal with the challenges of breast cancer survivorship as they progress through the cancer care continuum.

This study was designed to examine stress and coping responses among AABCS. This included factors that modify the negative impact of this stress, such as resilience and fortitude. In this chapter, I present current literature on the experiences of AABCS, their stressors and coping responses, and literature on fortitude and spiritual fortitude.

Search Strategy

The literature reviewed for this chapter were published in English and peer-reviewed, and obtained from the following electronic databases: PubMed, Scopus, Google Scholar, PsycINFO, Medline (Ovid), CINAHL, and CDC Primo. All sources were published between 2013 and 2021. Search terms and phrases were *cancer survivorship, African American breast cancer survivors, fortitude, coping, African American women, stress, strength, spiritual fortitude, strong black woman,* and *Black women*. There were no studies identified which specifically addressed fortitude in AABCS.

Cancer Care Continuum

This study was informed by the cancer care continuum, the phases through which women experience breast cancer diagnosis, treatment, and survivorship. Compared to the cancer control continuum (etiology-prevention-detection-diagnosis-treatment-survivorship), the cancer care continuum was more appropriate for this study, which examined fortitude in survivors (National Cancer Institute, 2017). The phases of the cancer care continuum may not necessarily be linear in nature but may be repeated in terms of repeated treatments or new or metastatic diagnosis. Study participants were assessed to determine which phase of the breast cancer care continuum they belonged to during questionnaire completion.

Theoretical Framework

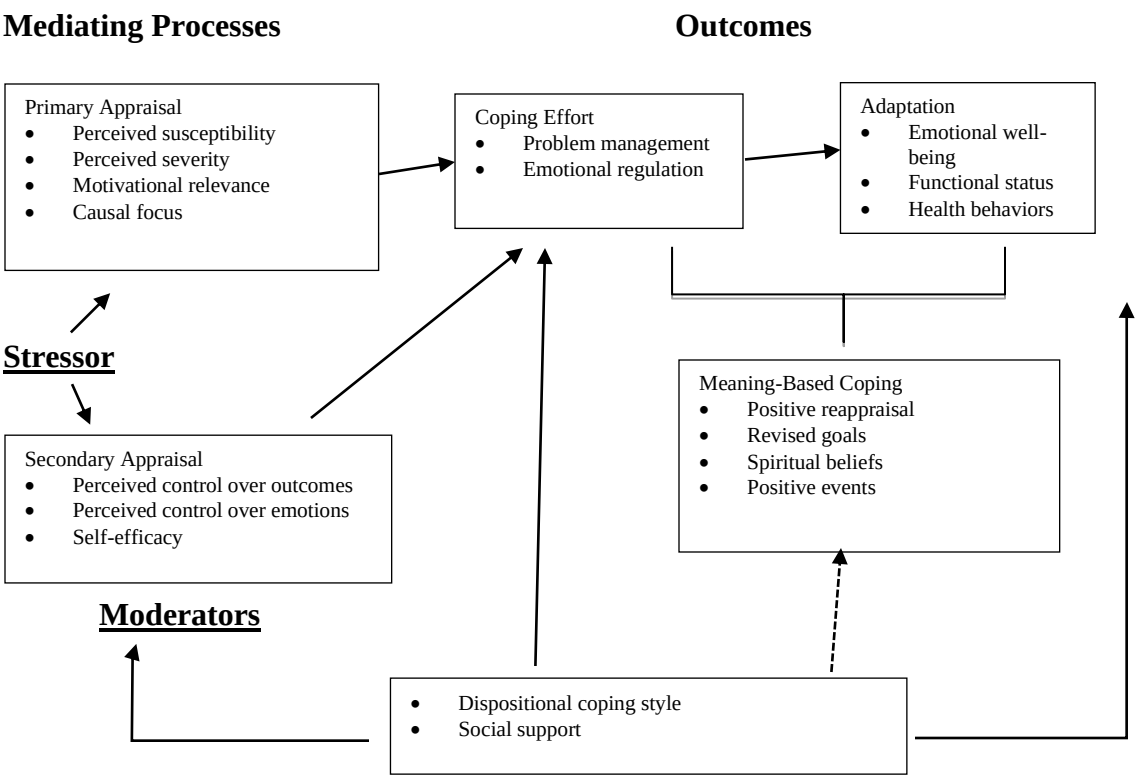
Transactional Model of Stress and Coping

The transactional model of stress and coping by Folkman and Lazarus provided a way to describe relationships between coping and stress and processes used to address stressors. Stress was also conceived as both positive and negative emotions (Lazarus & Folkman, 1987). Stressors are transactions between the individual and the environment. Stressors can be events that persist over time and are chronic, as well as events perceived to be threatening, like breast cancer (Wethington et al., 2015). The impact of external stressors was mediated by individual appraisal of the stressors using available psychological, social, and material resources, or what the individual brings to the situation (Wethington et al., 2015, p.226). Primary appraisal involves assessing the

significance and minimizing the effects of stressors, while secondary appraisal involves evaluating whether the stressor can be controlled with available resources (see Figure 1).

Figure 1

Diagram of Transactional Model of Stress and Coping



Note. Adapted from "Stress, coping, and health behavior,"2015 by E. Wethington, K. Glanz, &M. Schwartz. In K. Glanz, B. K. Rimer, &K. Viswanath, K. (Eds.) *Health behavior: Theory, Research, and Practice* (5th ed., p. 228). Jossey-Bass.

Mediating processes include coping efforts such as problem management and emotional regulation which can facilitate outcomes that reveal adaptation (emotional well-being, functional status, and health behaviors) to the stressors. Moderators are antecedent conditions (i.e. personality traits, ways of coping, and available social support; Folkman & Lazarus, 1988; Wethington et al., 2015). Moderators play a role in meaning-

based coping including items like spiritual beliefs, benefit finding, revised goals and positive reappraisal, and can connect coping efforts to adaption (Wethington et al., 2015).

Zautra (2009) described resilience as comprised of two components – recovery and sustainability – with recovery more likely to be a response to acute stress and sustainability a response to chronic stress. As such resilience, conceptualized as resistance to stress, would serve as a mediating process, contributing to adaptation to stressors. Similarly, fortitude, characterized as the "strength to manage stress and stay well", like resilience, can serve as a mediator to facilitate adaptation to improve functional status (Pretorius & Heyns, 2005, p. 2).

The transactional model has been used as a framework to research stress and coping among African Americans with cancer. In a study that compared perceived discrimination and coping among Caucasians (C) and African Americans (AA) with cancer, Merluzzi et al. (2015) found that the only significant mediator for African Americans between perceived mistreatment (PM) and quality of life was disengagement coping (B = −.20; CI .07–. 43), with PM positively related to disengagement coping (r = .36, p< .001). This seemed to confirm the hypothesis that perceived discrimination limited coping options in African Americans who may react with disengagement because active coping strategies may not be available to them. This study demonstrated the elucidation of a mediating process (disengagement) between PM and quality of life. In another study, this time of 13 AAs with TNBC and 17 without TNBC being treated with chemotherapy, Watkins et al. (2017) found that there were no significant differences in depression and anxiety between the two groups of women. Psychological distress was

measured as anxiety and depression and was nearly the same for the non-TNBC group (11.61) as for the TNBC group of women (11.69). At baseline, non-TNBC women reported greater emotional functioning than TNBC women ($z=2.1$, $p<0.05$). Upon completion of chemotherapy, lower cognitive functioning was reported by the non-TNBC group compared to that of the TNBC group ($z=-2.04$, $p<0.05$). Both groups of women, TNBC and non-TNBC, experienced psychological distress and could benefit from enhancing their coping capacity, thus, enhancing their emotional wellbeing and demonstrating adaptation to the stressors. This study illustrated the types of strategies that can contribute to increased coping among African American women with breast cancer, both with and without TNBC.

The transactional model of stress and coping was used to categorize the literature review on African American breast cancer survivors. Two broad categories – stressors and coping responses were used. Each of these categories was further grouped into sub-categories. Subcategories for stressors were biological factors, health system or structural factors, and social factors. Subcategories for coping responses included faith and spirituality, social and emotional factors, fear, and strength.

Stressors in African American Breast Cancer Survivors

Stressors in AABCS were viewed through the lens of factors that have been found to contribute to their disproportionate mortality rates. AABCS challenges can be characterized as physical (cardiotoxicity, lymphedema, cognitive changes, fertility issues), behavioral (physical activity, diet), and structural (patient-provider communication, cultural competency, and the use of patient navigators; Husain et al.,

2019). This review examined biological, social, and structural (health system) factors as stressors faced by AABCS, each contributing to disparities in mortality and survival.

Biological Factors

African American women face many biological challenges as it relates to breast cancer. Biological factors can include aggressive tumor types such as triple-negative breast cancer (TNBC; estrogen-receptive negative, progesterone-receptor negative, and HER-2 negative), and physical symptoms. Younger premenopausal African American women have a noted higher incidence of TNBC (Bollinger, 2018; Mollica &Newman, 2014; Smit et al., 2019). Breast cancer in women with TNBC has been identified five-to-ten years younger than in women whose breast cancer was not attributed to TNBC (Yeh et al., 2017). These inferences are also supported by the work of Scott et al. (2019), which found the odds ratio for diagnosis of triple-negative breast cancer was found to be highest among non-Hispanic black women (odds ratio [OR], 2.27; 95% CI, 2.23-2.31) and Hispanic women (OR, 1.22; 95% CI, 1.19-1.25) compared to non-Hispanic White women. As such, TNBC can be a significant biological factor that AABCS need to appraise and moderate.

Biopsychosocial challenges identified in younger AABCS have included infertility, aggressive prolonged treatment, and feeling like outsiders among other breast cancer patients because of their young age (Bollinger, 2018). This was similar to post-treatment concerns of sexual function and menopausal symptoms noted by Mollica et al. (2015). AABCS can also experience additional biological factors that contribute to clinical management and survival challenges.

Health System or Structural Factors

Health system challenges (stressors) faced by AABCS include less than optimal patient-provider interactions, decreased access to quality care, financial barriers which can limit access to follow-up care, and lack of transportation (Coughlin et al., 2015). In addition, team-based care was found to be beneficial for AABCS, but not readily available (Torres et al., 2016).

Health system challenges at the provider level included provider communication challenges (White-Means et al., 2016). Perceived insensitivity to pain, ulterior motives of the providers, and incomplete information about the debilitating nature of the treatment process were noted in one study (White-Means et al., 2016). The lack of information provided to clients to support their emotional health was noted in another study (Ceballos et al., 2021). Both fragmentation of care and the inability to bill insurance for assessing client emotional needs of clients post-treatment contributed to this. Connection to community-based resources was recommended. Meanwhile, treatment-level disparities were noted between white and black women with triple-negative breast cancer (TNBC; Cho et al., 2021). In African American women, tumor sizes were larger (> 5 centimeters: 14.3% vs 9.6%), more aggressive with more stage III tumors (20.3% vs 15.2%), with positive lymph nodes (39.0% vs 31.6%) and poorer differentiation/undifferentiation (81.5% vs 76.0%). Yet, African American women had lower odds of receiving chemotherapy (OR, 0.89; 95% CI, 0.81-0.99) or surgery (OR, 0.69; 95% CI, 0.60-0.79), and survival was significantly lower in African American women compared to White women ($p < .001$).

Structural-level challenges were described in the literature (Beyer et al., 2019; Mobley et al., 2021; Pallok et al., 2019). Racial disparity in breast cancer mortality varied geographically by state with the mortality rate ratio of more than 1.60 between African American and Caucasian women in Mississippi, Louisiana, and Wisconsin but not in Minnesota or Massachusetts (Beyer et al., 2019). It was suggested that factors such as housing discrimination and racial segregation were considerations for these disparities. County-level disparities were also noted depending on resources such as housing, health insurance, and social-economic status for women with late-stage breast cancer (Mobley et al., 2021). Clusters of late-stage breast cancer diagnoses were identified in 219 counties, characterized as persistent hot spots, which included poor housing, lower levels of health insurance, worse access to mammography, and lower socioeconomic status. These areas were more likely to be in “poor rural African American and Hispanic communities”, and not among “poor rural White communities” (Mobley et al., 2021, p. 807). Pallok et al. (2019) described a response to structural racism that aimed to reduce the disparity in breast cancer mortality among African American women in Chicago. Lack of access to quality hospitals was identified as a contributing factor. AABCS had limited access to hospitals that had been designated American College of Surgeon Commission on Cancer Centers which provided a higher quality of care. Instead, hospitals in these geographic areas of the city did not provide the standard of care (e.g., mammograms read by specialists, or “needle biopsies of suspicious breast masses”) which the authors identified as an unequal “geographic distribution of high-quality care” (Pallok et al., 2019, p. 1490).

To combat this problem, the task force implemented patient navigation that provided women with access to high-quality care (Pallok et al., 2019).

Health systems or structural factors that are stressors for AABCS ranged from poor provider interactions, delays in treatment, and limited access to high-quality high-volume cancer centers. Poor access to resources contributed to geographic and spatial locations of breast cancer disparities. These factors could impact survival. Exploring their role as a stressor faced by AABCS was important to consider.

Social Factors

AABCS were more likely to report concerns about sexuality and limited economic and informational resources (Barsevik et al., 2016). Torres et al. (2016) also reported a loss of femininity and self-consciousness about the residual scars of a mastectomy, but unlike Barsevik et al. (2016), women reported a lack of concern about insurance status. Rather they reported difficulty paying bills not associated with their healthcare. Barsevik et al. (2016) said their emotional problems were associated with less education, younger age, higher levels of medical mistrust, and comorbid conditions. Wheeler et al. (2018) found that African American women were more likely to report an adverse impact of cancer compared to Caucasian women (58% vs 39%; $p<.001$). These factors included income loss, job loss, and loss of health insurance.

Fear

Fear related to breast cancer was a stressor that AABCS experienced. Timing, levels, and responses to fear in AABCS have been studied. AABCS experienced multiple types of fear, including the stigma of having cancer, side effects, interruption of their

caretaker roles, and fear of cancer recurrence (Torres et al., 2016). Fear of recurrence and the experience of physical discomfort was described by Barsevik et al. (2016). Fear was higher in a mixed sample of White and Black women (68.1%) from an earlier primary study, and discomfort in appearance was lower in this same mixed sample (39.6%). Another study found that AA men and women cancer survivors used a variety of strategies to cope with fear and fatalistic attitudes (Hamilton, Best, et al., 2015). These attitudes were addressed through increasing knowledge about the disease, seeking support from their fellow cancer survivors, and "positive self-talk" (p. 633). Each of these strategies was used to accept the diagnosis and to decrease their fatalism. These results were in keeping with those identified by Coughlin et al. (2015) who found that hopefulness and optimism were linked to coping, resilience, and adaptation to illness.

Coping Responses in AABCS

Folkman and Lazarus (1988) said coping was characterized as both cognitive and behavioral responses to stressors in an attempt to reduce its impact on the individual. Yoo et al. (2014) identified these responses as what one thinks (cognitive) and what one does (behavioral) about a stressor, or in this case, the diagnosis of breast cancer. The intent was to modify the stressor through problem-focused coping, and/or regulate the distress through emotion-focused coping (Folkman & Lazarus, 1988). The following review shows that coping responses in AABCS could be categorized under the broad categories of faith and spirituality, social support, fear, and strength.

Faith and Spirituality

Faith and spirituality in AABCS have been the topic of several studies, examining whether these factors were coping methods in this population, and how they influenced aspects of survivorship. Studies presented include those that identify spirituality and faith in this population and their use as coping mechanisms. The studies can be categorized under religion and spirituality, religious coping and coping capacity, and religious or spiritual practices.

Religion and spirituality have been identified as an important focus of study in AABCS. One hundred fifty-five AABCS identified having a strong spirituality as a theme of their survivorship (Davis et al., 2016). The themes identified were having a strong spirituality, resilience, thriving in helping others, and identifying as a survivor (Davis et al., 2016). In a qualitative examination of 15 AABCS, themes of their experiences as they transitioned from patient to survivor were identified (Mollica & Nemeth, 2015). Using faith to persevere through physical challenges and the importance of emotional needs were identified (Mollica & Nemeth, 2015). This especially applied to coping with depression and fear of cancer recurrence. Twenty-seven percent of participants felt less ready to cope with psychological issues (i.e., depression, fear of cancer recurrence, guilt, and safety net loss at the end of treatment(s) compared to the physical challenges that arose from chemotherapy (Mollica & Nemeth, 2015).

Religion, Spirituality, and Coping

Religion and spirituality were sometimes seen as overlapping and at other times identified as separate entities (Hamilton, 2020). According to Hamilton (2020), the

concepts of religion and spirituality can vary among African Americans based on age and as influenced by church attendance. The religious experiences of older African Americans were based on church attendance and practices as well as denominational doctrine. Hamilton indicated that the centrality of the church as a community institution is foundational to this development among older African Americans. Religious practices encompassed scripture reading, prayer, and hymn singing. These practices enabled them to express "worries, needs, and desires to God" (p. 338). In comparison, the term spirituality has been used to describe the religious experiences of younger African Americans, whose religious foundation was also said to be the church. In contrast to older African Americans, however, "church membership and attendance" were not seen as "necessary to be spiritual or have a relationship with God" among the younger generation(p. 339). Whether identified as religious or spiritual, these practices provided comfort during cancer diagnosis and treatment. This was, in some ways, dissimilar from the findings of Mkuu et al. (2021). In a qualitative study of spiritual and religious beliefs in 47 AABCS, supportive relationships were found in the church. The need to have the strength to cope with breast cancer – through scripture and connection with God – was a part of their breast cancer experience. Nevertheless, participants indicated that they had struggled with their faith, belief in God, and finding meaning in their cancer diagnosis.

Like Hamilton (2020), Sheppard et al. (2018) examined spirituality in AABCS. Levels of spirituality and its association with attitudes about treatment and health care were examined in a quantitative study of AABCS (*n*=197; Sheppard et al., 2018). It had been hypothesized that spirituality would negatively impact treatment attitudes, keeping

them from accepting treatment. On the contrary, study results showed that while study participants rated their spirituality highly, it did not significantly relate to their treatment attitudes. There were no significant relationships between their attitudes about their treatments and their level of spirituality (radiation p=0.99, chemotherapy p=0.62, or hormonal therapy p=0.42). Thus, higher levels of spirituality did not impede their decisions to accept cancer treatment.

Spirituality was among the coping strategies that were predictors of post-traumatic growth in AABCS (Coughlin et al., 2015). Danhauer et al. (2013) noted that spirituality was associated with higher posttraumatic growth (p<0.0001). Other mediators of coping and resiliency were hopefulness and optimism. Hopefulness was positively associated with life satisfaction and well-being, and in women with breast cancer associated with both short- and long-term well-being. It was also found that having breast cancer, though challenging, could contribute to adaptation and thriving during times of difficulty (Coughlin et al., 2015).

Torres et al. (2016) conducted a mixed-methods study of AABCS (n=32) who resided in rural eastern North Carolina to assess the barriers and facilitators in their ability to access treatment and adhere to follow-up care. Focus group results revealed that faith in God was found to be an important coping mechanism, one critical in facilitating survivorship. As such, faith and prayer helped participants cope with the diagnosis and feel reassured of their survival. Indeed, it was found that providers' respect for their patients' faith was important to study participants. Additional coping methods were categorized as empowerment (e.g., taking the initiative to cut their hair before going bald

from chemotherapy), and support networks (either in breast cancer support groups or other support networks). These findings are similar to that of Hamilton (2020), Sheppard et al. (2018), Mkuu et al. (2021), and Coughlin et al. (2015). Danhauer et al. (2013) and Torres et al. (2016) indicated that faith was a coping response of AABCS.

Religious/Spiritual Practices

Several studies addressed the spiritual practices adopted by this population of women. Among the religious practices used by AABCS to cope was scripture reading as a mental health strategy (Hamilton et al., 2013), religious songs (Hamilton, Stewart, et al., 2017; Hamilton et al., 2016), prayer as a response to life-threatening illnesses including breast cancer (Hamilton et al., 2020), reading and meditating on scriptures and praying (Lynn et al., 2014), support from family and caregivers for persons with cancer through prayer (Sterba et al., 2014) and in their time of need (Hamilton, Worthy, et al., 2017).

Religious songs were used to address the psychological symptoms related to cancer in 31 African American male and female cancer survivors over age 50 (Hamilton et al., 2016), and their religious beliefs or practices were applied to coping with cancer (Hamilton, Galbraith, et al., 2015). Religious songs, which were seen as a source of hope and support, were identified as an integrative and complementary therapy (Hamilton et al., 2016). Songs were categorized as instructive, thanksgiving and praise, communication to God, life after death, and memories of forefathers. Participants reported using all categories when they were feeling sad, depressed, or hopeless. Examples of exemplars for instructive religious songs included “His Eye is On the

Sparrow" and "I Almost Let Go". Songs that were categorized as thanksgiving and praise, instructive, and communication were found to be useful when feeling weak or needing strength to endure treatment. In response to feeling anxious or worried, categories of songs were thanksgiving and praise, instructive, and communication. "Be Still My Soul" was cited as a song that had a calming influence during times of stress. Hamilton, Galbraith, et al. (2015) said prayer and praising God helped with pain and served as a distraction from cancer. Furthermore, the support of these religious practices by an oncologist was found to be encouraging by one participant.

Like the previous studies (Hamilton, Galbraith, et al., 2015; Hamilton et al., 2016),the use of religious songs to respond to stress was also studied by Hamilton, Stewart, et al. (2017). In a qualitative study of 55 African American males and females ages 18-49, their use of religious songs to cope with stressful life events related to school or work, caregiving and death of family members, and relationship issues were examined. Religious songs were categorized as Instructive, Communication with God, Thanksgiving and Praise, Memory of Forefathers, and Life after Death. The sample was divided by age into the young age group (18-29) and the middle age group (30-49). The young age group reported experiencing more stress related to work and school compared to the middle age group which reported stress related to caregiving and death of family as well as their own illnesses. Both groups rated Instructive songs highly but differed in the remaining ranking of categories of songs. The second-ranked categories were Communication with God for the middle age group and Thanksgiving and Praise for the young age group. Ranked third was Communication with God for the young age group and Memory of Ancestors for the

middle age group. Ranked fourth was Memory of Ancestors for the young age group and Thanksgiving and Praise for the middle-age group. Life After Death was ranked fifth for both age groups. Instructive songs were found to encourage and remind them they were not alone, but that God was with them. Exemplars for this category of songs were “Go Get It”, “Break Every Chain” and “Jesus Will Work It Out”. Compared to Hamilton et al. (2013), this study examined the use of religious songs as a strategy to deal with life stressors. The target audience of this study was adults less than age 50, compared to 50 and over in the previous study.

Studies show that Bible reading was a strategy used by African Americans including AABCS to address stress in their lives. One example is the mixed methods study of 54 African American men and women aged 50 and over who used scripture reading as a strategy to achieve mental health during stressful life events including cancer (Hamilton et al., 2013). This study provided categorization of scripture passages that were applied to stressful life events. Categories ranked in order of most stressful were caregiving and death of a loved one, life-threatening illnesses, and work-related events. Scripture passages were categorized as God as Protector, God as Beneficent, Praise and Thanksgiving, God as Healer, Memory of Forefathers, Prayers to God, and Life After death. Women were more likely to use scripture passages of God as Protector, Life After Death. Men were more likely to use God as Protector and God as Healer (Hamilton et al., 2013).

Another example was the study that examined the use of religious practices used by AABCS (*n*=47) including reading and meditating on scriptures to cope with their

illness (Lynn et al., 2014). This qualitative grounded theory study included women from a variety of religious traditions (Protestant, Catholic, Muslim) including those who did not belong to a religious institution. Use of prayer was also reported which included both their own prayers, the prayers of others within their congregations, and corporate prayer in a religious setting (e.g., altar call). Women who did not belong to a religious institution also described the use of prayer for comfort and coping with their illness.

Unlike Lynn et al. (2014) who studied multiple religious practices, another study focused solely on the use of prayer. In a qualitative study of African Americans (*n*=58) experiencing life-threatening illnesses, prayer was found to be a useful coping response (Hamilton et al., 2020). The illnesses included various types of cancer (including breast cancer in AAW), brain aneurysm, severe car injuries, seizures, and heart disease, among other illnesses. Study participants, who had an average age of 67, described receiving strength, courage, and healing through prayers. Types of prayers include those of gratitude to God and for protection. Through these prayers, individuals found connectedness to God that assisted them with negotiating "stressful life events" (p. 1694), and enduring complications from illnesses (Hamilton et al., 2020). They perceived "being a child of God", a "realization of not being alone" and being "empowered to endure" the illness and treatments (connectedness to self; p. 1694), and intercessory prayers for others (Hamilton et al., 2020).

Other studies examined the support provided by caregivers and family members. In a study of the lived experiences of AABCS (*n*=23) and their caregivers (*n*=22) post breast cancer treatment, it was found that religiousness and spirituality were considered

key factors in the survival of the participants (Sterba et al., 2014). The connection between patients and their caregivers was strong, motivated in part by their intrinsic relationships (spouse, daughter), and shared spiritual beliefs. Caregivers provided support through prayer which lifted the spirits of survivors. Caregivers viewed their role as a calling, helping survivors focus on restoring their health (Sterba et al., 2014). The study also cited participants taking comfort in their perception of God's control over cancer. In another study, 24 family members of African American male and female cancer patients described the strategies they used to help patients overcome fear and fatalistic attitudes (Hamilton, Worthy, et al., 2017). The patients had breast, stomach, and throat cancers. Fearfulness of cancer mortality was reported in this qualitative study, but so was assisting family members to overcome devastation by encouraging them to learn more about their cancers and treatments, supporting their faith in this time of need, and trusting their doctors.

Social Support

Social support is impactful among AABCS. In a relatively large study, respondents (n=227) in the two years following their diagnosis had a high rate of perceived social support (M = 81.9, SD = 19.8) on a 0 -100 range (Thompson et al., 2017). Variables associated with social support were higher levels of spirituality (standardized coefficient = 0.31, p< 0.001), and being married/partnered (standardized coefficient =.0.33, p – 0.042), while higher levels of depressive symptoms were associated with lower levels of social support (standard coefficient = 0.33, p<0.001; Thompson et al., 2017).

Two other studies examined social support networks. In a study of social support networks in a multi-ethnic population of women (*n*=24) with breast cancer, of whom 50% were African American, the kinds of networks and types of social support provided were examined (Gunn et al., 2017). Three types of social support networks were kin-based (family members), role and/or affect-based (mainly reliance on friends, co-workers, and health care workers), and the heterogeneous network (a combination of kin, role, and affect) were revealed. The majority (*n*=11) used that latter type of network. The types of social support provided were household, personal care, transportation, social access to services, education, knowledge, emotional & moral support, advice, comfort/physical, financial, and spiritual care. The distribution of type of support did not differ between network types (*p*=.33). Emotional and moral support was the most common across all networks. Similarly, the importance of support networks for AABCS was revealed by Torres et al. (2016). These networks included their family and friends, as well as their church family and co-workers who provided both emotional and spiritual support. The study found that networks were helpful as the women returned to life post-treatment, to their family, church, and work roles.

Strength and the Strong Black Woman Syndrome/Superwoman Schema

Strength was valued among African American women and it played a role in help-seeking, mental health, and breast health. The primary concepts of strength in these studies were presented followed by their relationship to help-seeking and mental health, along with a connection to breast health in African American women.

Strength in African American women has been primarily referred to as Strong Black Woman (SBW) syndrome and Superwoman Schema (SWS; Abrams et al., 2019; Nelson et al., 2016; Watson & Hunter, 2015; Woods-Giscombé et al., 2016; Woods-Giscombé et al., 2019). Other names were also used such as the Sisterella complex and Sojourner Truth Syndrome (Abrams et al., 2014). Additional concepts included helping others, religion and spirituality, and overcoming adversity (see Table 1).

Table 1

Key Concepts of Strength

Key Concepts	Name	Author
Strength	Strong Black Woman (SBW) Syndrome, Sisterella complex, Sojourner Truth Syndrome	Abrams et al. (2014)
Strength Self-silencing Religion and spirituality	SBW Schema	Abrams et al. (2019)
Strength Emotional silencing Stoic denial of symptoms	Superwoman Schema	Woods-Giscombé et al. (2019)
Strength Emotional containment Overcoming adversity	SBW	Nelson et al. (2016)
Strength Self-silencing	SBW	Watson & Hunter (2015)
Strength Suppressing emotions Faith & spirituality	Superwoman Schema	Woods-Giscombé et al. (2019)
Strength Self-silencing	Superwoman Schema	Woods-Giscombé et al. (2016)

The following themes about strength were identified: embodying and displaying multiple forms of strength, self/ethnic pride, embracing being every woman, and religion/spirituality (Abrams et al., 2019; Abrams et al., 2014). It was proposed that reliance on one's own strength, while not an inherent trait, became important for women who subscribed to the SBW ideal because of lack of social support whether in the absence or presence of male partners. Similarly, it was proposed that religion and spirituality, for many a source of solace, wisdom, and strength, was for some women, a replacement for social support.

The SBW/superwoman role was characterized as "independent, taking care of family and others, hardworking and high achieving, overcoming adversity, and emotionally contained" in a qualitative study with 30 Black women of diverse ethnic origins (Nelson et al., 2016, p. 5).However, unlike Abrams et al. (2014), some participants expressed ambivalence toward the idea of strength while some married participants in this study saw less of a need to be strong, and a desire to move beyond strength or the SBW role. But in a study of another framework, the Superwoman Schema (SWS), themes included the obligation to manifest strength, the obligation to suppress emotions, and the obligation to help others (Sheffield-Abdullah & Woods-Giscombé, 2021). There was a struggle between their obligations and their sense of exhaustion, as well as the mental and physical aspects of "taking on the burdens of others" (p. 92).

The superwoman schema concept was developed into a quantitative measure, the Giscombé Superwoman Schema questionnaire (GSSQ; Woods-Giscombé et al., 2019). It was comprised of 5 subscales (obligation to present an image of strength, obligation to

suppress emotions, resistance to being vulnerable, intense motivation to succeed, and obligation to help others) with a total of 35 items (Woods-Giscombé et al., 2019). Tested on African American women (*n*=739), it was found to be "associated with health behaviors and psychological states that may increase risk for illness" (p. 672). The GSSQ was also used in other studies on racial discrimination and biological stress (Woods-Giscombé et al., 2019) and a sleep study (McLaurin et al., 2021). SWS modified the relationship between allostatic load and racial discrimination in that some SWS subscales were protective (strength, emotional suppression) while others "exacerbated the negative effects of racial discrimination and allostatic load (motivation to succeed, and help others; Woods-Giscombé et al., 2019, p. 117). It was also studied in black college women in the United States who were from varied family origins (American, African, and Caribbean; McLaurin et al., 2021). Among the results was a correlation between perceived stress and the Superwoman Schema (r=.43, p<.05), but with no statistically significant relationship between excessive alcohol use and the Superwoman Schema (r = .14, p>.05).

The concepts covered in this section, primarily strength and emotional containment, revealed attitudes and behaviors that were important in the study population of African American women. These concepts could provide context to an exploration of fortitude in AABCS. It was anticipated that fortitude, thought of as powering through when facing a stressful situation, was informed by these attitudes and behavior. It would take the suppression of emotions and other aspects of strength to demonstrate fortitude when addressing stressful situations.

Psychological Help-Seeking and Depression

The SBW was connected to psychological help-seeking and depression in two quantitative studies of AAW. In one study, the characteristics of SBW identified were strength, self-reliance, and self-silencing (Watson & Hunter, 2015).Hierarchical regression found that SBW schema "significantly increased anxiety ($ß^*$ = .29) even in the presence of demographic variables such as age and income", and that "psychological openness (b^*= .08) and help-seeking propensity (b^*=.10) did not significantly predict anxiety", that there was a positive relationship between SBW and depression (b^* =.32), and not one of the dimensions of help-seeking -- (psychological openness (b^* = .19), indifference to stigma (b^* -.13), or help-seeking propensity (b^*= -.23)- predicted depression (Watson & Hunter, 2015, p. 608-609). In the other study, how the characteristics of SBW can lead to depression was examined (Abrams et al., 2019). Hierarchical regression found that SBW schema "significantly increased anxiety ($ß^*$ = .29) even in the presence of demographic variables such as age and income", that "high indifference to stigma (b^*= -.28) significantly predicted low anxiety", that "psychological openness (b^*= .08) and help-seeking propensity (b^*=.10) did not significantly predict anxiety", that there was a positive relationship between SBW and depression (b^* =.32).These studies showed that the characteristics of SBW are not supportive of mental health but rather can promote depressive symptoms and rejection of help-seeking.

Breast Health and Survival

In contrast, strength was seen as a positive characteristic in breast cancer survival in a focus-group study of 40 AABCS in the Midwestern United States (Yan et al., 2019). All study participants had completed treatment for either noninvasive or invasive breast cancer. For these participants, strength was comprised of both physical and mental strength accompanied by wisdom. Strength enabled them to do activities to achieve healthiness. They saw God as the source of their strength, without which they could not prevail over their illness, and family as the core of their strength. To meet the needs of their family members was a motivation for overcoming the illness. It was noted that it takes "unflagging momentum" to use their strength to survive cancer (p.8). Moreover, the need for AABCS to help each other be strong was acknowledged.

Feeling as if one must manifest strength has been identified as a significant characteristic of Black women, whether African American or Caribbean and has been so for generations (Nelson et al., 2016). These characteristics (strength, self-silencing, self-reliance, emotionally contained, self-armoring) were seen to be important to the survival of individuals and communities in the face of racism, and devaluation of their humanity and femininity. This has contributed to a lack of cultural support for help-seeking for depressive symptoms, but was seen as a support for breast health and survival.

Fortitude

Pretorius and Heyns (2005) defined fortitude as "the strength to manage stress and stay well and this strength derives from an appraisal of the self, the family and support from others" (p. 2). Fortitude was identified as being similar to resilience in that both

contribute to coping; however, this definition of fortitude is derived from the theory of appraisal and focuses on how self, family, and external support are appraised amid adversity and influence psychological outcomes. The FORQ has been used to study multiple populations and issues (nurses, caregivers of Alzheimer's patients, adolescents exposed to violence, first-year medical students, male caregivers in dementia, and female spouses of husbands with Alzheimer's disease).

In this section, the findings related to fortitude were presented. There were two main types of studies in which fortitude was assessed – its role in interventional studies and its relationship to other variables. In an interventional study of rugby players in South Africa, fortitude participants were assessed pre and post an experiential learning program (Laureano et al., 2014).There was no statistical significance between the groups in the fortitude subscales. There was a large practical significance (d=0.8) pre/posttest in the ELP group in overall fortitude (p= .01, effect size 0.66), and in self-appraisals (p= 0.1, effect size 0.75), and moderate in family appraisal (p =.10, effect size 0.38), and in support appraisals (p=.04, effect size 0.50).FORQ was one of the instruments used in the pre-test/post-test interventional study of a program to promote resilience in children dealing with stress (De Villiers& Van den Berg, 2012).While there were improvements in all FORQ subscales, only the self-appraisal subscale was significant per ANCOVA (F=13.0, p 0.0).

Mean scores of the fortitude scale were determined in multiple studies. In a study of academic performance in medical students in South Africa, the fortitude sub-scales showed a median of 20.79 (4.23) for self-appraisal, 19.50 (6.50) for family appraisal,

16.73 (4.26) for support appraisal, and 57.01 (11.44) for the total fortitude scale (Hamid, & Singaram, 2016).Correlations between the sub-scales and academic performance measures revealed a statistically significant correlation between the category, Becoming a Professional, and each of the sub-scales: Self-appraisal: r=0.23 (p<0.001, two-tailed), family appraisal: r= 0.17 (p<0.05, two-tailed), support-appraisal: r=0.25 (p<0.01, two-tailed), fortitude: r=0.28 (p<0.001 two-tailed). There was no statistical significance between race groups for each of the three subscales and the overall fortitude scores. There was no statistical significance between male and female students on the overall score, but regarding self-appraisal, males rated higher on self-appraisal than women (Hamid & Singaram, 2016). In a study of nursing personnel, the mean fortitude score was 62.52 (*SD*=9.42; Heyns et al., 2003). There was a statistically significant negative correlation between emotional exhaustion and satisfaction with life (r=-0.19, p<0.01), sense of coherence (r=-0.25), and Fortitude (r= -0.23).There was a statistically significant negative correlation between emotional exhaustion and satisfaction with life (r=-0.19, p<0.01), sense of coherence (r=-0.25), and Fortitude (r= -0.23).It was also found that the strongest association with the absence of burnout symptoms was found with a sense of coherence and fortitude. In a study of experiences of male caregivers in South Africa whose spouses had dementia, the FORQ mean score was 59.22 (*SD* =7.01; Pretorius et al., 2009). This indicated participant positivity in their view of themselves, their family, and general support. In a study of stressors and strengths in eight female caregivers of patients with Alzheimer's, the mean total FORQ was 52.25 (*SD* =11.24; Potgieter &

Heyns, 2006). This result meant that a low level of psychological strengths for these caregivers was present.

Fortitude was also examined in correlational studies. Among Canadian undergraduates who were in mental health, help-seeking fortitude was associated with more positive help-seeking attitudes as measured by the FORQ (Beattie et al., 2016). There were correlations between fortitude and help-seeking attitudes (r=.33, p<0.5), and fortitude and help-seeking behaviors (r=-.13, p<0.1). In another study of the role of fortitude as a moderator of gun violence and symptoms of trauma in adolescents in South Africa(Pretorius et al., 2016), a two-step regression showed that fortitude impacted trauma symptoms directly and that fortitude was "significantly negatively related to trauma-related symptoms" (p=-0.24; Pretorius et al., 2016, p. 157). It demonstrated that fortitude was associated with lower levels of trauma, and, therefore, had a protective or buffering effect on students experiencing trauma. Pretorius and Padmanabhanunni (2021) used the FORQ and other questionnaires to study fortitude, loneliness, anxiety, and satisfaction with life in young adults (n=337) in South Africa during the COVID-19 pandemic. The loneliness-anxiety relationship was not moderated by fortitude (β=−.04, p=.29), and elevated loneliness, anxiety, and reduced life satisfaction were associated with low levels of fortitude.

The FORQ has not been used to study individuals experiencing long-term physical illnesses such as cancer. FORQ has also not been used among American populations. It was nevertheless proposed that FORQ was an appropriate instrument to appraise fortitude in multiple dimensions in AABCS. FORQ perhaps can capture

fortitude as a coping response to the stress of cancer. However, FORQ does not capture the religious/spiritual dimension that was of significance to this population.

Spiritual Fortitude

Spiritual fortitude involves addressing stressors through spiritual resources that are suitable and functional during times of adversity. The possessor of these religious or spiritual skills is said to have confidence like that of self-efficacy, but also has a capacity developed from experience in coping with hardships. Persons with higher spiritual fortitude are characterized as having spiritual endurance, spiritual enterprise, and a redemptive purpose (Van Tongeren et al., 2019). In addition, spiritual fortitude was characterized as a virtue that can be strengthened with experience.

Davis et al. (2019) examined the potential posttraumatic growth in religiousness and spirituality (R/S) in two studies of persons who identified as religious following Hurricanes Harvey (n = 451) at1 month and 2 months post-disaster, and Irma (n = 1144), at pre-landfall, 1month and 6 months post-disaster. In both studies, religious/spirituality posttraumatic growth (R/S PTG) was weakly related to increases in general religiousness and spirituality, and in trait-based factors like spiritual fortitude. In study 2, actual R/S PTG was associated with the actual change in psychological well-being. However, there was a decline in spiritual fortitude among disaster survivors. This finding differs from a study conducted following Hurricane Matthew that impacted South Carolina and other Southeastern U. S. states in 2016. In this study, it was found that spiritual fortitude was positively correlated with positive religious coping (r=.44, p< .01), spiritual well-being (r=.74, p<.001), and meaning in life (r= .51, p<.001; Van Tongeren et al., 2019).

In a study of Louisiana residents who experienced a 2016 flood, participants (*n*=274) were examined for measures of resource loss and spiritual fortitude along with mental health symptoms at 9- and 18-months post-disaster (Zhang, Hook, Van Tongeren, Davis, D. et al., 2021). Spiritual fortitude buffered the detrimental relationship between "disaster-related resource loss and future search for meaning" (p.1) and symptoms such as anxiety and depression. These findings were similar to the study on mental health symptoms experienced by participants (*n*=255) during the Covid-19 in that these symptoms and resource loss were also buffered (Zhang et al., 2020). Additionally, in participants who were low in spiritual fortitude, the connection between resource loss and mental health symptoms was stronger. A review of spiritual fortitude literature by Zhang, Hook, Van Tongeren, Davis, D. et al. (2021) encompassed these and SF studies mentioned elsewhere in this dissertation. The review found that spiritual fortitude contributed to positive religious coping and spiritual well-being.

The SFS-9 provides appraisal of an individual's use of spiritual fortitude in coping with stressors. It was proposed that the spiritual fortitude scale can be used to supplement FORQ in a study of fortitude in AABCS. It was proposed that SFS-9 can be used to study spiritual fortitude's use in an American population that was experiencing breast cancer.

Summary

This literature review of AABCS described findings of empirical studies focused on the population's stressors and coping responses. Concepts such as spirituality and faith, and fear and strength were identified as associated with this population. Resilience

was identified in the broader literature on cancer survivors as both a process and an outcome, with an indication that it facilitates bouncing back from adversity. Resilience, however, does not capture the idea of powering through adversity that appears to be more indicative of the expression of strength in African American women. An exploration of fortitude may be able to capture the concepts of spirituality and faith, social support, and strength as it relates to the coping strategies employed by AABCS. However, there was a gap in the AABCS literature on fortitude. I have identified no published studies that examine fortitude in this population. Therefore, there was a need to study the concept of fortitude in African American breast cancer survivors.

Chapter 3: Research Method

Introduction

The purpose of this study was to examine the concepts of fortitude and spiritual fortitude among AABCS, determine the degree to which this concept was present in this population, and assess the relationship between fortitude and spiritual fortitude and cancer care continuum. This chapter includes the research design and rationale, study methodology, data analysis plan, and ethical considerations. Permissions, survey questionnaires, and the consent form are provided. In addition, proposed letters to breast cancer organizations are included.

Research Design and Rationale

This was a quantitative one-time post-test only non-experimental design that involved collecting primary data. There was not a control group, manipulated variables, or multiple waves of measurements. It was both a descriptive and a correlational study examining the presence of fortitude and spiritual fortitude in this population of breast cancer survivors and the relationship between fortitude and phases of the cancer care continuum status as well as sociodemographic and treatment characteristics. The dependent variables for this study are fortitude and its subscales (self-appraisal, family appraisal, and support appraisal), and spiritual fortitude. The independent variable was the breast cancer care continuum.

Research Questions

The study was designed to answer the following research questions:

RQ1: Is there an association between fortitude and the phase of the cancer care continuum among AABCS?

$H_0$1: There is no association between fortitude and the phase of the cancer care continuum among AABCS.

H_a1: There is an association between fortitude and the phase of the cancer care continuum among AABCS.

RQ2: Is there an association between spiritual fortitude and the phase of cancer care continuum among African America breast cancer survivors?

$H_0$2: There is no association between spiritual fortitude and the phase of cancer care continuum among African American breast cancer survivors.

H_a2: There is an association between spiritual fortitude and the phase of cancer care continuum among African American breast cancer survivors.

*RQ3:*Is there a relationship between fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, and the phases of cancer care continuum.

$H_0$3: There is no relationship between fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, and the phases of cancer care continuum.

H_a3: There is a relationship between fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, and the phase of cancer care continuum.

*RQ4:*Is there a relationship between spiritual fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or the phase of cancer care continuum?

$H_0$4: There is no relationship between spiritual fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or the phase of cancer care continuum.

H_a4: There is a relationship between spiritual fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or the phase of cancer care continuum.

Sample

The study population included female AABCS of all ages who have been diagnosed with breast cancer and were somewhere along the cancer care continuum (from diagnosis to palliative care). Purposive samples were derived from the Sisters' Network (2012), an organization that provides social support for AABCS with chapters in 16 states, Sisters by Choice (2019), an Atlanta-area support/advocacy group for AABCS, and the African American Breast Cancer Alliance (2019), a national support/advocacy group based in Minnesota. Each of these organizations caters to and provides support for the specific target population. Working with these organizations provided online access to this population. I contacted each of the organizations by letter and email to solicit their agreement and participation upon approval of the proposal (See Appendices E, F, and G). Upon receiving permission, I made arrangements to recruit participants and conduct data collection online through either Survey Monkey or

Qualtrics. I recruited participants through membership and contacts with these organizations via official membership emails. I sent letters to these organizations to solicit the participation of their members. Approval to recruit through these organizations was finalized after proof of Walden's IRB approval (#08-04-20-0064405) was provided to the organization.

The sample size was computed to avoid a Type I error and an alpha of .05 at β=. 80. Using G*Power, for a one-sample case and Spearman's correlation t-test, the sample size was 82, with an effect size of 0.3. However, to compute linear regression, a sample size of 138 was required for an effect size of 0.15, and power of 0.95 (see Appendix I).

Instrumentation and Materials

Demographic Questionnaire

I developed the demographic questionnaire (see Appendix H), which contains questions regarding sociodemographic and treatment characteristics (current age, age at diagnosis, stage at diagnosis, education status, insurance status, employment status, income, religious affiliation, marital status, phase of cancer care continuum, and treatment modalities). This information was used to describe the sociodemographic context of respondents and provide treatment and cancer experiences involving fortitude and spiritual fortitude.

FORQ

Pretorius used this conceptualization of fortitude to develop the FORQ. It was comprised of three subscales: self-appraisals, family appraisals, and support appraisals (Pretorius, 2016). Each item was scored using a Likert scale from 1 (does not apply) to

4(applies very strongly) with the exception of question #20, for which a rating of 1 was scored as 4, 4 was 1, 2 was 3, and 3 was 2.

The FORQ has been used to study multiple populations and issues (nurses, caregivers of Alzheimer's patients, adolescents exposed to violence, first-year medical students, male caregivers in dementia, female spouses of husbands with Alzheimer's disease). The FORQ has not been used in cancer patients or in the US.

Reliability and Validity

For content validity, items were sampled from a variety of validated measures. The instrument was found to be reliable with item-total correlations of various subscales 0.38 -0.77, and a total of 0.85. Factorial, predictive, and concurrent validity were also conducted.

SFS-9

The SFS-9 contains 9 statements, each ranked on a Likert scale from 1(strongly disagree) to 5 (strongly agree). The total can range from 5 to 45. There are three sub-scales (spiritual endurance, spiritual enterprise, and redemptive purpose), each with three statements. Each subscale's results range from 3-15.

Reliability and Validity

The SFS-9 was found to be reliable with an internal consistency for the overall score (α=.89), and individual subscales ranging from α = .80 (redemptive purpose), α = .83 (spiritual enterprise), to α = .95 (spiritual endurance; Van Tongeren et al., 2019). Validity was confirmed: discriminant from grit (r_s = .25 to .52), and from resilience (r_s = .30 to .65); convergent and found to be positively associated with both spiritual well-

being (r_s = .27 to .59), meaning of life (r_s = .33 to .53), and positive religious coping (r_s = .15-.74; Van Tongeren et al., 2019). Also, incremental validity was examined to determine if spiritual fortitude was significantly associated with outcomes (spiritual well-being [$\Delta R_2 = .16$, $p < .001$], and meaning of life [$\Delta R_2 = .01$, $p = .009$]) over and above that of grit and resilience. Spiritual fortitude explained significant variance if adversity-related anxiety ($\Delta R_2 = .02$, $p = .026$), and positive religious coping ($\Delta R_2 = .43$, $p < .001$), and negative religious coping ($\Delta R_2 = .05$, $p < .001$; Van Tongeren et al., 2019).

Data Collection

Participants were invited to access the questionnaire online from an email blast from the support group for AABCS. The email explained the study, stated encouragement for participation in the study, stated anonymity in study participation, and contained a link to the survey. Participants completed the survey online, starting with answering three questions (whether she was African American/Black, a female, have or have had breast cancer). If answered affirmatively, the participant was able to access and complete the demographic information and survey questionnaire. Completion of the survey ended with a written appreciation for participating in the study. I entered the data from the demographic information and survey into a system for analysis through SPPSS.

As a part of the data collection, I conducted a pilot study of the first 10 participants to assess for comprehension of instructions, and the wording of the questionnaire. Processes for assessing these results included monitoring participant completion time of the questionnaire, and whether it could be completed in one sitting.

Data Analysis

Descriptive statistics with means, standard deviations, and frequencies were used to examine the socio-demographic context of the participants. Spearman's rho was used to determine the correlation between the 'phase/stage of cancer care continuum' (variable X) and variable Y (fortitude and spiritual fortitude). Initial plans were to use linear multiple regression to determine relationships between variable Y and diagnostic/treatment variables.

The correlation between fortitude, and the cancer care continuum could be answered through Spearman's rho correlation. Spearman's rho was also used to determine if spiritual fortitude was correlated with the cancer care continuum. It was anticipated that high levels of fortitude or spiritual fortitude would correspond to advancement along the cancer care continuum.

Data Analysis Plan

Initial plans were to use SPSS to conduct a descriptive, correlational, and linear multiple regression analyses of the data. Table 2 lists the planned statistical tests for the variables for each research question.

Table 2

Data Analysis Plan

Research Questions	Variables	Level of Variable	Statistical test
RQ1: Is there an association between fortitude and the phase of cancer care continuum among African American breast cancer survivors?	Fortitude The phase of cancer care continuum	Ordinal Ordinal	Correlational statistics: Spearman's Rho - Correlation Coefficient, effect size
RQ2: Is there an association between spiritual fortitude and the phase of cancer care continuum among African America breast cancer survivors?	Spiritual Fortitude The phase of cancer care continuum	Ordinal Ordinal	Correlational statistics: Spearman's Rho - Correlation Coefficient, effect size
RQ3: In African American breast cancer survivors, is fortitude related to religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or phase of cancer care continuum?	Fortitude The phase of cancer care continuum Religious affiliation The initial stage of diagnosis Triple-negative status Years since diagnosis	Ordinal Ordinal Ordinal Dichotomous Interval	Linear multiple regression
RQ4: In African American breast cancer survivors, is spiritual fortitude related to religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or phase of cancer care continuum?	Spiritual fortitude The phase of cancer care continuum Religious affiliation The initial stage of diagnosis Triple-negative status Years since diagnosis	Ordinal Ordinal Ordinal Dichotomous Interval	Linear multiple regression

Threats to Validity

A potential threat to external validity was the selection and treatment of the study participants. I took steps within the questionnaire to ensure that the appropriate population was selected (i.e., that the individual self-identifies as African American/Black, as female, as someone who has experienced breast cancer). The latter was assumed based on the response to the cancer care continuum, while the initial was identified as a question on the instrument. Generalization to the target population was limited and is acknowledged in the discussion.

A potential threat to internal validity would be the predisposition of the participants to be largely of a certain age group, stage at diagnosis, or treatment(s). This potential resides in the lack of random selection of participants. While steps were taken to avoid these potential threats, this would need to be acknowledged in the discussion.

Protection of Participants' Rights

Obtaining Informed Consent

I provided participants with informed consent in an online format before they accessed the questionnaires. The consent form identified the researcher, the sponsoring institution, the purpose of the research, risks of participating, guaranteed confidentiality, and informed the participant that they could withdraw at any time. Participants exited the study after completing the final questionnaire with a letter thanking them and providing contact information for the researcher.

Ethical Procedures

I followed ethical procedures as required by the Walden University IRB to preserve confidentiality and informed consent. Anonymity was preserved through blind completion of the online survey. This included consent forms, letters of cooperation from community partners, data use agreements, potential risks and benefits of study participation, and protections for mentally/emotionally disabled individuals. The online survey included a consent form. The consent form provided directions that supported the participants' choice to withdraw from participation.

Summary

This chapter presented elements of the research design and instruments used in the study of fortitude and spiritual fortitude among AABCS along the cancer care continuum. A research design was chosen that allows for examining hypotheses that describe fortitude and spiritual fortitude in AABCS and the correlation between these variables and the stages of the cancer care continuum. A description of study instruments (demographic survey, FORQ, and SF-9) was provided, as well as data collection and data analysis plans. Lastly, there was a discussion about protecting participant rights and ethical procedures. Chapter 4includesstudy results.

Chapter 4: Results

Introduction

The purpose of this chapter is to report the results of data analysis conducted to examine the association between fortitude and spiritual fortitude in AABCS, and phases of the cancer care continuum. This includes a description of the pilot study, descriptive statistics of the study population, and results of analysis of the research questions. The study was designed to assess the following research questions:

RQ1: Is there an association between fortitude and phases of the cancer care continuum among AABCS?

$H_0$1: There is no association between fortitude and phases of the cancer care continuum among AABCS.

H_a1: There is an association between fortitude and phases of the cancer care continuum among AABCS.

RQ2: Is there an association between spiritual fortitude and phases of cancer care continuum among African American breast cancer survivors?

$H_0$2: There is no association between spiritual fortitude and the phase of cancer care continuum among African American breast cancer survivors.

H_a2: There is an association between spiritual fortitude and phases of cancer care continuum among African American breast cancer survivors.

*RQ3:*Is there a relationship between fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, and phases of the cancer care continuum.

$H_0$3: There is no relationship between fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, and phases of the cancer care continuum.

H_a3: There is a relationship between fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, and phases of the cancer care continuum.

*RQ4:*Is there a relationship between spiritual fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or phases of the cancer care continuum?

$H_0$4: There is no relationship between spiritual fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or phases of the cancer care continuum.

H_a4: There is a relationship between spiritual fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or phases of the cancer care continuum.

I presented the results of data analysis in this chapter. This includes a description of the pilot study. Descriptive statistics of the study population and analysis of research questions are presented.

Pilot Study

I conducted this study through an online survey with47 questions housed in SurveyMonkey. Participants were required to answer screening questions about their race, gender, and breast cancer diagnoses to progress through the questions. The pilot

study was intended to assess comprehension of instructions and wording of survey items. Processes for assessing results included monitoring participant completion time of the questionnaire and whether it could be completed in one sitting. The completion time of respondents was 10 minutes on average, with a completion rate of 90% for 10 respondents.

Data Collection

Participant recruitment lasted from October 2020 to April 2021. Initially, I planned to recruit participants through partnerships with three African American breast cancer survivor support groups, but that plan was not successful in terms of obtaining the required sample size. Instead, following approval of a change in this procedure by the Walden University IRB, recruitment was expanded to include the Walden University participant pool and social media pages created on Twitter and Facebook, under the account name Fortitude Breast Cancer Survivor Study. Social media pages contained a link to SurveyMonkey. Social media pages and online surveys were designed and branded with butterfly emblems in shades of green, purple, and pink. Both the Facebook page and Twitter page included the following hashtags: #breastcancer, #dissertation, #AfricanAmericanwomen, #AfricanAmericanbreastcancersurvivor #blackbreastcancersurvivor, #survivor, #fortitude, #spiritualfortitude, and #blackwomenwithbreastcancer.

To further increase participation, I consulted with professional contacts and reached out to organizations that served the priority population. I attended breast cancer support group organization meetings and connected with an oncology nursing

organization. In keeping with recruitment strategies approved by the Walden IRB, I sent links to the survey by email and Messenger to persons and organizations affiliated with the population.

Facebook activities included the following: inviting 10 acquaintances to like and share the page with one person reached, posting with links that led to 525 views, 43 clicks, and zero clicks on the survey link, page boosts from October 25 to November 11, 2020, with 2408 views and 66 link clicks, and page boosts from November 18 to December 1, 2020, with 7070 views and 161 link clicks, and page boosts from December 17 to December 22, 2020, that reached 598 persons and led to 125 clicks. By early January, there were 12 study respondents. I tagged the head of a breast cancer organization on Facebook on January 31, 2021. In February, I received additional IRB approval to expand recruitment efforts to include attendance at the virtual support group and in-person meetings where I shared how the concept of fortitude was selected as a topic of study. Using the study's Twitter page, I followed breast cancer and African American or Black women-related organizations and persons. I liked some of their posts. Next, I added an emoji to a new post on March 13, 2021, on Facebook with four people reached, then a new post on March 15 with four people reached, and a new post on March 24 with three people reached. In March 2021, the IRB approved a request to add flyers posted to Facebook and Twitter with a $10.00 eGift card incentive for the first eight completed surveys. To ensure that enough surveys were completed, the link to the survey was made available to participants twice, which resulted in reimbursement for a total of 22 completed surveys.

Data collection was completed on April 8, 2021.There were 62 respondents to the survey, however,2 were eliminated because they did not meet the inclusion criteria for race and gender. Ten others were eliminated because the participants did not respond to all survey items. The final sample was 50 participants, for which there was a complete set of replies. This was fewer than the required number of participants (138) needed to conduct the proposed linear multiple regression analysis to determine associations between fortitude, spiritual fortitude, and phases of the cancer care continuum when controlling for other participant variables. As a result, the data analysis was modified.

Results

Sample Characteristics

Demographic data were collected from 50 African American female breast cancer survivor participants. Among the data analyzed were participant education, income, religion, and marital status. It was found that 14 (28%) participants were college graduates, 10 (20%) earned between $50,000 and $74,999, 17 (34%), were Catholic, and 30 (60%) were married. Most respondents (58%) had private commercial insurance at the time of diagnosis. Ninety percent of respondents were employed at diagnosis compared to 70% at the time of survey completion (see Table 3).

Table 3

Sociodemographic Characteristics of Participants

Variable	*n*	%
Educational Level		
Less than High School	1	2.00
GED or High School Grad	5	10.00
Some College	12	24.00
Graduated from College	14	28.00
Some Grad School	9	18.00
Completed Grad School	9	18.00
Income		
Under $15,000	2	4.00
Between $15,000 and $29,999	11	22.00
Between $30,000 and $49,999	9	18.00
Between $50,000 and $74,999	10	20.00
Between $75,000 and $99,999	11	22.00
Between $100,000 and $150,000	7	14.00
Religious Affiliation		
Baptist	8	16.00
Methodist	2	4.00
Catholic	17	34.00
Pentecostal	3	6.00
Other Christian	6	12.00
Jewish	1	2.00
Hindu	2	4.00
Muslim	4	8.00
Buddhist	4	8.00
None	2	4.00
Other	1	2.00
Marital Status		
Single	10	20.00
Married	30	60.00
Divorced	7	14.00
Separated	3	6.00
Insured		

Private Commercial	29	58.00

Table 3 'Continued'.

Variable	*n*	*%*
Public (Medicaid, Medicare)	19	38.00
No insurance	2	4.00
Employed – DX		
Yes	45	90.00
No	5	10.00
Employed – Now		
Yes	35	70.00
No	15	30.00

The ages of participants at breast cancer diagnosis and their current age were assessed. For the 50 participants, the current ages ranged from 26 to 84, with M = 45.96 and SD = 12.49. Age at diagnosis ranged from 20 to 66, with M = 40.08 and SD = 10.43. The average number of years since diagnosis was *5.88* (*SD=6.67*).

Cancer-Specific Information

Summary statistics for respondents to cancer-specific questions are presented in Table 4. Twenty-five (50%) were diagnosed at Stage 1 and 13 (26%) were diagnosed at Stage 2. Thirty-four (68%) reported having triple-negative breast cancer (TNBC). Thirty-eight (76%) reported receiving surgery, and 31 (62%) did not report receiving chemotherapy.

Table 4

Cancer Information

Variable	*n*	*%*
Stage at Diagnosis		
Stage 0	1	2.00
Stage 1	25	50.00
Stage 2	13	26.00
Stage 3	5	10.00
Stage 4	4	8.00
Unknown	2	4.00
Triple-Negative Breast Cancer		
Yes	34	68.00
No	13	26.00
Unknown	3	6.00
Have you received radiation?		
Yes	27	54.00
No	23	46.00
Have you received surgery?		
Yes	38	76.00
No	12	24.00
Have you received chemo?		
Yes	19	38.00
No	31	62.00
Have you received hormone therapy?		
Yes	10	20.00
No	40	80.00
Have you received immunotherapy?		
Yes	4	8.00
No	46	92.00
Have you received targeted therapy?		
Yes	6	12.00
No	44	88.00

Independent Variables

In this next section, results are provided for the primary independent variable, the phase of the cancer care continuum (Table 5). Fifteen (30%) reported being in the phase

of initial treatment in progress. Other independent variables examined included spiritual practices and their use as coping methods, among others.

Table 5

The Phase of Cancer Care Continuum Statistics

Variable	*n*	*%*
The phase of cancer care continuum		
Newly diagnosed/treatment not yet started	0	0.00
Initial treatment in progress	15	30.00
Initial treatment completed within the past 6 months	12	24.00
Disease-free within the past 6 months	12	24.00
Recurrent disease (after a disease-free period)	5	10.00
Subsequent treatment after a recurrent diagnosis	4	8.00
Palliative care	2	4.00

Frequencies and percentages were used to analyze spiritual practices and their use as coping methods. Thirty percent (15) of respondents reported using spiritual practices such as praying, meditation, reading scriptures, listening to gospel songs or religious music, or singing gospel songs or religious music daily. Eighty-eight percent agreed or strongly agreed that these spiritual practices helped them to cope. Additional information on the coping and spiritual practices of the participants is presented in Table 6.

Table 6

Spiritual Practices and Coping

Variable	*n*	*%*
Spiritual Practices - praying, meditation, reading scriptures, listening to gospel songs or religious music, or singing gospel songs or religious music		
More than once a day	12	24.00
Daily	15	30.00
Two or more times a week	6	12.00
Once a week	11	22.00
A few times a month	4	8.00
Rarely or never	2	4.00
Coping - I feel that these spiritual practices help me to cope.		
Strongly Disagree	2	4.00
Disagree	0	0.00
Neither Agree or Disagree	4	8.00
Agree	31	62.00
Strongly Agree	13	26.00

Correlations between patient characteristics with spiritual practices were analyzed. There were negative statistically significant associations between spiritual practices and income (r_s = -.31, p = .001). Table 7 presents the results of the correlation analysis. An increase in spiritual practices was associated with a decrease in income.

Table 7

Spearman's Correlations for Patient Characteristics and Spiritual Practices

	Spiritual Practices	
	r_s	*p*
Education	-.26	.064
Income	-.31*	.030
Insured	.27	.061
Current Age	-.32*	.025
Age at Diagnosis	-.03	.819
Stage	-.21	.152

*Significant at 0.05 level (2 tailed)
**Significant at the 0.01 level (2-tailed)

Additionally, associations were conducted through chi-square tests of independence between TNBC and spiritual practices. There was a statistically significant association between TNBC and spiritual practices, X^2 (10) = 27.13, p<.005, indicating that spiritual practices differed by TNBC status. See Table 8 for crosstabulation details.

Table 8

Crosstabulations of TNBC and Spiritual Practices

Spiritual Practices		More than once a day	Daily	Two or more times a week	Once a week	A few times a month	Rarely or never	Total
TNBC	Yes	1	2	4	15	10	2	34
	No	2	7	2	0	2	0	13
	Unknown	1	2	0	0	0	0	3
	Total	4	11	6	15	12	2	50

A chi-square test of independence was also conducted between spiritual practices and religious affiliation. There was a statistically significant association in the use of spiritual practices by religious affiliation, X^2 (50) = 116.191, p< .005. Table 9 presents an account of the crosstabulations.

Table 9

Crosstabulations of Spiritual Practices and Religious Affiliation

Religious Affiliation		Baptist	Methodist	Catholic	Pentecostal	Other Christian	Muslim	Total
Spiritual Practices	Rarely or never	0	0	0	0	0	0	0
	A few times a month	1	1	0	0	2	0	4
	Once a week	4	1	3	2	1	0	11
	Two or More times a week	3	0	1	0	2	0	6
	Daily	0	0	12	1	0	0	5
	More than once a day	0	0	1	0	1	4	6
Total		8	2	17	3	6	4	32

Correlations with coping were also analyzed. There was a statistically significant negative correlation with spiritual practices (r_s= -.29, p<.05) suggesting that an increase in spiritual practices was associated with a decrease in coping. There were statistically significant positive correlations with income (r_s= .29, p <.05), suggesting that an increase in income was associated with an increase in coping. See Table 10.

Table 10

Spearman's Correlations for Patient Characteristics and Coping

	Coping	
	r_s	p
Education	.06	.705
Income	.29*	.042
Insured	-.21	.148
Current Age	.20	.169
Age at Diagnosis	.09	.529
Stage	.21	.139
Spiritual Practices	-.29*	.044

*Significant at 0.05 level (2 tailed) **Significant at the 0.01 level (2-tailed)

Additionally, associations were conducted through chi-square tests of independence. Between TNBC and coping, there is a statistically significant positive

association between TNBC and coping, X^2 (6) = 27.79, $p < .0005$. Results indicate that coping varies by TNBC status (See Table 11 for details). Between religious affiliation and coping, there was a statistically significant difference in coping by religious affiliation X^2 (30) = 56.54, $p<.005$.

Table 11

Crosstabulations of TNBC and Coping

Coping		Strongly Disagree	Neither Agree or Disagree	Agree	Strongly Agree	Total
TNBC	Yes	0	4	27	3	34
	No	1	0	4	8	13
	Unknown	1	0	0	2	3
	Total	2	4	31	13	50

Dependent Variables

Fortitude as assessed by the FORQ and spiritual fortitude as assessed by the SFS-9 are the dependent variables that were analyzed for this study. The analysis is presented in Tables 12 and 13. There are 3 subscales for FORQ: self-appraisal, family appraisal, and support appraisal. These scores for the subscales and overall scale are presented in Table 12. Overall fortitude scores ranged from 43 to 78, with $M = 61.98$ and $SD = 9.31$. Support appraisals mean scores were lower in this population than self-appraisals or family appraisals. The overall fortitude mean score and those of the subscales indicates an above-average appraisal score for this population in comparison to those (overall fortitude $M = 57.79$, self-appraisal $M = 21.33$, family appraisal $M = 19.91$, support appraisal $M = 16.61$) described by Pretorius and Heyns (2005). Furthermore, Adejuwon

et al. (2015) indicated that "A norm score of 20-60 on the scale indicates a low level of fortitude while a score of 61-100 indicates a high level of fortitude" (p. 261).

Table 12

FORQ and Subscales

FORQ Variables	*N*	Min	Max	*M*	*SD*
Overall Fortitude	50	43.00	78.00	61.98	9.31
Self-Appraisals	50	16.00	27.00	21.94	3.54
Family Appraisals	50	11.00	27.00	20.94	3.41
Support Appraisals	50	12.00	24.00	19.10	3.34

There are 3 subscales for the Spiritual Fortitude Scale: spiritual endurance, spiritual enterprise, and redemptive purpose as depicted in Table 13. Overall, spiritual fortitude scores ranged from 25 to 45, with M = 36.90 and SD = 4.67. The higher the mean score, the stronger the rating of spiritual fortitude (Van Tongeren et al., 2019; Zhang, Hook, Van Tongeren, Davis, D. et al., 2021). In this population, it ranked greater than average in comparison to the midpoint of 27 in a range of scores from 9 to 54.

Table 13

SFS-9 and Subscales

SFS-9 Variables	*n*	Min	Max	*M*	*SD*
Overall Spiritual Fortitude	50	25.00	45.00	36.90	4.67
Spiritual Endurance	50	8.00	15.00	12.42	2.06
Spiritual Enterprise	50	8.00	15.00	12.40	1.65
Redemptive Purpose	50	9.00	15.00	12.08	1.64

Spearman's rank correlations were conducted to access associations between the Fortitude Scales and the Spiritual Fortitude Scales (see Table 14). The FORQ subscales (self, family, and support) are each statistically significant for the SFS-9 subscales

(spiritual endurance, spiritual enterprise, and redemptive purpose). There is a statistically significant positive association between each of the fortitude subscales and the spiritual fortitude subscales indicating these two variables are highly correlated, as is the overall FORQ score and the overall SFS-9 score (r_s = .74, p<0.01).

Table 14

Spearman Correlations with FORQ Subscales and SFS-9 Subscales

Fortitude Subscales	Self-Appraisals		Family Appraisals		Support Appraisals	
Spiritual Fortitude Subscales	r_s	p	r_s	P	r_s	P
Spiritual Endurance	.69**	.000	.52**	.000	.55**	.000
Spiritual Enterprise	.59**	.000	.38**	.006	.50**	.000
Redemptive Purpose	.65**	.000	.58**	.000	.66**	.000

*Significant at 0.05 level (2 tailed)
**Significant at the 0.01 level (2-tailed)

Spearman's correlations were conducted with each of the dependent variables and coping and spiritual practices. There were no statistically significant correlations between fortitude and coping (r_s = .22, p = .133) or fortitude and spiritual practices (r_s = .14, p = .325).There was a statistically significant positive correlation between spiritual fortitude and coping (r_s = .30, p<.05) and a statistically significant negative association between spiritual fortitude and spiritual practices (r_s -.38, p<05) suggesting that as spiritual fortitude increased, spiritual practices decreased (see Table 15).

Table 15

Spearman's Correlations with FORQ, SFS-9, and Coping and Spiritual Practices

	Coping		*Spiritual Practices*	
	r_s	*p*	r_s	*p*
Fortitude-overall	.22	.133	-.12	.427
Spiritual Fortitude – overall	.30*	.035	-.38**	.006

*Significant at 0.05 level (2 tailed)
**Significant at the 0.01 level (2-tailed)

Research Questions

In this section, analysis and answers to research questions are presented. To address the research questions 1 and 2, Spearman's rank order correlations were conducted to assess the strength of the association between fortitude and the phase of cancer care continuum and between spiritual fortitude and the phase of the cancer care continuum (Table 16 and Table 17). Statistical significance was set at $\alpha = .05$. To address research questions 3 and 4, Spearman's rank order correlations were used for all variables except for the nominal variable, religious affiliation. In this case, chi-square was used as a test of independence with a $p < 0.05$ for statistical significance.

Spearman's rank order correlation was conducted to assess RQ1 (see Table 16). The relationship between fortitude and phase of cancer care continuum was not statistically significant, $r_s = .05$. p=.753. Therefore, the null hypothesis was not rejected.

Table 16

Spearman's Correlations between Fortitude and Phases of the Cancer Care Continuum

FORQ Variables	Phase of Cancer Care Continuum	
	r_s	*P*
Overall Fortitude	-.05	.753
Self-Appraisals	.05	.745
Family Appraisals	-.05	.738
Support Appraisals	-.11	.463

*Significant at 0.05 level (2 tailed)
**Significant at the 0.01 level (2-tailed)

Table 17 presents the result of the Spearman rank order correlation examining the relationship between spiritual fortitude and the phase of the cancer care continuum. This relationship was not statistically significant, with r_s=.19 and p=.176. Therefore, the null hypothesis is retained.

Table 17

Spearman's Correlations between Spiritual Fortitude and Phases of the Cancer Care Continuum

SFS-9 Variables	Phase of Cancer Care Continuum	
	r_s	*P*
Overall Spiritual Fortitude	.19	.176
Spiritual Endurance	.19	.188
Spiritual Enterprise	.35*	.012
Redemptive Purpose	.00	.999

*Significant at 0.05 level (2 tailed)

Initially, the RQ3 and RQ4 were intended to be answered by determining predictors of fortitude and spiritual fortitude through linear multiple regression. That plan changed with limited available respondents. Instead, what is presented are bivariate correlations between fortitude and spiritual fortitude with the initial stage at diagnosis,

years since diagnosis, or phase of the cancer care continuum. The variable "Years since diagnosis" was derived from the difference between current age and age at diagnosis for each respondent, and then calculating the mean: *M=5.88* (*SD=6.67*). The associations between religious affiliation and triple-negative breast cancer status (TNBC) and fortitude and spiritual fortitude were calculated using chi-square rather than Spearman's rank.

Spearman's correlations were conducted to assess associations between the overall fortitude scale and the concepts of the initial stage at diagnosis, years since diagnosis, or phase of the cancer care continuum (see Table18). There were no statistically significant correlations between fortitude and these concepts. To assess an association between religious affiliation and fortitude (FORQ-Overall), a chi-square test was conducted. There was not a statistically significant association between religious affiliation and fortitude, X^2 (280) = 292.30, *p*=.290. Similarly, the association between fortitude and TNBC was assessed using a chi-square analysis. Fortitude (FORQ-Overall) was not found to differ by TNBC status, X^2 (56) = 59.98, p =.334. The null hypothesis is retained for fortitude and religious affiliation and triple-negative breast cancer status, as well as the initial stage at diagnosis, years since diagnosis, and phase of the cancer care continuum.

Table 18

Spearman's Correlations with the FORQ

	Fortitude Scale (FORQ)	
	r_s	*p*
Stage at diagnosis	.08	.595
Years Since Diagnosis	-.24	.098
Phase of Cancer Care Continuum	-.05	.753

*Significant at 0.05 level (2 tailed)
**Significant at the 0.01 level (2-tailed)

RQ4: Is there a relationship between spiritual fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or phases of the cancer care continuum?

Spearman's correlations were conducted to assess associations between the overall Spiritual Fortitude Scale and the concepts of the stage at diagnosis, triple-negative status, years since diagnosis, or phases of the cancer care continuum (see Table 19). No statistically significant associations were detected between spiritual fortitude and these variables. To assess an association between religious affiliation and spiritual fortitude (SFS-Overall),a chi-square test was conducted. There was not a statistically significant association between religious affiliation and spiritual fortitude, X^2 (160) = 163.84, p =.401. Chi-square was also conducted to assess the association between TNBC status and spiritual fortitude. The results were statistically significant indicating that spiritual fortitude differs by TNBC status, X^2 (32) = 55.31, p = .006. The null hypothesis is retained with regard to spiritual fortitude, stage at diagnosis, years since diagnosis, and phase of the cancer care continuum, and religious affiliation. The null is rejected for the TNBC status.

Table 19

Spearman Correlations with SFS-9

	Spiritual Fortitude Scale	
	r_s	*p*
Stage	.04	.772
Years Since Diagnosis	.03	.824
Phase of Cancer Care Continuum	.19	.176

*Significant at 0.05 level (2 tailed)

**Significant at the 0.01 level (2-tailed)

Summary

Data were collected from a sample of 50 African American female breast cancer survivors. Respondents completed an online survey assessing their demographic characteristics, cancer diagnosis, and treatment experiences as well as their spiritual practices. Analysis of the responses to the FORQ and SFS-9 scales revealed an above-average level of fortitude and spiritual fortitude. Nevertheless, results indicated that for RQ1, there is no statistically significant association between fortitude and the phases of the cancer care continuum; therefore, the null was retained for this research question. For RQ2, the null can be retained indicating no statistically significant association between spiritual fortitude and the phases of the cancer care continuum. For RQ3, the null is retained as no statistically significant association was found between fortitude and the following variables: religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or phase of the cancer care continuum. For RQ4, no association was observed between spiritual fortitude and religious affiliation. The null was not retained for TNBC indicating spiritual fortitude varies in this population by triple-negative breast cancer status. No statistically significant association was observed between spiritual fortitude and initial stage at diagnosis, years since diagnosis, or phase of the cancer care continuum. In the next chapter, a discussion of the results is provided.

In addition, spiritual practices (e.g., praying, meditation, reading scriptures, listening to gospel songs or religious music, or singing gospel songs or religious music) and coping were examined. While they were inversely associated with each other, both

spiritual practices and coping were associated with religious affiliation. There was a statistically significant association between coping and the fortitude subscale of self-appraisal (r_s .33, p <.05), and the spiritual fortitude subscale spiritual endurance was associated with coping (r_s .37, p <0.01) and spiritual practices (r_s -.47, p<0.01).

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

This study was conducted to address fortitude and spiritual fortitude among AABCS to determine if these concepts were present in this group of women and whether these variables play a role in their cancer care experiences. While coping, strength, and resilience have been studied in this population, fortitude and spiritual fortitude have not. Following the application of a snowball sampling method to collect data, I tested four research questions that assessed associations between fortitude and spiritual fortitude and corresponding hypotheses. In this chapter, a summary of study findings, interpretation of findings, limitation of the study, recommendations, and implications are presented.

Summary of Study Findings

In this study, four hypotheses were tested to determine if there were associations between fortitude, spiritual fortitude, and phases of cancer care, and to determine predictors of fortitude and spiritual fortitude.

RQ1: Is there an association between fortitude and phases of the cancer care continuum among AABCS?

$H_0$1: There is no association between fortitude and phases of the cancer care continuum among AABCS.

H_a1: There is an association between fortitude and phases of the cancer care continuum among AABCS.

The null hypothesis was retained. No statistically significant relationship between fortitude and phases of the cancer care continuum (r_s =-.05. p=.753) was detected.

RQ2: Is there an association between spiritual fortitude and phase of cancer care continuum among African American breast cancer survivors?

$H_0$2: There is no association between spiritual fortitude and the phase of cancer care continuum among African American breast cancer survivors.

H_a2: There is an association between spiritual fortitude and the phase of cancer care continuum among African American breast cancer survivors.

The null hypothesis was retained. There is no statistically significant relationship between fortitude and phases of the cancer care continuum (r_s=.19, p =.176).

*RQ3:*Is there a relationship between fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, and phases of the cancer care continuum.

$H_0$3: There is no relationship between fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, and phases of the cancer care continuum.

H_a3: There is a relationship between fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, and phases of the cancer care continuum.

The null hypothesis is retained. There were no statistically significant correlations between fortitude and these concepts.

RQ4: Is there a relationship between spiritual fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or phases of the cancer care continuum?

$H_0$4: There is no relationship between spiritual fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or phases of the cancer care continuum.

H_a4: There is a relationship between spiritual fortitude and religious affiliation, initial stage at diagnosis, triple-negative status, years since diagnosis, or phase of the cancer care continuum.

The null hypothesis was retained for all but one variable. There is a statistically significant relationship between TNBC status and spiritual fortitude (X^2 (32) = 55.31, p =.006, p<.05). A statistically significant association was not detected between spiritual fortitude and religious affiliation, initial stage at diagnosis, years since diagnosis, or phase of cancer care.

In addition to the research questions, I examined interactions between dependent variables fortitude and spiritual fortitude and spiritual practices and coping. Respondents explained their use of spiritual practices and whether these practices helped them cope. The correlation between spiritual practices and coping and fortitude and spiritual fortitude was assessed. It was found that spiritual fortitude was associated with the use of spiritual practices as coping responses. The use of spiritual practices was inversely correlated with spiritual fortitude (r_s -.38, p<.05). Coping was positively associated with

spiritual fortitude (r_s .30, p<.05). There were no statistically significant correlations between fortitude and spiritual practices or coping.

Interpretation of Findings

The concepts of strength, spirituality, faith, and social support have been identified as important coping factors for African American women. As such, fortitude and spiritual fortitude could assist African American women to cope with the adversity or stress involved with having breast cancer. Fortitude and spiritual fortitude are resources that African American women may bring to their experiences involving breast cancer, and these individuals may use fortitude and spiritual fortitude as resources to minimize the effects of the disease (Wethington et al., 2015). Based on this assumption, it seemed appropriate to consider that one way of doing this was to look at the experiences of AABCS across the cancer care continuum, from newly diagnosed to palliative care.

This study has shown that while fortitude and spiritual fortitude are present in this population, they do not display statistically significant associations with any phase of the cancer care continuum. It cannot be stated that fortitude or spiritual fortitude were correlated with experiences along the cancer care continuum with statistical significance. With the importance of religion and spirituality among AABCS as indicated in the literature review, I expected that a significant association would have been found. Faith is a means of persevering through physical and emotional needs experienced with breast cancer (Mollica & Nemeth, 2015).Though not statistically significant, fortitude tended to decrease as the cancer care continuum progressed from a lower ranked to a higher ranked item (e.g., 1=newly diagnosed/treatment not yet started, 7= palliative care; r_s= -.05, p

=.753), and spiritual fortitude tended to increase as the cancer continuum progressed (r_s = .19, p = .176). Furthermore, the spiritual fortitude subscale spiritual enterprise displayed a statistically significant correlation with phases of the cancer care continuum (r_s .35, p<.05). Spiritual endurance was statistically significant for both spiritual practices (r_s =-.47, p<.01) and coping (r_s=.37, p<.01).

In examining how fortitude and spiritual fortitude were used in other studies, none included a chronic illness like cancer or in an African American population. Instead, the studies in which fortitude was studied included a correlation with career commitment among health workers in a Nigerian study (r_s=0.14, p<0.05; Adejuwon et al., 2015), in mental health help-seeking attitudes (r_s=.33, p<.01) and help-seeking behavior (r_s=.13, p<.01) among young adults in a Canadian study (Beattie et al., 2016). In the latest studies on spiritual fortitude, it was found that it facilitated endurance long-term following a flood in Louisiana (Zhang, Hook, Van Tongeren, Davis, D. et al., 2021). In a study on mental health during the COVID-19 pandemic, Zhang et al. (2020) and Zhang, Hook, Van Tongeren, Davis, E. et al. (2021) found that spiritual fortitude at low levels predicted PTSD symptoms related to resource loss (β = .67, p< .001). Thus, because neither fortitude nor spiritual fortitude has been used to study medical conditions or in persons experiencing a medical condition, such as breast cancer, the current study extends the knowledge of these psychological constructs. This study builds on the previous studies on inner strength and resilience, and religion and spirituality in African American women and AABCS (Davis et al., 2014; Hamilton et al., 2016; Mollica & Newman, 2014; Mollica et al., 2015; Mollica et al., 2014; Woods-Giscombé, 2010;).

Limitations of the Study

In this section, I present a discussion of study limitations. They include a discussion of the data collection strategy, sample size, and study population. This section also discusses the implication of the cultural context of one of the instruments.

The chief limitation of the study may be the small sample size. A more expeditious recruitment strategy would have been to work through AABCS support groups and offer an incentive – from the beginning. This would have enhanced the size of the study sample and allowed for a large enough sample to conduct the preferred linear multiple regression. Conducting a linear regression would have allowed for an assessment of the predictors of fortitude and spiritual fortitude among African American breast cancer survivors.

Data collection for this study was conducted solely by online survey. This may have limited access for those women who do not have access to the internet (e.g., rural women, elderly women). Seeking access to in-person support groups (hospital and church-based), through oncology practices, and providing a paper-based version of the survey would have increased the likelihood of participation by these women.

An additional limitation may have been the use of a questionnaire (FORQ) drawn from the South African context. It could have been possible that the South African context did not translate to the African American female experience or context. It is possible that though the concept of fortitude "is the strength derived from appraising ourselves and our world positively, enabling us to cope with life stress" (Pretorius & Heyns, 2005, p. 3), the FORQ tool had limitations in adequately capturing the life

experiences of AABCS. It is possible that African American women, although valuing strength, do not positively appraise this kind of strength in themselves or the society in which they live. The FORQ scale has not been used in the U.S. context in the past.

Recommendations

Recommendations for future research include the further assessment of the role of fortitude and spiritual fortitude as psychological constructs within the transaction of stress and coping, and their application in addressing the stress and adversity of breast cancer as experienced by African American women. In this section, I present recommendations for the use of this study for public health, in both research and practice.

Recommendations for Research

African American breast cancer survivors face multiple challenges (psychological, physical, emotional, financial, and spiritual) in coping with the stress of breast cancer. These challenges can be modified by the impact of gendered racism (Thomas et al., 2008). Public health research could determine if fortitude or spiritual fortitude modify coping with discrimination in AABCS.

As an example, the current study was limited to AABCS based on interest in studying women facing the stress of higher mortality and lower survival rates, and women who fit the superwoman model (Woods-Giscombé, 2010). Although other women play multiple roles (Sumra & Schillaci, 2015), they may not have to contend with racial discrimination and structured racism in ways that African American women do. Though identified in the literature review, structural racism and racial discrimination were not studied as stressors that play a role in the lived experiences of AABCS in this

study. Racial discrimination could be measured using the Experiences of Discrimination scale (EDS; Krieger et al., 2005). Measuring racial discrimination as a stand-in for racism could provide insight into the modifying role of religion and spirituality since they are considered among the coping responses to racism for African American women (Jacob et al., 2021). A longitudinal study of AABCS and Caucasian breast cancer survivors could measure discrimination (EDS), fortitude, spiritual fortitude, and breast cancer self-efficacy at multiple points throughout their breast cancer experiences.

An additional recommendation would be to conduct a comparison study of fortitude and spiritual fortitude in African American women with and without breast cancer to determine if these constructs vary based on exposure to the illness. Examining FORQ and SFS-9 in other populations of women with breast cancer (e.g. White women vs African American women vs. Hispanic/Latino women) would be useful in determining whether fortitude and spiritual fortitude was present in multiple populations of women and whether it varied by race.

Spiritual fortitude has been described as “confidence that one has sufficient spiritual resources to face and grow in the face of a stressor” (Van Tongeren et al., 2019, p.2). This is similar in concept to self-efficacy, except that self-efficacy considers the confidence an individual has to initiate or maintain a behavior (Kelder et al., 2015). Because of this similarity, it would be interesting to compare spiritual fortitude to breast cancer self-efficacy (Champion et al., 2013) in African American or other breast cancer survivors. These concepts could be appraised in terms of the adversity or stress of breast cancer, as well as in addressing specific stressful modes of treatment such as

chemotherapy. It could be measured pre and post adversity, as Van Tongeren et al. (2019) suggests. For example, a quasi-experimental quantitative study where breast cancer self-efficacy and spiritual fortitude would be measured pre and post-administration of chemotherapy in African American and other female breast cancer survivors. This cohort study would allow for an assessment of these two variables in multiple racial/ethnic groups of women and the potential impact of the administration of chemotherapy on spiritual fortitude and breast cancer self-efficacy.

Recommendations for Practice

Public health education interventions could focus on increasing fortitude and spiritual fortitude to promote psychological wellness and the use of spiritual resources in African American women, AABCS, and other breast cancer survivors. This would include addressing and promoting these psychological constructs in cancer survivorship care plans and culturally tailored breast cancer support groups.

Cancer Survivorship Care Plans

Cancer survivorship care plans provide individualized guidance for monitoring and managing the health of cancer survivors, and contain records of treatment history (American Cancer Society, 2021; Centers for Disease Control and Prevention, 2021b). Distress management is part of the supportive care section of cancer survivorship care plans (National Comprehensive Cancer Network, 2021). Spiritual fortitude could be added to the cancer survivorship care plans to assess and address an added dimension of spiritual/religious aspects of psychosocial concerns (National Comprehensive Cancer Network, 2020).

Culturally-Tailored Breast Cancer Support Groups

Support groups provide psychosocial and social support for persons with cancer and are offered in multiple settings – from hospital-based to online (National Cancer Institute, n.d.-b.). Many prioritize individual populations of cancer survivors such as African American breast cancer survivors. This population of women, as the subject of this study, might find the topic to provide useful insight as they live as cancer survivors and a new dimension of the AABCS experience. Fortitude and spiritual fortitude with their links to inner strength and resilience as well as religion and spirituality might provide supportive insight into their breast cancer experiences and explore ways to improve needed social support.

Implications

Public health plays a role in optimizing the health of cancer survivors. It does that by providing a means of early detection of breast, cervical, and colorectal cancer (Centers For Disease Control and Prevention, 2020) by promoting cancer survivorship (Centers For Disease Control and Prevention, 2021a; National Cancer Institute [NCI], 2020) and through public health interventions and research (National Cancer Institute, n.d.-a.; National Cancer Institute, 2021). This study reflects this public health role using the framework of the transactional model of stress and coping to examine fortitude and spiritual fortitude with the intent of advancing the quality of life of cancer survivors.

Social Change

This study is linked to social change in that it could provide insight to empower AABCS to cope with the stressors affiliated with breast cancer, providing added

psychological resources to improve their quality of life. As a result of this study, we now have additional information that provides insight to potentially help AABCS fight the stressors they encounter in living with breast cancer to survive, and hopefully, even thrive. This would assist public health in better framing the coping responses of African American women to breast cancer, demonstrating that their response to this illness is more complex than cancer fatalism linked to them (Gullatte et al., 2010; Powe & Finnie, 2003). The addition of fortitude and spiritual fortitude could contribute to improved coping with treatment, resource development, and the role of spirituality in African American breast cancer survivors. It could promote optimal survival in African American breast cancer survivors.

Conclusion

This study supplies novel information on the role of fortitude and spiritual fortitude as psychological constructs in a population of African American breast cancer survivors (AABCS). It was found that both fortitude and spiritual fortitude can be identified in AABCS and at high levels. Though neither construct was associated with the phase of cancer care continuum, spiritual fortitude was associated with spiritual practices and coping. This study attempted to quantify fortitude as "a stress-resistant construct" for breast cancer (Pretorius & Heyns, 2005, p. 20), or spiritual fortitude as providing spiritual resources to transform "negative experiences" of breast cancer "into more redemptive narratives" (Van Tongeren et al., 2019, p. 2). The findings from this study indicate that both fortitude and spiritual fortitude can add important insight into coping with breast

cancer and, therefore, should be considered when designing public health efforts to advance the health of African American breast cancer survivors.

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Appendix A:Permission to Use FORQ

From: Tyrone Pretorius <tpretorius@uwc.ac.za>
Sent: Sunday, July 24, 2016 8:01 AM
To: karen.boone2@waldenu.edu
Subject: Re: FORQ

Dear Ms Boone

Good luck with your research endeavours. Please find attached:

1. a copy of the instrument, and
2. an the e-publication on the questionnaire. Pretorius, T.B., & Heyns, P.M (2005). Fortitude as stress-resistance: Development and validation of the Fortitude Questionnaire (FORQ).
3. An article due to appear: Pretorius, T.B, Padmanabhanunni, A, & Campbell, J (In Press). The role of fortitude in psychological outcome in relation to exposure to violence among adolescents living in lower socio-economic areas in South Africa, Journal of Child & Adolescent Mental health. The literature and instrument sections provide references to more recent studies using the FORQ.

It is a relatively simple scoring schedule. All items are scored on a 4-point scale so that higher scores are indicative of higher levels of the subscale. The only exception is item 20 which should be reversed scored (1=4)(2=3)(3=2)(4=1).
Table 3 in the e-publication provides the subscales.
If you have any other questions, please feel free to contact me.

Regards

Tyrone

>>> Karen Boone 07/23/16 4:50 PM >>>
Hello Dr. Pretorius,

I am a doctoral student in public health at Walden University in the United States. I am interested in fortitude as a variable of study for my dissertation, and encountered your 2005 paper, "Fortitude as stress-resistance: Development and validation of the Fortitude Questionnaire (FORQ)". I would appreciate it very much if you could please provide me with a copy of your instrument, the Fortitude Questionnaire.
.
Sincere regards,

Karen Boone, MN, MPH
karen.boone2@waldenu.edu

Appendix B: FORQ

The Fortitude Questionnaire

Please indicate the extent to which the following statements apply to you and/or your situation.
Use the following scale

1 = does not apply
2 = applies slightly
3 = applies a lot
4 = applies very strongly

Mark your responses to the left of the statement
EXAMPLE _1_ I like apricots: The 1 indicates that the statement does not apply to you.

_____1. I always feel pretty sure of myself
_____2. I take a positive attitude towards myself
_____3. I have no trouble making up my mind
_____4. I trust my ability to solve new and difficult problems.
_____5. On the whole, I am satisfied with myself
_____6. In general, there are more than 5 people that I could really count on to be dependable when I need help.
_____7. I am very satisfied with the comfort and support that I get from others.
_____8. Learning about new and different things is very important in our family.
_____9. When making a decision, I weigh the consequences of each alternative and compare them against each other.
____10. I am very satisfied with the help and support that I get from those that I count on.
____11. I know that someone will always be around if I need assistance.
____12. There is plenty of time and attention for everyone in our family.
____13. My friends give me the moral support I need.
____14. I rely on my family for emotional support.
____15. I have a deep sharing relationship with a number of members of my family.
____16. Members of my family are good at helping me solve problems.
____17. In my family, we tell each other about our personal problems.
____18. Activities in our family are pretty carefully planned.
____19. Friends often have good advice to give.
____20. At times I think I am no good at all.

Appendix C: Permission to Use SFS-9

From: Daryl Van Tongeren <vantongeren@hope.edu>
Sent: Tuesday, October 15, 2019, 2:52 PM
To: Karen Boone <karen.boone2@waldenu.edu>
Subject: Re: SFS-9

Karen,

Here is the article, for your use. You may use this for research and educational purposes (i.e., non-commercial use).

Best,
Daryl

Daryl R. Van Tongeren, Ph.D.
Associate Professor of Psychology
Hope College
Schaap Science Center 1169
35 East 12th Street
Holland, MI 49423-3605
darylvantongeren.wordpress.com

On Tue, Oct 8, 2019, at 10:21 PM Karen Boone <karen.boone2@waldenu.edu> wrote:
Hello Dr. Van Tongeren,

I am a doctoral student at Walden University. I would like your permission to use the Spiritual Fortitude Scale in my dissertation. I will also need an official copy of the scale with instructions for its use. I have copies of two articles in which it was used. If there are additional studies in which it has been used could you please provide hose references? I will send you a copy of my abstract upon completion of the study.

Sincerely,
Karen Boone, MN, MPH

Appendix D: SFS-9

Spiritual Fortitude Scale (SFS-9)
Please read the items below and respond by selecting the number that corresponds with how you typically respond in situations of adversity or trials.

1 = Strongly Disagree
2 = Disagree
3 = Neither Agree or Disagree
4 = Agree
5 = Strongly Agree

__1. My faith helps push me to overcome difficult tasks in life.
__2. I continue to do the right thing despite facing hardships.
__3. Hardships give me a sense of renewed purpose.
__4. My faith helps me stand up for what is right during challenging times.
__5. I am able to do the right thing even in the midst of hardship.
__6. My sense of purpose is strengthened through adversity.
__7. My faith helps me withstand difficulties.
__8. I retain my will to live despite hardship.
__9. I find meaning in my struggles.

Appendix E: Sisters Network Invitation

Ms. Karen Jackson
Chief Executive Officer and Founder Sisters Network Incorporated
2922 Rosedale Street
Houston, Texas 77004

Dear Ms. Jackson:

I am currently a Ph.D. student at Walden University, specializing in Public Health with a concentration in Community Health Education, who is conducting research for a dissertation.

I am looking to partner with your organization to reach African American breast cancer survivors to enlist their participation in the study. I would like to obtain a sample population of 138 African American women breast cancer survivors of all ages. The study will include survivors diagnosed from Stage 0 to Stage IV, and at all stages of the cancer care continuum starting from the time of diagnosis.

I would need for the organization to send out an email blast to its participating members and constituents of Sisters Network, Incorporated (SNI). Members and constituents will receive a link that will direct them to the consent form and allow them to complete the survey online. Participants will be asked to complete a demographic questionnaire and instruments that measure fortitude and spiritual fortitude. The online survey will ensure anonymity.

Please consider supporting this study. It will provide relevant information about how African American women from a range of ages, diagnosis, and treatment types, use fortitude and spiritual fortitude to cope with the diagnosis of breast cancer. The study is significant because the results will provide new information on how African American breast cancer survivors cope in the years following diagnosis and treatment. It is anticipated that this study could contribute to improved supportive care, add to health education knowledge, and promote cancer survivorship in public health.

Your approval to conduct this study would be greatly appreciated. I will follow up with a telephone call next week and would be happy to answer any questions or concerns that you may have at that time. You may contact me at the below contact information.

If you agree, kindly submit a signed Letter of Cooperation on your organization letterhead acknowledging your consent and permission for me to conduct this survey/study through your organization.

The formulated research questions are available upon request.

Sincerely,

Karen Boone, MN, MPH, RN

karen.boone2@waldenu.edu, 404-536-3770

Appendix F: Sisters by Choice Invitation

James B. Benton, MD
Chairman
Sisters by Choice
5910 Hillandale Drive
Suite 104
Lithonia, GA 30058

Dr. Benton:

I am currently a Ph.D. student at Walden University, specializing in Public Health with a concentration in Community Health Education, who is conducting research for a dissertation.

I am looking to partner with your organization to reach African American breast cancer survivors to enlist their participation in the study. I would like to obtain a sample population of 138 African American women breast cancer survivors of all ages. The study will include survivors diagnosed from Stage 0 to Stage IV, and at all stages of the cancer care continuum starting from the time of diagnosis.

I would need for the organization to send out an email blast to participating members and constituents of Sisters by Choice. Members and constituents will receive a link that will direct them to the consent form and allow them to complete the surveys online. Participants will be asked to complete a demographic questionnaire and instruments that measure fortitude and spiritual fortitude. The online surveys will ensure anonymity.

Please consider supporting this study. It will provide relevant information about how African American women from a range of ages, diagnosis, and treatment types, use fortitude and spiritual fortitude to cope with the diagnosis of breast cancer. The study is significant because the results will provide new information on how African American breast cancer survivors cope in the years following diagnosis and treatment. It is anticipated that this study could contribute to improved supportive care, add to health education knowledge, and promote cancer survivorship in public health.

Your approval to conduct this study would be greatly appreciated. I will follow up with a telephone call next week and would be happy to answer any questions or concerns that you may have at that time. You may contact me at the below contact information.

If you agree, kindly submit a signed Letter of Cooperation on your organization letterhead acknowledging your consent and permission for me to conduct this survey/study through your organization.

The formulated research questions are available upon request.

Sincerely,

Karen Boone, MN, MPH, RN

karen.boone2@waldenu.edu, 404-536-3770

Appendix G: African American Breast Cancer Alliance Invitation

Ms. Reona Berry
African American Breast Cancer Alliance
P.O. Box 8981
Minneapolis, MN 55408

Ms. Berry:

I am currently a Ph.D. student at Walden University, specializing in Public Health with a concentration in Community Health Education, who is conducting research for a dissertation.

I am looking to partner with your organization to reach African American breast cancer survivors to enlist their participation in the study. I would like to obtain a sample population of 138 African American women breast cancer survivors of all ages. The study will include survivors diagnosed from Stage 0 to Stage IV, and at all stages of the cancer care continuum starting from the time of diagnosis.

I would need for the organization to send out an email blast to its participating members and constituents of African American Breast Cancer Alliance. Members and constituents will receive a link that will direct them to the consent form and allow them to complete the surveys online. Participants will be asked to complete a demographic questionnaire and instruments that measure fortitude and spiritual fortitude. The online surveys will ensure anonymity.

Please consider supporting this study. It will provide relevant information about how African American women from a range of ages, diagnosis, and treatment types, use fortitude and spiritual fortitude to cope with the diagnosis of breast cancer. The study is significant because the results will provide new information on how African American breast cancer survivors cope in the years following diagnosis and treatment. It is anticipated that this study could contribute to improved supportive care, add to health education knowledge, and promote cancer survivorship in public health.

Your approval to conduct this study will be greatly appreciated. I will follow up with a telephone call next week and would be happy to answer any questions or concerns that you may have at that time. You may contact me at the below contact information.

If you agree, kindly submit a signed Letter of Cooperation on your organization letterhead acknowledging your consent and permission for me to conduct this survey/study through your organization.

The formulated research questions are available upon request.

Sincerely,

Karen Boone, MN, MPH, RN

karen.boone2@waldenu.edu, 404-536-3770

Appendix H: Survey Instrument

Demographic Survey

1. Do you consider yourself to be Black/African American? Yes No
2. Are you female? Yes No
3. Do you currently have, or have you had breast cancer? Yes No
4. What is the highest level of education that you achieved? (Select one)
    - Less than high school
    - High school or two-year college
    - Four-year college or more
5. What is your income? (Select one)
    - $50,000 or less
    - $50,001-100,000
    - Greater than $100,000
6. What is your religious affiliation? (Select one)
    - Baptist
    - Methodist
    - Catholic
    - Pentecostal
    - Other Christian
    - Jewish
    - Hindu
    - Muslim
    - Buddhist
    - None
    - Other
7. What is your marital status? (Select one)
    - Married
    - Single
    - Divorced
    - Partnered/living as married
    - Separated
    - Widowed
8. How old are you? ___
9. What was your age when you were first diagnosed with breast cancer? ___
10. What stage was your breast cancer when you were first diagnosed? (Select one)
    - Stage 0
    - Stage 1

- Stage 2
- Stage 3
- Stage 4

11. Do you have triple-negative breast cancer? Yes No
12. What treatment have you received for breast cancer?
    - Select all that apply:
      __Radiation
      __Surgery
      __Chemotherapy
      __Hormone therapy (for example: tamoxifen, fulvestrant/faslodex, Femara, Arimidex, Aromasin, Megace)
      __Immunotherapy (for example: Atezolizumab/Tecentriq)
      __Targeted therapy (for example: Trastuzumab/Herceptin, Pertuzumab/Perjeta, TDM-1, Lapatinib/Tykerb, Neratibib/Nerlynx)
      (meds: source – ACS)
13. Where are you currently in your breast cancer journey? (Select one)
    - Newly diagnosed/ treatment not yet started
    - Initial treatment in progress
    - Initial treatment completed within the past 6 months
    - Disease-free within the past 6 months
    - Recurrent disease (after a disease-free period)
    - Subsequent treatment after a recurrent diagnosis
    - Palliative care
14. Were you insured when first diagnosed with breast cancer? (Select all that apply)
    - Private Commercial
    - Public (Medicaid or Medicare)
    - No insurance
15. Were you employed when you were first diagnosed with breast cancer? Yes No
16. Are you employed now? Yes No
17. How often do you spend time in spiritual practices such as praying, meditation, reading scriptures, listening to gospel songs or religious music, or singing gospel songs or religious music? (Select one)
    - More than once a day
    - Daily
    - Two or more times a week
    - Once a week
    - A few times a month
    - Rarely or never

18. I feel that these spiritual practices help me to cope. (Select one)
    - 1 = Strongly Disagree
    - 2 = Disagree
    - 3 = Neither Agree or Disagree
    - 4 = Agree
    - 5 = Strongly Agree

Fortitude Questionnaire (FORQ) (Pretorius, 2005)
Please indicate the extent to which the following statements apply to you and/or your situation.
Use the following scale: 1 = does not apply
2 = applies slightly
3 = applies a lot
4 = applies very strongly

__ 1. I always feel pretty sure of myself
__ 2. I take a positive attitude towards myself
__3. I have no trouble making up my mind
__4. I trust my ability to solve new and difficult problems.
__5. On the whole, I am satisfied with myself.
__6. In general, there are more than 5 people that I could really count on to be dependable when I need help.
__7. I am very satisfied with the comfort and support that I get from others.
__8. Learning about new and different things is very important in our family.
__9. When making a decision, I weigh the consequences of each alternative and compare them against each other.
__10. I am very satisfied with the help and support that I get from those that I count on.
__11. I know that someone will always be around if I need assistance.
__12. There is plenty of time and attention for everyone in our family.
__13. My friends give me the moral support I need.
__14. I rely on my family for emotional support.
__15. I have a deep sharing relationship with a number of members of my family.
__16. Members of my family are good at helping me solve problems.
__17. In my family we tell each other about our personal problems.
__18. Activities in our family are pretty carefully planned.
__19. Friends often have good advice for me.
__20. At times I think I am no good at all.

Spiritual Fortitude Scale (SFS-9) (Van Tongeren, Aten, 2019)

Please read the items below and respond by selecting the number that corresponds with how you typically respond in situations of adversity or trials.

1 = Strongly Disagree
2 = Disagree
3 = Neither Agree or Disagree
4 = Agree
5 = Strongly Agree

__1. My faith helps push me to overcome difficult tasks in life.
__2. I continue to do the right thing despite facing hardships.
__3. Hardships give me a sense of renewed purpose.
__4. My faith helps me stand up for what is right during challenging times.
__5. I am able to do the right thing even in the midst of hardship.
__6. My sense of purpose is strengthened through adversity.
__7. My faith helps me withstand difficulties.
__8. I retain my will to live despite hardship.
__9. I find meaning in my struggles.

Appendix I:Sample Size Calculation

Thursday, November 14, 2019 -- 16:38:59
t tests - Correlation: Point biserial model

Analysis:	A priori: Compute required sample size			
Input:	Tail(s)	=	Two	
	Effect size |ρ|	=	0.3	
	α err prob	=	0.05	
	Power (1-β err prob)	=	.80	
Output:	Noncentrality parameter δ		=	2.8477869
	Critical t	=	1.9900634	
	Df	=	80	
	Total sample size	=	82	
	Actual power		=	0.8033045

Thursday, November 14, 2019 -- 16:42:24
F tests - Linear multiple regression: Fixed model, R^2 deviation from zero

Analysis:	A priori: Compute required sample size			
Input:	Effect size f^2	=	0.15	
	α err prob	=	0.05	
	Power (1-β err prob)	=	0.95	
	Number of predictors		=	5
Output:	Noncentrality parameter λ		=	20.7000000
	Critical F	=	2.2828562	
	Numerator df		=	5
	Denominator df		=	132
	Total sample size		=	138
	Actual power		=	0.9507643

Tuesday, April 27, 2021 -- 11:12:40
Exact - Correlation: Bivariate normal model

Options:	exact distribution		
Analysis:	A priori: Compute required sample size		
Input:	Tail(s)	=	Two
	Correlation ρ H1	=	0.70
	α err prob	=	0.01
	Power (1−β err prob)	=	0.95
	Correlation ρ H0	=	0
Output:	Lower critical r	=	-0.4869316
	Upper critical r	=	0.4869316
	Total sample size	=	27
	Actual power	=	0.9574653