PERSPECTIVES OF STRESS, PSYCHOLOGICAL DISTRESS AND SELF-CARE AMONG PERINATAL AFRICAN AMERICAN WOMEN: AN EXPLORATION OF INTERSECTIONAL AND INTEGRATIVE FACTORS TO HELP WOMEN AND THEIR HEALTHCARE PROVIDERS UNDERSTAND AND REDUCE STRESS-RELATED RISK FACTORS FOR ADVERSE BIRTH OUTCOMES

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A dissertation submitted to the faculty at the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the School of Nursing.

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ABSTRACT

Karen Miles Sheffield: Perspectives of Stress, Psychological Distress and Self-Care Among Perinatal African American Women: An Exploration of Intersectional and Integrative Factors to Help Women and their Healthcare Providers Understand and Reduce Stress-Related Risk for Adverse Birth Outcomes
(Under the direction of Cheryl Woods-Giscombe)

Background: African American (AA) women have twice the rate of preterm birth and low birth weight compared to European American women. Exploring the unique factors of stress in AA women and their contributions to psychological distress and adverse birth outcomes are significant pathways to consider. The conceptual frameworks, Superwoman Schema (SWS) and network-stress (NS) highlight factors that may contribute to stress and psychological distress.

Purpose: This is a three-manuscript dissertation. Chapter 2 presents a review of the literature surrounding mindfulness-based approaches with an emphasis on self-compassion as an adjunctive modality for perinatal anxiety. Chapter 3 presents the results of a mixed-methods study examining perspectives of stress in perinatal AA women as well as, explores their perspectives regarding mindfulness-based interventions. Chapter 4 explores the communication between perinatal AA women and their women‘s primary care providers regarding the ways in which stress is addressed.

Methods: Chapter 2 is a literature review examining mindfulness-based approaches with an emphasis on self-compassion. Chapter 3 presents the results of a mixed-methods study. Women completed online questionnaires about SWS, NS, perceived stress, anxiety symptoms, depressive symptoms, mindfulness, mindful self-care and self-compassion. Interviews explored experiences of stress as well as perceptions regarding the development of a mindfulness-based intervention. Chapter 4 presents the qualitative results from a mixed-methods study and examines communication between perinatal AA women and their women’s primary care providers.

Results: A review of the literature suggests that mindfulness-based approaches that emphasize self-compassion should be considered when developing adjunctive approaches to conventional treatment for perinatal anxiety. The mixed-methods study data suggest associations among most of the SWS subscales and perceived stress with psychological distress, mindfulness, self-compassion and mindful self-care. Most women's primary care providers are not having conversations with perinatal AA women regarding their stress. Perinatal AA women believe that a mindfulness-based intervention is an acceptable strategy to manage their stress.

Conclusion: Health care providers should consider AA women's unique perspectives of stress when addressing their health care needs. When developing a mindfulness-based intervention for perinatal AA women to cope with stress, the intervention must incorporate a safe and supportive space that promotes a sense of community.

"[6]Be anxious for nothing, but in everything by prayer and supplication, with thanksgiving, let your requests be made known to God;[7]and the peace of God, which surpasses all understanding, will guard your hearts and minds through Christ Jesus."

"[14]I can do all things through Christ who strengthens me."

Philippians 4:6-7, 14 NKJV

Dad….I did it.

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To my family, friends and loved ones. Truly it takes a village. Thank you for being my tribe.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

PTB	Preterm Birth
LBW	Low Birth Weight
SWS	Superwoman Schema
NS	Network Stress
CAM	Complementary and Alternative Medicine
PSS	Perceived Stress Scale
STAI	State Trait Anxiety Inventory
CESD	Center for Epidemiological Studies Depression Scale
IMR	Infant Mortality Rate
SES	Socioeconomic Status
NCCIH	National Center for Complementary and Integrative Health
MBSR	Mindfulness Based Stress Reduction
MSC	Mindful Self Compassion
MSCS	Mindful Self Care Scale
NCCAM	National Center for Complementary and Alternative Medicine
MBCT	Mindfulness-Based Cognitive Therapy
REDCap	Research Electronic Data Capture

CHAPTER 1: INTRODUCTION

Background and Significance

Introduction

In the United States, African American women have twice the rate of preterm birth (PTB) and low birth weight (LBW) as compared to European American women. According to the Institute of Medicine, the cost of preterm birth exceeds $26 billion annually (Behram RE, 2007). This estimation does not include the cost of re-hospitalization and long-term care. The sequelae from PTB and LBW include infant mortality, cognitive, physical, psychological and/or social developmental delays or morbidities, such as high rates of cerebral palsy (CDC, 2016). The infant mortality rate, (IMR), defined as the incidence of death in the first year after birth in relation to every 1000 live births, is 11.1% for African American women, as compared to 5.1% for European American women (Matthews et al., 2015). The disproportionate rate of adverse birth outcomes persists, even when controlling for factors such as maternal education (Schoendorf et al., 1992), socioeconomic status (SES)(Berg et al., 2001), and prenatal care and health behaviors (Goldenberg et al., 1996; Hogan et al., 2012). Due to the persistent, well-documented, large socioeconomic and racial/ethnic disparities in the population distribution of adverse birth outcomes over the past two decades, there has been a compelling rationale to continue the search for alternate possible explanations. Maternal stress may, in part, independently, or in combination with other factors, explain these disparities, because the experience of social disadvantage and minority racial/ethnic status is characterized by higher levels of psychosocial stress and inadequate social resources (Lobel et al., 1992; Sandman et al., 1997; Wadhwa et al., 2011). Given African American women experience greater levels of stress, when compared to European American women (Woods-Giscombe et al., 2008), exploring the experiences of maternal stress in this population, is of paramount importance, in order to

better understand and elucidate the broad factors, beyond the individual, that are contributing to adverse birth outcomes in this group.

Researchers have examined multidimensional stress-related factors that may contribute to health disparities for African American women (Giscombé et al., 2005) however, the examination of the role of stress in African American women and its potential impact on birth outcomes is complex for multiple reasons. One prominent reason is likely due to the multiple and differing definitions of stress, stressors and distress used in the literature. When defining stress, we use Lazarus and Folkman's (Lazarus, 1986) widely accepted transactional model. They define stress as a stimulus, a response, and as an interaction between stimuli and responses (Goldenberg et al., 1996; Lobel et al., 1990). Stress is a subjectively perceived discrepancy between environmental demands and biological, psychological, or social resources (Lazarus, 1986). An important element of this definition is the perception of environmental demands or threats and perceived ability to meet these demands, labeled *stress appraisal* (Lazarus, 1986). "Stressors" are environmental demands, events, threats, or stimuli to which an individual is exposed (Woods-Giscombe et al., 2008). "Distress" can be defined as an aversive physiological state, evidenced by physical or psychological symptoms, such as worry, muscle tension, headaches, weakness, anxiety and depression. Distress is a manifestation of stress, stemming from exposure to stressors in the context of intrapersonal, interpersonal, or tangible resources appraised as inadequate to manage the stressors (Dohrenwend et al., 1974). We define psychological distress as "a state of emotional suffering characterized by symptoms of depression and anxiety. The stressors to which African American women are exposed and the ways in which they appraise these stressors, reflect this population's distinctive history of racism, sociocultural experiences, and minority position in society (Brown et al., 2000; Jackson et al., 2004; Jackson et al., 2001). The experiences of stress in African Americans and European Americans differ both in magnitude and content (Jackson, 2002). Exploring the role of the unique factors of stress in African American women and their contributions to psychological distress and potential impact on adverse birth outcomes are significant pathways to consider (Rosenthal et al., 2011).

The experiences of race-related stress, gender-related stress, and generic stress (eg. job related stress, financial stress) have been shown to potentiate African American women's experiences of distress (Woods-Giscombé et al., 2010). Race-related stress is defined as stress that emanates from racism and affects the psychological and physical health of African Americans (Woods-Giscombe et al., 2008). Gender-related stress in African American women is defined by sexism and unique gender-specific experiences (e.g., role expectations, body type expectations, and behavior expectations) and has been correlated with racism and psychological distress in this population (Woods-Giscombe et al., 2008). Generic stress relates to events or conditions that are not directly related to one's race or gender (Woods-Giscombe et al., 2008). Furthermore, research suggests that these elements of stress should be considered together, and not isolated from the other, when exploring the impact of stress on psychological or physical outcomes in African American women (Giscombé et al., 2005). African American women are diagnosed with lower rates of mental illness, compared to European American women and only one in three receive mental health treatment (Services, 2010; Woods-Giscombé et al., 2010). According to the CDC (2012), African Americans are 20 percent more likely to report having serious psychological distress than European Americans. Additionally, in comparison to European American women, African American women experience a disproportionately high rate of stress-related health problems such as diabetes and cardiovascular disease (Geronimus et al., 2010). Studies have indicated that when African American women experience anxiety or depression, the impact is more severe as evidenced by greater number of days missing work or school, impact on quality of life and well-being (Williams et al., 2007).

The perinatal period represents a time of increased vulnerability to psychological distress (Goodman et al., 2010). Estimates of the prevalence of depression in pregnancy can be as high as 20 percent (Bennett et al., 2004; Gavin et al., 2005; Leight et al., 2010). While firm estimates of anxiety in pregnancy do not exist, due in part to a lack of agreement about appropriate screening tools, past studies suggest that a significant portion of perinatal women experience symptoms of anxiety (Heron et al., 2004; Wenzel et al., 2005). In particular, Dunkel Schetter's body of research has explicated that there is strong, convergent evidence across diverse populations linking pregnancy anxiety to preterm birth (Dunkel

Schetter, 2011; Dunkel Schetter et al., 2012). Additionally, there is substantial evidence that maternal stress, depression and anxiety have been linked to poor fetal growth (Ciesielski et al., 2015) and neurodevelopmental delays (O'donnell et al., 2009). Research linking psychological distress during the perinatal period with adverse birth outcomes (Alder et al., 2007; Dunkel Schetter et al., 2012) indicates this disparity is dramatically more common among women who are African American (Dole et al., 2004; Dominguez, 2011; Giscombé et al., 2005; Glasheen et al., 2015; Jallo et al., 2015; Rosenthal et al., 2011). Researchers have also examined biopsychosocial pathways that link maternal experiences of distress with fetal gestational age, fetal development and neurodevelopmental delays in the child (Ciesielski et al., 2015; Dunkel Schetter, 2011; Dunkel Schetter et al., 2012).

There are particular sources of stress found in the conceptual frameworks, Superwoman Schema (SWS)(Woods-Giscombe, 2010) and network-stress (NS), (Woods-Giscombé et al., 2015) which describe various individual and social factors that may contribute to stress and psychological distress in African American women. The experiences of stress and psychological distress may, in turn, impact maternal self-care. The SWS conceptual framework posits that historical and sociocultural events in the United States, related to race and gender have resulted in the development of particular characteristics among African American women (Woods-Giscombe, 2010). These characteristics are a) an obligation to manifest an image of strength; b) an obligation to suppress emotions; c) resistance to being vulnerable or dependent; d) determination to succeed, even in the face of limited resources; and e) an obligation to help others (Woods-Giscombe, 2010). NS refers to perceived stress related to stressors in the lives of people they frequently interact with such as family members, friends, or other loved ones (Woods-Giscombé et al., 2015). Recent research has suggested that NS should be considered when evaluating psychological distress in African American women and its impact on stress-related health disparities. SWS and NS are potentially important, yet they are underexplored factors, in stress-related adverse birth outcomes in African American women. By elucidating the unique psychosocial experiences of pregnant women from marginalized groups, such as African American women, we may gain a better understanding of the etiological factors driving persistent ethnic disparities in reproductive health (Dominguez et al., 2005). In

2015, Woods-Giscombé et al. (2015) explored the role of network stress among African American women. They found that African American women were exposed to a greater number of network-stress related events, as compared to self-stress events. They also found that African American women perceived both types of stress events as similarly distressing. The authors state that future studies examining the role of stress, as it related to health outcomes, should consider evaluating participants' network stress. They suggest that network stress, in particular, should be examined when developing culturally relevant stress management interventions for African American women.

According to the National Center for Complementary and Integrative Health (NCCIH), formerly the National Center for Complementary and Alternative Medicine (NCCAM), mind-body medicine focuses on 1) "the interactions among the brain, the rest of the body, the mind, and behavior"(NIH, 2013, p. 1) and "the ways in which emotional, mental, social, spiritual, experiential, and behavioral factors can directly affect health"(NIH, 2013, p. 1). Mind-body therapies, such as mindfulness and mindful self-compassion, may be beneficial in the management of perinatal psychological distress, as they are intended to enhance self-care and self- awareness, while providing an opportunity for "increasing resilience, personal growth and self- esteem" (Marc et al., 2011, p. 3).

The use of complementary health approaches during the perinatal period has been shown to be effective in decreasing psychological distress (Goodman et al., 2014; Sheffield et al., 2015; Taylor et al., 2016). Researchers have suggested that complementary health approaches could contribute to an appropriate intervention geared towards reducing stress-related adverse birth outcomes (Goodman et al., 2014) and reducing stress-related disparities in African American women (Woods-Giscombé et al., 2010; Woods-Giscombe et al., 2014; Zhang et al., 2015). While there are studies that have explored the use of complementary health approaches during the perinatal period (Taylor et al., 2016), and there are studies that have shown complementary approaches can result in decreased distress in African Americans (Woods-Giscombe, 2016), there are very few studies that have examined complementary health approaches in African American women specifically (Woods-Giscombe et al., 2014) and, to the author's knowledge; only one has been with perinatal, African American women (Zhang et al., 2015). For this

reason, efforts should be undertaken to explore the development of culturally relevant and specific complementary health approaches for this population. There is a compelling need to explore African American women's perceptions and beliefs regarding complementary health approaches (mindfulness and mindful self-compassion) in order to ultimately develop a culturally relevant mindfulness-based intervention for this population. Mindfulness based stress reduction (MBSR) and Mindful Self-Compassion (MSC) are two approaches of particular interest.

MBSR, developed over 30 years ago by Jon Kabat-Zinn, Kabat-Zinn (1990) is a type of mindfulness-based intervention that has been extensively studied in clinical and non-clinical populations. It has been shown to have a positive impact on stress, psychiatric illness and quality of life in a variety of populations (Baer, 2003; Chiesa et al., 2009; Chiesa et al., 2011; Grossman et al., 2004). Mindfulness means "paying attention in a particular way, on purpose, in the present moment and non-judgmentally"(Kabat-Zinn, 1994, p. 4). MBSR combines mindfulness meditation with yoga in a comprehensive and holistic 8-week group training. Several pilot studies over the past decade have indicated that mindfulness-based interventions may have a positive impact on perinatal stress, anxiety (Duncan et al., 2010; Goodman et al., 2014; Vieten et al., 2008) and depression (Duncan et al., 2010). Dunn et al. (2012) demonstrated that pregnant women participating in a mindfulness-based group intervention reported clinically reliable declines in depression, stress and anxiety; with these improvements continuing into the postnatal period. These changes were not observed in the control group. Additionally, increases in mindfulness and self-compassion scores were observed over time (Dunn et al., 2012; Goodman et al., 2014). Notably, self-compassion has been found to be a key mechanism in the effectiveness of mindfulness-based interventions, such as mindfulness-based cognitive therapy and MBSR (Germer et al., 2013).

Broadly speaking, compassion can be defined as a fundamental awareness of the pain and suffering of others and oneself, and the desire to alleviate that pain or suffering. *Self-compassion* is simply compassion directed towards oneself. Neff (2003) operationalizes self-compassion to consist of three core elements: 1) *self-kindness (SK) versus self-judgment (SJ)*, 2) *common humanity (CH) versus isolation (I)*

and 3) *mindfulness (M) versus over-identification (OI).* All three elements interact with one another to foster a self-compassionate frame of mind (Neff, 2003). Higher self-compassion has been associated with greater psychological well-being and serves as a buffer against acute stressors (Neff et al., 2007). Neff's definition of self-compassion is grounded in Buddhist psychology, which is focused on understanding the nature of self (Neff, 2003). Germer and Neff developed a Mindful Self-Compassion (MSC) intervention that targets enhancing self-compassion in individuals, both in the general public and clinical populations (Neff et al., 2013). Mindful Self-Compassion (Germer et al., 2013) is a mindfulness-based intervention program that was developed, whereby participants meet once a week for 8 weeks. Germer and Neff found the more a participant practiced self-compassion techniques, the more they learned it (Neff et al., 2013). This implies that self-compassion is teachable and "dose dependent". Although, there is some evidence of improved emotional well-being and reduced psychological distress with MBCT combined with self-compassion, (Lee et al., 2010) to date there are no randomized controlled trials that evaluate the treatment of perinatal distress in African American women (Goodman et al., 2014). Moreover, a review of the available literature revealed that only one mindfulness-based intervention incorporates self-compassion, aimed at reducing symptoms of perinatal anxiety (Goodman et al., 2014).

Goodman et al. (2014) developed the Coping with Anxiety through Living Mindfully (CALM) pregnancy study. This mindfulness-based intervention includes an adaptation of MBCT, combined with elements of self-compassion, as defined by Germer and Neff (2013), to reduce anxiety in pregnant women (Goodman et al., 2014). The results of this groundbreaking study, indicate that a self-compassionate mindfulness-based intervention, targeted for women with perinatal distress, is not only feasible and acceptable, but shows promise for effectiveness in decreasing maternal psychopathology.

While researchers have begun to examine culturally relevant interventions to reduce stress-related disparities, few have integrated SWS, NS, or complementary health approaches. The purpose of this research is to gain a better understanding of the individual and perceived factors that may contribute to the persistent ethnic disparities in African American women's birth outcomes.

Innovation

This research is novel because it is the first study to position African American women's perspectives in the forefront of understanding the problem. It is also unique in that it is the first study to combine and integrate the theoretical concepts of SWS and NS to understanding the potential factors that have previously been overlooked when evaluating stress, stressors and distress in perinatal African American women. Additionally, this study assessed the acceptability of complementary health approaches (mindfulness and mindful self-compassion practices) and women's perspectives concerning communication with their healthcare providers about the experiences of and strategies to manage psychological distress. This study contributed to critical knowledge about perceived stressors, which is important because stressors do not have to be directly or personally experienced to elicit a negative health response in an individual. Therefore, this study provided information that had yet to be explored or explained in addressing stress-related health disparities in perinatal African American women (Woods-Giscombé et al., 2010). This research has the potential to impact the way in which researchers and women's primary care providers understand the perspectives of stress and psychological distress in perinatal African American women through the lens of SWS and NS. The specific aims of the study are to:

Aim 1: Describe African American women's perceptions and experiences of stress and psychological distress (anxiety and depressive symptoms) during the perinatal period.

1a. Examine if African American women's perceptions and beliefs regarding stressors are associated with the Superwoman Schema (SWS) Conceptual Framework or Network-Stress (NWS) during the perinatal period.

1b. Examine African American women's self-care behaviors during the perinatal period.

Aim 2: Explore African American women's perceptions and beliefs regarding the acceptability of complementary health approaches (specifically mindfulness and mindful self-compassion) to reduce the stressors that they explain as contributing to their psychological distress during the perinatal period.

Aim 3: Describe African American women's perceptions and experiences regarding their interactions with their women's primary care providers with regards to the ways that stress and psychological distress are addressed during their patient-provider encounters during the perinatal period.

Aim 4: Explore the associations of SWS, NWS, and perceived stress with psychological distress and levels of mindfulness, self-compassion and self-care among African American women during the perinatal period. (Table 1.1)

Approach

An integrated theoretical framework that combined Superwoman Schema and Network Stress guided the proposed mixed-methods study (Woods-Giscombe, 2010; Woods-Giscombé et al., 2015). Each conceptual framework provided a unique perspective and structure for an enhanced understanding of the contextual factors contributing to stress and psychological distress in African American women during the perinatal period. The Superwoman Schema conceptual framework is rooted in Giscombe's research and synthesis of the literature surrounding stressors, stress (race-related, gender-related and generic) and distress in African American women. It has been used in studies with African American women to examine the distinctive sociohistorical and cultural factors that impact stress experiences in this population (Woods-Giscombé et al., 2010). The **Superwoman Schema** conceptual framework outlines five characterizations of the superwoman role, namely; 1) perceived obligation to manifest strength, 2) perceived obligation to suppress emotions, 3) perceived resistance to being vulnerable or dependent, 4) determination to succeed despite limited resources and 5) obligation to help others (Woods-Giscombe, 2010). **Network stress** is defined as "stress related to events that occur to family, friends, or loved ones" (Woods-Giscombé et al., 2015, p. 710). Preliminary studies have found that African American women are exposed to a greater number of network-stress related events as compared to self-stress events. Interestingly, both events are perceived as similarly stressful. Combining the perspectives of both Superwoman Schema and Network stress served to uniquely explicate the complexities of stress and

psychological distress in African American women during the perinatal period. Table 1 outlines how the proposed study aims are linked to SWS and NS.

Prepared Manuscripts

This is a three-manuscript dissertation.

Chapter 1 is an introduction to the role of stress in adverse birth outcomes with particular attention on the unique health disparity that African American women experience as it pertains to preterm birth and low birth weight when compared to European American women.

Chapter 2 (Manuscript 1): Self-Compassion and Mindfulness Based Interventions: A review of the literature and considerations for a Complementary Integrative Health approach for Perinatal Anxiety. This manuscript is a review of the literature focusing on a mindfulness-based integrative health approach that emphasizes self-compassion and its potential adjunctive use to conventional treatment for perinatal anxiety. Chapter 3 (Manuscript 2) and Chapter 4 (Manuscript 3) are two data-based manuscripts that comprise the dissertation project.

Chapter 3 (Manuscript 2): African American Women's Experiences of Stress during the Perinatal Period and Associations among Psychological Distress and Mindfulness, Self-Compassion and Self-Care: Informing a Culturally Relevant Mindfulness Based Intervention. This manuscript presents the results of a mixed-methods study which consisted of two components (quantitative and qualitative). In the quantitative component, participants were asked to complete online questionnaires about superwoman schema, network stress, perceived stress as well as anxiety symptoms, depressive symptoms, mindfulness, self-care and self-compassion. In the qualitative component, descriptive, semi-structured interviews were conducted to elicit more detailed descriptions of African American women's experiences of stress, stressors, and psychological distress during the perinatal period, their interactions with their women's primary care providers with regards to the way in which stress and psychological distress are addressed during their patient-provider encounters as well as their perceptions regarding the development of a culturally relevant mindfulness-based intervention. This manuscript addresses aims 1, 2 and 4 of the dissertation study.

Chapter 4 (Manuscript 3): Perinatal, African American Women and their Women's Health Care Providers: Conversations about Stress. This manuscript presents the qualitative results from the overall mixed-methods dissertation study and examines the communication between perinatal African American women and their women's primary care provider during their visits. This manuscript addresses aim 3 of the dissertation study.

Chapter 5 is a discussion of the dissertation study that synthesizes of the results, the implications of the study and future directions for research.

Table 1.1. Outline of Study Aims and SWS and NS

Aim of the Study	Component of Framework	Topic(s) of Interest	Data Collection Method
Describe African American women's perceptions and experiences of stress and psychological distress (anxiety and depressive symptoms) during the perinatal period. 1a. Examine if African American women's perceptions and beliefs regarding stressors are associated with the Superwoman Schema (SWS) Conceptual Framework or Network-Stress (NWS) during the perinatal period. 1b. Examine African American women's self-care behaviors during the perinatal period.	SWS, NS	Participants perceptions and experiences of psychological distress and their perceptions of the stressors contributing to their stress and psychological distress during the perinatal period	Semi-structured interview
Explore African American women's perceptions and beliefs regarding the acceptability of complementary health approaches (specifically mindfulness and mindful self-compassion) to reduce the stressors that they explain as contributing to their psychological distress during the perinatal period.	SWS, NS	Participants perceptions and beliefs regarding mindfulness and meditative practices in general	Semi-structured interview; CAM acceptability survey
Describe African American women's perceptions and experiences regarding their interactions with their women's primary care providers with regards to the ways that stress and psychological distress are addressed during their patient-provider encounters during the perinatal period.		Participant's perceptions and experiences with their women's primary care providers as it relates to how stress and psychological distress are addressed during the perinatal period	Semi-structured interview
Explore the associations of SWS, NS, and perceived stress with psychological distress and levels	SWS, NS	Participant's perceptions and beliefs surrounding	Semi-structured interview;

Aim of the Study	Component of Framework	Topic(s) of Interest	Data Collection Method
of mindfulness, self-compassion and self-care among African American women during the perinatal period.		SWS, NS, perceived stress, mindfulness, self-compassion and self-care	Scales: SWS, NS, PSS, MAAS, SCS, MSCS

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CHAPTER 2: SELF-COMPASSION AND MINDFULNESS BASED INTERVENTIONS: A REVIEW OF THE LITERATURE AND CONSIDERATONS FOR A COMPLEMENTARY INTEGRATIVE HEALTH APPROACH FOR PERINATAL ANXIETY

Introduction

Anxiety disorders are among the most prevalent categories of psychiatric mental illness affecting Americans today (Kessler et al., 2005), with women more than twice as likely to be affected as men (Kessler et al., 2005; Somers et al., 2006). Approximately, one third of women will experience an anxiety disorder during their lifetime (Kessler et al., 1994). These disorders typically occur during the childbearing years, with peak age of onset in the mid- to late 20's, coinciding with the most common age range for pregnancy and the postpartum period (Heron et al., 2004; Pigott, 2003; Ross et al., 2006). Compared to depressive disorders, anxiety disorders during the perinatal period (which includes pregnancy and up to one year postpartum (Ross et al., 2006; Somerville et al., 2015)), also known as perinatal depression and anxiety, are strikingly understudied (Heron et al., 2004; Lee et al., 2007). Published research reviews examining perinatal anxiety disorders (Goodman et al., 2014; Leach et al., 2017; Ross et al., 2006; Williams et al., 2018) indicate that there is a clear gap in the literature pertaining to perinatal anxiety compared to perinatal depression.

Despite a higher prevalence of anxiety disorders compared to depressive disorders during the perinatal period (Lee et al., 2007; Williams et al., 2018), there is considerably less attention given to this critically important public health concern. While comorbidity between perinatal anxiety and depression can be high (Goodman et al., 2014; Grigoriadis et al., 2011), it is important to note that anxiety does occur without depression and many women may experience more than one anxiety disorder concomitantly (Goodman et al., 2014; Kroenke et al., 2007). Similar to antenatal (pregnancy) depression, antenatal anxiety disorders are associated with increased risk for postpartum (first 12 months after birth) depression (Heron et al., 2004; Lee et al., 2007; Milgrom et al., 2008; Sutter-Dallay et al., 2004; Vythilingum, 2008),

which if left untreated, can lead to maternal suicide, the number one cause of maternal mortality in the world (Appleby et al., 1998; Chesney et al., 2014). Additionally, research suggests there is a potential association among perinatal anxiety and maternal, obstetric, and fetal outcomes (Goodman et al., 2014; Previti et al., 2014). The ways in which perinatal women cope with and manage their anxiety during pregnancy is of particular interest.

Some women need psychotropic medications to manage the symptoms of their disorder. Selective serotonin reuptake inhibitors (SSRI) are the first line medication treatment for anxiety disorders (Byatt et al., 2013; Williams et al., 2018). In general, it is believed that for most pregnant women who need medication to manage their mental illness, the benefits of the medication should outweigh the risks of untreated illness, but this must be determined on an individualized risk/risk basis (Bourke et al., 2014; Byatt et al., 2013; Stewart, 2011). Many women face the difficult decision of whether to start, continue or stop their medication. In many cases (> 50%), women who stop their medication risk relapse or worsening of their psychiatric condition (Cohen et al., 2006). While many women manage their perinatal mental health with pharmacological options, non- pharmacological approaches are important to explore given the concern many pregnant women have regarding the safety of medication during pregnancy (Bonari et al., 2005; Einarson et al., 2001; Goodman, 2009; Osborne et al., 2015; Petersen et al., 2011).

Conflicting data regarding the safety of psychotropic medications in pregnancy as well as, women's reluctance to take medication, during the perinatal period, justify a closer examination of non-pharmacological, adjunctive approaches to conventional therapies. While it is possible that standard anxiety disorder treatments for the general population may work in the perinatal population, there is no current evidence to support this (Goodman et al., 2014). There are also unique features of the perinatal period that especially lend to the use of mindfulness, a particular mind-body integrative health approach. There is a dearth of research that specifically targets the mind-body-spirit connection in a way that incorporates a holistic approach to wellness in women with perinatal anxiety. Therefore, research conducted to explore and examine the use and effectiveness of nonpharmacological, integrative health approaches for women with perinatal anxiety disorders would be beneficial.

According to the National Center for Complementary and Integrative Health (NCCIH), formerly the National Center for Complementary and Alternative Medicine (NCCAM), mind-body medicine focuses on 1) "the interactions among the brain, the rest of the body, the mind, and behavior"(NIH, 2013, p. 1) and " the ways in which emotional, mental, social, spiritual, experiential, and behavioral factors can directly affect health"(NIH, 2013, p. 1) . Mind-body therapies (such as mindful self-compassion and mindfulness based stress reduction) may be beneficial in the management of perinatal anxiety as they are intended to enhance self-care and self- awareness, while providing an opportunity for "increasing resilience, personal growth and self-esteem"(Marc et al., 2011, p. 3). More specifically, mindfulness-based interventions (MBIs) are an area of research that show promise in addressing the mind-body-spirit connection that has not been sufficiently elucidated in the perinatal psychiatric population.

There are numerous mindfulness-based interventions that have been shown to be effective in decreasing anxiety (Vollestad et al., 2012) and depression as well as increasing mindfulness and self-compassion in women (Galhardo et al., 2013; Lee et al., 2010; Smeets et al., 2014; Smith, 2010). Although mindfulness-based interventions targeted to perinatal anxiety are sparse. A recent Cochrane review (Marc et al., 2011) performed by Marc et al. specifically examined the literature regarding mind-body interventions for anxiety during the perinatal period (Marc et al., 2011). Reviewed interventions included autogenic training, biofeedback, hypnotherapy, imagery, mediation, auto-suggestion, tai chi and yoga. They concluded that based on a limited number of randomized control trials (with small sample sizes), mind-body interventions may be useful for managing anxiety during the perinatal period (Marc et al., 2011), however, further high quality research utilizing rigorous methods must be performed to determine if mind-body therapies are effective and which are more effective in managing perinatal anxiety (Marc et al., 2011).

Broadly speaking, compassion can be defined as a fundamental awareness of the pain and suffering of others and oneself and the desire to alleviate that pain or suffering. *Self-compassion* is simply compassion directed towards oneself. Neff (2003) operationalizes self-compassion to consist of three core elements: 1) ***self-kindness (SK) versus self-judgment (SJ)***, 2) ***common humanity (CH) versus isolation***

(I) and 3) ***mindfulness (M) versus over-identification (OI)***. All three elements interact with one another to foster a self-compassionate frame of mind (Neff, 2003). Higher self-compassion has been associated with greater psychological well-being and serves as a buffer against acute stressors (Neff et al., 2007).

Neff's definition of self-compassion is grounded in Buddhist psychology, which is focused on understanding the nature of self (Neff, 2003). Self-compassion is integral when evaluating failures, inadequacies, and mistakes when considering the painful events that occur in life (Germer et al., 2013). **Self-kindness** includes being understanding and gentle with oneself when experiencing suffering, failure or feelings of inadequacy rather than being self-critical or **self-judging**. The concept of **common humanity** involves the recognition that individuals are all part of a greater humanity or human experience and that there are commonalities among human beings that connect them. Common humanity recognizes that the human condition is not perfect (Neff, 2003) and that individuals are not alone or **isolated** in their experiences of pain and/or suffering. **Mindfulness**, as defined by Neff, "involves turning towards our painful thoughts and emotions and seeing them as they are-without suppression or avoidance"(Neff, 2003, p. 857).The distinction between mindfulness and **over-identification** in Neff's construct is a subtle one that warrants clarification. Mindfulness means "paying attention in a particular way, on purpose, in the present moment and non-judgmentally"(Kabat-Zinn, 1994, p. 4). Over-identification occurs when being mindful of our current circumstance transforms into a fixation on the negative aspects of our present suffering.

Germer and Neff developed a Mindful Self-Compassion (MSC) intervention that targets enhancing self-compassion in individuals, both in the general public and clinical populations (Neff et al., 2013). Mindful Self-Compassion (Germer et al., 2013) is a MBI program that was developed whereby participants meet once a week for 8 weeks. Classes are offered in the evening which allows for participants, who may work during the day, to attend evening sessions, thereby making the workshop more accessible. The workshop teaches a variety of meditations (e.g., loving-kindness, affectionate breathing) and informal practices for use in daily life (e.g., soothing touch, self-compassionate letter writing). Self-compassion is evoked during the classes using experiential exercises, and home practices

are taught to help participants develop the habit of self-compassion. Participants are asked to practice these techniques for a total of *40 minutes per day*, either in formal sitting meditation or informally throughout the day. They are also asked to subjectively estimate how many days per week they engage in formal meditation practice on average over the course of the MSC program. The particular type of meditation is not assessed just how many days per week they practice it. Additionally, they are also asked to subjectively estimate how many times per day they used informal self-compassion practices (e.g. self-compassionate language, hand on heart in times of distress) (Neff et al., 2013). In Neff and Germer's (2013) RCT waitlist control study with 52 participants, they found that the more the MSC participants practiced formal meditation the more their self-compassion scores increased. Likewise, the more they practiced informal self-compassion techniques in daily life, the greater the gains in self-compassion scores. Hence, the more a participant practiced self-compassion techniques, the more they learned it (Neff et al., 2013). This implies that self-compassion is teachable and "dose dependent". However, it can also be argued that traits that aid in self-compassion make it easier to do more meditation.

Over recent years, research in the psychotherapy field has demonstrated a link between higher levels of self-compassion and improved psychological outcomes, as well as reduced psychopathology (Hall et al., 2013; Krieger et al., 2013; Neff, 2011; Neff et al., 2010; Odou et al., 2014; Van Dam et al., 2011). People with higher self-compassion have lower associated anxiety and depression (Van Dam et al., 2011). The existing literature suggests that inclusion of mindfulness and self-compassion is associated with improved psychological outcomes and could be foundational to improved well-being in perinatal women with anxiety (Duncan et al., 2010; Dunn et al., 2012; Goodman et al., 2014; Vieten et al., 2008). Additionally, this research suggests that self-compassion may be a particularly important component to emphasize in any mindfulness-based treatments. The purpose of this literature review is to present and synthesize the existing data regarding mindfulness-based therapies that emphasize self-compassion and their potential benefits as adjunctive treatment for perinatal anxiety.

Methods

Studies included in this review were selected to investigate the effects of mindfulness approaches which emphasize self-compassion on perinatal women's anxiety. This literature review was performed in accordance with guidelines outlined in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Statement (PRISMA)(Moher et al., 2009). A health sciences research librarian was consulted to help select the appropriate databases to search and develop appropriate search strings for each database. This helped us to cast the widest net with the least amount of overlap, so we could capture relevant published research in peer-reviewed journals on our research topic (Cooper, 1984). Literature searches were performed in the electronic databases CINAHL, PubMed, and PsycINFO, using the search terms outlined in Table 2.1. Inclusion criteria for the study were published research articles in peer-reviewed journals, including intervention studies, that focused on mindfulness interventions involving perinatal women, with participants of all ages, in the English language, and up to the year 2019. This review did not include other forms of integrative health approaches (e.g., massage, acupuncture). Exclusion criteria were manuscripts that were not research studies (e.g., editorials, textbooks, or review papers) and not published in a peer-reviewed journal (e.g., dissertations) or not full-text articles (e.g., abstracts or brief reports) or studies using a form of integrative health approach that did not include self-compassion or mindfulness as part of the intervention, or studies that focused specifically on labor or perinatal outcomes.

Table 2.1. Search Terms Used For Each Database

Database	Search Terms (Key Words or MESH Terms)
CINAHL	Self-compassion OR self compassion OR MH "Mindfulness" OR Mindfulness MH "Anxiety+" OR Anxiety MH "Pregnancy+" OR perinatal OR MH "Postnatal Period+" OR MH "Obstetric Care+" OR pregnancy OR pregnancies OR pregnant OR postnatal OR prenatal OR maternal OR postpartum OR antenatal OR antepartum
PubMed	"Mindfulness"[Mesh] OR Self-compassion OR self compassion OR Mindfulness "Anxiety"[Mesh] OR Anxiety "Pregnancy"[Mesh] OR perinatal OR pregnancy OR pregnancies OR pregnant OR postnatal OR prenatal OR maternal OR postpartum OR antenatal OR antepartum OR "Pregnant Women"[Mesh] OR "Perinatal Care"[Mesh]
PsycINFO	DE "Self-Compassion" OR Self-compassion OR self compassion OR Mindfulness OR DE "Mindfulness" AND DE "Mindfulness" OR DE "Meditation" OR DE "Mindfulness-Based Interventions" Anxiety OR DE "Anxiety" OR DE "Anxiety Sensitivity" OR DE "Health Anxiety" OR DE "Social Anxiety" Perinatal OR pregnancy OR pregnancies OR pregnant OR postnatal OR prenatal OR maternal OR postpartum OR antenatal OR antepartum OR DE "Pregnancy" OR DE "Adolescent Pregnancy" OR DE "Pregnancy Outcomes" OR DE "Primipara" OR DE "Perinatal Period" OR DE "Postnatal Period" OR DE "Prenatal Care" OR DE "Childbirth Training"

The initial searches identified a total of 259 articles. After removal of duplicates, 173 articles remained for further evaluation. Articles were then reviewed by title, abstract, or both to discard clearly non-relevant sources based on the exclusion criteria. In all, 95 articles were discarded based on exclusion criteria. (e.g., dissertations, textbooks, editorials, etc.). A total of 78 full text articles were evaluated further if they used mindful self-compassion or mindfulness based-stress reduction as an intervention and addressed mental health or well-being outcomes in perinatal women. One article remained that met inclusion and exclusion criteria (Figure 2.1).

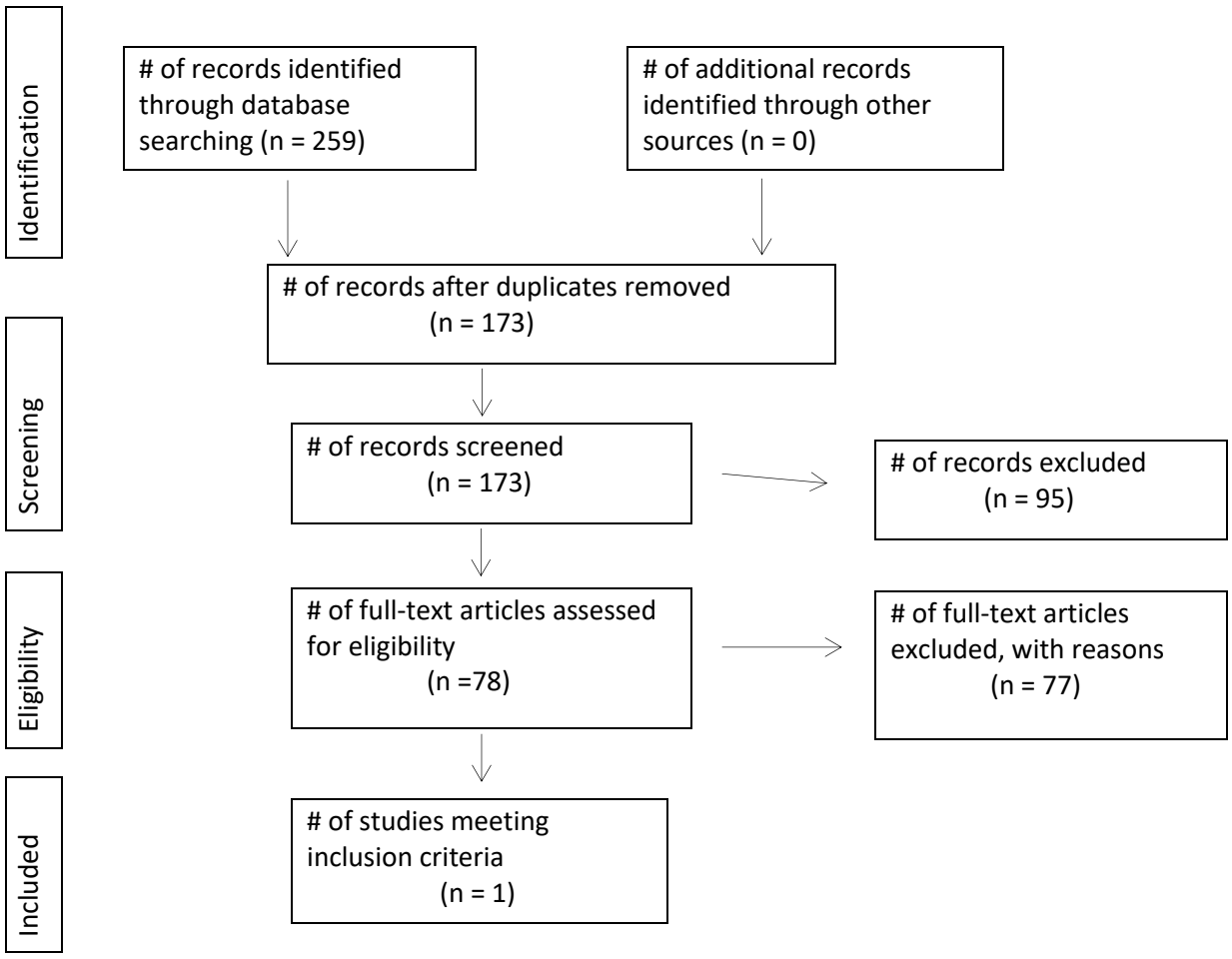

Figure 2.1. PRISMA Diagram

Results

Four pilot studies over the past decade have indicated that mindfulness-based interventions may have a positive impact on perinatal stress, anxiety (Duncan et al., 2010; Goodman et al., 2014; Vieten et al., 2008) and depression (Duncan et al., 2010). Dunn et al (2012) demonstrated that pregnant women participating in a mindfulness-based group intervention reported clinically reliable declines in depression, stress and anxiety; with these improvements continuing into the postnatal period. These changes were not observed in the control group. Additionally, increases in mindfulness and self-compassion scores were observed over time (Dunn et al., 2012; Goodman et al., 2014). Notably, self-compassion has been found

to be a key mechanism in the effectiveness of mindfulness-based interventions such as mindfulness-based cognitive therapy (MBCT) and mindfulness-based stress reduction (MBSR)(Germer et al., 2013).

Although, there is some evidence of improved emotional well-being and reduced psychological distress with MBCT combined with self-compassion,(Lee et al., 2010) to date there are no randomized control trials that evaluate the treatment of perinatal anxiety (Goodman et al., 2014). Moreover, this review of the available literature revealed that only one mindfulness-based intervention incorporates self-compassion aimed at reducing symptoms of perinatal anxiety (Goodman et al., 2014). Goodman et al. (2014) developed the Coping with Anxiety through Living Mindfully (CALM) pregnancy study. This mindfulness-based intervention includes an adaptation of MCBT combined with elements of self-compassion, as defined by Germer and Neff (2013), to reduce anxiety in pregnant women (Goodman et al., 2014). The results of this groundbreaking study indicate that a self-compassionate mindfulness-based intervention targeted for women with perinatal anxiety is not only feasible and acceptable but shows promise for effectiveness in decreasing psychopathology. The CALM study warrants closer examination given its potential for 1) cultural adaptability and 2) applicability in other study populations.

The research sample for the CALM Pregnancy intervention developed by Goodman et al,(2014) was drawn from a community-based obstetric population and was made up of women who were suffering from clinically significant psychiatric distress. Participants who completed the intervention showed statistically and clinically significant improvements in anxiety, worry, and depression severity, as well as significant increases in self-compassion and mindfulness. Limitations of the study include, a small sample size (23 participants), inclusion of a homogenous sample (predominantly well-educated, older women), lack of control or comparison group, and use of self-report measures. The use of a structured diagnostic interview in addition to using reliable and valid self-report measures contribute to its strengths. Qualitative data added important information regarding how women perceived the intervention and provide dimension and depth to the quantitative findings.

Development of the CALM pregnancy intervention (Goodman et al., 2014) drew upon four key research areas; 1) MBCT developed by Segal 2) self-compassion developed by Germer and Neff, 3) a

mindfulness/acceptance-based approach to generalized anxiety disorder developed by Roemer and Orsillo and 4) MBSR adapted for childbirth preparation developed by Bardacke (Goodman et al., 2014). These key components contributed to the intervention content, which keenly addressed anxiety (general and pregnancy specific), depression (due to the high occurrence of depression with anxiety), and self-compassion.

This intervention may be used in future randomized control trials or as a model for development of future self-compassionate mindfulness-based interventions that target anxiety in perinatal women. The core components that should be adapted for the development of future interventions are MBCT, MBSR, and self-compassion. MBCT provides skills for developing mindfulness meditation with cognitive practices. Studies of both MBSR and MBCT have indicated a reduction in anxiety. Self- compassion, which also incorporates loving kindness and affectionate breathing meditation, facilitates being in the present moment without judgment in a similar way as mindfulness. Incorporation of these core components, based on the work by Goodman(2014), may decrease anxiety, worry and depression while increasing mindfulness and self-compassion. This in turn could enhance self-care and self-awareness, which are may enhance the psychological well-being of perinatal women with anxiety disorders.

Discussion

Anxiety disorders during pregnancy and postpartum have a high prevalence, yet continue to be understudied in empirical research studies. Due to the potentially adverse anxiety-related maternal, obstetric and fetal outcomes, a lens must be placed on this critically important public health concern. For effective interventions to be developed for perinatal anxiety disorders, accurate prevalence estimates are essential (Goodman et al., 2014). We need better screening scales that can assess components that cross diagnoses. In order to optimally screen for perinatal anxiety, validated scales must be developed. While there are some scales that measure pregnancy related anxiety, future research should include further development of psychometrically and theoretically sound measures to detect anxiety during the perinatal period (Brunton et al., 2015).

Although mindfulness-based interventions have been used for many years in populations with psychiatric illness and proven to be effective, they have not been fully explored or developed in perinatal populations with anxiety disorders. To date there has been only one intervention that combines mindfulness and self-compassion to address perinatal anxiety. The CALM pregnancy intervention shows great promise as a feasible, acceptable, and effective treatment option for pregnant women with anxiety. Findings from this initial study demonstrate that participation in the CALM pregnancy intervention was associated with decreased anxiety, worry, stress and increased self-compassion and mindfulness in perinatal women with anxiety disorders. Enhancement of psychological well-being in women with perinatal anxiety disorders has potential benefit for maternal and child health outcomes. This CALM pregnancy intervention serves as a model for development of mindfulness-based interventions that incorporate mindfulness-based techniques and self-compassion.

Implications for Future Research

Future research utilizing the CALM pregnancy intervention should include randomized controlled trials in larger samples. An attention control comparison group should be considered to examine the potential contribution of group support to intervention effectiveness. Although the focus of the CALM pregnancy intervention research was on perinatal anxiety, all participants had significant depressive symptoms (evidenced by elevated Beck Depression Inventory-II (BDI-II) scores). Given the high level of comorbid anxiety and depression in this sample and in general, concurrent mood disorders should be considered in future intervention development as well (i.e tailor content to address depressive symptoms).

Future research developing self-compassionate, mindfulness-based interventions should include the incorporation of content that is specifically focused on enhancing mindfulness and self-compassion in perinatal women with anxiety thereby, improving their psychological wellbeing. The theoretical construct developed by Germer and Neff (Germer et al., 2013) potentially serves as a basis for intervention. Additionally, incorporation of pregnancy specific content that addresses fears and concerns regarding pregnancy and childbirth are critical.

Conclusion

Additional research of perinatal anxiety and potential mindfulness-based interventions that emphasize self-compassion are not only warranted but imperative. Providing safe, nonpharmacological, complementary health approaches as adjunctive to traditional pharmacological options for perinatal women with anxiety disorders could fill a critical treatment gap and may improve outcomes. Augmenting conventional pharmacological treatments will provide a truly multi-pronged approach that will more effectively treat perinatal anxiety and improve outcome for mother and child.

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CHAPTER 3: AFRICAN AMERICAN WOMEN'S EXPERIENCES OF STRESS DURING THE PERINATAL PERIOD AND ASSOCIATIONS AMONG PSYCHOLOGICAL DISTRESS AND MINDFULNESS, SELF-COMPASSION AND SELF-CARE: INFORMING A CULTURALLY RELEVANT MINDFULNESS-BASED INTERVENTION

Introduction

In the United States, African American women have twice the rate of preterm birth (PTB) and low birth weight (LBW) as compared to European American women. According to the Institute of Medicine, the cost of preterm birth exceeds $26 billion annually (Behram RE, 2007). This estimation does not include the cost of re-hospitalization and long-term care. The sequelae from PTB and LBW include infant mortality, cognitive, physical, psychological and/or social developmental delays or morbidities, such as high rates of cerebral palsy (CDC, 2016). The infant mortality rate, (IMR), defined as the incidence of death in the first year after birth in relation to every 1000 live births, is 11.1% for African American women, as compared to 5.1% for European American women (Matthews et al., 2015). The disproportionate rate of adverse birth outcomes persists, even when controlling for factors such as maternal education (Schoendorf et al., 1992), socioeconomic status (SES)(Berg et al., 2001), and prenatal care and health behaviors (Goldenberg et al., 1996; Hogan et al., 2012). Due to the persistent, well-documented, large socioeconomic and racial/ethnic disparities in the population distribution of adverse birth outcomes over the past two decades, there has been a compelling rationale to continue the search for alternate possible explanations. Maternal stress may, in part, independently, or in combination with other factors, explain these disparities, because the experience of social disadvantage and minority racial/ethnic status is characterized by higher levels of psychosocial stress and inadequate social resources (Lobel et al., 1992; Sandman et al., 1997; Wadhwa et al., 2011). Given that African American women experience greater levels of stress, when compared to European American women (Woods-Giscombe et al., 2008), exploring the experiences of maternal stress in this population, is of paramount importance, in order to

better understand and elucidate the broad factors beyond the individual that are contributing to adverse birth outcomes in this group.

Researchers have examined multidimensional stress-related factors that may contribute to health disparities for African American women (Giscombé et al., 2005). However, the examination of the role of stress in African American women and its potential impact on birth outcomes is complex for multiple reasons. One prominent reason is likely due to the multiple and differing definitions of stress, stressors and distress used in the literature. When defining stress, we use Lazarus and Folkman's (Lazarus, 1986) widely accepted transactional model. They define stress as a stimulus, a response, and as an interaction between stimuli and responses (Goldenberg et al., 1996; Lobel et al., 1990). Stress is a subjectively perceived discrepancy between environmental demands and biological, psychological, or social resources (Lazarus, 1986). An important element of this definition is the perception of environmental demands or threats and perceived ability to meet these demands, labeled *stress appraisal* (Lazarus, 1986). "Stressors" are environmental demands, events, threats, or stimuli to which an individual is exposed (Woods-Giscombe et al., 2008). "Distress" can be defined as an aversive physiological state, evidenced by physical or psychological symptoms, such as worry, muscle tension, headaches, weakness, anxiety and depression. Distress is a manifestation of stress, stemming from exposure to stressors in the context of intrapersonal, interpersonal, or tangible resources appraised as inadequate to manage the stressors (Dohrenwend et al., 1974). We define psychological distress as "a state of emotional suffering characterized by symptoms of depression and anxiety. The stressors to which African American women are exposed and the ways in which they appraise these stressors, reflect this population's distinctive history of racism, sociocultural experiences, and minority position in society (Brown et al., 2000; Jackson et al., 2004; Jackson et al., 2001). The experiences of stress in African Americans and European Americans differ both in magnitude and content (Jackson, 2002). Exploring the role of the unique factors of stress in African American women and their contributions to psychological distress and potential impact on adverse birth outcomes are significant pathways to consider (Rosenthal et al., 2011).

The experiences of race-related stress, gender-related stress, and generic stress (eg. job related stress, financial stress) have been shown to potentiate African American women's experiences of distress (Woods-Giscombé et al., 2010). Race-related stress is defined as stress that emanates from racism and affects the psychological and physical health of African Americans (Woods-Giscombe et al., 2008). Gender-related stress in African American women is defined by sexism and unique gender-specific experiences (e.g., role expectations, body type expectations, and behavior expectations) and has been correlated with racism and psychological distress in this population (Woods-Giscombe et al., 2008). Generic stress relates to events or conditions that are not directly related to one's race or gender (Woods-Giscombe et al., 2008). Furthermore, research suggests that these elements of stress should be considered together, and not isolated from the other, when exploring the impact of stress on psychological or physical outcomes in African American women (Giscombé et al., 2005). Although African American women are diagnosed with lower rates of mental illness, compared to European American women, only one in three receive mental health treatment (Services, 2010; Woods-Giscombé et al., 2010). According to the CDC (2012), African Americans are 20 percent more likely to report having serious psychological distress than European Americans. Additionally, in comparison to European American women, African American women experience a disproportionately high rate of stress-related health problems such as diabetes and cardiovascular disease (Geronimus et al., 2010). Studies have indicated that when African American women experience anxiety or depression the impact is more severe as evidenced by greater number of days missing work or school, impact on quality of life and well-being (Williams et al., 2007).

The perinatal period represents a time of increased vulnerability to psychological distress (Goodman et al., 2010). Estimates of the prevalence of depression in pregnancy can be as high as 20 percent (Bennett et al., 2004; Gavin et al., 2005; Leight et al., 2010). While firm estimates of anxiety in pregnancy do not exist, due in part to a lack of agreement about appropriate screening tools, past studies suggest that a significant portion of perinatal women experience symptoms of anxiety (Heron et al., 2004; Wenzel et al., 2005). In particular, Dunkel Schetter's body of research has explicated that there is strong, convergent evidence across diverse populations linking pregnancy anxiety to preterm birth (Dunkel

Schetter, 2011; Dunkel Schetter et al., 2012). Additionally, there is substantial evidence that maternal stress, depression and anxiety have been linked to poor fetal growth (Ciesielski et al., 2015) and neurodevelopmental delays (O'donnell et al., 2009). Research linking psychological distress during the perinatal period with adverse birth outcomes (Alder et al., 2007; Dunkel Schetter et al., 2012) indicates this disparity is dramatically more common among women who are African American (Dole et al., 2004; Dominguez, 2011; Giscombé et al., 2005; Glasheen et al., 2015; Jallo et al., 2015; Rosenthal et al., 2011). Researchers have also examined biopsychosocial pathways that link maternal experiences of distress with fetal gestational age, fetal development and neurodevelopmental delays in the child (Ciesielski et al., 2015; Dunkel Schetter, 2011; Dunkel Schetter et al., 2012).

There are particular sources of stress found in the conceptual frameworks, Superwoman Schema (SWS)(Woods-Giscombe, 2010) and network-stress (NS), (Woods-Giscombé et al., 2015) which describe various individual and social factors that may contribute to stress and psychological distress in African American women. The experiences of stress and psychological distress may, in turn, impact maternal self-care. The SWS conceptual framework posits that historical and sociocultural events in the United States, related to race and gender have resulted in the development of particular characteristics among African American women (Woods-Giscombe, 2010). These characteristics are a) an obligation to manifest an image of strength; b) an obligation to suppress emotions; c) resistance to being vulnerable or dependent; d) determination to succeed, even in the face of limited resources; and e) an obligation to help others (Woods-Giscombe, 2010). NS refers to perceived stress related to stressors in the lives of people they frequently interact with such as family members, friends, or other loved ones (Woods-Giscombé et al., 2015). Recent research has suggested that NS should be considered when evaluating psychological distress in African American women and its impact on stress-related health disparities. SWS and NS are potentially important, yet they are underexplored factors, in stress-related adverse birth outcomes in African American women. By elucidating the unique psychosocial experiences of pregnant women from marginalized groups, such as African American women, we may gain a better understanding of the etiological factors driving persistent ethnic disparities in reproductive health (Dominguez et al., 2005). In

2015, Woods-Giscombé et al. (2015) explored the role of network stress among African American women. They found that African American women were exposed to a greater number of network-stress related events, as compared to self-stress events. They also found that African American women perceived both types of stress events as similarly distressing. The authors state that future studies examining the role of stress, as it related to health outcomes, should consider evaluating participants' network stress. They suggest that network stress, in particular, should be examined when developing culturally relevant stress management interventions for African American women.

According to the National Center for Complementary and Integrative Health (NCCIH), formerly the National Center for Complementary and Alternative Medicine (NCCAM), mind-body medicine focuses on 1) "the interactions among the brain, the rest of the body, the mind, and behavior"(NIH, 2013, p. 1) and "the ways in which emotional, mental, social, spiritual, experiential, and behavioral factors can directly affect health"(NIH, 2013, p. 1). Mind-body therapies, such as mindfulness and mindful self-compassion, may be beneficial in the management of perinatal psychological distress, as they are intended to enhance self-care and self- awareness, while providing an opportunity for "increasing resilience, personal growth and self- esteem (Marc et al., 2011, p. 3).

Moreover, the use of complementary health approaches during the perinatal period has been shown to be effective in decreasing psychological distress (Goodman et al., 2014; Sheffield et al., 2015; Taylor et al., 2016). Researchers have suggested that complementary health approaches could contribute to an appropriate intervention geared towards reducing stress-related adverse birth outcomes (Goodman et al., 2014) and reducing stress-related disparities in African American women (Woods-Giscombé et al., 2010; Woods-Giscombe et al., 2014; Zhang et al., 2015). While there are studies that have explored the use of complementary health approaches during the perinatal period (Taylor et al., 2016), and there are studies that have shown complementary approaches can result in decreased distress in African Americans (Woods-Giscombe, 2016), there are very few studies that have examined complementary health approaches in African American women specifically (Woods-Giscombe et al., 2014) and, to the author's knowledge; only one has been with perinatal, African American women (Zhang et al., 2015). For this

reason, efforts should be undertaken to explore the development of culturally relevant and specific complementary health approaches for this population. There is a compelling need to explore African American women's perceptions and beliefs regarding complementary health approaches (mindfulness and mindful self-compassion) in order to ultimately develop a culturally relevant mindfulness-based intervention for this population. Mindfulness based stress reduction (MBSR) and Mindful Self-Compassion (MSC) are two approaches of particular interest.

MBSR, developed over 30 years ago by Jon Kabat-Zinn,(1990) is a type of mindfulness-based intervention that has been extensively studied in clinical and non-clinical populations. It has been shown to have a positive impact on stress, psychiatric illness and quality of life in a variety of populations (Baer, 2003; Chiesa et al., 2009; Chiesa et al., 2011; Grossman et al., 2004). Mindfulness means "paying attention in a particular way, on purpose, in the present moment and non-judgmentally (Kabat-Zinn, 1994, p. 4). MBSR combines mindfulness meditation with yoga in a comprehensive and holistic 8-week group training. Several pilot studies over the past decade have indicated that mindfulness-based interventions may have a positive impact on perinatal stress, anxiety (Duncan et al., 2010; Goodman et al., 2014; Vieten et al., 2008) and depression (Duncan et al., 2010). Dunn et al. (2012) demonstrated that pregnant women participating in a mindfulness-based group intervention reported clinically reliable declines in depression, stress and anxiety; with these improvements continuing into the postnatal period. These changes were not observed in the control group. Additionally, increases in mindfulness and self-compassion scores were observed over time (Dunn et al., 2012; Goodman et al., 2014). Notably, self-compassion has been found to be a key mechanism in the effectiveness of mindfulness-based interventions, such as mindfulness-based cognitive therapy and MBSR (Germer et al., 2013).

Broadly speaking, compassion can be defined as a fundamental awareness of the pain and suffering of others and oneself, and the desire to alleviate that pain or suffering. *Self-compassion* is simply compassion directed towards oneself. Neff (2003) operationalizes self-compassion to consist of three core elements: 1) *self-kindness (SK) versus self-judgment (SJ),* 2) *common humanity (CH) versus isolation (I)* and 3) *mindfulness (M) versus over-identification (OI).* All three elements interact with one another to

foster a self-compassionate frame of mind (Neff, 2003). Higher self-compassion has been associated with greater psychological well-being and serves as a buffer against acute stressors (Neff et al., 2007). Neff's definition of self-compassion is grounded in Buddhist psychology, which is focused on understanding the nature of self (Neff, 2003). Germer and Neff developed a Mindful Self-Compassion (MSC) intervention that targets enhancing self-compassion in individuals, both in the general public and clinical populations (Neff et al., 2013). Mindful Self-Compassion (Germer et al., 2013) is a mindfulness-based intervention program that was developed, whereby participants meet once a week for 8 weeks. Germer and Neff found the more a participant practiced self-compassion techniques, the more they learned it (Neff et al., 2013). This implies that self-compassion is teachable and "dose dependent". Although, there is some evidence of improved emotional well-being and reduced psychological distress with MBCT combined with self-compassion,(Lee et al., 2010) to date there are no randomized controlled trials that evaluate the treatment of perinatal distress in African American women (Goodman et al., 2014). Moreover, a review of the available literature revealed that only one mindfulness-based intervention incorporates self-compassion, aimed at reducing symptoms of perinatal anxiety (Goodman et al., 2014).

Goodman et al. (2014) developed the Coping with Anxiety through Living Mindfully (CALM) pregnancy study. This mindfulness-based intervention includes an adaptation of MBCT, combined with elements of self-compassion, as defined by Germer and Neff(2013), to reduce anxiety in pregnant women (Goodman et al., 2014). The results of this groundbreaking study, indicate that a self-compassionate mindfulness-based intervention, targeted for women with perinatal distress, is not only feasible and acceptable, but shows promise for effectiveness in decreasing maternal psychopathology.

While researchers have begun to examine culturally relevant interventions to reduce stress-related disparities, few have integrated SWS, NS, or complementary health approaches. Therefore, the purpose of this research is to gain a better understanding of the individual and perceived factors that may contribute to the persistent ethnic disparities in African American women's birth outcomes. The purpose of the current research study is to describe the experiences of stress and psychological distress in a sample of

perinatal, African American women and discern how these experiences may be associated with their individual perceived levels of mindfulness, self-compassion, and self-care.

The specific aims of this study are a subset of the broader dissertation aims. They are **Aim 1**: Describe African American women's perceptions and experiences of stress and psychological distress (anxiety and depressive symptoms) during pregnancy and postpartum. 1a. Examine if African American women's perceptions and beliefs regarding stressors are associated with SWS or NS during pregnancy and postpartum. 1b. Examine African American women's self-care behaviors during pregnancy and postpartum, **Aim 2:** Explore African American women's perceptions and beliefs regarding the acceptability of complementary health approaches (specifically mindfulness and mindful self-compassion) to reduce the stressors that they explain as contributing to their psychological distress during the perinatal period, and **Aim 4**: Explore the associations of SWS, NS, and perceived stress with participant's psychological distress, and their levels of mindfulness, self-compassion, and self-care during pregnancy and postpartum. For Aim 4, the following research questions were addressed, when controlling for age, socioeconomic status and education, *do perinatal, African American women who:*

1) have endorsed higher levels of SWS have higher levels of anxiety symptoms, depressive symptoms and perceived stress?

2) have endorsed higher levels of mindfulness have lower levels of anxiety symptoms, depressive symptoms and perceived stress?

3) have endorsed higher levels of mindful self-care have lower levels of anxiety symptoms, depressive symptoms and perceived stress?

4) have endorsed higher levels of self-compassion have lower levels of anxiety symptoms, depressive symptoms and perceived stress?

Methods

An integrated theoretical framework that combined Superwoman Schema and Network Stress was used to guide the overall dissertation study (Woods-Giscombe, 2010; Woods-Giscombé et al., 2015). We employed a cross sectional, mixed-methods approach(Creswell et al., 2011), with a convenience

sample, to obtain a greater depth and breadth of knowledge, regarding the experiences of stress, stressors and psychological distress (and their impact on self-care) in African American women during the perinatal period. With this design, the study was comprised of two components: both a quantitative and a qualitative component. First, participants completed the quantitative component which consisted of an online survey. Second, selected participants, who completed the quantitative component and indicated a willingness to be interviewed, were asked to complete individual semi-structured interviews with the principal investigator.

In the quantitative component, participants were asked to complete online questionnaires (comprised of structured measures) about their stress, stressors, and psychological distress, as well as their beliefs, perceptions, and experiences using mindfulness, self-compassion and mindful self-care. In the qualitative component of the study, semi-structured interviews were conducted to elicit more detailed descriptions of women's experiences of stress, stressors and psychological distress, during the perinatal period. Semi-structured interviews were conducted until informational saturation was achieved. Scores on the structured measures were examined and evaluated as qualitative data was collected. Study procedures and informed consent forms were reviewed and approved by the University of North Carolina Institutional Review Board (approval no. 17-1665) for the Protection of Human Subjects. The data collection for this study was conducted from January 2018 to January 2019.

Setting and Recruitment

We recruited a convenience sample of perinatal African American women from obstetrical practices and birth centers in the State of North Carolina (approximately 10 practices and centers). These centers were primarily located in the Raleigh, Durham, and Chapel Hill regions of the state. Snowball sampling was also employed, but did not prove effective in this case. Although there was a great deal of interest from clinic staff, our initial recruitment methods resulted in recruitment of approximately 30 participants within a 10-month period. Therefore, to bolster the size of our sample, participants were also recruited from the Carolina Data Warehouse for Health, which is a central data repository containing clinical, research, and administrative data sourced from the UNC Health Care System. These recruitment

sites were identified and selected based on their demographics of serving women of diverse social and ethnic backgrounds.

Recruitment materials consisted of flyers and brochures (Appendices A&B) that were provided to obstetrical practices. The information on the flyers and brochures provided a brief description of the study and its goals, contact information for the principal investigator, and inclusion criteria for participation in the study. To encourage participation, participants were informed that they would receive an online gift card for $15 for the on-line survey, and a gift card for $25 for the interview, for a possible total incentive of $40 for completion of both components of the study.

Sample Size

To determine the sample size for this study, the statistical software, nQuery, was used for power analysis. Using values based on a recently conducted mixed-methods study by Giurgescu et al. (2013) which examined stress and stressors in pregnant, African American women (Giurgescu et al., 2013), it was determined that a sample size of 119 women would be needed to yield 80% power with a 0.050 two-sided significance level (O'Brien, 1993). In order to account for the possibility of missing data, we determined that an additional 25% of participants should be recruited, which resulted in a goal of recruiting 150 participants.

The sample size for the qualitative component of the study, during which semi-structured interviews were conducted, was estimated to be approximately 20 participants (Sandelowski, 1995) in order to allow for a sample with varied life experiences regarding women's 1) stress, stressors, and psychological distress and 2) mindfulness and self-compassion characteristics. Participants were included in order to achieve informational saturation and an acceptable amount of social and individual variation in the sample, which we would expect to also lead to diverse stress experiences and ways of dealing with stress.

Participants

Women were eligible to enroll in the study if they a) self-identified as African American/Black; b) were at least 18 years old; c) had a singleton pregnancy at the time of enrollment or were no more than

1 year postpartum; and d) were English speaking. One hundred forty-five participants initially enrolled in the study. Twenty participants did not fully complete the entire set of online questionnaires. Therefore, complete data were available for 125 participants to conduct data analysis (Figure 3.1). A total of 20 women were interviewed.

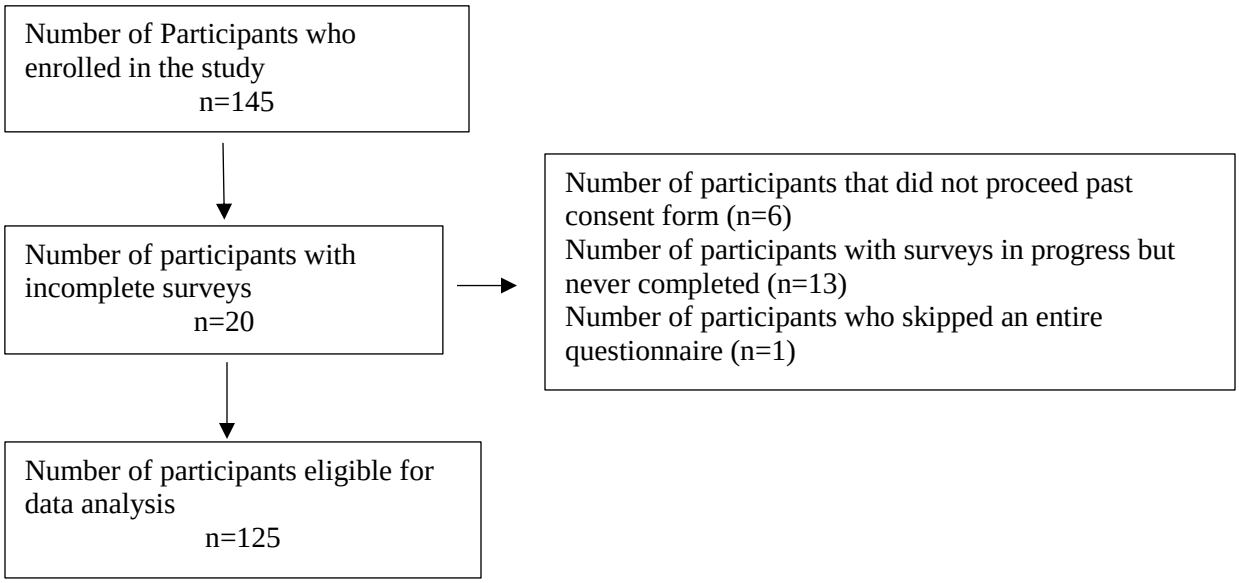

Figure 3.1. Data Cleaning in REDCap

Measures

In the quantitative component of the study, we collected nine self-report questionnaires (Appendices C-K) and a demographic questionnaire (Appendix L). In total, the estimated time to complete these measures was approximately 30 minutes. A detailed description of the nine measurement instruments can be found in Table 3.1. One measure, the CAM acceptability scale, is a one-question survey (developed by the researcher), asking the participant to rate their perception of the acceptability of CAM on a scale from 1 to 4. The demographic questionnaire included questions regarding (maternal age, ethnicity, marital status, socioeconomic status (SES), educational attainment, and medical and obstetrical history (gravida/parity and history of preterm birth).

Table 3.1. Variables and Descriptions of Measures

Variable	*Instrument Name*	*Instrument Description*
Superwoman Schema	*Superwoman Schema Scale*	The SWS instrument is a 35-item measure including five subscales: obligation to present an image of strength (six items), obligation to suppress emotions (seven items), resistance to being vulnerable (seven items), intense motivation to succeed (six items), and obligation to help others (nine items). All items in the SWS instrument are statements which the participants rate using the following response scale: *this is not true for me* and *this is true for me rarely, this is true for me sometimes, and this is true for me all of the time.* Also, the participants are instructed that if they rate an item as *true for me*, they have the option to indicate if an item bothers them using the following rating scale: *very much, somewhat, or not at all*. (Steed's dissertation work). Responses are summed or averaged across items resulting in a summary score for each subscale, where higher scores reflect greater endorsement of the selected SWS characteristic. Cronbach's alpha for the entire scale has been reported as .94 and range between .70 and .89 for the five subscales.(Woods-Giscombe, 2016) Cronbach's alpha for the entire scale in this study was .93 and range from .73 to .88 for the five subscales.
Network Stress	*Network Stress Events Scale*	For this current study, 10 items (items 34-43, see attached scale) from a measure of stressful life events used in previous research(Lobel et al., 2000; Woods-Giscombe et al., 2008) will be used to measure self-stress and network stress. Stressors that may have happened to the participant (self-stress) or to a close friend or family member (network stress) in the past year (e.g., got arrested, physical injury, illness, or hospitalization, trouble with alcohol or drugs) will be evaluated. If the stressor did occur, the participant indicates the person(s) who experienced the event by circling "self, " "other," or both "self" and "other." For every item endorsed, participants rate how undesirable or negative each stressor was on the 4-point scale ranging from 1=not at all to 4=very much. Similarly, for every "network stress" item endorsed, participants provide an appraisal on the same 4-point scale. Four indices are created: number of stressors endorsed (self and network) and mean appraisal (self and network). Cronbach's alpha for the scale has been reported at .71(Woods-Giscombe et al., 2008)
Stress	*Perceived Stress Scale (PSS)*	The Perceived Stress Scale (PSS) is a 10-item scale(Cohen et al., 1983); each item has five possible responses measuring the frequency of perceived stress over the last month; never, almost never, sometimes, fairly often, and very often. Items are general and assess stress due to events, feeling out of control, and feeling rushed or short on time. It assesses an individual's reaction and feelings to the specific circumstances (ex. "angered" or "upset.") Four of the items are positively stated, for example, "how often have you felt that you were on top of things?" The remaining items are negatively stated, for example, "how often have you been upset because of something that happened unexpectedly?" Each item contributes 0–4 points to the total score resulting in a total score that ranges from 0 to 40, a higher score indicating greater perceived stress. The Cronbach's alpha for this instrument is between .84 and .86 (Cohen et al., 1983). The Cronbach's alpha for this scale was .91 for this study.

Variable	*Instrument Name*	*Instrument Description*
Anxiety symptoms	*Anxiety (STAI)*	The State-Trait Anxiety Inventory (STAI) (Spielberger et al., 1970) is included because depression and anxiety are often comorbid. The State Anxiety Inventory scores range from 20 to 80. Characteristic items include "I feel nervous" and "I feel calm". All items are rated on a 4-point scale (e.g., from "Almost Never" to "Almost Always"). Higher scores indicate greater anxiety. Adequate concurrent validity and internal consistency have been reported (r = .92) (Spielberger et al., 1970) The Cronbach's alpha for this scale was .93 for this study
Depressive symptoms	*Depression (CES-D)*	The Center for Epidemiological Studies Depression Scale (CES-D) (Radloff, 1977) is a 20-item self-report measure that assesses current depression symptoms (over the past week) (Radloff, 1977). The symptoms include "depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, loss of energy and disturbances of sleep and appetite". The Likert ratings include most of the time (6-7 days), occasionally, (3-4 days), some of the time (1-2 days), and rarely (less than a day). Each item is rated from 0 to 3 based on how often the individual feels this way, with higher scores indicating greater frequency. Total summary scores range from 0 to 60, with the cut-off for clinical levels of depressive symptomatology being 16 or higher. (Radloff, 1977) The CES-D has had moderate criterion validity among low income, minority women and has been related to a depression diagnosis based on diagnostic interviews (Thomas et al., 2001). In a study of women with prenatal depression, Cronbach's alpha ranged from .88 to .93 (Maloni et al., 2005) and the scale had significant test-retest reliability and convergent validity with other depression symptom scales. The Cronbach's alpha for this scale was .93 for this study
Mindfulness	*Mindfulness (MAAS)*	The Mindful Attention Awareness Scale (MAAS; (Brown et al., 2003)) is psychometrically consistent across cultures (Christopher et al., 2009) and is a known mediator of MBI outcomes (Nyklicek et al., 2008). The MAAS is a 15-item questionnaire assessing dispositional levels of present awareness and attention (e.g., "I rush through activities without being really attentive to them" and "I drive places on 'automatic pilot' and then wonder why I went there"). Respondents indicate how often they have the experiences referenced by each item using a 6-point Likert- scale, anchored from 1 (*almost always*) to 6 (*almost never*). Scores are computed as a mean of the 15 items. Total score ranges from 1 to 6. Higher scores reflect higher levels of dispositional mindfulness. The MAAS has good convergent and discriminant validity, as well as good psychometric properties. Cronbach's alpha has been reported as .88 (Van Dam et al., 2011) The Cronbach's alpha for this scale was .92 for this study
Self-Compassion	*Self-Compassion (SCS)*	The Self-Compassion Scale (SCS) (Neff, 2003) is a 26-item questionnaire designed to assess overall self-compassion (total score) and components of self-compassions across three conceptually distinct, but theoretically related facets: common humanity (SCS-CH), mindfulness (SCS-M), and self-kindness (SCS-SK). Although the construct was defined with these three facets in mind (Neff, 2003), factor analysis suggested six subscales representing a positive and negative aspect of each facet. (Neff, 2003) Items are designed to capture how respondents perceive their actions toward themselves in difficult times (e.g., "When times are really difficult, I tend to be tough on

Variable	*Instrument Name*	*Instrument Description*
		myself") and are rated using a Likert scale anchored from 1 (*almost never*) to 5 (*almost always*). The SCS has good reliability and validity cross-culturally (Neff, 2003). Internal consistency of the total scale score was high (Cronbach's α = .92). Internal consistency was good for each of the subscales; SCSsk, Cronbach's α = .83; SCSsj, Cronbach's α = .75; SCSch; Cronbach's α = .76; SCSi, Cronbach's α = .73; SCSm, Cronbach's α = .72; SCSoi, Cronbach's α = .72 (Van Dam et al., 2011) The Cronbach's alpha for the overall scale was .92 for this study and range .77 to .92 for the six subscales.
Self-Care	*Mindful Self Care Scale (MSCS)*	The Mindful Self-Care Scale- SHORT (MSCS, 2016)(Cook-Cottone et al., 2018; Cook-Cottone, 2016) is a 33-item scale that measures the self-reported frequency of behaviors that measure self-care behavior. These scales are the result of an Exploratory Factor Analysis (EFA) of a large community sample. The subscales are positively correlated with body esteem and negative correlated with substance use and eating disordered behavior. There are an additional six clinical questions and two general questions for a total of 42 items. Cronbach's alpha for this scale is .89 (Cook-Cottone, 2014; Cook-Cottone et al., 2018) The Cronbach's alpha for the overall scale was .91 for this study and range .69 to .91 for the six domains.
	CAM Acceptability Scale	A search of the existing literature regarding current CAM acceptability scales revealed one existing scale, the Complementary, Alternative, and Conventional Medicine Attitudes Scale (CACMAS)(McFadden et al., 2010) developed in 2010 and performed with healthy, white adults. This measure contains 25 items and requires a fair amount of knowledge concerning complementary and alternative medicine. Participants responded using a seven-point Likert scale, ranging from one ("strongly disagree") to seven ("strongly agree"). The research investigator determined that this scale goes beyond the exploratory purview of this study and completion of this scale may prove burdensome to the participants of this study. Therefore, a one-item survey was developed to assess the acceptability of CAM on a continuous scale response format. In this current study, the goal of the researcher is to assess participant's basic belief regarding the acceptability of CAM.

Note: Not all of the scales have been evaluated in African American women; however, they do exhibit good psychometric properties as evidenced by their Cronbach's alpha and were thus deemed appropriate for evaluation in the current study.

Cronbach's alpha reliability coefficients calculated from the current study data are consistent with previous research studies and demonstrated good reliability (Table 3.2).

Table 3.2. Reliability Coefficients for Study Variables

Measures	Number of Items	Cronbach's α^a	Cronbach's α^b
Superwoman Schema Subscales			
Obligation to Present an Image of Strength	6	.74	.70
Obligation to Suppress Emotions	7	.81	.85
Resistance to Being Vulnerable	7	.83	.86
Intense Motivation to Succeed	6	.73	.71
Obligation to Help Others	9	.88	.87
Total Superwoman Schema Scale	35	.93	.94
Self-Compassion Subscales			
Self-Kindness	5	.79	.83
Self-Judgment	5	.85	.75
Common-Humanity	4	.79	.76
Isolation	4	.84	.73
Mindfulness	4	.80	.72
Over-identified	4	.77	.72
Total Self-Compassion Scale	26	.92	.92
Mindful Self-Care Subscales			
Physical Care	8	.69	.70
Supportive Relationships	5	.85	.87
Mindful Awareness	4	.91	.92
Self-Compassion and Purpose	6	.77	.83
Mindful Relaxation	6	.78	.76
Supportive Structure	4	.77	.78
Total Mindful Self Care Scale	33	.91	.89
Spielberger State-Trait Anxiety Inventory (STAI)	20	.93	.92
Perceived Stress Scale (PSS)	10	.91	.84-.86
Mindful Attention Awareness Scale (MAAS)	15	.92	.88
Center for Epidemiological Studies Depression Scale (CES-D)	20	.93	.88-.93

Note: Scales and Subscales for each study measure are presented in the table. Number of items and Cronbach's alpha values are in vertical columns; α^a: Cronbach's alphas for current study, α^b: Cronbach's alphas from previous studies

Data Collection and Procedures

Following Institutional Review Board approval, participants were recruited via flyers and brochures, which were posted in the waiting rooms and exam rooms of obstetrical practices (including birth centers) in North Carolina. The researcher also provided "in service" informational sessions to providers and staff at the obstetrical practices that expressed a willingness to gain additional information about the study. The study was advertised as a study examining stress in perinatal, African American women. The principal investigator's contact information was provided on all study recruitment materials, so that interested participants could contact the researcher via email, telephone or text to answer any questions that they might have. To encourage participation, participants were informed that they would receive a $15 online Target gift card upon completion of the online survey. If selected for a one on one interview, they received a $25 in person or online Target gift card after completion of the interview. Of note, the research team decided that all 145 participants who initiated the study received the $15 online Target gift card regardless of completion of the entire online survey.

If the woman expressed an interest in participating in the study, the research investigator obtained full verbal and written informed consent including a full description of the potential risks of participating in the study (Appendix M). Following consent, the demographic questionnaire and measures were collected (in person or via email) and managed using an electronic data capture tool hosted at the University of North Carolina at Chapel Hill (Harris et al., 2009). REDCap (Research Electronic Data Capture) is a secure, web-based application designed to support data capture for research studies, providing 1) an intuitive interface for validated data entry; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for importing data from external sources.

Upon logging-in to the REDCap survey, participants were screened again so that persons who did not meet the study inclusion criteria were not allowed to continue. Those participants, who were eligible, were able to proceed to the consent page, where they clicked on the "I Agree to participate in this research study" button before commencing the study questionnaires. Also, on the consent page, the participant was

able to indicate if they were willing to participate in a one on one interview. They were informed that their willingness to be interviewed did not mean that they would be selected for an interview. At the end of the consent page the participant provided an electronic signature and could also download a copy of the consent for their records.

Participants were informed that they could start or stop the survey at any time; however, once the survey was complete, the link to REDCap became inactive. Strategies to prevent and alleviate distress and attrition, included limiting the time it took to complete the online survey to no more than 30 minutes. The survey was pilot tested for length-of-time to complete, prior to going live. Of note, at the end of the questionnaire, a referral list of mental health care providers was provided and the participant was asked if they would like someone from their OB/GYN office to contact them regarding any concerns they may have, regarding their mental health or stress. The REDCap system was programed such that the principal investigator was notified, via email, when a participant completed the final questionnaire. This one question was immediately checked, to see if it was answered affirmatively. If so, the author contacted the participant to confirm they wanted their OB/GYN office to contact them. If they indicated yes again, the OB/GYN office was contacted and informed that their patient wanted a health care provider to contact them about their mental health.

After approximately ten months of recruitment and low study enrollment, we employed an additional recruitment strategy. We accessed the Carolina Data Warehouse for Health (CDW-H) for participants who met the study inclusion criteria. Eligible participants (approximately 1000 women) were emailed a description of the study and provided a link to the online REDCap survey and consent process. (Appendix N). Approximately 100 participants were emailed at a time in alphabetical order. This recruitment strategy yielded completed surveys from approximately 110 participants over a three-day period after which the REDCap survey link was made inactive.

Selection of participants for the qualitative component of the study was based on convenience sampling. Participants who indicated in the REDCap survey that they were willing to be interviewed were contacted. In-depth, descriptive, qualitative interviews(Sandelowski, 2000) (Appendix O) were conducted

either in-person or by telephone(Novick, 2008), based on the participant's preference, to elicit detailed descriptions of participants experiences of stress, stressors, and psychological distress. The qualitative interviews were limited to approximately 45-60 minutes (Giurgescu et al., 2013). Each participant was interviewed once. Initial interview questions were guided by SWS and NS theoretical concepts, as well as perceptions and beliefs surrounding mindfulness or meditative practices.

All participants were asked the same questions in approximately the same order. Participants were encouraged to answer questions in their own words and to elaborate on their responses via prompts such as "Tell me more" and "Why was that important?" so that we elicited the fullest explanation of the participant's experiences, beliefs, and appraisals, in the participant's own words. This was done to assure that the primary investigator, also the interviewer, would not make assumptions about explicit or implicit meanings. Member validation was conducted throughout the interview process. The researcher sought clarification of the meaning of the participant's words and expressions.(Patton, 2002) Our initial questions were broad, open-ended, and subsequently guided by each participant's response. Sample interview questions included "When I say the word *stress*, what does it mean for you?", "What causes stress in your life?", "How do you cope with stress?", "How did you see the women in your life cope with stress", and "Does your stress come more from your own personal stress or stress from family, friends or loved ones?". We also asked, "Are there unique stressors that come with pregnancy?", "Are there unique stressors that come with being black and pregnant?", and "What comes to mind when I say the word mindfulness?". To minimize the risk of not capturing stressors that we might not even be aware of for this population, the interviewer always ended the interviews with the question, "Is there anything I did not ask you that you want me to know about your experience of stress?". This allowed the participants an opportunity to clarify and elaborate on any ideas or thoughts they may have wanted to share that we did not anticipate.

Data Analysis

Data analysis included descriptive statistics of sample demographics using means and standard deviations for continuous variables, and frequencies and percentages for categorical variables. Pearson's

correlation analysis was used to determine the bivariate relationships between pairs of continuous variables. To comprehensively address study aim 4 and its research questions, multiple linear regression analyses were performed to determine the association between each of SWS, SCS, MSCS, MAAS (independent variables) with each of depressive symptoms, anxiety symptoms and perceived stress (dependent variables), while controlling for age, family income, and educational attainment. Each dependent variable was placed in to separate models then the independent variables were fit separately but all controlled for age, family income and educational attainment. Multiple linear regression coefficient estimates (β), coefficient of determination (R^2), and *p*-values were noted. For scales or subscales with less than or equal to 5% missing data, we performed single imputation of the means. For scales or subscales with >5% missing data, we excluded data from analysis (n=2).

Of note, although data was collected for the NS scale, it was determined during data analysis that coding for one of the branching logic items was incorrect. For this reason, it was decided that the data from this scale would not be used in the analysis. However, the qualitative data, assessing for network stress was still deemed of great importance and essential to the integrity of the research findings. Therefore, network stress is addressed in the results of the qualitative findings.

Also, noteworthy to mention are considerations regarding the demographic income variable. The income variable in this study contains 8 income options (Appendix L), however, the eighth answer choice is a non-numerical option, "I choose not to answer". Multiple regression analyses were run, with three different approaches, to ascertain the robustness of managing the eighth answer choice and impact on the main findings. Multiple regression analyses was performed in the following three ways, 1) with the eighth income choice included in the continuous variable (model I), 2) with the eighth income excluded from the continuous variable (model II) and 3) with the income variable categorized in to 4 levels of 1) low income (<20,000-34,999), 2) medium (35,000-79,999), 3) high (>80,000) and 4) "I choose not to answer" (model III). There were no changes to statistical significance in the multiple linear regression coefficient estimates, for the main findings, in any of the models, with the exception of the association between the SWS-determination to succeed subscale, with depression in model II. In model II, the regression

coefficient estimates for the association between the SWS, determination to succeed subscale and depression, were as follows, β*=-4.096, p value=.13* for model I; β*=-5.421 and p value=.04* for model II and β*=-4.996 and p value=.07* for model 3 (data not shown). Given the comparison analysis across the three multiple regression models and the robustness of the models (in that these findings do not reflect a substantially different conclusion), it was determined that the use of the original income variable in model I (including income with option 8) is reasonable and justifiable. All data were analyzed using SAS 9.3 software (SAS, 2014). *P*-values of 0.05 or less were considered statistically significant, and no adjustments were made to *p*-values to account for multiple comparisons.

Qualitative data (which included recorded audio, written transcripts and field notes for each participant) was coded and analyzed using Atlas.ti software. The researcher immersed herself in the data and utilized thematic analysis for the development of codes and themes(Guest et al., 2011). Strategies were adapted to enhance credibility, trustworthiness and rigor of the analysis process. A professional transcriptionist transcribed verbatim the audio recordings. Transcribed data were read and reread, paying close attention to the occurrence of patterns within and eventually across participants. The investigator checked the transcripts against the audio, for accuracy, but also to gain a full understanding of the emotions and tone of the participants behaviors that corresponded with their words, as these paralinguistic factors are also important to conveying meaning to others that can correspond with the meaning of words or contrast with the meaning of their words, such as when we use a sarcastic tone to correspond with positive words (e.g., I really like that (said with a sarcastic tone) actually means that they do not like that). After transcription, the interviews were initially coded by one coder (KS). Themes were generated from participant responses. Two PhD prepared researchers, with expertise in qualitative research methods, acted as peer reviewers and reviewed a subset of the audio recordings (40%), to assure rigor in the interview process, and independently coded a subset of the transcripts from the twenty participants. They worked independently to assign preliminary codes to the data, based on the aims and research questions, and met with the author to discuss their preliminary codes and emerging themes. All differences were

discussed using the participant data as the only source to negotiate any coding discrepancies and the team came to a consensus confirming overarching themes (Garrison et al., 2006).

Results

Quantitative Component Results

Participant Characteristics

Table 3.3 presents the characteristics of the full sample. The total number of participants in the quantitative component of the study was 125. One hundred and twenty-three self-identified as Black/African American and two selected "other" for race. The two participants who selected "other" self-identified as "half black and half white". Participants were demographically diverse, with a mean age of 30.3 years, SD= 5.4, and age range between 18 to 43 years. They varied across levels of educational attainment, with the majority having a high school diploma (3.2%), some college (28.8%), or a bachelor's degree (29.6%). Most of participants were married (44%). The majority of participants reported a household income ≤ $50,000/year (60%). The mean number of pregnancies for the sample was 2.7, while the average number of children was 1.8. Approximately 25% of the participants had a history of preterm birth and almost 18% had a history of delivering a low birth weight infant. The most commonly self-reported medical condition was anxiety (27.2%), followed closely by depression (23.2%).

Table 3.3. Demographic Characteristics of Study Participants Quantitative (N=125); Qualitative (N=20)

Variable	Mean (SD) or N(%) Quantitative Component	Mean (SD) or N(%) Qualitative Component
Age	30.3 (5.4)	30.3(5.9)
Age Range	18.8-43.6	19.2-41.3
Race		
Black/African American	123 (98.4)	19 (95)
Other	2 (1.6)	1(5)
Relationship Status		
Married	55 (44.4)	11(55)
Divorced	2 (1.6)	0
Separated	7 (5.7)	0
Single	43 (34.7)	4(20)
Cohabitating	13 (10.5)	5(25)
Domestic Partner/Legal Partner	4 (3.2)	
Educational Attainment		
Less than High School Diploma	4 (3.2)	0
High School Degree	8 (6.4)	1(5)
Some college, no degree	36 (28.8)	6(30)
Associates Degree	15 (12.0)	1(5)
Bachelor's Degree	37 (29.6)	7(35)
Master's Degree	21 (16.8)	5(25)
Professional Degree	2 (1.6)	0
Doctorate	2 (1.6)	0
Household Income		
Less than <20,000	30 (24.0)	2(10)
20,000-34,999	26 (20.8)	4(20)
35,000-49,999	19 (15.2)	5(25)
50,000-64,999	10 (8.0)	0
65,000-79,999	7 (5.6)	2(10)
80,000-99,999	14 (11.2)	5(25)
>100,000	11 (8.8)	2(10)
I choose not to answer	8 (6.4)	0
Gravida	2.7	2.2
Gravida Range	1-11	1-5
Parity	1.8	1.2
Parity Range	0-8	0-4
History of Preterm Birth	31 (24.8)	0
History of Low Birth Weight Infant	22 (17.6)	0

Variable	Mean (SD) or N(%) Quantitative Component	Mean (SD) or N(%) Qualitative Component
Medical Condition		
Hypertension	17 (13.6)	0
Pregnancy Induced Hypertension	14 (11.2)	1(5)
GDMA1	8 (6.4)	2(10)
GMDA2	1 (0.8)	0
Type 2 DM	4 (3.2)	0
Type 1 DM	0 (0)	0
Substance Use or Abuse	3 (2.4)	1(5)
Anxiety	34 (27.2)	5(25)
Depression	29 (23.2)	2(10)
Bipolar	3 (2.4)	0
Other*	8 (6.4)	1(5)

Note: N=number of participants in each category.
Reasons for other include shortened cervix, incompetent cervix, anemia, preeclampsia, lupus/fibromyalgia, and cholestasis

Descriptive statistics for study variables

Table 3.4 shows the results of the superwoman schema, self-compassion, and mindful self-care subscales, as well as psychological distress, perceived stress, and mindfulness scores for the study sample. The superwoman schema subscale means and standard deviations ranged from 1.75-2.25 ± 0.61-0.74. The mean self-compassion score (SCS) was 3.03 ± 0.72 and the range of the means for the self-compassion subscales scores were 2.92-3.23 ± 0.73-.1.09. The mean mindful self-care score (MSCS) was 18.50 ± 3.69 and the range of the mean mindful self-care subscales scores were 2.12-3.71 ± 0.59-0.95. The mean anxiety (STAI), depression (CES-D), and perceived stress (PSS) scores were 42.03 ± 12.11 (scores >39-40 indicate clinically significant anxiety), 18.23 ± 12.56 (scores >16 may indicate clinically significant depression), and 19.35 ± 7.51 (scores between 14-26 indicate moderate stress) respectively. The mean mindfulness (MAAS) score was 4.14 ± 1.03 for this study population.

Table 3.4. Descriptive Statistics for Study Variables (N=125)

Measures	*M*	*SD*	Range
Superwoman Schema Subscales (SWS)			
Obligation to Present an Image of Strength	2.25	2.30	0-3
Obligation to Suppress Emotions	1.71	0.62	0-3
Resistance to Being Vulnerable	1.99	0.69	0-3
Intense Motivation to Succeed	2.11	0.61	0-3
Obligation to Help Others	1.75	0.74	0-3
Total Superwoman Schema Scale	1.97	0.53	0-3
Self-Compassion Subscales (SCS)			
Self-Kindness	3.04	0.88	1-5
Self-Judgment	3.05	1.01	1-5
Common Humanity	3.00	0.96	1-5
Isolation	2.92	1.09	1-5
Mindfulness	3.23	0.90	1-5
Over-Identified	2.95	1.02	1-5
Total Self-Compassion Scale	3.03	0.73	1-5
Mindful Self-Care Subscales (MSCS)			
Physical Care	2.12	0.59	1-5
Supportive Relationships	3.71	0.93	1-5
Mindful Awareness	3.45	0.95	1-5
Self-Compassion and Purpose	3.13	0.84	1-5
Mindful Relaxation	2.70	0.84	1-5
Supportive Structure	3.38	0.92	1-5
Total Mindful Self Care Scale	18.50	3.69	6-30
Spielberger State-Trait Anxiety Inventory (STAI)	42.03	12.11	20-80
Perceived Stress Scale (PSS)	19.35	7.51	0-40
Mindful Attention Awareness Scale (MAAS)	4.14	1.03	1-6
Center for Epidemiological Studies Depression Scale (CES-D)	18.23	12.56	0-60

Note: M=mean. SD=standard deviation

Correlation Analysis

Table 3.5 displays the correlation analysis results for continuous variables. Income was positively correlated with age ($r = .24, p < .01$) and negatively correlated with all five of the superwoman schema subscales. The income correlations with two of the SWS subscales (emotional suppression and determination to succeed despite limited resources) were negatively correlated and statistically significant ($r = -.26, p < .01$ for both) meaning that as participant income increased the obligation to suppress

emotion and determination to succeed despite limited resources decreased. Similarly, age was negatively correlated with all five of the superwoman schema subscales and three were statistically significant (emotional suppression, resistance to vulnerability and determination to succeed despite limited resources) meaning that as participant age increased the perceived obligation to suppress emotion, resist vulnerability and determination to succeed despite limited resources decreased. Age was also negatively correlated with psychological distress (anxiety and depressive symptoms; $r = -.21, p < .05$ for both) and positively correlated with self-compassion ($r = .19, p < .05$) meaning that as participants got older their anxiety and depressive symptoms decreased but their self-compassion increased.

There was a positive and statistically significant correlation between all of the superwoman subscales and psychological distress and perceived stress, with the strongest correlation between the obligation to help others subscale and anxiety ($r = .53, p < .0001$) meaning that women who endorsed higher levels of the perceived obligation to help others also had higher anxiety scores. There was a statistically significant negative correlation between all of the superwoman schema subscales and mindfulness (r= -.36 to -.53, $p < .0001$) meaning that women who endorsed higher levels of superwoman characteristics had lower levels of mindfulness. Likewise, there was a statistically significant negative correlation between the superwoman schema subscales and mindful self-care and self-compassion, except for the obligation to present an image of strength subscale, which was negatively correlated but not statistically significant. This means that women who endorsed higher levels of four of the superwoman schema characteristics had statistically significant lower levels of mindful self-care and self-compassion.

Anxiety was strongly correlated with depression and perceived stress ($p < .0001$) meaning that higher levels of anxiety correlated with higher levels of depression and perceived stress in this population. Conversely, anxiety was strongly negatively correlated with mindfulness, mindful self-care and self-compassion ($p < .0001$) meaning that as anxiety levels increased, levels of mindfulness, mindful self-care and self-compassion decreased. Depression was strongly correlated with perceived stress and negatively correlated with mindfulness, mindful self-care and self-compassion ($p < .0001$) meaning that as

depression scores increased, perceived stress increased as well, however, mindfulness, mindful self-care and self-compassion decreased. As expected mindfulness, mindful self-care and self-compassion were all positively correlated with one another.

Table 3.5. Pearson's Correlation Coefficients for Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1.Income													
2.Age	.24**												
3.SWS^{IS}	-.08	-.10											
4.SWS^{SE}	-.26**	-.21*	.51****										
5.SWS^{RV}	-.15	-.22*	.59****	.70****									
6.SWS^{DS}	-.26**	-.27**	.59****	.48****	.69****								
7.SWS^{HO}	-.05	-.13	.50****	.43****	.60****	.64****							
8.STAI	-.02	-.15	.33***	.36****	.47****	.41***	.53****						
9.CES-D	-.07	-.21*	.24**	.36****	.45****	.27**	.40****	.75****					
10.PSS	-.08	-.21*	.31***	.33***	.41****	.31***	.46****	.73****	.73****				
11.MAAS	-.08	.11	-.37****	-.36****	-.50****	-.40****	-.53****	-.51****	-.52****	-.59****			
12.MSCS	.003	.06	-.04	-.26**	-.34****	-.21*	-.48****	-.52****	-.47****	-.52****	.51****		
13.SCS	.02	.19*	-.13	-.33***	-.46****	-.30***	-.54****	-.54****	-.59****	-.61****	.48****	.57****	

Note: Superwoman Schema Subscales are denoted as follows: SWS^{IS}: obligation to manifest an image of strength, SWS^{SE}: subscale for obligation to suppress emotion, SWS^{RV}: resistance to being vulnerable or dependent, SWS^{DS}: determination to succeed even in the face of limited resources, SWS^{HO}: obligation to help others

**p < .05, **p < .01, ***p < .001, **** p < .0001*

Multiple Regression Analysis

Table 3.6 shows the multiple linear regression analysis results addressing the four research questions for study aim 4.

> Research Question 1: When controlling for age, socioeconomic status and education, do perinatal, African American who endorse higher levels of superwoman schema have higher levels of anxiety symptoms, depressive symptoms and perceived stress?

The superwoman resistance to vulnerability subscale, was positively associated with depressive symptoms ($\beta = 6.86$, $p = .01$, $R^2 = 0.32$). The obligation to help others subscale was positively associated with anxiety symptoms ($\beta = 6.34$, $p = 0.004$, $R^2 = 0.38$), depressive symptoms ($\beta = 4.92$, $p = 0.01$, $R^2 = 0.32$), and perceived stress ($\beta = 3.75$, $p = 0.001$, $R^2 = 0.31$) meaning that women who endorsed the perceived obligation to help others also had higher anxiety and depressive symptoms as well as perceived stress even when controlling for age, SES and education.

> Research Question 2: When controlling for age, socioeconomic status and education, do perinatal, African American who have higher levels of mindfulness have lower levels of anxiety symptoms, depressive symptoms and perceived stress?

Mindfulness was negatively associated with anxiety symptoms ($\beta = -5.88$, $p < .0001$, $R^2 = 0.29$), depressive symptoms ($\beta = -6.27$, $p < .0001$, $R^2 = 0.35$), and perceived stress ($\beta = -4.17$, $p < .0001$, $R^2 = 0.39$) meaning that women who had higher mindfulness scores had lower associated anxiety and depressive symptoms as well as perceived stress when controlling for age, SES and education.

> Research Question 3: When controlling for age, socioeconomic status and education, do perinatal, African American who have higher levels of mindful self-care have lower levels of anxiety symptoms, depressive symptoms and perceived stress?

Mindful self-care was negatively associated with anxiety symptoms ($\beta = -1.64$, $p < .0001$, $R^2 = 0.31$), depressive symptoms ($\beta = -1.5$, $p < .0001$, $R^2 = 0.29$), and perceived stress ($\beta = -1.02$, $p < .0001$,

$R^2 = 0.33$) meaning that women who had higher mindful self-care scores had lower associated anxiety and depressive symptoms as well as perceived stress when controlling for age, SES and education.

Research Question 4: When controlling for age, socioeconomic status and education, do perinatal, African American who have higher levels of self-compassion have lower levels of anxiety symptoms, depressive symptoms and perceived stress?

Self-compassion was negatively associated with anxiety symptoms ($\beta = -8.30$, $p < .0001$, $R^2 = 0.29$), depressive symptoms ($\beta = -9.35$, $p < .0001$, $R^2 = 0.37$), and perceived stress ($\beta = -5.87$, $p < .0001$, $R^2 = 0.39$) meaning that women who had higher self-compassion scores had lower associated anxiety and depressive symptoms as well as perceived stress when controlling for age, SES and education.

Coefficients of determination (R^2) were all statistically significant ($p < 0.0001$) in the models. These R^2 results indicate that approximately 30-40% of the variance in anxiety symptoms, depressive symptoms and perceived stress were explained by aspects of the superwoman schema, the degree of reported mindfulness, the degree of reported mindful self-care, and the degree of reported self-compassion, when holding other social variables constant.

Table 3.6. Multiple Linear Regression Results for Association of Superwoman Scheme Subscales, Mindfulness, Mindful Self-Care and Self-Compassion (Independent Variables) with Depression, Anxiety and Perceived Stress (Dependent Variables) When Adjusting for Age, Socioeconomic Status and Education.

	Model I Depression			Model II Anxiety			Model III Perceived Stress		
	β (SE)	*p*-value	R^2	β (SE)	*p*-value	R^2	β (SE)	*p*-value	R^2
			0.32****			0.38****			0.31****
SWS^{IS}	-0.21(2.32)	0.93		0.20(2.14)	0.93		1.33(1.36)	0.33	
SWS^{SE}	0.47(2.39)	0.84		0.80(2.21)	0.72		-0.05(1.41)	0.97	
SWS^{RV}	6.84(2.56)	0.01		3.42(2.36)	0.15		1.99(1.50)	0.19	
SWS^{DS}	-4.10((2.68)	0.13		0.47(2.47)	0.85		-1.73(1.57)	0.28	
SWS^{HO}	4.92(1.86)	0.01		6.34(1.72)	.0004		3.75(1.09)	0.001	
			0.35****			0.29****			0.39****
Mindfulness	-6.27 (0.92)	<.0001		-5.88(0.92)	<.0001		-4.17(0.53)	<.0001	
			0.29****			0.31****			0.33****
Mindful Self-Care	-1.50(0.26)	<.0001		-1.64(0.25)	<.0001		-1.02(0.15)	<.0001	
			0.37****			0.29****			0.39****
Self-Compassion	-9.35(1.28)	<.0001		-8.30(1.32)	<.0001		-5.87(0.76)	<.0001	

Note: Control variables: age, socioeconomic status and education; DV: Depression, Anxiety, Perceived Stress, IV: SWS subscales, Mindfulness, Mindful Self-Care, Self-Compassion; Superwoman Schema Subscales are denoted as follows: SWS^{IS}: obligation to manifest an image of strength, SWS^{SE}: subscale for obligation to suppress emotion, SWS^{RV}: resistance to being vulnerable or dependent, SWS^{DS}:

Qualitative Component Results

The qualitative component of this study addressed study **Aim 1,** which was to describe African American women's perceptions and experiences of stress and psychological distress (anxiety and depressive symptoms) during pregnancy and postpartum, **1a**. Examine if African American women's perceptions and beliefs regarding stressors are associated with the Superwoman Schema (SWS) Conceptual Framework or Network-Stress (NS) during pregnancy and postpartum and **1b**. Examine African American women's self-care behaviors during pregnancy and postpartum and study **Aim 2,** which was to explore African American women's perceptions and beliefs regarding the acceptability of complementary health approaches (specifically mindfulness and mindful self-compassion) to reduce the stressors that they explain as contributing to their psychological distress during the perinatal period.

Participant Characteristics

Table 3.3 presents demographic results for the 20 participants who were interviewed. Nineteen self-identified Black/African American, while one participant self-identified as "half black and half white". Interviewed participants had a mean age of 30.3 years, SD= 5.9, and age range between 19 to 41 years. Participants were well educated with 60 percent having a Bachelor's degree or higher, and married (55%). Fifty-five percent of the participants had a household income less than 50,000 per year and 45 percent earned more than 65,000 per year. The mean number of pregnancies for the sample was 2.2 and the average number of children was 1.2. None of the interviewed participants had a history of preterm birth or low birth weight infant. The most commonly reported medical condition was anxiety (25%) followed by depression (10%).

Superwoman Schema

The unique results of this part of the study pertain to the women's perspectives and experiences of stress and psychological distress and how these experiences may be associated with their levels of mindfulness, self-compassion and self-care, within the frameworks of SWS and NS. The major and minor themes we found will be highlighted and explained in relation to each other. It was noteworthy to mention that approximately half of the participants in this study used words like "anxiety" and "overwhelmed" in

their descriptions and definitions of stress, while others described a feeling of being "overloaded" by the competing demands in their lives, highlighted by this participant in the following way:

> I think about being overloaded. Having a lot to do, and maybe not feeling you have enough resources or support, or feeling that you're not able to call on resources or support, to sort of mitigate what you have to do.

Unique stressors of being African American and Pregnant

Judgement and Assumptions by others. Approximately half of the participants expressed experiences of societal negative judgements from others, as a unique stressor of being pregnant, as an African American woman. A variety of judgmental assumptions were described by participants including the societal belief that African American, pregnant women were likely single, uneducated, and are of low socioeconomic status. Thus, the pregnancy was unplanned, unwanted, and that the woman had no partner or family support. Participants indicated that these assumptions came from various members of their social settings, including employers, friends, colleagues, and strangers, including their obstetrical providers and staff. One mother's story helps to illustrate this:

> I don't look my age, I'm twenty-eight and so one of the things that stressed me out, when I was pregnant, [was] people would just give me a dirty look – Oh there's a Black girl, she's probably not married and she's young. But I'm not [unmarried]. I'm twenty-eight and I am married, but you would just get those looks. One of my appointments that I went to, they asked me, was the father in my life? and I'm like, 'Yes, my husband is at work and he couldn't come to the clinic [today]' That was stressful, because you had to be on guard. Like people assume that because you're Black, you're unmarried, you're on Welfare or something – but I'm not. Like, I'll go places with the baby and they'll say, 'Are you paying for this with food stamps?' [I had to respond], "No, I don't qualify for food stamps!" So, it's stressful! Like I don't know why people assume things.

It is not uncommon for women of any ethnicity, who are pregnant, not to wear rings during pregnancy, because of swelling in their fingers. Yet, these participants illustrated that this was a privilege they could not have, without consequences of assumptions and judgements, which ranged from mean spirited to genuine concern for their well-being, but hurtful to them just the same. For instance, they described the significance of wearing a wedding ring, while pregnant, especially if they were out in public, without their spouse. In addition, others, even their employers, assumed they had limited financial resources to stay home with the child after birth, as this mother illustrates:

> I felt like offended, you know, and things like that. You know, like people automatically feel like you need some type of assistance……I think I was starting a registry with my daughter. . . . I don't always wear a wedding ring, you know, especially during pregnancy, but you know, and they [the store personnel] were like, 'Do you want to list like a co-registrant?' A lot of times that's where moms put the dad's [name as well], if they're not in the picture. And I was like, 'What! Like, I'm here by myself because my husband don't like to shop! 'You know, like, 'It's not because. . . I got randomly knocked up by somebody!' . .[I was thinking] I don't know, like, what Black women do you know? Or [that] you just assumed that, like, you know?. . . . I felt like there are assumptions that are automatically put on Black women that are unfair.
>
> You know, like even when I went back to work, I went back to work with [my baby] for a little bit. My boss was really nice and he let me bring her to work. And like after probably three or four weeks, we just realized it probably wasn't going to work, and I told him that. You know, I said, 'You know, it's not going to work, you know?' I said, 'I'm just going to stay home.' And he was really, like genuinely surprised, like, he's like, 'Well are you going to be okay?' And I was like, 'Yeah, I'll be fine. Like I'm going to stay [home with my baby]. We crunched the numbers, I'm fine. We're good," you know. And he like thought, that like, I didn't have like that option! You know, and I don't know why. You know, like I told him I took a pay cut, to come work here, just because we moved up here for [my husband's] job and stuff like that, but I never led him to believe we had any money issues, you know, or anything like that. I was the only Black person that worked there, you know. So you know, like I also didn't tell him that every paycheck he gave me, just went to our savings account, but I didn't feel like I needed to [tell him that], you know.

Isolation. A feeling of isolation was another unique stressor that perinatal African American women shared. This sentiment came across in multiple facets of the participants' interviews. When asked about the characteristics of a strong black woman, one participant stated, "You have to go through a lot of things alone, because you don't necessarily have your elders to lean on, because they have had to deal with a different life you know?" Another participant, when asked about being able to trust others with their emotions or fears, stated, "So I just stick to myself, because that will eliminate that stressful part as far as their [other people's] negativity". Although isolation was not often explicitly said, the way in which participants talked about aspects of their stress, revealed an undertone of isolation, through expressions of not being listened to without judgement, not being able to share their feelings and thoughts, which led to sadness and loneliness. Some women expressed feeling judged by others, when they expressed any feelings of vulnerability, which they believed were viewed by some others as weakness, as one woman illustrated:

> And not having people understanding, that if we come to talk or we come to say this, we don't want to get bashed for it! We just need that ear, and then we don't get that ear. It's a sad place, when we have to stand alone.

Network Stress

Network stress, or stress coming from family, friends, loved ones, or others in their daily social environments, was an overarching theme that often paired with the SWS *perceived obligation to help others* subscale. The majority of women stated that their stress came from their immediate and extended family network (siblings, parents, partners), as opposed to their own personal stress. Yet, they felt obligated to help their loved ones, despite their own self care needs. One participant noted, "When I say 'take on', I mean take on stress and challenges of others, and holding those things for others, and showing up constantly, for other people, when you may, or may not, expect them to do very much for you." However, network stress also linked with the *obligation to present an image of strength*, as one participant stated:

> …My route of life, is non-traditional, compared to the rest of my family. And so, therefore, they look at me as this role model, or like, kind of put me on this pedestal.
> So, basically, I don't want to be there. I don't like to be that!. . . . I have to keep up this persona, like, I have to be perfect! I have to be, like you know, not be stressed out, or be worried about anything, because like, they've all looked at me, or look at me, like this example for their children, or their lives.

Coping strategies for participants

The four most common themes that emerged regarding coping strategies was talking, avoidance, prayer, and journaling. More than half of the participants said that the way in which they cope with stress, was talking to friends, significant others, and loved ones. Conversely, many women admitted that they chose avoidance as a coping mechanism, so they could accomplish what they needed for their family. They stated they try to "forget about it", "not deal with it", "ignore it", and "shut down". Many women brought up prayer and spirituality as a coping mechanism. One participant noted, "… Because I'm a spiritual person, I really just listen, just praying, and giving it to God. That helps with my stress levels." Journaling emerged as a theme for coping strategies that participants used to manage their stress. One

participant shared that, “If I’m feeling something, I jot it down. I recently started doing that this year to kind of pen my emotions.”

How Other African American Pregnant Women Cope with Stress

Participants noted that they saw other pregnant, African American women cope with stress through similar strategies mentioned above, however, it is noteworthy that many of participants indicated that they did not or have not seen other pregnant or postpartum African American cope with stress. In other words, participants had not noted or asked them how they coped, and those women had not shared their coping strategies with them. There was an overarching theme of *coping in silence* that further undergirded the obligation to present an image of strength, resistance to vulnerability, and emotional suppression. One participant said her sister was okay with “Cutting everybody off and being gone for a while, you know? I feel like that’s how she does her thing”. Another participant indicated that stress is “Not really immediately addressed, or addressed at all. [You] just kind of take it, and add on more to the pile, or you know, [add] more on to the load.” Many participants also mentioned that black, pregnant, women have been taught to cope with their stress, quietly, by their foremothers (mothers, grandmothers, aunts). Participants also noted that they have been taught by other women, in general, to pray and turn to God for help.

Mindfulness

Most participants had heard of the word mindfulness, but were unsure of the ‘correct’ definition. Only 3 participants had never heard of the word mindfulness. Yet, when asked to share what they thought it meant, many responded with sentiments of “intentionally being in the moment”, “being quiet”, “slowing down”, “meditation” and “being aware of your actions and maybe a deeper reason of why you’re doing something”, demonstrating that they understood important components of mindfulness. One participant defined mindfulness as “developing self-preservation and peace”. Another participant gave a more detailed definition as follows:

> . . . Being in the moment and enjoying the moment, or
> just like, taking the time to appreciate the moment. You spend, or I just spend
> so much time thinking about, you know, like what I need to get done, or the

> future, or the past, what has happened. That, within itself, is just overwhelming, because you're constantly in 'go-mode'. Like, you're trying to figure out what's your next step, what bill you got to pay, what email you need to send, who you need to call, you know? It's just like, that constant thought process is just exhausting. When I think of mindfulness, you know, I really think of, I really take the time to be in the moment and just not worry about you know what email [I should send], to not worry about what I need to do tomorrow, or the next hour. You're just taking the time, just to say, like hey, like observing like [your] sense of smell. Like I love to have my house smell a certain type of way. Just like really taking that in, or conversations, or you know, T.V., or [a] book, or whatever it is, you should just, really be in that moment, instead of being in the moment, of what I need to do, or what haven't I done, or, you know?

The vast majority admitted that they had difficulty staying in the moment, stating that their minds were always thinking about the past or the future. Most women stated that since becoming pregnant, they spend most of their time thinking about the future, in preparation for their baby, and how they will care for the baby.

Two participants indicated a unique concern about knowing that they would be having a black, baby boy and the concerns and stress that come with this reality, considering the charged political climate in the United States during the time that this study was conducted (2018-2019), these concerns may be even more salient for African American women. These two women admitted that they often thought about their own future and decision-making, regarding conversations they will have to have with their sons, about living as a black male in this society. One participant articulated:

> …Definitely the political climate and the things that are going on, as far as, since I do have a little boy, a Black boy, which is kind of scary, [considering] the way things are going. As far as police brutality and killings. And just thinking of the anxiety that comes with all of that! The worry of him growing up, and something happening to him. Because I've noticed people think they are cute when they're little, they're all cute and everything, but as they grow up, people see them as more of a threat, than anything else. So that definitely worries me. And then hopefully raising him, in a way, where he'll be able to navigate the world, with more caution than fear. So just things like that.

The other participant offered a slightly different perspective:

> It's really like starting to sink in, what that means. That we're having a son. And how I'm supposed to navigate through the fact, that we're going to have a Black son . . . .I've actively been trying to push it away in my head, but now that we're getting closer, it's something that I can't really ignore, you know?... Given recent events, you know, violence and police shootings, and um different ways that you know that people view our kids, you know, knowing that at

> probably like eleven, which I still feel like is so young. . . That people like view your son, at eleven, like he's a man, at eleven…And what if he gives off that impression that, like isn't comfortable to White people, or authorities? Like how do I tell him, you're going to have to - either you're going to have to tone this down, which seems ridiculous! Or, am I comfortable with us having to always be at odds with almost everyone around us, because we're in predominantly White spaces, you know, so it's like, well do I have to be worried about the neighbors being comfortable around my kid all the time? Or you know, is it people have to get to know him, and be like, 'Oh, but once you get to know him, he's really a nice kid, you know, or something like that, when he's done nothing. And I don't really know how to finagle that, as far as in White spaces…

These sentiments were shared within the context of asking about unique stressors to being African American and pregnant, but they also highlight the potential inability for some African American women to stay in the moment and practice mindfulness, when they have to consider these types of consequences for their male offspring, if they find out they are having a male.

Self- Compassion and Mindful Self-Care Behaviors

The vast majority of participants admitted that they were not compassionate towards themselves and in fact, they neglected their own self- care, however, when asked to highlight what behaviors they try to do for emotional and physical self-care they indicated that self-care activities included attendance at church, prayer, walking, listening to music, therapy, and journaling. A few participants indicated that crying and self-talk was the way in which they took good emotional care of themselves. While many pregnant participants stated their physical self-care behaviors have decreased, due to the physical limitations of pregnancy, some participants indicated that they dance, walk, drink more water, yoga, exercise, and eat healthier for the baby. One participant alluded to doing simple activities of daily living as her self-care behavior stating:

> Eat, brush my teeth. Those simple normal things. As far as what other people do, you know, they go out and get pedicures, manicures, get their eyebrows arched all the time, get their hair done, every couple of weeks, or [every] month, or so, you know? I can't do much of those physical things, but the basics, I can do. I can make sure my clothes are clean.

***CAM Acceptability*.** One hundred percent of the interviewed participants either "agreed" or "strongly agreed" with the statement "I believe that complementary health approaches are/would be an acceptable way to manage and cope with my stress".

***Mindfulness Based-Intervention Suggestions*.** When participants were asked to share what they would want to see or what should be considered in a mindfulness-based intervention targeting their stress, they voiced numerous ideas which were repeated across the interviews. Participant's ideas included suggestions on the location, types of classes, interventionist (person conducting the intervention), and even the types of participant they would want to be joined with.

Location. The majority of participants wanted the intervention location to be in a "sacred", "safe" space, with a "spa" like feel that was calming. They wanted a space that engaged their senses (beautiful, with elements of nature, quiet, and a safe space). The deeper meaning being of "safe" included being in a nonjudgmental space, with a sense of community, where Black women could be open and have honest dialogue about their stress. These sentiments were illustrated in the following ways:

> Well what I was thinking was about nature. And for some reason I think because there is something that's so primal about pregnancy and birth. I'm really kind of drawn to the idea of doing something that, during pregnancy specifically, or maybe early postpartum, that connects to that natural framework, because pregnancy is a very natural process. And so that's why I was asking if it was specifically for pregnant women. And the thing is, when you're - in my experience, when you're in nature, it's hard to be there and feel rushed, because nature isn't generally rushed….And it's very slow and very intentional, and this is the whole purpose of this. For me, it slows me down and that is the way that I think about mindfulness. Really just slowing down from so much stuff.

> …Like a place for Black women to go to and really just like let their hair down…Really just like an environment, where you can really build relationships with other Black women, who may necessarily be going through the same stressor as you. Whether it's at work, whether it's with family, whether it's like with home life, you know? New mothers. Just a space that's welcoming. Just an unfiltered like space. Like that would be ideal for me. And I would include you know things like yoga. Things like meditation. Things like some books you could read, you know? And an interesting conversation/discussion that's important. All of that you know? Or even, just like, exposure to like Black women who are successful, or have lived through you know, whatever, and have opened themselves…That would be an environment I would love to go to, and say I have participated in this class, you know?

Interventionist. Some participants voiced a preference regarding the interventionist that alluded to the ability to engender trust with the participants,

> I just would want to see an instructor or somebody that really cared or seemed like they cared about the women and that they understood all the stress that we go

> through. Like I wouldn't want an instructor that's just there, just because that's what they have to do. I want somebody there, that when I got off work, I'd be ready to go see them….A nice environment. You know like a fun environment. Maybe like a place with bright colors. Something that would be cheerful and grab everyone's attention. Like, as soon as you walked in the room, you just felt calm immediately. You felt like you could just leave all your worries at the door, as soon as you come in.

Classes/Programming. Participants expressed interest in having special sessions or classes included in the intervention. One participant wanted a class focused on how to break the cycle of superwoman schema, particularly focused on what we teach our black daughters. She stated:

> I think the question that should be asked is how do I teach my daughter how to deal with stress? Or how will I teach my daughter what stress - or what will I tell her stress feels like? Or if she - you know...that would be the question to ask. Because, yes, I'm dealing with it, but she's the next generation, I mean that's going to be looking at this research and understanding it. Because right now, our generation is whack and we don't even know what we're talking about. But her, she's going to be the one interpreting it, so I need to know - I would like [her] to know how other people talk to their daughters. How do they tell their daughters, like you're stressed out. This is what stress looks like.

Participants had varying ideas on whether or not to focus specifically on the word "mindfulness" in the intervention. Some participants felt it was fine to utilize the core tenets of mindfulness to guide the intervention, but felt like using the word "mindfulness" wasn't necessary, because not everyone would be familiar with the word, but they would be able to embrace the intentions of mindfulness. Some participants wanted to see a class that incorporated the role of spirituality in stress, for perinatal African American women. One participant mentioned that she wanted to see spirituality incorporated in some way. A few participants wanted to have classes that taught tangible ways to incorporate mindfulness on a regular basis in their daily lives. She noted:

> I think probably an active participation in mindfulness, whether that's you know taking ten minutes to just kind of center your mind on one phrase or something like just a mindful practice and then also to like do, to be scheduled into your day. No interruptions and I think that again as I was saying mindfulness can be something that okay, if I have twenty minutes at the end of the day, I'll get to it, but then you just don't. So, if that was like a scheduled portion of okay during this hour-long session, we're going to do twenty minutes of this like active participation of mindfulness and that would be for me, being a very structured person, that would be really good, because then I would have to do it. And then I also just think of being in community with other women who may be dealing with the same stressors that you are. Whether that's pregnancy, whether that's

> the more specific stresses of pregnancy, for Black women, just kind of being present with them in that community, I think it's really unique. I know that I've only gathered with pregnant African American women a handful of times in my life. So, just to be able to be in that space with fellow Black women who are pregnant, I think is really unique and beautiful. And then also yeah snacks. People always love food! And so any time there's food, it's like people want to go to these things more, so that's just like a practical thing. Having food always helps!

Another participant alluded to a tool that she believed could provide emotional guidance. She explained it in the following way:

> Maybe like a little tool or intervention that can provide some guidance or a mindfulness activity. . . .whether it's for five minutes or two minutes, some things about self-imagery or how you perceive yourself. Tools on letting go . . . .and possibly something where it's not always seriousness, like maybe something that's just that activity that will just take you totally out of your comfort zone, where you have to do goofy things, just a moment to laugh! Where you don't have to physically think about anything.

Finally, one participant mentioned a class on "mindful finances" that would teach women and families how to manage their finances responsibly, in preparation for taking care of and providing for the baby. She indicated that, ideally, this type of class would be offered prior to pregnancy, so that women with limited financial resources could responsibly prepare for a family by becoming more financially stable prior to pregnancy. Other intervention suggestions included offering childcare and "emotional mindfulness" that would address things a woman can do prior to and during pregnancy to emotionally prepare for having a baby.

Discussion

In this study we examined perinatal African American women's perspectives of stress, stressors, and psychological distress using a mixed-methods approach. Participants completed online surveys (n=125) as well as semi-structured interviews (n=20) to provide a greater depth and breadth of understanding regarding perspectives of stress, mindfulness, self-compassion and self-care within the context of SWS and NS. Additionally, this study provides a wealth of knowledge and insight into the unique perspectives of being an African American pregnant woman in this country and the stress that comes with that identity. While some aspects of this work corroborate what has been previously found in the literature for other populations, the majority of the findings provided perspectives regarding

psychological distress, mindfulness and self-compassion that has not been previously explicated in the literature and has tremendous implications for nursing practice and research.

The quantitative study findings indicated that there was a significant correlation between superwoman schema, network stress and perceived stress with psychological distress. Participants who endorsed higher levels of the perceived obligation to help others had the highest correlation with anxiety. Women's feelings and beliefs that they must help others in their "network" correlated with higher levels of anxiety. Additionally, the regression analyses clearly indicate that, when controlling for age, socioeconomic status and educational attainment, perinatal African American women who endorse higher levels of superwoman schema have higher levels of anxiety symptoms, depressive symptoms and perceived stress.

Furthermore, the mean scores on the anxiety, depression and perceived stress scales were clinically significant in this study population. The higher mean scores on these measures of psychological distress also reflect participants self-report of anxiety and depression. Higher scores on psychological distress measures correlated with lower scores on mindfulness, self-compassion and mindful self-care. These findings are similar to that which has already been explicated in the literature in the general population (Neff et al. 2010, Van Dam et al. 2011) and perinatal populations (Goodman et al. 2014, Duncan et al. 2010) however, the current study offers the unique finding in perinatal African American women.

In the qualitative component of the study, participants endorsed, throughout their narratives, the five hallmark characteristics of SWS, including contextual factors of racial and gender stereotyping, perceived liabilities of lack of self-care and the embodiment of stress, as well as benefits such as preservation of self (Woods-Giscombe, 2010). The qualitative findings from the current study provided rich, thick details and perspectives of the daily and unique stressors of being female, Black, and pregnant.

Anxiety, in particular, is a theme that resonated across participants as they described what stress meant for them. This is a surprising finding as traditionally, African American women avoid admitting or identifying with psychological distress such as anxiety or depression due to the perceived associated

stigma however, women in this study did so repeatedly. One source of anxiety that was identified stemmed from knowing that they were having a son. The women expressed that they couldn't just enjoy the moment of being pregnant, they were haunted by the thoughts and the burdens that come with the identity of being born a black male in today's society. Given the attention to racism from police killing of black males, that has played out in the media in the recent years, black women were acutely more aware that their child would have unique experiences that they as a parent would have to help them navigate. Yet, given the injustice of some of those killings, they might not be able to protect them from racism. In addition, should their male son, act out against injustice, he might be seen by others as an angry black man that is dangerous. In the interviews, a few women clearly expressed the struggle that comes with knowing you are carrying a life inside of you that is not seen as valuable to today's in society.

Feeling misunderstood by society, judged, and alone were some of the most salient sentiments expressed by participants. Women felt frustrated by what they felt were judgements and assumptions made by others. Similar to the findings by Woods-Giscombe (2010), participants in this study talked about spirituality and relationship to God as ways in which they coped with their stress. In addition, the women in their life utilized similar coping strategies of faith and spirituality. Often times, this coping mechanism however, would lead to maintaining a stoic exterior to those around them.

As it pertains to mindfulness and a mindfulness-based intervention, the participants in this study were overwhelmingly accepting of a mindfulness-based intervention aimed at helping them cope with their stress or psychological distress. Similar to previous studies regarding mindfulness interventions for African Americans (Woods-Giscombe & Gaylord, 2014), this current study explored participant suggestions for what they would want to see in a mindfulness-based intervention. They were particularly interested in an intervention that would incorporate a safe and welcoming space as well as classes or programming aimed at helping them initiate conversations with their daughters on how to break the cycle of superwoman schema. A suggestion of wanting the person delivering the intervention to also look like them was important. Essentially, they wanted an intervention taught by an African American woman for African American women in a non-judgmental space.

No one participant gave an all-encompassing description of how to create a healing space. Instead, each had a different mixture of suggestions (physical, cultural, emotional, or spiritual aspects), but together their suggestions mirrored what Kearns and Gessler (1998) described in their synthesis of healing spaces (Kearns et al., 1998). Such spaces provide a physically calming space, emotional warmth and connection between those involved, a cultural sense of a shared meaning and identity, with respect and safety for expressing individual beliefs. This is all meant to combat the social detachment and disparities they experience in their everyday life, causing their stress, distress, and detachment.

Advantages and Limitations

This study was the first study to position African American women's perspectives in the forefront, illustrating in rich detail their unique experiences of stress and psychological distress during pregnancy and the first year postpartum, while combining and integrating the theoretical concepts of superwoman schema and network stress. The study provided contextual depth by focusing on the gender and race-related factors that may contribute to their experiences of stress and perceptions of mindfulness, self-compassion, and self-care. Second, we achieved statistical power with a sample size of 125 participants and the majority of the study findings were statistically significant as well. Although, all of the participants lived within the southeastern United States, there was a diversity in the particular communities, in which they lived, as well as the obstetrical practices that they received care in, within North Carolina.

The study had limitations, which should be considered, when interpreting the results. First, perinatal, African American women were recruited via listservs, email participation, and flyers and brochures that were placed in obstetrical practices. The study clearly indicated that we were recruiting women who would be willing to talk about their experiences with stress. Thus, it is likely that women who were currently feeling stressed, or coping with symptoms of psychological distress, were drawn to participate in the study. Our results might have differed if we recruited pregnant, African American women and then asked them about stress. Another limitation of the study was the use on convenience sampling. Had we purposive sampled participants for the qualitative component of the study based on

their scores from the quantitative questionnaires we would have allowed for maximum variation and in-depth exploration of varied experiences. Yet, due to the initial low enrollment, purposive sampling was not feasible. Additionally, the enrollment of participants who were queried from the Carolina Data Warehouse, could have resulted in referral bias due to the fact that they all received care within in UNC Health Care System. It is possible that participants receiving care from the UNC Health Care system may be of higher acuity or have medical complications in their pregnancy that necessitated referral to UNC. Women with higher obstetrical acuity may also higher levels of stress and psychological distress in this population. An important bias in the qualitative study stems from the fact that none of the women interviewed had a history of preterm birth or low birth weight infant. While the demographics of the study participants were diverse across age and socioeconomic status, the majority of the participants were well educated with a least a Bachelor's degree, and all from the Southeastern United States. Therefore, the study findings cannot be generalized to the population of all African American women. Consequently, additional research should be conducted with a larger and more representative sample of African American women living in other areas of the United States or even other countries.

Implications for Practice and Research

In examining the experiences of stress and psychological distress in perinatal, African American women, these findings lend themselves to conceptualizing stress and its unique complexities for this population. Exploring their perceptions and beliefs of mindfulness, self-compassion and self-care within the context of superwoman schema and network stress enhances the development of a culturally relevant mindfulness-based intervention. Next steps, should include a pilot feasibility study that includes their perspectives regarding mindfulness and self-compassion to enhance the intervention.

The findings of this study open several opportunities for future research and practice. First, would be the development of a culturally relevant mindfulness- based intervention that incorporates the suggestions of women in that area, as we have done here. The participant voices should undergird the development of the intervention to ensure acceptability and feasibility of the intervention.

The researcher is particular interested in further exploring the experiences of anxiety which was particularly prominent throughout this study. Mean anxiety scores, self-report of anxiety as a medical condition and the theme of anxiety as a definition of stress warrants further investigation. A secondary analysis to explore anxiety further would include examining the interviews in women who scored particularly high on the STAI scale to evaluate how they talked about anxiety. Another possibility is to reach out to women who scored high on the anxiety scale and self-reported anxiety as a medical condition and perform one on one interviews with them to further explicate their lived experience during the perinatal period.

Conclusion

This study provided insights into the experiences of stress and psychological distress for perinatal African American women. In addition, this study elucidated women's perspectives on mindfulness, self-compassion and self-care. Future research should further explore the underpinnings of SWS and network stress in this population to guide the development of integrative health approaches targeted at stress management in this population.

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CHAPTER 4: PERINATAL AFRICAN AMERICAN WOMEN AND THEIR WOMEN'S PRIMARY CARE PROVIDERS: CONVERSATIONS ABOUT STRESS

Introduction

In the United States, African American women have twice the rate of preterm birth (PTB) and low birth weight (LBW) as compared to European American women. According to the Institute of Medicine, the cost of preterm birth exceeds $26 billion annually (Behram RE, 2007), however, this estimation does not include the cost of re-hospitalization or the long-term care needs for the child, should they survive the first year. The sequelae from PTB and LBW in the first year after birth, include infant mortality, which is 11.1% for infants born to African American women, as compared to 5.1% for infants born to European American women (per every 1000 live births). Should preterm and low birth weight, African American infants survive their first year, they are likely to have varying degrees of physical, cognitive, emotional, social, and combined morbidities for which they will require medical care, rehabilitation therapies, and social assistance, which adds to the estimated costs (CDC, 2016). The disproportionate rate of adverse birth outcomes among African American women persists, even when controlling for factors, such as maternal education (Schoendorf et al., 1992), socioeconomic status (SES) (Berg et al., 2001) and women's prenatal care and health behaviors (Goldenberg et al., 1996; Hogan et al., 2012). These disparities are well-documented and have persisted over the past two decades, which creates a compelling rationale to continue the search for alternate possible explanations. African American women's maternal stress may, in part, independently, or in combination with other factors, explain these disparities, given their experience of social disadvantage and minority racial/ethnic status as characterized by their higher levels of daily psychosocial stress and inadequate resources within their nested ecological environments (Lobel et al., 1992; Sandman et al., 1997; Wadhwa et al., 2011). In fact, previous health

disparity research has indicated that African American women experience greater levels of stress as compared to European American women (Woods-Giscombe et al., 2008).

Researchers have examined multidimensional stress-related factors that may contribute to health disparities for African American women (Giscombé et al., 2005) however, the examination of the role of stress in African American women and its potential impact on birth outcomes is complex, for multiple reasons. One prominent reason, is likely due to the multiple definitions of stress, stressors, and distress used in the literature. When defining stress, we use Lazarus and Folkman's (Lazarus, 1986) widely accepted transactional model. They define stress as a stimulus, a response, and an interaction between stimuli and responses (Goldenberg et al., 1996; Lobel et al., 1990). Stress, in this case, is a subjectively perceived discrepancy between the women's environmental demands, her stressors, and her appraisal of her biological, psychological, and/or social resources (Woods-Giscombe et al., 2008). "Distress" is a manifestation of stress and can be defined as an aversive physiological state evidenced by physical or psychological symptoms such as worry, muscle tension, headaches, overall weakness, anxiety and depression (Dohrenwend et al., 1974). The stressors to which African American women are exposed, and the ways in which they appraise these stressors, reflect their distinctive history of racism, their daily sociocultural experiences (including those of others' within their population and present politics), as well as their position within a society dominated by European Americans and their culture (Brown et al., 2000; Jackson et al., 2004; Jackson et al., 2001). The experiences of stress in African Americans differ in both magnitude and content, when compared to the stress of European Americans (Jackson, 2002). Exploring the role of the unique factors of stress that African American women experience and their contributions to psychological distress, as well as, potential impact on adverse birth outcomes are significant pathways to consider (Rosenthal et al., 2011).

The experiences of race-related stress, gender-related stress, and generic stress have been shown to contribute to African American women's experiences of distress (Woods-Giscombé et al., 2010). Race-related stress is defined as stress that emanates from racism and affects the psychological and physical health of African Americans (Woods-Giscombe et al., 2008). Gender-related stress in African American

women is defined by sexism and unique gender-specific experiences and has been correlated with racism and psychological distress in this population (Woods-Giscombe et al., 2008). Generic stress relates to events or conditions that are not directly related to one's race or gender (Woods-Giscombe et al., 2008). Research suggests that all three of these elements of stress should be considered together and not isolated from the other when exploring the impact of stress on psychological or physical outcomes in African American women (Giscombé et al., 2005).

Studies have indicated that when African American women experience anxiety or depression, the social and individual impact is more severe, as evidenced by greater number of days missing work or school and the impact on their perceived quality of life and well-being (Williams et al., 2007). While African American women carry a significant burden of mental health needs they underutilize mental health services and are reluctant to seek care (Woods-Giscombe et al., 2016). Exploring the role of stressors and stress in perinatal, African American women, and the contributions of these factors to maternal psychological distress and adverse birth outcomes in their infants, are significant pathways for exploring and eventually improving perinatal health inequities (Rosenthal et al., 2011).

The perinatal period represents a time of increased vulnerability to psychological distress (Goodman et al., 2010). Estimates of the prevalence of depression in pregnancy can be as high as 20 percent (Bennett et al., 2004; Gavin et al., 2005; Leight et al., 2010) and while firm estimates of anxiety in pregnancy do not exist, due in part to lack of agreement about appropriate screening tools, past studies suggest that a significant portion of perinatal women experience symptoms of anxiety (Heron et al., 2004; Leach et al., 2017; Thorsness et al., 2018; Wenzel et al., 2005). There is a substantial body of evidence linking psychological distress during the perinatal period with adverse birth outcomes (Alder et al., 2007; Dunkel Schetter et al., 2012). These outcomes are strikingly more common among African Americans. In the past two decades, researchers have explored the potential contribution of psychological distress to disparities in adverse birth outcomes, specifically in African American women (Dole et al., 2004; Dominguez, 2011; Giscombé et al., 2005; Glasheen et al., 2015; Jallo et al., 2015; Rosenthal et al., 2011). In particular, research has explicated that there is strong, convergent evidence across diverse populations

linking pregnancy anxiety to preterm birth (Dunkel Schetter, 2011; Dunkel Schetter et al., 2012). Additionally, there is substantial evidence that maternal stress, depression and anxiety have been linked to poor fetal growth (Ciesielski et al., 2015) and neurodevelopmental delays (O'donnell et al., 2009). It is, therefore, critically important that researchers explore potential contributors to stress and psychological distress that have not been considered in the past, this includes the utilization of conceptual frameworks and theories that are culturally sensitive and may help women's primary care providers understand the unique perspectives of stress for perinatal, African American women.

The conceptual frameworks, Superwoman Schema (SWS)(Woods-Giscombe, 2010) and network-stress (NS) (Woods-Giscombé et al., 2015) are factors that may contribute to stress and psychological distress in African American women. These experiences of stress and psychological distress may, in turn, impact self-care. The SWS conceptual framework posits that historical and sociocultural events in the United States related to race and gender have resulted in the development of Superwoman Schema characteristics among African American women (Woods-Giscombe, 2010). These characteristics are a) an obligation to manifest an image of strength; b) an obligation to suppress emotions; c) resistance to being vulnerable or dependent; d) determination to succeed even in the face of limited resources; and e) an obligation to help others (Woods-Giscombe, 2010). Network-stress refers to perceived stress related to stressors in the lives of family members, friends, or other loved ones (Woods-Giscombé et al., 2015). Recent research has suggested that NS should be considered when evaluating psychological distress in African American women and its impact on stress-related health disparities. SWS and NS are potentially important, yet underexplored, factors in stress-related adverse birth outcomes in African American women. By elucidating the unique psychosocial experiences of pregnant women from diverse social groups, we may gain a better understanding of the etiological factors driving persistent ethnic disparities in reproductive health (Dominguez et al., 2005). Woods-Giscombé et al. (2015) explored the role of network stress among African American women. They found that African American women were exposed to a greater number of network-stress related events as compared to self-stress events. They also found that African American women perceived both events as similarly stressful. The authors state that

future studies examining the role of stress, as it related to health outcomes, should consider network stress.

Women's primary care providers (e.g., certified nurse-midwives, women's health nurse practitioners, gynecologists/obstetricians) have a unique opportunity to interact with perinatal women and address their experiences of stress and psychological distress during this critical period (Goodman et al., 2010). However, studies suggest that healthcare providers (including ancillary staff) do not ask the questions to assess stress and psychological distress during the perinatal period. There are many potential reasons for this, including, but not limited to, lack of time, lack of knowledge in how to assess stress and distress, and lack of referral resources. Women's primary care providers are key targets to promote integration of the assessment of stress and distress into the care of perinatal women, given the key role they have during women's healthcare decision making during the reproductive years (Coleman et al., 2008; Glasheen et al., 2015; Scholle et al., 2003).

One research study (Goodman et al., 2010) which aimed to assess the rates of detection, treatment, and referral of maternal depression and anxiety by obstetrical providers during pregnancy and at 6 weeks postpartum showed that the majority of women who screened positive were not identified by their providers during pregnancy or postpartum. Only 15% of positively screened participants had evidence of any mental health treatment in their electronic medical record during pregnancy, with equally low rates of referral to mental health or social services. In the postpartum period, only 25% of positively screened postpartum women received treatment, and an additional 2.5% were referred. Exploring African American women's perspectives regarding their interactions with their women's primary care providers to address their stress and psychological distress during the perinatal period is integral to our knowledge of how to best enhance provider's interactions with this population. Yet, to the author's knowledge, research elucidating perinatal African American women's perspectives about these factors has not been conducted.

The purpose of the overall dissertation study was to gain a better understanding of the factors that may contribute to the persistent ethnic disparities in African American women's birth outcomes. The purpose of this qualitative manuscript was to position African American women's perspectives in the

forefront of understanding the clinical and social problem, while combining and integrating the theoretical concepts of SWS and NS. Specifically, this manuscript addressed aim 3 of the overall dissertation study, which was to explore African American women's perspectives of communication with their women's primary care providers during the perinatal period, with regards to their experiences of stress, stressors, and psychological distress.

Methods

This study involved the qualitative analysis of 20 interviews conducted with a demographically diverse sample of African American women to explore and better understand patient-provider communication during their prenatal and postpartum visits. Study procedures and informed consent forms were reviewed and approved by the University of North Carolina Institutional Review Board (approval no. 17-1665) for the Protection of Human Subjects. The data collection for this study was conducted from January 2018 to January 2019.

An integrated theoretical framework that combined Superwoman Schema and Network Stress was used to guide the overall dissertation study (Woods-Giscombe, 2010; Woods-Giscombé et al., 2015). A detailed account of the dissertation study design and methods has been described in Chapter 3 of this dissertation. In the overall dissertation study, we employed a cross sectional, mixed-methods approach (quantitative and qualitative components) with a convenience sample to obtain a greater depth and breadth of knowledge regarding the experiences of stress in African American women during the perinatal period. Semi-structured qualitative interviews were conducted to elicit more detailed descriptions of their experiences of stress, stressors, and psychological distress, during the perinatal period, as well as explore their interactions with their women's primary care providers during their prenatal and/or postpartum visits. The interview data exploring patient-provider interactions is the focus of this manuscript. Semi-structed interviews were conducted until informational saturation was achieved.

Setting and Recruitment

In the overall dissertation study, a convenience sample of perinatal African American women from obstetrical practices and birth centers in North Carolina was recruited. To bolster the size of our

sample, participants were also recruited from the Carolina Data Warehouse for Health (CDW-H), which is a central data repository containing clinical, research, and administrative data sourced from a large health care system. These sites were identified and selected based on their demographics of serving women of diverse social and ethnic backgrounds. Snowball sampling was also employed. Recruitment materials consisted of flyers and brochures that were provided to obstetrical practices. Information on the flyers and brochures provided a brief description of the study and its goals, contact information for the principal investigator, and inclusion criteria for participation in the study. To encourage participation, potential participants were informed that they would receive a $15 online Target gift card, upon completion of the online survey. If selected for a one-on-one interview, they received a $25 Target gift card, after completion of the interview, for a potential total of $15-$40 (Appendices A&B).

Sample Size

We estimated a sample size of approximately 20 participants (Sandelowski, 1995) to allow for a socially varied and rich, deep analysis of perinatal, African American women's perceptions, experiences, and beliefs. The total qualitative sample was determined once informational saturation of the themes discussed by participants was achieved.

Participants

Women were eligible to enroll in the study if they a) self-identified as African American/Black; b) were at least 18 years old; c) had a singleton pregnancy at the time of enrollment or were no more than 1 year postpartum; and d) were English speaking.

Data Collection and Procedures

Selection of participants for the qualitative portion of the overall study was based on convenience sampling from participants who indicated in the quantitative component that they were willing to be interviewed. In depth qualitative interviews (Sandelowski, 2000) were conducted by one person (KS), a nurse-midwife and doctoral nursing student, to elicit detailed descriptions of participant's experiences. For this manuscript, we specifically wanted to know women's appraisals of whether and how their stress,

stressors, and/or psychological distress were addressed during their visits with their women's primary care providers.

Based on participant preference, the interviews occurred in person or over the telephone. Research has indicated that telephone interviews produce data of equal or better quality, compared with in-person interviews (Novick, 2008). The researcher used a digital voice recorder (Model: Yemenren R5) for recording the interviews. The qualitative interviews lasted approximately 45-60 minutes (Giurgescu et al., 2013). Each participant was interviewed once. All participants were asked the same questions in approximately the same order. Participants were encouraged to answer questions in their own words and to elaborate on their responses using prompts such as "Tell me more about that?", "Why was that important?", and "What did that mean to you?". Member validation was conducted throughout the interview process to assure that the interviewer, also a coder, did not assume the significance of any statements made by the participants or prematurely foreclose on the explicit or implicit meanings. The researcher sought clarification of the meaning of the participant's words and expressions (Patton, 2002). The interview questions were meant to guide the frame of the conversations, with probes being used to elicit a thorough and complete account of the participant's experiences.

Topics focused on participant's perceptions and experiences of stress and psychological distress and their interactions with healthcare providers. Sample interview questions included, "When I say the word *stress*, what does it mean for you?", "What causes stress in your life?", "How do you cope with stress?", "How do/did you see the women in your life cope with stress", "Does your stress come more from your own personal stress or stress from family, friends or loved ones?", "Are there unique stressors that come with pregnancy?", "Are there unique stressors that come with being black and pregnant?", and "During your prenatal visits, have you had conversations with your health care provider about your stress during your pregnancy?". Of note, the interviewer always ended the interviews with the question, " Is there anything I did not ask you that you want me to know about your experience of stress?" in order to provide the participants an opportunity to clarify and elaborate on any ideas or thoughts they may have wanted to share. The interview guide is found in Appendix O.

Data Analysis

Qualitative data was coded and analyzed using Atlas.ti software. The researcher immersed herself in the data and utilized thematic analysis for the development of codes and themes (Guest et al., 2011). Strategies were adapted to enhance credibility, trustworthiness, and rigor of the analysis process. A professional transcriptionist transcribed, verbatim, the audio recordings. The investigator checked the transcriptions against the audio for accuracy to gain a full understanding of the emotions and tone of the participants. After assessing the fidelity of the transcription, the interviews were read and re-read, paying close attention to the occurrence of patterns, before they were coded to gain a sense of the whole of participant experiences with her women's primary care provider, throughout pregnancy, and other related experiences that the women appraised as contributing to their stress. Themes were generated from participant responses. Two PhD-prepared researchers, with expertise in qualitative research methods, acted as peer reviewers and reviewed a subset (40%) of the audio recordings and transcribed interviews. The peer reviewers worked independently to assign preliminary codes to the data, based on the aims and research questions, and met with the author to discuss their preliminary codes and emerging themes. All differences were discussed, using the data alone as the source to defend impressions and with this approach the team of three coders came to a consensus of overarching themes across participants.

Results

Participant Characteristics

The study sample for the overall dissertation has been described in Chapter 3. Table 4.1 presents the characteristics of the qualitative sample for this study (N=20). Nineteen participants self-identified as Black/African American and one selected "other" for race. The participant who selected "other" self-identified as "half black and half white". Participants were socially diverse with a mean age of 30.3, SD= 5.9 and range between 19 to 41 years. The majority of participants were married (55%) while the remainder reported being single or cohabitating (45%). There was broad variation in their levels of educational attainment; 5% had completed high school, 30% had attended college but had not graduated, 5% had an Associate's degree, 35% had a Bachelor's degree, and 5% reported having a Master's degree.

Household incomes ranged from less than 20,000 (10%) to greater than $100,000 per year (10%), with the vast majority (45%) reporting $20,000-$50,000/year. The mean number of pregnancies for the sample was 2.2 and the average number of children was 1.2. The most commonly reported medical condition was anxiety (25%), followed closely by depression (10%). The qualitative study sample characteristics were similar to the participants in the overall study (N=125). Of note, however, none of the interviewed participants reported a history of preterm birth or low birth weight infant. This is different from the participant characteristics from the overall study sample where approximately 25% had a history of preterm birth and almost 18% had a history of delivering a low birth weight infant (data not shown).

Table 4.1. Demographic Characteristics of Study Participants (N=20)

Variable	Mean (SD) or N(%)
Age	30.3(5.9)
Age Range	19.2-41.3
Race	
Black/African American	19 (95)
Other	1(5)
Relationship Status	
Married	11(55)
Divorced	0
Separated	0
Single	4(20)
Cohabitating	5(25)
Domestic Partner/Legal Partner	4 (3.2)
	0
Educational Attainment	
Less than High School Diploma	0
High School Degree	1(5)
Some college, no degree	6(30)
Associates Degree	1(5)
Bachelor's Degree	7(35)
Master's Degree	5(25)
Professional Degree	0
Doctorate	0
Household Income	
Less than <20,000	2(10)
20,000-34,999	4(20)
35,000-49,999	5(25)
50,000-64,999	0
65,000-79,999	2(10)
80,000-99,999	5(25)
>100,000	2(10)
I choose not to answer	0
Gravida	2.2
Gravida Range	1-5
Parity	1.2
Parity Range	0-4
History of Preterm Birth	0
History of Low Birth Weight Infant	0
Medical Condition	
Hypertension	0
Pregnancy Induced Hypertension	1(5)

Variable	Mean (SD) or N(%)
GDMA1	2(10)
GMDA2	0
Type 2 DM	0
Type 1 DM	0
Substance Use or Abuse	1(5)
Anxiety	5(25)
Depression	2(10)
Bipolar	0
Other*	1(5)

Note: N=number of participants.
Reasons for other include shortened cervix, incompetent cervix, anemia, preeclampsia, lupus/fibromyalgia, and cholestasis

Patient-Provider Interactions

Participants shared various perspectives regarding how they perceived their communication with their women's primary care providers. Results are presented according to the themes that emerged: lack of conversations, suggestions regarding how to facilitate communication, mistrust of health care providers, and development of an educational tool highlighting the unique perspective of stress for perinatal, African American women. This educational tool would target both women's primary care providers as well as family members of African American women.

Lack of Conversations

The majority of participants stated that they did not have conversations with their women's primary care providers regarding their stress, stressors or psychological distress, during their prenatal or postpartum visits. However, of the few that stated they had a conversation, it usually consisted of answering questions about mood and completing a depression scale, with no further follow up. One participant noted:

> All they ask me about is depression. Are you depressed? Are you feeling depressed? It's just a generic scenario... Like when I was working in the mental health ward [they teach you] don't ask a person if they're depressed, don't ask them if they feel down. Why don't you ask them something in a different way, to get the answer that you need because you can ask me right now, am I depressed, and I'll say "No". But if you ask me like how are you feeling? How you feeling lately or whatever? "I'm sad," " I don't feel good." So, I feel like asking me if I've been sleeping and all that other stuff [doesn't get you what you want to know] - I don't sleep at all. I don't sleep like that anyway… I wouldn't see that as depression for me.

> So that's just all I've been asked about. I haven't been asked about suicide or like schizophrenia questions. Nothing like that.

This participant, like many others in this study, offered suggestions for how patient-provider conversations could be initiated or improved, to address stress, stressors, and psychological distress, during the perinatal period.

Suggestions for Improved Patient-Provider Communication.

The participants also gave suggestions for the ways in which providers could elicit information from them regarding their stress, stressors, and psychological distress, without overtly using the words "stress", "anxiety" or "depression". One participant indicated it can be difficult for women, in general, to develop trust with her women's primary care provider, especially, if the provider does not know her well. Yet, she suggested one way to start the conversation is to ask about what she has been searching on the Internet lately. She suggested:

> Or even, like, asking something as simple as like so what are the things that you're like googling right now? Because usually when I think about things I start to google them and that's bad you know. Like you can usually tell what people, you know, kind of the age where people are based off what they're googling or something like that.

Other participants indicated that recent news media, over the past several years, which has highlighted higher morbidity and mortality rates for pregnant, African American, women has heightened their awareness, concern, and worry, during their pregnancy. They indicated they would have liked for their providers to talk about the prevalence of these conditions (such as preeclampsia, preterm birth, and low birth weight) during their visits and have a more in-depth conversation, regarding their individual risk, as a way of starting the conversation and building trust with them.

When prompted to elaborate, some participants indicated that they were asked more about their physical stress, than their emotional or cognitive stress. Additionally, more than half of the participants indicated they would have liked to have been asked about their own personal stress, stressors, and psychological distress, during their visits, but only if the health care provider could offer tangible, reliable, affordable, and good quality resources to then help them mitigate their personal stress and

distress. Some participants expressed frustration with having been offered resources that were not viable or accessible to their individual or social contexts. As one woman noted:

> ….[I] wish there was really some place, or somebody, that really cared and that could offer more help, than just a talk. . . . When we are sent to these places and it doesn't go through, or they can't really help, or that's all they have. [Then], we have to go to next resource and they give us the same information that we already had before. We don't want a bunch of paper. Paper can't do anything for us; We really need help. And then once that fails, we're back in our corner. So that's that.

Mistrust of Health Care Providers

In some women's discussions, there was also an undertone of lack of trust, or breach of trust, after revealing stress or distress with their health care providers:

> I kind of like shared with the first midwife, one time that….she was asking me about my support system, or whatever, and I was kind of like, 'I don't really have one.' She wanted to know about the father, and I was like, 'He's married.' And then she kept asking, and I was like, I didn't want to say it. I was like, 'He's married.' And then somebody wrote it in my notes. And then, like, everybody wanted to bring it up, every time I was talking to them. I had to call-up here, and be like, 'Take that out of my notes.' Like, I confided in one person about it and why is it in my medical chart? It has nothing to do with my body you know? So, I kind of like, after that, I ain't talking about nothing. But, no, they don't ask too much about your stressors or stress. They just want to know if you have a good support system. 'Who's your support system?' 'Who's going to be there for you?' Like, she was just asking, like 'Who's going to be there for you in the hospital' ? I'm like, my god-mom or whatever. She's like, 'Who's your spouse'? I'm like, 'I don't have one'.

This participant's response highlighted similar concerns that many of the African American women expressed about being open, honest, and vulnerable, with their health care providers. They worried that their trust might be broken. This caution regarding potential breach of trust is strongly undergirded by the hallmark characteristics of SWS such as presenting an image of strength, emotional suppression, and resistance to vulnerability.

Of note, one participant indicated she had a Black OB/GYN provider, who did make a referral for her, to a Black therapist and she was happy for that interaction:

> My OB is Black. So, when I told her that I was having problems, she was like, 'Okay, well here's a referral, I mean you don't have to go them if you don't want to'. And it is a Black practice. . . .It's owned by a Black husband and wife. It wasn't hard, because I didn't have to look for it. It was referred to me. But, I'm not sure if

I would have [gone, if I] had to look for it on my own. . .

This participant's response highlights a level of trust that may have existed due to the provider being of the same race as the patient.

Stress Assessment Tool

Finally, one participant suggested that a "tool" be developed for health care providers (to enhance the patient-provider relationship) **and** families (to facilitate conversation) as a way to provide education regarding the "hidden secrets of the superwoman" and highlight common occurrences during pregnancy and postpartum that are normal and not a sign of weakness.

> I think one of the most important parts, is just really working with providers and families. Developing some type of tool, or something to let families know that, while I'm Black, and I'm pregnant, and I'm supposed to hold it all together, I need to be able to come to you and say well this is x,y,z and it's not judgmental. And it's a normal part of being Black. Like stress and body, postpartum depression, and fatigue, are not symptoms that affect a particular culture, because I had postpartum blues, and I was told by my mother that I was acting like a White woman. No, these are hormones and this is natural. So… some type of educational tool or something developed or whatever to address the hidden secrets of having to have it all together and being Black because that is not….I mean it happens but it's not always possible.

While this suggestion was only explicitly said by one of the participants, it highlights a sentiment expressed by many of the participants regarding the difficulty in showing vulnerability to providers and family members due to perceived judgement.

Discussion

The main aim of this study was to explore African American women's perspectives of their communication with their women's health care providers during the perinatal period, within the context of their experiences of stress, stressors, and psychological distress. Particular consideration was given to culturally-relevant frameworks for the ways in which African American women experience stress, including SWS and NS. Through applied thematic analysis of 20 participant interviews, the research team was able to identify key themes related to patient provider communication. Emergent themes included lack of conversations, suggestions regarding how to facilitate communication, mistrust of health care

providers, and development of an educational tool highlighting the unique perspectives of stress for perinatal, African American women.

Study participants discussed lack of conversations and communication with their women's primary care providers as it related to their psychological distress which has been discussed in previous literature (Coleman et al., 2006; Goodman et al., 2010). Of note, however, in this study, the researchers were particularly interested in patient- provider conversations regarding stress and stressors as well. The overwhelming sentiment was that these conversations were not happening and on the rare occasion when they did happen, they mainly encompassed depression screening. The findings in this study are consistent with what has been discussed in a review by Coleman et al. (2006) which addressed women's primary care providers (specifically OB/GYNs) clinical approach to mental health (Coleman et al., 2006). Women's primary care providers do not receive adequate training on how to facilitate conversations surrounding mental health with their patients which, in turn, leads to poor screening and diagnosis of mental health conditions (Coleman et al., 2008). The perinatal period is a key time frame for health care providers to have these conversations as many women use their obstetrical providers as their primary care providers (Coleman et al., 2008). The findings in the current study further highlight the need for educating women's primary care providers regarding the symptomology of mental health issues in the perinatal population and how to begin the conversation with women during their perinatal visits. Our research further suggests that these conversations should include asking about stress and stressors.

There is, also, previous research that examines what characteristics pregnant African American women would like to see in their prenatal care providers (Lori et al., 2011). Lori et al.'s (2011) study, with a similar sample size to the current study, found that pregnant, African American women wanted improved communication that made them feel like their providers knew and remembered them. In particular, the women in that study wanted to be treated with respect and receive care in a nonjudgmental way. This theme of respect is similar to that found in the current study. The participants in this study suggested way to improve communication such as, discussing maternal morbidity/mortality risks during

their prenatal visits. Having these conversations regarding their risks would engender a sense of provider respect for the patient as seeing her as a partner in her health care.

Also, similar to what has been previously found in the literature, mistrust of health care providers (Adams et al., 2017; Cuevas et al., 2016; Sutton et al., 2018) was an important aspect of African American women's experience within the health care system during the perinatal period. Women described their hesitance or reluctance to share their experiences of stress or psychological distress with their women's primary care providers due to the perceived judgment they felt when they did share. Some women felt there was a lack of understanding on the part of the provider regarding the social context of their lives. This resulted in women "shutting down" or withdrawing from being open because they were uncomfortable with the resulting vulnerability they felt. This study has begun the work of understanding the unique perspectives that African American women have regarding stress, stressors and psychological distress during the perinatal period. Understanding these perspectives within the context of the health care system and how it's being addressed by providers is critical to facilitating and building trusting relationships between patient and provider. Trust will improve communication which may, in turn, potentially reduce health disparities. One way to improve communication is the development of an educational tool.

A unique finding to this study was the concept of developing an educational tool that would help women's primary care providers as well as families understand the unique perspectives of stress that pregnant African American women experience. One participant's suggestion highlights the need for education of providers and African American families, regarding the liabilities of believing and feeling the need to live up to the notion of being a strong black woman or superwoman as described by the SWS conceptual framework (Woods-Giscombe, 2010). Society (including family members) may be at risk for having the perception that African American women do not or should not have the same emotional responses to similar stressful stimuli, such as antepartum and postpartum issues that other ethnicities might have, or that they might have unique stressors, stress, or distress that are a part of their ethnic culture and history, or the political and societal factors that they face on a daily basis within their social

environments. This perspective is critical to consider when educating and training medical professionals but also has great merit in assisting in communication within the African American family and community.

Advantages and Limitations

The was the first study to position African American women's perspectives of regarding the conversations they have with their women's primary care providers to address their stress, stressors, or distress during their prenatal and postnatal visits. A limitation of this study however, is the fact that the participants were all from the southeastern United States. Findings may differ in women with other social and or geographical demographics. Also, the majority of the participants were pregnant. The study would have been enhanced if perspectives from pregnant and postpartum women were equally represented. Additionally, none of the participants in this study had a history of preterm birth or low birth weight which differs from the obstetrical demographics in the larger study and lends some bias to the study findings.

Another consideration in this study were the politics and social events occurring immediately prior to or at the time that this study was conducted which potentially heightened women's concerns. There are particular disparities in outcomes of similar crimes committed by races. Police brutality and killings of several black boys or men across the country has also heightened the concerns for the safety of black children, particularly black boys and men in this country and may have influenced the perspectives of the interviewed participants. Thus, timing and the location, southeastern United States, likely plays also a role in our findings. What can be taken away from these findings is that providers need to be aware of and be able to have safe conversations (without judgment or dismissal of the meaning to women in this group) so that they can aptly address the comprehensive needs of perinatal African American women. Providers also need to be able to refer African American women to relevant psychotherapeutic resources that are suitable to their unique social context or women will simply say they are fine and put on an air of being strong and in need of no help.

Implications for Practice and Research

The findings of this study open several opportunities for future research and practice. The development of a stress assessment tool for health care providers in this area of practice is needed, as well as an educational tool for family members that highlights the unique stress, stressors, and perspectives that African American women might experience during the perinatal period is critical.

Conclusion

The results from this study suggest that the patient provider interaction between perinatal African American women and their women's primary care providers do not sufficiently address their stress, stressors or psychological distress. Important factors to consider when addressing the perinatal health care needs for African American women include lack of communication with their women's primary care providers and provider mistrust. Ways to improve communication include the development of a stress assessment tool that would assist families and providers in understanding the unique perspectives of stress for this population.

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CHAPTER 5: DISCUSSION

Synthesis of the Dissertation Findings

The findings from this dissertation provide a firm foundation for a program of research that will contribute to the development of a culturally relevant mindfulness-based intervention aimed at targeting stress in perinatal, African American women. This program of research has broader implications for improving psychological health and wellbeing for perinatal African American women and for developing interventions to reduce maternal stress, psychological distress and their influences on adverse birth outcomes.

Manuscript 1: Self-Compassion and Mindfulness Based Interventions: A review of the literature and considerations for a Complementary Integrative Health approach for Perinatal Anxiety

Manuscript 1 presented a review of existing literature focused on mindfulness-based interventions with an emphasis on self-compassion and the potential implications for an adjunctive approach to conventional treatment for perinatal anxiety. Mindfulness-based interventions have been used for many years in populations with psychiatric illness, and they have resulted in effective outcomes for stress management, the reduction of depressive symptoms, and the improvement of overall quality of life. However, mindfulness-based interventions have not been fully explored or developed in perinatal populations with anxiety disorders. To date there has been only one intervention that combines mindfulness and self-compassion to address perinatal anxiety. The CALM pregnancy intervention shows great promise as a feasible, acceptable, and effective treatment option for pregnant women with anxiety. Enhancement of psychological well-being in women with perinatal anxiety disorders has potential benefit for maternal and child health outcomes. This CALM pregnancy intervention serves as a model for development of mindfulness-based interventions that incorporate mindfulness-based techniques and self-

compassion. The review in Manuscript 1 provided the basis for exploring these approaches to manage perinatal anxiety.

Manuscript 2: African American Women's Experiences of Stress during the Perinatal Period and Associations among Psychological Distress and Mindfulness, Self-Compassion and Self-Care: Informing a Culturally Relevant Mindfulness Based Intervention

Manuscript 2 includes the rationale, methodology, and findings from a mixed-methods study designed to examine stress and psychological distress and its associations with mindfulness, self-compassion and self-care in perinatal African American women utilizing the Superwoman Schema conceptual framework and network stress. In addition, this study included an exploration of African American women's beliefs and perspectives regarding a mindfulness based complementary health approach to address their stress and psychological distress. The study findings in the quantitative component of this study clearly indicate the need to further explore and conceptualize stress in this population with particular attention given to psychological distress (in particular anxiety) and the perceived obligation to help others. The qualitative findings in this study highlight the contextual factors of stress and psychological stress for perinatal African American women. The perinatal, African American women who participated in this study overwhelmingly agreed that integrative health approaches such as mindfulness are an acceptable modality to help them cope with stress. They provided novel, thought provoking and innovative suggestions on what they would want to see included in a mindfulness-based intervention aimed at helping them cope with stress, including a safe space that would bring in elements of nature, a sense of community and calm. In their own voices they richly shared what was unique about being a pregnant, Black woman in the society and the stressors that come with that identity. Some of these shared stressors are common to the Black woman's experience but others are unique to a Black, pregnant woman's experience .In addition, the participants' shared perspectives regarding mindfulness, self-compassion and self-care can which can guide the development of a culturally relevant mindfulness-based approach aimed to reduce stress, distress, and adverse birth outcomes among African American women.

Manuscript 3: Perinatal, African American Women and their Women's Health Care Providers: Conversations about Stress

Manuscript 3 is an exploration of African American women's beliefs and perceptions about patient-provider communication surrounding stress during the perinatal period. The results from this study suggest that the patient provider interaction between perinatal African American women and their women's primary care providers do not sufficiently address their stress, stressors or psychological distress. Important factors to consider when addressing the perinatal health care needs for African American women include lack of communication with their women's primary care providers and provider mistrust. Ways to improve communication include the development of a stress assessment tool that would assist families and providers in understanding the unique perspectives of stress for this population. These perspectives must be disseminated to a wider audience including health care providers.

Future Implications for Practice and Research

There is a clear need for future research that examines the experiences of stress and psychological distress in perinatal African American women. From a research methodology perspective, additional studies that are longitudinal in nature, and include a larger number of participants of varied socioeconomic backgrounds, would be beneficial. More mixed-methods studies like this one would lend a deeper and richer perspective as well.

APPENDIX A: PAUSE BROCHURE

If interested please contact
Karen Sheffield MSN, CNM, PhD(c)
ksheffie@email.unc.edu
(919) 649-0971

Karen has been a certified nurse-midwife for 12 years and is currently a PhD student at UNC Chapel Hill School of Nursing. She is particularly interested in understanding stress in African American women and its impact on birth. She would like to develop a program that would help African American women cope with their stress.

PREGNANT AND AFRICAN AMERICAN:UNDERSTANDING STRESS EXPERIENCES (PAUSE) STUDY

Researchers in your area are seeking participants for a study examining stress in pregnant African American women.

To participate you must be:
At least 18 yrs old
African American/Black
Pregnant
Fluent in english

Participants will receive a gift card for $15- $40 for completing this study

PAUSE

Are you pregnant?
Are you willing to talk about your experiences with stress?

APPENDIX B: PAUSE FLYER

PAUSE

Help us understand stress in pregnant and postpartum African American women



We are conducting a research study with pregnant and postpartum African American women to help us understand their experiences with stress

If you are:

- At least 18 yrs old
- African American/Black
- Fluent in English
- Pregnant or 1 year postpartum

We want to talk to you! Participants will receive a gift card for $15-$40 for completing this study. If interested, please contact UNC School of Nursing PhD student: Karen Sheffield at ksheffie@email.unc.edu or (919) 670-7060

APPENDIX C: SUPERWOMAN SCHEMA (SWS) PRELIMINARY INSTRUMENT

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

SUPERWOMAN SCHEMA (SWS) PRELIMINARY INSTRUMENT

CHERYL L. WOODS-GISCOMBÉ, PHD, PMHNP-BC

For further information, contact:
Dr. Cheryl L. Woods-Giscombé
School of Nursing
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Email: Cheryl.Giscombe@unc.edu

Giscombe - SWS Scale **Participant ID#**_____

INSTRUCTIONS: **The following is a list of items that may or may not be relevant for you. Some of the questions may sound similar, but each is important. Please read and complete each item to the best of your ability using the response scale provided.**

			If you checked the **TRUE** box, please indicate how undesirable or disturbing this statement is for you by checking one of the boxes below.
1. I try to present an image of strength.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
2. I have to be strong.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
3. I feel obligated to present an image of strength at work.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
4. I feel obligated to present an image of strength for my family.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
5. I display my emotions in privacy.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
6. I keep my feelings to myself.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
7. My tears are a sign of weakness.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much

CWG-SWS 1

Participant ID#_____

INSTRUCTIONS: The following is a list of items that may or may not be relevant for you. Some of the questions may sound similar, but each is important. Please read and complete each item to the best of your ability using the response scale provided.

			If you checked the **TRUE** box, please indicate how undesirable or disturbing this statement is for you by checking one of the boxes below.
8. I keep my problems bottled up inside.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
9. I hide my stress.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
10. Expressing emotions is difficult for me.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
11. It's hard for me to accept help from others.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
12. I have a hard time trusting others.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
13. I wait until I am overwhelmed to ask for help.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
14. Asking for help is difficult for me.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much

Participant ID#_____

INSTRUCTIONS: The following is a list of items that may or may not be relevant for you. Some of the questions may sound similar, but each is important. Please read and complete each item to the best of your ability using the response scale provided.

			If you checked the **TRUE** box, please indicate how undesirable or disturbing this statement is for you by checking one of the boxes below.
15. I resist help to prove that I can make it on my own.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
16. If I want things done right, I do them myself.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
17. I accomplish my goals with limited resources.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
18. It is very important to me to be the best at the things that I do.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
19. No matter how hard I work, I feel like I should do more.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
20. I put pressure on myself to achieve a certain level of accomplishment.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
21. I take on roles and responsibilities when I am already overwhelmed.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much

Participant ID#_____

INSTRUCTIONS: The following is a list of items that may or may not be relevant for you. Some of the questions may sound similar, but each is important. Please read and complete each item to the best of your ability using the response scale provided.

			If you checked the **TRUE** box, please indicate how undesirable or disturbing this statement is for you by checking one of the boxes below.
22. I take on too many responsibilities in my family.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
23. I put everyone else's' needs before mine.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
24. I feel obligated to take care of others.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
25. When others ask for my help, I say yes when I should say no.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
26. I neglect my health (e.g., I don't exercise or eat like I should). In what specific ways do you think that you neglect your health? _____	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
27. I neglect the things that bring me joy.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
28. I feel guilty when I take time for myself.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much

Participant ID#_____

INSTRUCTIONS: The following is a list of items that may or may not be relevant for you. Some of the questions may sound similar, but each is important. Please read and complete each item to the best of your ability using the response scale provided.

			If you checked the **TRUE** box, please indicate how undesirable or disturbing this statement is for you by checking one of the boxes below.
29. The struggles of my ancestors require me to be strong.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
30. I keep my problems to myself to prevent burdening others.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
31. I do things by myself without asking for help.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
32. The only way for me to be successful is to work hard.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
33. I am a perfectionist.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
34. There is no time for me, because I am always taking care of others.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much
35. I have to be strong because I am a woman.	☐ This is **NOT TRUE** for me GO TO NEXT QUESTION	This is **TRUE** for me ☐ Rarely ☐ Sometimes ☐ All the time	**This bothers me:** ☐ Not at all ☐ Somewhat ☐ Very much

Subscales Items – 35 Item Scale

	Number of Items	Items	
Obligation to Present an Image of Strength	6	1, 2, 3, 4, 29, 35	**Depending on the research question(s), SWS subscale scores can be averaged or summed.**
Obligation to Suppress Emotions	7	5,6,7,8,9,10,30	
Resistance to Being Vulnerable	7	11,12,13,14,15,16, 31	
Intense Motivation to Succeed	6	17,18,19,20,32,33	
Obligation to Help Others	9	21, 22, 23, 24, 25, 26, 27, 28, 34	

SWS Scale Scoring Instructions

RESPONSE	VALUE	SWS endorsement items should be summed. 0-35: Low SWS 36-70: Moderate SWS 71-105: High SWS
This is **NOT TRUE** for me	0	
This is TRUE for me **RARELY**	1	
This is TRUE for me **SOMETIMES**	2	
This is TRUE for me **ALL THE TIME**	3	

RESPONSE	VALUE	SWS appraisal items should be averaged.
This bothers me **NOT AT ALL**	0	
This bothers me **SOMEWHAT**	1	
This bothers me **VERY MUCH**	2	

APPENDIX D: GENDER RELATED STRESS SCALE & GENERIC STRESS SCALE

GENDER-RELATED STRESS SCALE (GRSS) & GENERIC STRESS SCALE (GenSS)

PLEASE DO NOT USE OR CIRCULATE WITHOUT AUTHOR'S PERMISSION.

To cite:

Woods-Giscombé, C. L., & Lobel (2005). *Gender-related Stress Events Scale (GRSS).* Stony Brook University.

Woods-Giscombé, C. L., & Lobel (2005). *Generic Stress Scale (GSS).* Stony Brook University.

Related publications:

Woods-Giscombé, C. L., & Lobel, M. (2008). Race and gender matter: A Multidimensional approach to conceptualizing and measuring stress in African American women. *Cultural Diversity and Ethnic Minority Psychology, 14,* 173-182.

Lobel, M., Dunkel-Schetter, C., & Scrimshaw, S. C. M. (1992). Prenatal maternal stress and prematurity: prospective study of socioeconomically disadvantaged women. *Health Psychology, 11*, 32-40.

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NOTE: The Gender-Related and Generic Stress Scales can be grouped together when administered to research participants. The description of both scales from Giscombé & Lobel (2008) is below. Details are provided regarding which specific items correspond with each scale. When you use the scales for your research project, you may remove the header "Gender-related and Generic Stress Scales - Giscombé & Lobel."

Gender-Related Stress

The measure of gender-related stress used in this study was adapted from a measure of stressful life events used in prior research on women (Lobel et al., 1992). Participants were asked to record the occurrence of 15 gender-related events that they experienced during the past year. Items 4, 6, 9, 12, 13, 15, 17, 19, 21, 22, 23, 26, 27, 29, and 30 of the "life events" section in the questionnaire address gender-related stress, such as "Have you been treated unfairly or with less respect than you deserve because you are a woman?" For each event endorsed, participants were asked to report how undesirable or negative the event was on a 4-point scale ranging from "not at all" (1) to "very much" (4). From this measure two indices were created: number of gender-related events during the past year (gender-related stress exposure score) and a mean gender-related event appraisal score. The latter was computed by summing appraisal ratings and dividing by the total number of gender-related stress events reported. Mean stress appraisal was used rather than an appraisal sum so that this variable would be independent of the number of events experienced. Study participants reporting no events were assigned an event appraisal score of zero. Alpha coefficients were generally low for gender-related stress exposure (α = .52) and for gender-related stress appraisal (α = .61), indicating that these events did not typically co-occur and were not appraised similarly.

Generic Stress

The measure of generic stress exposure used in this study was also adapted from the measure of stressful life events used in prior research on women (Lobel et al., 1992). Participants recorded the occurrence of 25 generic life events that they or a close friend or family member experienced during the past year (e.g., moving, getting married, being robbed, being involved in a serious car accident, or having someone close die). More specifically, in the "Life Events" section of the questionnaire, 15 of the generic life event items assessed events that happened directly to the participant. If the event did not happen, the participant was directed to circle "no," and if the event did happen, the participant was directed to circle "yes." In the "More Life Events" section of the questionnaire, 10 generic life even items assessed events that happened to the participant, a close friend, or family member. If the event did not happen, the participant was directed to circle "no." If the event did happen, the participant was directed to indicate the person who experienced the event by circling either "self, " "other," or both "self" and "other." Prior research (Lobel et al., 2000) demonstrates that this measure correlates well with other indicators of stress. For each event endorsed, participants were asked to report how undesirable or negative the event was on a 4-point scale ranging from "not at all" (1) to "very much" (4). From this measure, two indices were created: number of generic life events during the past year and a mean generic life event appraisal score. The latter was computed by summing appraisal ratings and dividing by the total number of generic life events reported. Mean stress appraisal was used rather than an appraisal sum so that this variable would be independent of the number of events experienced. Study participants reporting no events were assigned an event appraisal score of zero. Alpha coefficients were generally low (life event stress exposure: $\alpha = .62$; life event stress appraisal: $\alpha = .66$; more life event stress exposure: α

= .55; and more life event stress appraisal: α = .59, indicating that these events did not typically co-occur and were not appraised similarly.

LIFE EVENTS

The next questions are about events that may have happened in the PAST YEAR. For each event, please circle "yes" if the event happened in the last year, or circle "no" if the event has not happened in the last year. If the event happened, indicate how negative or undesirable the event was for you, using this scale:

Not at all	Somewhat	Moderately	Very Much
1	2	3	4

For example if you experienced an event, you would circle yes, and if it was a "somewhat" negative experience for you, you would write 2 on the line. See example below.

Did you buy a new home?.....NO YES _____

HOW UNDESIRABLE OR NEGATIVE (1 TO 4)

During the past year:

1. Have you moved or looked for a new home? .....NO YES_____

2. Have you been involved in a serious motor vehicle accident? .....NO YES_____

3. Have you been threatened with physical harm by anyone? .....NO YES_____

GRSS & GSSS – Giscombé & Lobel (2005)

Not at all	Somewhat	Moderately	Very Much
1	2	3	4

During the past year:		HOW UNDESIRABLE OR NEGATIVE (1 TO 4)
4.	Did you give birth?.....NO	YES_____
5.	Has someone important moved out of your home? .....NO	YES_____
6.	Have you had to deal with issues related to child support or alimony? .....NO	YES_____
7.	Has someone moved in with you? .....NO	YES_____
8.	Did you get married or start living with someone as if married? ....NO	YES_____
9.	Have you had an unplanned pregnancy? .....NO	YES_____
10.	Have you lived apart from your husband or partner because of job, travel, or other practical reasons? .....NO	YES_____
11.	Has someone important to you other than your husband or partner moved away so you don't see the person as much? .....NO	YES_____
12.	Have you been treated unfairly or with less respect than you deserve because you are a woman? .....NO	YES_____
13.	Did you experience a pregnancy loss or miscarriage?.....NO	YES_____

Not at all	Somewhat	Moderately	Very Much
1	2	3	4

			HOW UNDESIRABLE OR NEGATIVE (1 TO 4)
During the past year:			
14.	Have you had unusually big pressures or conflicts at work or at school?.....NO	YES_____	
15.	Have you been expected to be a strong woman for everyone else in a situation, while it seemed that no one was being strong for you? .....NO	YES_____	
16.	Have you had unusual financial pressures or trouble with money?.....NO	YES_____	
17.	Have you had difficulty getting pregnant? .....NO	YES_____	
18.	Have you been burglarized or robbed? .....NO	YES_____	
19.	Have men in your life seemed uncomfortable or threatened because of the level of education or level of success that you have attained? .....NO	YES_____	
20.	Have you experienced a loss of your house, car, or something else important to you?.....NO	YES_____	
21.	Have you had extra responsibilities within your social organizations or church groups?.....NO	YES_____	

Not at all	Somewhat	Moderately	Very Much
1	2	3	4

		HOW UNDESIRABLE OR NEGATIVE (1 TO 4)
During the past year:		
22.	Has one of your children had difficulty in school because of a learning disability, attention deficit, or hyperactivity? .....NO	YES_____
23.	Have you been single or had difficulty finding a date for extended periods of time when you wanted to have a significant other in your life?.....NO	YES_____
24.	Has anyone close and important to you died? .....NO (IF YES PLEASE SPECIFY RELATIONSHIP:_____)	YES_____
25.	Have you had serious arguments several times with someone? .....NO	YES_____
26.	Have you had extra responsibilities that involve caring for a relative or someone else's child? .....NO	YES_____
27.	Have you been a target of inappropriate or unwanted sexual advances? .....NO	YES_____
28.	Have you been in a hurricane, fire, or other major disaster? .....NO	YES_____

Not at all 1	Somewhat 2	Moderately 3	Very Much 4

			HOW UNDESIRABLE OR NEGATIVE (1 TO 4)
During the past year:			
29.	Have you had to go out of your way or outside of your community to obtain resources that you think you, your children, or your family need?	NO	YES_____
30.	Have you been sexually or physically assaulted?	NO	YES_____
31.	Have you been confronted with negative information about the status of the African-American family?	NO	YES_____
32.	Have you been confronted with negative media coverage, statistics, or other negative information concerning African-American men?	NO	YES_____
33.	Have you been the only or one of the few African-American women in your department at work?	NO	YES_____

MORE LIFE EVENTS

Now we would like to know about events that may have happened to you or to any close family member or close friend in the PAST YEAR. For each event that is presented, please circle "self" if it happened to you in the past year, or circle "other" if the event happened to a close family member or close friend in the past year. If the event did not happen to anyone, then please circle "no". If the event happened to you or someone else close to you, then indicate how negative or undesirable the event was for you, using the same scale as before.

Not at all	Somewhat	Moderately	Very Much
1	2	3	4

		HOW UNDESIRABLE OR NEGATIVE (1 TO 4)	HOW UNDESIRABLE OR NEGATIVE (1 TO 4)
During the past year, have you or a close family member or friend experienced any of these events:			
EXAMPLES			
An earthquake	NO	SELF____	OTHER____
Lose money gambling	NO	SELF____	OTHER____
Have a pet die?	NO	SELF____	OTHER____

SEE NEXT PAGE TO BEGIN QUESTIONS .....

Not at all 1	Somewhat 2	Moderately 3	Very Much 4

		HOW UNDESIRABLE OR NEGATIVE (1 TO 4)	HOW UNDESIRABLE OR NEGATIVE (1 TO 4)
During the past year, have <u>you or a close family member or friend</u> experienced any of these events:			
34.	Gotten fired or laid off from work? .....NO	SELF ____	OTHER ____
35.	Looked for work for 3 weeks or more? .....NO	SELF ____	OTHER ____
36.	Had trouble with the Department of Social Services? ..... NO	SELF ____	OTHER ____
37.	Been arrested by the police, had problems with the law or immigration, or been in jail? ..... NO	SELF ____	OTHER ____
38.	Been mugged, or personally assaulted? ..... NO	SELF ____	OTHER ____
39.	Had a serious physical injury, illness, or hospitalization? ..... NO	SELF ____	OTHER ____

Not at all 1	Somewhat 2	Moderately 3	Very Much 4

		HOW UNDESIRABLE OR NEGATIVE (1 TO 4)	HOW UNDESIRABLE OR NEGATIVE (1 TO 4)
During the past year, have you or a close family member or friend experienced any of these events:			
40.	Had a problem with alcohol or drugs? ..... NO	SELF ____	OTHER ____
41.	Had a serious nervous or emotional problem besides drinking or drugs? ..... NO	SELF ____	OTHER ____
42.	Separated from a spouse or partner because of not getting along?..... NO	SELF ____	OTHER ____
43.	Gotten divorced? ..... NO	SELF ____	OTHER ____

APPENDIX E: PERCEIVED STRESS SCALE

PERCEIVED STRESS SCALE

by Sheldon Cohen

hosted by

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If you find the **Perceived Stress Scale** useful, you might be interested in these other great Mind Garden instruments.

State-Trait Anxiety Inventory – Adult (STAI-AD)

by Charles D. Spielberger

The definitive instrument for measuring anxiety in adults. It clearly differentiates between the temporary condition of "state anxiety" and the more general and long-standing quality of "trait anxiety". It helps professionals distinguish between a client's feelings of anxiety and depression. The inventory's simplicity makes it ideal for evaluating individuals with lower educational backgrounds.

Understanding and Managing Stress

by Robert Most and Theresa Muñoz

This forty-page workbook offers individuals a comprehensive approach to managing stress. The workbook includes basic strategies for: managing daily on-the-spot stress; problem and emotion focused coping skills; and improving personal and work lifestyle; as well as resources for further exploration.

Other instruments related to **Anxiety and Stress**

These instruments measure anxiety or stress in a variety of situations including test anxiety, school-related stress, and anxiety as a state-like and trait-like construct. Many of these instruments are complimented by reports or workbooks that provide tips and exercises to manage stress and anxiety.

We offer such instruments as **Hassles & Uplifts** and the **Psychological Distress Profile**.

PERCEIVED STRESS SCALE

by Sheldon Cohen

The *Perceived Stress Scale* (PSS) is the most widely used psychological instrument for measuring the perception of stress. It is a measure of the degree to which situations in one's life are appraised as stressful. Items were designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. The scale also includes a number of direct queries about current levels of experienced stress. The PSS was designed for use in community samples with at least a junior high school education. The items are easy to understand, and the response alternatives are simple to grasp. Moreover, the questions are of a general nature and hence are relatively free of content specific to any subpopulation group. The questions in the PSS ask about feelings and thoughts during the last month. In each case, respondents are asked how often they felt a certain way.

Evidence for Validity: Higher PSS scores were associated with (for example):

- failure to quit smoking
- failure among diabetics to control blood sugar levels
- greater vulnerability to stressful life-event-elicited depressive symptoms
- more colds

Health status relationship to PSS: Cohen et al. (1988) show correlations with PSS and: Stress Measures, Self-Reported Health and Health Services Measures, Health Behavior Measures, Smoking Status, Help Seeking Behavior.

Temporal Nature: Because levels of appraised stress should be influenced by daily hassles, major events, and changes in coping resources, predictive validity of the PSS is expected to fall off rapidly after four to eight weeks.

Scoring: PSS scores are obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across all scale items. A short 4 item scale can be made from questions 2, 4, 5 and 10 of the PSS 10 item scale.

Norm Groups: L. Harris Poll gathered information on 2,387 respondents in the U.S.

Norm Table for the PSS 10 item inventory

Category	N	Mean	S.D.
Gender			
Male	**926**	**12.1**	**5.9**
Female	**1406**	**13.7**	**6.6**
Age			
18-29	**645**	**14.2**	**6.2**
30-44	**750**	**13.0**	**6.2**
45-54	**285**	**12.6**	**6.1**
55-64	**282**	**11.9**	**6.9**
65 & older	**296**	**12.0**	**6.3**
Race			
white	**1924**	**12.8**	**6.2**
Hispanic	**98**	**14.0**	**6.9**
black	**176**	**14.7**	**7.2**
other minority	**50**	**14.1**	**5.0**

PERCEIVED STRESS SCALE

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

Name _____ Date _____

Age _____ Gender (*Circle*): **M F** Other _____

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

1. In the last month, how often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2. In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. In the last month, how often have you felt nervous and "stressed"?	0	1	2	3	4
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
5. In the last month, how often have you felt that things were going your way?	0	1	2	3	4
6. In the last month, how often have you found that you could not cope with all the things that you had to do?	0	1	2	3	4
7. In the last month, how often have you been able to control irritations in your life?	0	1	2	3	4
8. In the last month, how often have you felt that you were on top of things?	0	1	2	3	4
9. In the last month, how often have you been angered because of things that were outside of your control?	0	1	2	3	4
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

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References

The PSS Scale is reprinted with permission of the American Sociological Association, from Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24,* 386-396.

Cohen, S. and Williamson, G. Perceived Stress in a Probability Sample of the United States. Spacapan, S. and Oskamp, S. (Eds.) *The Social Psychology of Health.* Newbury Park, CA: Sage, 1988.

APPENDIX F: STATE-TRAIT ANXIETY INVENTORY FOR ADULTS

State-Trait Anxiety Inventory for Adults

Self-Evaluation Questionnaire

STAI Form Y-1 and Form Y-2

Developed by Charles D. Spielberger
in collaboration with R.L. Gorsuch, R. Lushene, P.R. Vagg, and G.A. Jacobs

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STAIP-AD Test Form Y
www.mindgarden.com

SELF-EVALUATION QUESTIONNAIRE STAI Form Y-1

Please provide the following information:

Name_____ Date_____ S_____

Age_____ Gender (*Circle*) **M** **F** T_____

DIRECTIONS:

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel *right* now, that is, *at this moment*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	NOT AT ALL	SOMEWHAT	MODERATELY SO	VERY MUCH SO
1. I feel calm	1	2	3	4
2. I feel secure	1	2	3	4
3. I am tense	1	2	3	4
4. I feel strained	1	2	3	4
5. I feel at ease	1	2	3	4
6. I feel upset	1	2	3	4
7. I am presently worrying over possible misfortunes	1	2	3	4
8. I feel satisfied	1	2	3	4
9. I feel frightened	1	2	3	4
10. I feel comfortable	1	2	3	4
11. I feel self-confident	1	2	3	4
12. I feel nervous	1	2	3	4
13. I am jittery	1	2	3	4
14. I feel indecisive	1	2	3	4
15. I am relaxed	1	2	3	4
16. I feel content	1	2	3	4
17. I am worried	1	2	3	4
18. I feel confused	1	2	3	4
19. I feel steady	1	2	3	4
20. I feel pleasant	1	2	3	4

STAIP-AD Test Form Y
www.mindgarden.com

SELF-EVALUATION QUESTIONNAIRE

STAI Form Y-2

Name_____ Date_____

DIRECTIONS

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you *generally* feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALWAYS
21. I feel pleasant	1	2	3	4
22. I feel nervous and restless	1	2	3	4
23. I feel satisfied with myself	1	2	3	4
24. I wish I could be as happy as others seem to be	1	2	3	4
25. I feel like a failure	1	2	3	4
26. I feel rested	1	2	3	4
27. I am "calm, cool, and collected"	1	2	3	4
28. I feel that difficulties are piling up so that I cannot overcome them	1	2	3	4
29. I worry too much over something that really doesn't matter	1	2	3	4
30. I am happy	1	2	3	4
31. I have disturbing thoughts	1	2	3	4
32. I lack self-confidence	1	2	3	4
33. I feel secure	1	2	3	4
34. I make decisions easily	1	2	3	4
35. I feel inadequate	1	2	3	4
36. I am content	1	2	3	4
37. Some unimportant thought runs through my mind and bothers me	1	2	3	4
38. I take disappointments so keenly that I can't put them out of my mind	1	2	3	4
39. I am a steady person	1	2	3	4
40. I get in a state of tension or turmoil as I think over my recent concerns and interests	1	2	3	4

STAIP-AD Test Form Y
www.mindgarden.com

State-Trait Anxiety Inventory for Adults Scoring Key (Form Y-1, Y-2)

Developed by Charles D. Spielberger in collaboration with R.L. Gorsuch, R. Lushene, P.R. Vagg, and G.A. Jacobs

To use this stencil, fold this sheet in half and line up with the appropriate test side, either Form Y-1 or Form Y-2. Simply total the scoring **weights** shown on the stencil for each response category. For example, for question # 1, if the respondent marked 3, then the **weight** would be **2**. Refer to the manual for appropriate normative data.

Form Y-1	NOT AT ALL	SOMEWHAT	MODERATELY SO	VERY MUCH SO
1.	4	3	2	1
2.	4	3	2	1
3.	1	2	3	4
4.	1	2	3	4
5.	4	3	2	1
6.	1	2	3	4
7.	1	2	3	4
8.	4	3	2	1
9.	1	2	3	4
10.	4	3	2	1
11.	4	3	2	1
12.	1	2	3	4
13.	1	2	3	4
14.	1	2	3	4
15.	4	3	2	1
16.	4	3	2	1
17.	1	2	3	4
18.	1	2	3	4
19.	4	3	2	1
20.	4	3	2	1

Form Y-2	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALWAYS
21.	4	3	2	1
22.	1	2	3	4
23.	4	3	2	1
24.	1	2	3	4
25.	1	2	3	4
26.	4	3	2	1
27.	4	3	2	1
28.	1	2	3	4
29.	1	2	3	4
30.	4	3	2	1
31.	1	2	3	4
32.	1	2	3	4
33.	4	3	2	1
34.	4	3	2	1
35.	1	2	3	4
36.	4	3	2	1
37.	1	2	3	4
38.	1	2	3	4
39.	4	3	2	1
40.	1	2	3	4

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APPENDIX G: CENTER FOR EPIDEMIOLOGIC STUDIES DEPRESSION SCALE

Patient Name:_____ Date:_____

Center for Epidemiologic Studies Depression Scale (CES-D)

Instructions: Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way **during the past week**.

	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
1. I was bothered by things that usually don't bother me.				
2. I did not feel like eating; my appetite was poor.				
3. I felt that I could not shake off the blues even with help from my family or friends.				
4. I felt I was just as good as other people.				
5. I had trouble keeping my mind on what I was doing.				
6. I felt depressed.				
7. I felt that everything I did was an effort.				
8. I felt hopeful about the future.				
9. I thought my life had been a failure.				
10. I felt fearful.				
11. My sleep was restless.				
12. I was happy.				
13. I talked less than usual.				
14. I felt lonely.				
15. People were unfriendly.				
16. I enjoyed life.				
17. I had crying spells.				
18. I felt sad.				
19. I felt that people disliked me.				
20. I could not get "going."				

Scoring the CES-D

In scoring the CES-D, a value of 0, 1, 2 or 3 is assigned to a response depending upon whether the item is worded positively or negatively.

For items 1-3, 5-7, 9-11, 13-15, 17-20 the scoring is:

- Rarely or none of the time (less than one day) = 0
- Some or a little of the time (1-2 days) = 1
- Occasionally or a moderate amount of time (3-4 days) = 2
- Most or all of the time (5-7 days) = 3

Items 4, 8, 12, 16 are reverse scored as follows:

- Most or all of the time (5-7 days) = 0
- Occasionally or a moderate amount of time (3-4 days) = 1
- Some or a little of the time (1-2 days) = 2
- Rarely or none of the time (less than 1 day) = 3

Possible range of scores is 0 to 60, with the higher scores indicating the presence of more symptomatology.

Citation: Radloff LS: The CES-D Scale: a self-report depression scale for research in the general population. Applied Psychological Measurement 1:385-401, 1977.

APPENDIX H: MINDFUL ATTENTION AWARENESS SCALE`

Description:

The MAAS is a 15-item scale designed to assess a core characteristic of dispositional mindfulness, namely, open or receptive awareness of and attention to what is taking place in the present. The scale shows strong psychometric properties and has been validated with college, community, and cancer patient samples. Correlational, quasi-experimental, and laboratory studies have shown that the MAAS taps a unique quality of consciousness that is related to, and predictive of, a variety of self-regulation and well-being constructs. The measure takes 10 minutes or less to complete.

Day-to-Day Experiences

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

1	2	3	4	5	6
Almost Always	Very Frequently	Somewhat Frequently	Somewhat Infrequently	Very Infrequently	Almost Never

I could be experiencing some emotion and not be conscious of it until sometime later.	1	2	3	4	5	6
I break or spill things because of carelessness, not paying attention, or thinking of something else.	1	2	3	4	5	6
I find it difficult to stay focused on what's happening in the present.	1	2	3	4	5	6
I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.	1	2	3	4	5	6
I tend not to notice feelings of physical tension or discomfort until they really grab my attention.	1	2	3	4	5	6
I forget a person's name almost as soon as I've been told it for the first time.	1	2	3	4	5	6

It seems I am "running on automatic," without much awareness of what I'm doing.	1	2	3	4	5	6
I rush through activities without being really attentive to them.	1	2	3	4	5	6
I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.	1	2	3	4	5	6
I do jobs or tasks automatically, without being aware of what I'm doing.	1	2	3	4	5	6
I find myself listening to someone with one ear, something else at the same time.	1	2	3	4	5	6
I drive places on "automatic pilot" and then wonder why I went there.	1	2	3	4	5	6
I find myself preoccupied with the future or the past.	1	2	3	4	5	6
I find myself doing things without paying attention.	1	2	3	4	5	6
I snack without being aware that I'm eating.	1	2	3	4	5	6

Scoring information:

To score the scale, simply compute a mean of the 15 items. Higher scores reflect higher levels of dispositional mindfulness.

Reference:

Brown, K.W. & Ryan, R.M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. Journal of Personality and Social Psychology, 84, 822-848.

APPENDIX I: SELF-COMPASSION SCALE

To Whom it May Concern:

Please feel free to use the Self-Compassion Scale in your research. Masters and dissertation students also have my permission to use and publish the Self-Compassion Scale in their theses. The appropriate reference is listed below.

Best,

Kristin Neff, Ph. D.
Associate Professor
Educational Psychology Dept.
University of Texas at Austin

e-mail: kneff@austin.utexas.edu

Reference:
Neff, K. D. (2003). Development and validation of a scale to measure self-compassion. *Self and Identity, 2, 223-250.*

Coding Key:
Self-Kindness Items: 5, 12, 19, 23, 26
Self-Judgment Items: 1, 8, 11, 16, 21
Common Humanity Items: 3, 7, 10, 15
Isolation Items: 4, 13, 18, 25
Mindfulness Items: 9, 14, 17, 22
Over-identified Items: 2, 6, 20, 24

Subscale scores are computed by calculating the mean of subscale item responses. To compute a total self-compassion score, reverse score the negative subscale items before calculating subscale means - self-judgment, isolation, and over-identification (i.e., 1 = 5, 2 = 4, 3 = 3. 4 = 2, 5 = 1) - then compute a grand mean of all six subscale means. Researchers can choose to analyze their data either by using individual sub-scale sores or by using a total score.

(This method of calculating the total score is slightly different than that used in the article referenced above, in which each subscale was added together. However, I find it is easier to interpret the total score if a mean is used.)

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

Almost never				Almost always
1	2	3	4	5

1. I'm disapproving and judgmental about my own flaws and inadequacies.
2. When I'm feeling down I tend to obsess and fixate on everything that's wrong.
3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.
4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.
5. I try to be loving towards myself when I'm feeling emotional pain.
6. When I fail at something important to me I become consumed by feelings of inadequacy.
7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.
8. When times are really difficult, I tend to be tough on myself.
9. When something upsets me I try to keep my emotions in balance.
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
11. I'm intolerant and impatient towards those aspects of my personality I don't like.
12. When I'm going through a very hard time, I give myself the caring and tenderness I need.
13. When I'm feeling down, I tend to feel like most other people are probably happier than I am.
14. When something painful happens I try to take a balanced view of the situation.
15. I try to see my failings as part of the human condition.
16. When I see aspects of myself that I don't like, I get down on myself.
17. When I fail at something important to me I try to keep things in perspective.

18. When I’m really struggling, I tend to feel like other people must be having an easier time of it.
19. I’m kind to myself when I’m experiencing suffering.
20. When something upsets me I get carried away with my feelings.
21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.
22. When I'm feeling down I try to approach my feelings with curiosity and openness.
23. I’m tolerant of my own flaws and inadequacies.
24. When something painful happens I tend to blow the incident out of proportion.
25. When I fail at something that's important to me, I tend to feel alone in my failure.
26. I try to be understanding and patient towards those aspects of my personality I don't like.

APPENDIX J: MINDFUL SELF-CARE SCALE

Cook-Cottone, 2016
Sample format with questions:
[Please Cite as: Cook-Cottone, C. P. & Guyker, W. (2016, manuscript in preparation). *The Mindful Self-Care Scale: Mindful self-care as a tool to promote physical, emotional, and cognitive well-being*].

The Mindful Self-Care Scale- SHORT (MSCS, 2016) is a 33-item scale that measures the self-reported frequency of behaviors that measure self-care behavior. These scales are the result of an Exploratory Factor Analysis (EFA) of a large community sample. The subscales are positively correlated with body esteem and negative correlated with substance use and eating disordered behavior. Please check back for the published citation. Note: there are an additional six clinical questions and two general questions for a total of 42 items. (Note, the long-form has 84 questions and 10 subscales. It can be found on Dr. Catherine Cook- Cottone's faculty web page).

Self-care is defined as the daily process of being aware of and attending to one's basic physiological and emotional needs including the shaping of ones daily routine, relationships, and environment as needed to promote self-care. Mindful self-care addresses self-care and adds the component of mindful awareness.

Mindful self-care is seen as the foundational work required for physical and emotional well- being. Self-care is associated with positive physical health, emotional well-being, and mental health. Steady and intentional practice of mindful self-care is seen as protective by preventing the onset of mental health symptoms, job/school burnout, and improving work and school productivity.

This scale is intended to help individuals identify areas of strength and weakness in mindful self-care behavior as well as assess interventions that serve to improve self-care. The scale addresses 6 domains of self-care: physical care, supportive relationships, mindful awareness, self-compassion and purpose, mindful relaxation, and supportive structure. There are also six clinical items and three general items assessing the individual's general or more global practices of self-care.

Check the box that reflects the frequency of your behavior (how much or how often) within past week (7 days):

This past week, how many ***days*** did you do the following?	Never	Rarely	Sometimes	Often	Regularly
	0 days	1 day	2 to 3 days	3 to 5 days	6 to7 days
Example: I drank at least 6 to 8 cups of water	☐	☐	☐	☐	☐
Scoring:	1 Never	2 Rarely	3 Sometimes	4 Often	5 Regularly
If reverse-scored:	5 Never	4 Rarely	3 Sometimes	2 Often	1 Regularly

Contact information: Catherine Cook-Cottone, Ph.D. at cpcook@buffalo.edu

The questions on the scale follow.

Physical Care (8 items)

Score	Item
1 2 3 4 5	I drank at least 6 to 8 cups of water
1 2 3 4 5	I ate a variety of nutritious foods (e.g., vegetables, protein, fruits, and grains)
1 2 3 4 5	I planned my meals and snacks
1 2 3 4 5	I exercised at least 30 to 60 minutes
1 2 3 4 5	I took part in sports, dance or other scheduled physical activities (e.g., sports teams, dance classes)
R 5 4 3 2 1	I did sedentary activities instead of exercising (e.g., watched tv, worked on the computer)- reversed score
1 2 3 4 5	I planned/scheduled my exercise for the day
1 2 3 4 5	I practiced yoga or another mind/body practice (e.g., Tae Kwon Do, Tai Chi)
	Total
	Average for Subscale = Total/# of items

Supportive Relationships (5 items)

Score	Item
1 2 3 4 5	I spent time with people who are good to me (e.g., support, encourage, and believe
1 2 3 4 5	I felt supported by people in my life
1 2 3 4 5	I felt that I had someone who would listen to me if I became upset (e.g., friend, counselor, group)
1 2 3 4 5	I felt confident that people in my life would respect my choice if I said “no”
1 2 3 4 5	I scheduled/planned time to be with people who are special to me
	Total
	Average for Subscale = Total/# of items

Mindful Awareness (4 items)

Score	Item
1 2 3 4 5	I had a calm awareness of my thoughts
1 2 3 4 5	I had a calm awareness of my feelings
1 2 3 4 5	I had a calm awareness of my body
1 2 3 4 5	I carefully selected which of my thoughts and feelings I used to guide my actions
	Total
	Average for Subscale = Total/# of items

Self-Compassion and Purpose (6 items)

Score	Item
1 2 3 4 5	I kindly acknowledged my own challenges and difficulties
1 2 3 4 5	I engaged in supportive and comforting self-talk (e.g., "My effort is valuable and meaningful")
1 2 3 4 5	I reminded myself that failure and challenge are part of the human experience
1 2 3 4 5	I gave myself permission to feel my feelings (e.g., allowed myself to cry)
1 2 3 4 5	I experienced meaning and/or a larger purpose in my *work/school* life (e.g., for a
1 2 3 4 5	I experienced meaning and/or larger purpose in my *private/personal* life (e.g., for a
	Total
	Average for Subscale = Total/# of items

Mindful Relaxation (6 items)

Score	Item
1 2 3 4 5	I did something intellectual (using my mind) to help me relax (e.g., read a book,
1 2 3 4 5	I did something interpersonal to relax (e.g., connected with friends)
1 2 3 4 5	I did something creative to relax (e.g., drew, played instrument, wrote creatively, sang, organized)
1 2 3 4 5	I listened to relax (e.g., to music, a podcast, radio show, rainforest sounds)
1 2 3 4 5	I sought out images to relax (e.g., art, film, window shopping, nature)
1 2 3 4 5	I sought out smells to relax (lotions, nature, candles/incense, smells of baking)
	Total
	Average for Subscale = Total/# of items

Supportive Structure (4 items)

Score	Item
1 2 3 4 5	I kept my work/schoolwork area organized to support my work/school tasks
1 2 3 4 5	I maintained a manageable schedule
1 2 3 4 5	I maintained balance between the demands of others and what is important to me
1 2 3 4 5	I maintained a comforting and pleasing living environment
	Total
	Average for Subscale = Total/# of items

Clinical (6 items-not to be averaged)

Score	Item
1 2 3 4 5	I took time to acknowledge the things for which I am grateful
1 2 3 4 5	I planned/scheduled pleasant activities that were not work or school related
1 2 3 4 5	I used deep breathing to relax
1 2 3 4 5	I meditated in some form (e.g., sitting meditation, walking meditation, prayer)
1 2 3 4 5	I rested when I needed to (e.g., when not feeling well, after a long work out or effort)
1 2 3 4 5	I got enough sleep to feel rested and restored when I woke up

General (3 items- not to be averaged)

Score	Item
1 2 3 4 5	I engaged in a variety of self-care strategies
1 2 3 4 5	I planned my self-care
1 2 3 4 5	I explored new ways to bring self-care into my life

Total Score Summary
Be sure you have correctly scored your reversed-scored item.

Averaged Score	**Scale**
	Physical Care
	Supportive Relationships
	Mindful Awareness
	Self-compassion and Purpose
	Mindful Relaxation
	Supportive Structure

Shade in your average score for each scale below:

5						
4						
3						
2						
1						
Scale	Physical Care	Support Relation	Mindful Aware	Self-Comp Purpos	Mindful Relax	Support Structure

For a long version of the scale and a detailed description of the source scale see:

Cook-Cottone, C. P. (2015). ***Mindfulness and yoga for embodied self-regulation: A primer for mental health professionals.*** **New York, NY: Springer Publishing.**

APPENDIX K: COMPLEMENTARY HEALTH APPROACHES

Complementary Health Approaches can be described as non-mainstream (alternative) practices that are used together with conventional (usual) medicine.

Examples of complementary health approaches are meditation, yoga and massage.

Please indicate your response on a scale of "strongly disagree" to "strongly agree".

I believe that complementary health approaches are/would be an acceptable way to manage and cope with my stress.

- Strongly disagree
- Disagree
- Neither disagree or agree
- Agree
- Strongly agree

APPENDIX L: DEMOGRAPHIC QUESTIONNAIRE

What is your age? What

is your race? What is

your ethnicity?

What is your marital status?

Married
Divorced
Separated
Single
Cohabitating
Widowed

What is your highest degree of education? (If you are currently in school, please list the highest completed degree to date)

Less than high school diploma High
School Degree
Some college, no degree
Associates Degree
Bachelor's Degree
Master's Degree
Professional Degree
Doctorate

What is your household income?

Less than 20,000
20,000-34,999
35,000-49,999
50,000-64,999
65,000-79,999
80,000-99,999
> 100,000
I choose not to answer

How many times have you been pregnant?

How many children to do you have?

Have you ever had a preterm delivery (baby born before 37 weeks)? If yes, how many weeks pregnant were you when you delivered?

How many weeks pregnant are you today?

Please check the box if you have the following medical conditions: Hypertension
(High blood pressure)
Pregnancy Induced Hypertension

Gestational Diabetes (controlled with diet) Gestational Diabetes (controlled with medication) Type 2 Diabetes Type 1 Diabetes Substance use or Abuse Anxiety Depression Bipolar Disorder
Other:_____

APPENDIX M: PARTICIPANT CONSENT FORM

University of North Carolina at Chapel Hill
Consent to Participate in a Research Study
Consent Form Version Date: 12/4/18
IRB Study # 17-1665
Title of Study: Perspectives of stress, psychological distress and self-care among perinatal African American women

Principal Investigator: Karen Sheffield MSN, CNM
Principal Investigator Department: School of Nursing
Principal Investigator Phone number: (919) 649-0971
Principal Investigator Email Address: ksheffie@unc.email.edu

Co-Investigator: Cheryl Giscombe, PhD, PMHNP

Faculty Advisor: Cheryl Giscombe, PhD, PMHNP
Faculty Advisor Contact Information: (919) 843-9491

What are some general things you should know about research studies?
You are being asked to take part in a research study. To join the study is voluntary.
You may refuse to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study.

You will be given a copy of this consent form. You should ask the researchers named above, or staff members who may assist them, any questions you have about this study at any time.

What is a Certificate of Confidentiality?
This research is covered by a Certificate of Confidentiality. With this Certificate, the researchers may not disclose or use information, documents or biospecimens that may identify you in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings in the United States, for example, if there is a court subpoena, unless you have consented for this use.

The Certificate cannot be used to refuse a request for information from personnel of a federal or state agency that is sponsoring the study for auditing or evaluation purposes or for information that must be disclosed in order to meet the requirements of the federal Food and Drug Administration (FDA).
The Certificate of Confidentiality will not be used to prevent disclosure as required by federal, state, or local law, such as mandatory reporting requirements for child abuse or neglect, disabled adult abuse or neglect, communicable diseases, injuries caused by suspected criminal violence, cancer diagnosis or benign brain or central nervous system tumors or other mandatory reporting requirement under applicable

law. The Certificate of Confidentiality will not be used if disclosure is for other scientific research, as allowed by federal regulations protecting research subjects or for any purpose you have consented to in this informed consent document.

You should understand that a Certificate of Confidentiality does not prevent you from voluntarily releasing information about yourself or your involvement in this research. If an insurer, employer, or other person obtains your written consent to receive research information, then the researchers may not use the Certificate to withhold that information.

What is the purpose of this study?

The purpose of this study is to gain a better understanding of the individual factors that may contribute to differences in African American women's birth outcomes as compared to European American women. Specifically, we are interested in 1) describing African American women's experiences of stress, mood changes and self-care during pregnancy and postpartum, 2) exploring African American women's perceptions and beliefs regarding the acceptability of complementary health approaches to reduce the stress, and 3) Describe African American women's perceptions and experiences regarding their interactions with their women's primary care providers with regards to the ways that stress is addressed during their patient-provider encounters during pregnancy and postpartum.

You are being asked to be in the study because you are an African American woman over the age of 18 who is pregnant or 1 year postpartum.

How many people will take part in this study?

There will be approximately 150 women in this study

How long will your part in this study last?

We will ask you to complete online questionnaires, and may interview you, if you are willing. The questionnaires include surveys that evaluate stress, mood, meditative practices and self-care, and they should take about 30 minutes to complete. The interview will be a telephone or in person interview at a time that is convenient for you. The interview will take approximately 45-60 minutes.

What will happen if you take part in the study?

Your participation in this study will involve an online questionnaire and telephonic or face-to-face, audio taped interview.

Your participation in this research is completely voluntary and you may refuse to answer any question at any time without penalty.

We may ask to contact you at a later time to clarify any questions we may have.

What are the possible benefits from being in this study?

Research is designed to benefit society by gaining new knowledge. You will receive a $15 gift card for completion of the survey. If selected for a face-to-face interview, you will receive a $25 gift card.

What are the possible risks or discomforts involved from being in this study?

There may be uncommon or previously unknown risks. You should report any problems to the researcher. Sharing personal information about your mental health history may bring up feelings or emotions for you that may be uncomfortable. Please remember that participation in all aspects of this study is completely voluntary. You may skip one or more questions for any reason without penalty. All efforts will be made to increase your level of comfort during the entire study process (including respecting your privacy during

all components of the study). Please inform the study researchers if you experience any discomfort related to participating in this study.

What if we learn about new findings or information during the study?
You will be given any new information gained during the course of the study that might affect your willingness to continue your participation.

How will information about you be protected?
All data will be kept confidential. Only research team members will have access to the data. The signed consent forms will be kept separate from the research data in a locked office. Any data kept on a computer will be password protected in a secure file accessible only by research staff. Anyone who conducts statistical analysis who is not the PI or co-PI will receive only de-identified data. No identifiers will be included in disseminated reports.

Participants will not be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, UNC-Chapel Hill will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of the University, research sponsors, or government agencies (for example, the FDA) for purposes such as quality control or safety.

Your name will not appear on any transcribed data from the audiotapes, instead you will be given a code number. The list, which matches names, and code numbers will be kept in a locked file cabinet. After the interviews have been transcribed and analyzed the tape will be destroyed and the list of names and numbers will also be destroyed.

Check the line that best matches your choice:

_____ OK to record me during the study

_____ Not OK to record me during the study

Under North Carolina law, confidentiality does not extend to information about abuse or neglect of a child or disabled adult. If the researchers become aware of such information, they are required to report it to state authorities.

What if you want to stop before your part in the study is complete?
You can withdraw from this study at any time, without penalty. The investigators also have the right to stop your participation at any time. This could be because you have had an unexpected reaction, or have failed to follow instructions, or because the entire study has been stopped.

Will you receive anything for being in this study?
You will receive a $15 gift card for completing the survey and (if selected) a $25 gift card for completing the face to face interview.

Will it cost you anything to be in this study?
It will not cost you anything to be in this study.

What if you have questions about this study?
You have the right to ask, and have answered, any questions you may have about this research. If you have questions about the study, complaints, concerns, or if a research-related injury occurs, you should contact the researchers listed on the first page of this form.

What if you have questions about your rights as a research participant?
A committee that works to protect your rights and welfare reviews all research on human volunteers. If you have questions or concerns about your rights as a research subject, or if you would like to obtain information or offer input, you may contact the Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu.

Participant's Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to participate in this research study.

_____ _____
Signature of Research Participant Date

_____
Printed Name of Research Participant

_____ _____
Signature of Research Team Member Obtaining Consent Date

_____
Printed Name of Research Team Member Obtaining Consent

APPENDIX N: RECRUITMENT LETTER

"Perspectives of stress, psychological distress and self-care among perinatal African American women"

We are contacting you because you were seen by UNC Health Care or one of our affiliate hospitals or clinics in the past year. Your records in the UNC Health Care System indicate you may be eligible to participate in our research study.

We are inviting you to take part in a research project we are conducting with pregnant and postpartum African American women. The purpose of the study is to gain a better understanding of the individual and perceived factors that may contribute to the high rate of adverse birth outcomes in African American women. Additionally, we would like to explore how African American women communicate with their women's primary care provider regarding their stress experiences during pregnancy and postpartum.

Who can participate? If you are an African American woman who is willing to discuss your experiences of stress during pregnancy and postpartum, you are invited to participate. You must not have complex medical conditions. In addition, you must speak English, be at least 18 years old, have an email account, telephone and internet access. Please contact Karen Sheffield at ksheffie@email.unc.edu with any questions.

What will we ask you to do? We will ask you to complete online questionnaires, and may interview you, if you are willing. The questionnaires include surveys that evaluate stress, mood, meditative practices and self-care, and they should take about 30 minutes to complete. The interview will be a telephone or in person interview at a time that is convenient for you. The interview will take approximately 45-60 minutes.

The project has been approved by the institutional review board for human subjects research at University of North Carolina at Chapel Hill. If you agree to take part, all information you give will be confidential. No one except the research team, which includes the chair of my dissertation committee, Cheryl Woods-Giscombe PhD, RN, PMHNP-BC will have access to your information.

If you wish to be involved in this research or have any questions, please contact Karen Sheffield. Kindly contact us via email at ksheffie@email.unc.edu or telephone (919) 649-0971.

Many thanks for your kind consideration,

Karen

Karen M. Sheffield MSN, CNM, PhD (C)
UNC Chapel Hill School of Nursing
307-E Carrington Hall
Campus Box 7460
Chapel Hill, NC 27599-7460
ksheffie@email.unc.edu
c: (919)649-0971

APPENDIX O: PAUSE STUDY INTERVIEW GUIDE

Date:
Participant ID:
Age:
Weeks gestation:
Practice:

Opening:

Thank you for taking the time to speak with me today. As you know, we are conducting a study to explore African American women's experiences of stress during pregnancy. In addition, we are interested in hearing about your experiences regarding your interactions with your women's primary care provider to address your stress during pregnancy. Your responses will be kept completely confidential.

During the interview I will be listening and trying not to interrupt you or influence your responses. Please know that I value everything that you will share with me even if it seems like I am not showing emotion. I will ask you to tell me more about some of the things you say. It might seem to you like I do not understand what you are telling me, but instead it is just that I want to make sure that I hear about it from you and use your words, not my thoughts about it or my words. That way I will be able to teach others about your perspective.

Superwoman Schema
When I say the word *stress*, what does it mean for you?

What are things in your everyday life that cause you stress (e.g., things specific to you, things about your immediate family, your extended family, your neighborhood, your daily routine, your school or job, your friends, what is going on in your community, what is going on in your state, what is going on in your country, what is going on in the world)?

How do you cope with the different types of stress? Do you have different ways of coping with different kinds of stress?

How do/did you see the women in your life cope with stress (e.g., mothers, sisters, grandmothers, girlfriends, cousins, or some other significant woman in your life)?

How do you see other black pregnant women cope with their stress (e.g., in your family, at work, at school, in your community, on television or popular culture)?
What kind of things came up?

Are there unique stressors that come with pregnancy? Are there unique stressors that come with being black and pregnant?

Have you ever heard the term *Strong Black Woman/Black Superwoman*? What is a Strong Black Woman/Black Superwoman? What are her characteristics?

How did they develop? How do you explain to yourself why that happens or why it exists?

Is being a Strong Black Woman/Black Superwoman a good thing? Is there anything bad about being a Strong Black Woman/Black Superwoman?

Do/Did you or the women you grew up around feel pressure to be like a Strong Black Woman/Black Superwoman? What are some examples of strong black women in your life?

Do you feel like you have people in your life with whom you can express your emotions or fears (as opposed to anger)? Do you feel like you can trust people with your emotions and fears? Where do you feel you can be open and vulnerable with how you are feeling?

What do you think of others and yourself if and when you do?
Further prompts: Tell me more?
Help me understand why that is important to you?
How can I understand that more? Give me some examples?
How did you make sense of that?
How did you deal with that at the time?

Network Stress

Where does most of the stress in your life come from? Does your stress come more from your own individual personal stress or stress from family, friends or loved ones?
How do the relationships in your life also create stress? How do the relationships in your life help you to deal with your stress?
Can you tell me more about what events have happened and how those events impact your life?

Perceived Stress

Do you feel like you are able or unable to control or handle events, irritations or difficulties in your life? How often do you feel this way?

Mindfulness (Give a definition if needed)
Have you heard of a term called mindfulness? What comes to mind when I say the word mindfulness?
Do you find yourself always thinking about the past or the future or are you able to think about things in the moment?
Do you find yourself thinking about other things when you want to focus on people or things in the moment (e.g., "being present")? Give an example
Further prompts: Tell me more?
Help me understand why that is important to you?
How can I understand that more? Give me some examples?
How did you make sense of that?
How did you deal with that at the time?

Self-compassion
What comes to mind when I say the word compassion? Self-compassion?
Do you feel you are compassionate towards yourself?
Further prompts: Tell me more?
Help me understand why that is important to you?
How can I understand that more? Give me some examples?
How did you make sense of that?

Mindful Self-Care
What are your beliefs regarding challenges or failures in life? Do you believe they are part of the human experience? Is there a connection with these types of beliefs and mindful self-care?
What kind of things do you do to relax or wind down?

What kind of things do you do to take good physical care of yourself?
What kind of things do you do to take good emotional care of yourself?
What kind of relationships do you have that support you and make you feel good about yourself?
What kind of things do you do to maintain balance between the demands outside of your home and home?
How do your friends help you to balance the demands of home and family?
Who is an example of someone you would like to be like that has balance in their home and work life?
Who is someone you would like to model who handles stress well in your life?
Further prompts: Tell me more about them and why you admire them?
Help me understand why that is important to you?
How can I understand that more? Give me some examples?
How do you make sense of his/her ability to balance their life and be an example to others?

Patient-Provider Interaction
During your prenatal visits, have you had conversations with your health care provider about your stress during your pregnancy?
Have you been asked about stressors in your life?
If you have not been asked, would you want to be asked about your stress?
Is there something unique about being pregnant that adds to your stress?
Would you like your provider to offer suggestions or resources on dealing with pregnancy-related stress and/or life stress?
Further prompts: Tell me more? Why do you believe that?
Help me understand why that is important to you?
How can I understand that more? Give me some examples?
How did you make sense of that?
How did you deal with that at the time?
If you have not been asked about your stress, what would you have wanted to be asked and how?

CAM acceptability (May need to define mindfulness again and give examples)
If a program was developed to help you manage your stress and it involved mindfulness, would you be willing to try it?
Tell me your thoughts on being in a class that is meant to help you manage your stress by using mindfulness? How would you feel about that? Tell me more